

The NIH Record

U.S. Department
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Human Services

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National
Institutes
of
Health

NIH Director Elevates Two Senior Officials

Establishment of two major staff positions and the appointment of senior NIH officials to the posts has been announced by Dr. James B. Wyngaarden, NIH Director.

Dr. Joseph E. Rall was appointed to the position of Deputy Director for Intramural Research, and Dr. William F. Raub was named Deputy Director for Extramural Research and Training.

With Dr. Thomas E. Malone, who continues as overall NIH Deputy Director, the newly appointed deputies will serve as the principal advisors to the NIH Director.

The responsibilities of the former position of Deputy Director for Science (that had been filled on an acting basis by Dr. Rall) will transfer to the Deputy Director for Intramural Research, who will advise the Director on general scientific matters and intramural research policies and coordinate the intramural research program.

The Deputy Director for Extramural Research and Training will coordinate the development and implementation of policies affecting extramural programs, a function that Dr. Raub has performed for 5 years as NIH Associate Director for Extramural Research and Training.

Dr. Rall, who joined the NIH in 1955, was director of the Division of Intramural Research at the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases for over 20 years.

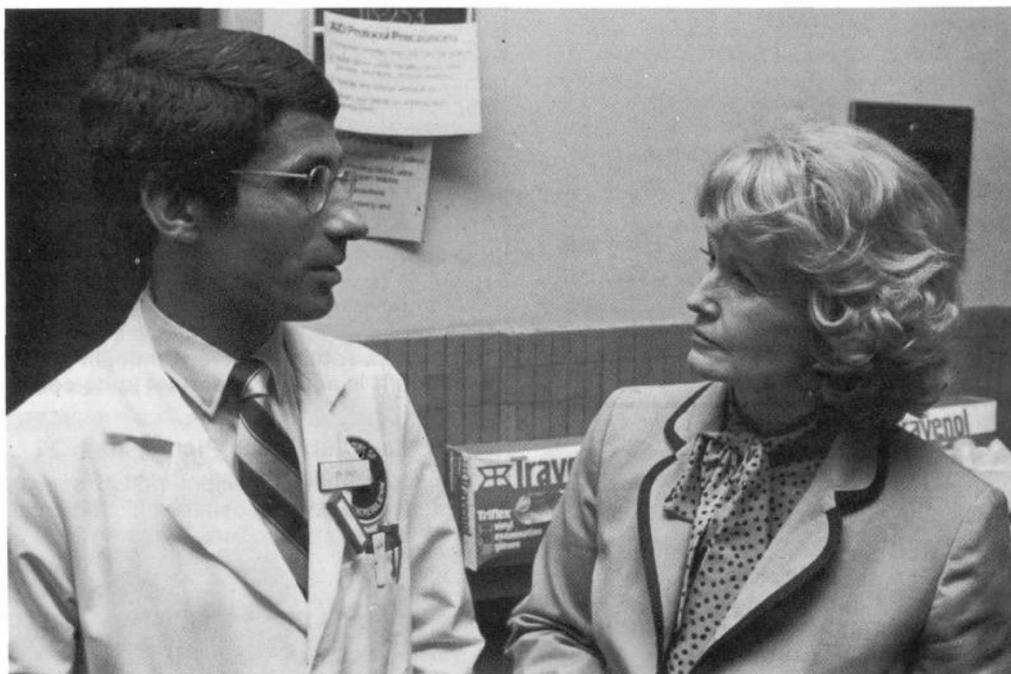
In announcing Dr. Rall's appointment, Dr. Wyngaarden said, "We are delighted that Dr. Rall has accepted this opportunity and challenge to provide leadership and direction for our intramural programs. He brings to this position special strengths in clinical research as well as basic science."

Dr. Rall received his M.D. from Northwestern University Medical School (1945), and his Ph.D. from the University of Minnesota (1952). He has also received honorary doctoral degrees from North Central College, Naperville, Ill., in 1966 and the Free University of Brussels in 1975. He was elected to the National Academy of Sciences in 1980.

He is a member of many professional organizations, and is the coauthor of more than 160 scientific articles. His scientific research has been in the areas of thyroid hormones, iodine metabolism, and thyroid diseases.

During his Federal service, he has received the Arthur S. Flemming Award (1959), the

(See SENIOR OFFICIALS, Page 8)



Secretary of Health and Human Services Margaret M. Heckler is shown speaking with Dr. Anthony Fauci just after visiting two of his acquired immune deficiency syndrome (AIDS) patients at the Clinical Center on June 9. Before visiting the patients, the Secretary received a 3-hour briefing on the AIDS problem by the Public Health Service AIDS Executive Committee. She was accompanied on her visit by the Assistant Secretary for Health Dr. Edward N. Brandt, Jr., and three special assistants, Roger Woodworth, Gerald Lange and Linda Bilms. This was Secretary Heckler's first visit to the NIH campus. She is scheduled to return on July 5 when Dr. T. Franklin Williams will be sworn in as Director of the National Institute on Aging and again on July 19 for an all-day "familiarization visit" to the NIH.

Secretary Heckler Honors NIH Staff Members For Outstanding Service at HHS Ceremony

Six NIH staff members were honored by HHS Secretary Margaret M. Heckler during the Department's Honor Awards Ceremony held June 20 in the Great Hall in the Hubert H. Humphrey Bldg. In addition, the NIH received Departmental recognition for its exceptional procurement activities.

Dr. Edward N. Brandt, Jr., Assistant Secretary for Health, and Dr. Thomas E. Malone, representing Dr. James B. Wyngaarden, Director, NIH, assisted with the presentations. Dr. Wyngaarden was chairing the Director's Advisory Committee meeting and unable to attend the ceremony.

The Distinguished Service Award, the Department's highest honor award conferred on civilian employees, was presented to Dr. Gary Felsenfeld, chief, physical chemistry section, Laboratory of Molecular Biology, NIADDK, and Dr. Maxine F. Singer, chief, Laboratory of Biochemistry, Division of Cancer Biology and Diagnosis, NCI. The recognition was based on scientific

achievements.

Joan B. Fuller, administrative officer, Division of Intramural Research, Office of the Director, National Heart, Lung and Blood Institute, received the Secretary's Special Citation for 10 outstanding Employees of the Year.

Otis Ducker, director, Division of Administrative Services, received the HHS Equal Opportunity Achievement Award. Frances B. Cannon, biological laboratory technician, Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, received the Department's Outstanding Handicapped Employee of the Year Award. William F. Stancliff, visual information specialist, Office of the Director, Division of Research Grants, received the HHS Volunteer Award.

NIH received the HHS Small and Disadvantaged Business Achievement Award. The citation read "for outstanding operation of

(See HHS AWARDS, Page 7)

The NIH Record

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Training Tips

The following courses, sponsored by the Division of Personnel Management are given in Bldg. 31.

Office Skills	Course Starts	Deadline
**Proofreading	7/11	6/24
**Telephone Techniques	7/6	6/24
**Refresher Typing	7/5	6/24
<i>Career Development Workshop</i>	6/29	6/22
	7/25	7/18
<i>Delpro</i>		
*Delegated Procurement	7/11	6/27
	8/8	7/25
<i>Executive, Management and Supervisory</i>		
The Judiciary, Media, and Interest Groups: Influencing Public Policy	7/19	6/24

*For new Delpro users only.
**Deadline extended.

To learn more about these and other courses, contact the Development and Training Operations Branch, DPM, 496-6371.

CORRECTION

The headline, "Post-1958 Military Vets Told How to Avoid Annuity Cuts," should have read "Post-1956 . . ." on page 2 of the June 7, 1983, issue of *The NIH Record*. □

NIH Singers Present Concert

The NIH Singers will present a concert on Thursday, June 23, at 8 p.m., in the 14th floor, patient auditorium, Bldg. 10.

The program will include songs from the 16th century to more recent times. Soloists from the group will be featured, along with classical guitarist Tom Cloutier.

Everyone is invited to attend. □

"Body Building Is for Women Too," Says Robin Coopersmith

Robin Coopersmith, a clerk-typist in the Administrative Office of the Fogarty International Center, is all excited about NIH's new Fitness Center. The reason: Robin has been active in body building for over a year and has been working out at a local gym.

Although she had always participated in sports at school, she didn't know anything about body building until her friends introduced her to it about a year and a half ago.

Body building, according to Robin, is actually the sculpturing of your body. Exercises are designed to tone up the body, build muscle mass and increase strength.

To accomplish the total sculpturing program, Robin lifts weights and does stretch and floor exercises. She works out for approximately 1 to 1 1/2 hours every day on a different part of her body.

"A lot of men and women feel that body building is masculine looking but personally I feel it makes me more feminine," she says.

Robin also participates in sports when she is not working out in a gym such as running, swimming, and racquetball.

"The most important thing to do to keep from tearing a muscle during exercise is to warm up your body before you begin your workout. It is equally important to do cool



down exercises afterwards," she says. Robin feels that body building is just good exercise and can be lots of fun, especially when you're doing it with other people. □

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Robin feels that body building is just good exercise and can be lots of fun, especially when you're doing it with other people. □

Computer Club Plans Picnic, June 28

The NIH Personal Computer Club, sponsored by the R&W Association, will hold its first annual picnic on Tuesday, June 28,

from 5 to 8 p.m., at the FAES club located at the corner of Cedar Lane and Old Georgetown Road. Admission is \$1. □



Nobel Laureate Dr. David Baltimore (c) was awarded a certificate of appreciation by Dr. Murray Goldstein, Director, National Institute of Neurological and Communicative Disorders and Stroke and Dr. Ruth L. Kirschstein, Director, National Institute of General Medical Sciences, following his delivery of the first annual Marjorie Guthrie Lecture in Genetics. Dr. Baltimore spoke on "Illumination of Disease Processes Through Molecular Genetics" at NIH May 11. The new lectureship was established jointly by NINCDS and NIGMS in recognition of the efforts of the late Mrs. Guthrie to promote research on genetic disorders. Dr. Baltimore, professor of biology at MIT and director of the Whitehead Institute for Biomedical Research in Cambridge, Mass., was awarded the Nobel Prize in Physiology or Medicine in 1975.

Scenes From the Asian/Pacific American Heritage Festival

Photos by Lew Bass



Karate Ballet



Thai Masked Play



Group of school children visiting the festival.



Preparing Thai foods



Toki Miyakawa demonstrating Ikebana



Chinese Fraternal Association Dragon Dance

NCI Pediatric Branch Awards Prizes to Student Science Fair Winners

The NCI Pediatric Branch has awarded special prizes for creativity and scientific achievement to 16 of a recordbreaking 400 public and private school students who participated in the 27th annual Montgomery Area Science Fair. The 16 students exhibited their winning projects for a week during April in the ACRF Visitors Center lobby through the courtesy of the NIH Director's Office.

The annual science fair—for students in the 7th through 12th grades—is cosponsored by the U.S. Department of Commerce's National Bureau of Standards, the



The NCI Pediatric Oncology Branch judges of the Science Fair are, l to r: Drs. Hathorn, Spanarkel, Sieverts, DeFranco and Dr. Zimm (not shown).

Montgomery County Public School system and the Joint Board on Science and Engineering Education for the Greater Washington Area.

Students from 38 schools participated in this year's competition. This year, 44 other business, government and private organizations supported the science fair with special prizes.

General awards were presented in 12 subject categories in the junior and senior div-

isions. Grand prize winners were selected from the first prize winners in these categories. Projects were judged by 70 volunteers— independent and Catholic school teachers, and local scientists and engineers.

Dr. Jane Henney, NCI deputy director, presented the special NCI awards to first, second and third place winners and to 13 honorable mention winners. This was the first time an NIH Institute has participated in the fair.

Judges from the NCI Pediatric Branch were Drs. James Hathorn, MaryBeth Spanarkel, Hauke Sieverts, Solomon Zimm and Anthony DeFranco. The NCI winners received the *Merck Manual*, *Roget's Thesaurus* and Pediatric Branch notebooks containing the award certificates.

Dr. John R. Pancella, director and secondary science coordinator, MCPS, directs the science fair, now in its 10th year. "We've really had a good response to the contest from the students," said Dr. Pancella. "We're not seeing the lack of interest in science in this area as in other parts of the country. We had more entries this year than ever."

Select Special Problem

Students each select a special problem to investigate or a question to answer and prepare a plan that includes searches of the scientific literature, discussions with teachers, school contacts or professional advisors and a proposal for obtaining additional information through their own observations. They keep a detailed record to document day-by-day progress in their projects. These notebooks are evaluated by the judges. Charts, graphs, tables, maps and models illustrate the experiment, and the student then draws a conclusion from the results.

Jaya G. Yodh won first prize from NCI for "Treatment of Sickle Cell Anemia," senior division, biochemistry category. She is a senior at Springbrook High School in Silver Spring.

Jaya investigated the use of the polysaccharide heparin as a possible antisickling agent. She used liposomes (fat cells) to incorporate heparin into the sickled red blood cells. She observed that the treated cells survived significantly longer than untreated cells found in the circulation of immunosuppressed rats. This summer, Jaya will serve as a volunteer laboratory worker in the Pediatric Branch, working with her judges in the NCI research program. She will attend Cornell University in the fall.

Second prize from NCI went to Jonathan E. Stek, 14, eighth grade, Tilden Intermediate School in Rockville, for his project, "Toxocariasis in Montgomery County," junior division, microbiology category.

Jon studied round worms in dogs in Montgomery County and their possible transmission to humans. His subjects were 38 dogs from the Montgomery County Humane Society. During the fall and winter seasons, Jon found that female dogs have a



Dr. Jane Henney (r) presented the special prizes to the NCI Science Fair winners.

53 percent infection rate and males 27 percent.

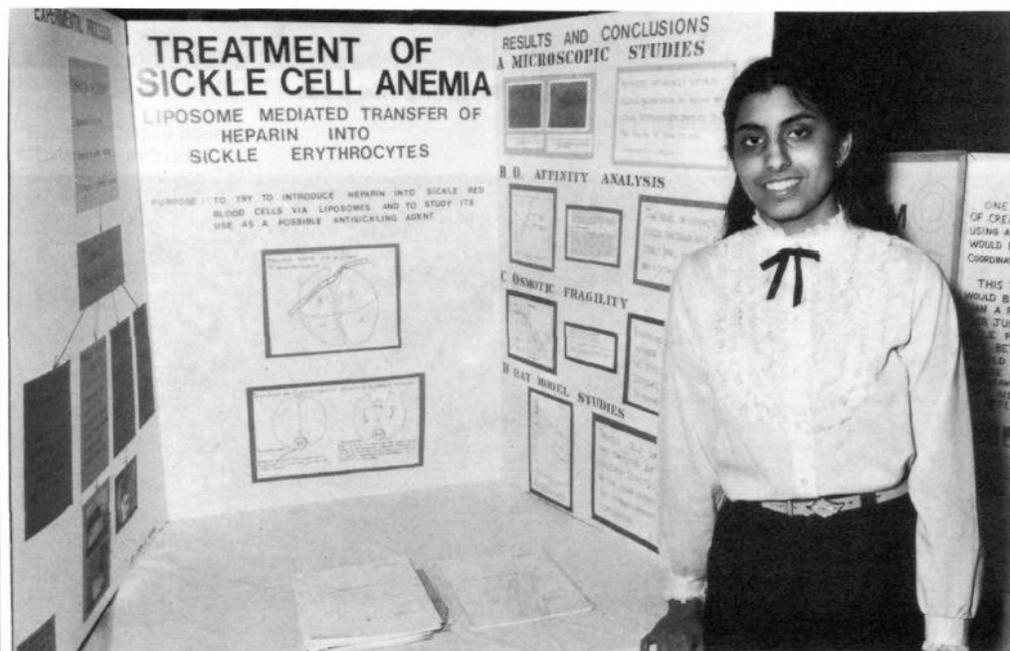
The same group, divided into three age groups, showed an infection rate of 57 percent in puppies, 28 percent in dogs age 6 months to 2 years, and 25 percent in those 2 years and older. Jon compared his results with studies conducted around the country by other scientists since 1971.

Besides his NCI award, Jon also won the first grand prize in the junior division, first place in his category and first place from the Society of Microbiology.

Mouse Leukemia

NCI's third prize was awarded to Matthew J. Beattie, 16, a junior at Robert E. Peary High School in Rockville, for "Effects of X-rays on Mouse Leukemic Cells," entered in the senior division, microbiology category.

Matthew exposed a specific mouse leukemia cell line to two grades of X-rays, equivalent to about 200 rads. He then checked the growth of the irradiated cells for 21 days and compared these results to a control cell line. He found that after the exposure period, about 90 percent of the irradiated cells died



First Prize winner Jaya G. Yodh shows her project, "Treatment of Sickle Cell Anemia."

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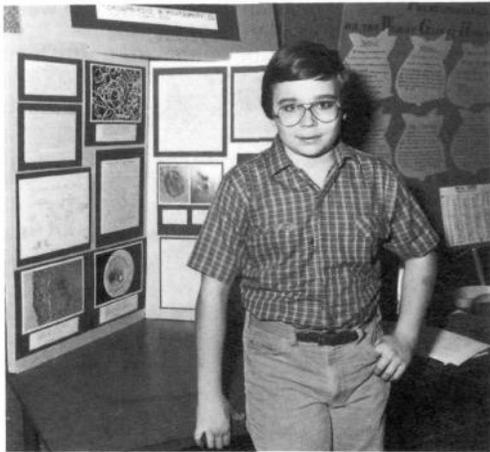
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or didn't reproduce and the remaining 10 percent recovered to a normal growth curve in about 7 days.

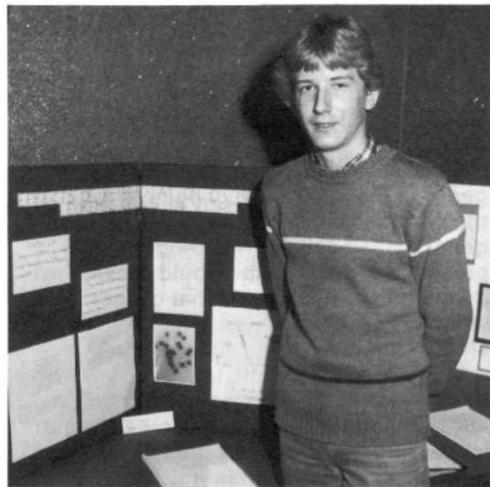
Matthew also won first place in the senior division, microbiology category, honorable mention from the American Academy of Microbiology, and a certificate of achievement for an outstanding science project from the U.S. Marine Corps.

Sponsors Wanted

First and second grand prize winners in the senior high division are given an expense-paid trip to enter the annual Inter-



Second Prize winner Jonathan E. Stek stands in front of his project, "Toxocarasis in Montgomery County."



Third Prize winner Matthew J. Beattie stands next to his project, "Effects of X-rays on Mouse Leukemic Cells."

national Science Fair in Albuquerque, N.Mex.

Any NIH groups interested in learning how to sponsor awards for next year's science fair should contact Kathleen J. Robichaud, NCI pediatric program specialist, who coordinated the Pediatric Branch's participation in this year's program. The NCI Pediatric Branch number is (301) 496-4256. □

Live neither in the past nor in the future, but let each day's work absorb your entire energies.—Sir William Osler □

Dr. Jesse Roth, Noted Diabetes Researcher, Will Head NIADDK Intramural Research

Dr. Jesse Roth, chief, NIADDK Diabetes Branch, has been appointed director, Division of Intramural Research, of the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases. Dr. Roth succeeds Dr. J. E. Rall, who has been appointed NIH Deputy Director for Intramural Research.

Dr. Roth is noted for his research in the field of diabetes, and has made major contributions in the area of insulin research. He and his colleagues introduced the first method to measure directly the binding of a hormone to its specific receptors on the cell surface.

Their method has been applied widely, initially to hormones with cell surface receptors including ACTH and insulin, and subsequently to other biologically active materials that have cell surface receptors, such as neurotransmitters, lectins, toxins, lipoproteins, and microbial agents.

Further studies, especially with insulin receptors, showed that surface receptors are highly regulated by many biologically important signals from both inside and outside the cell.

In collaboration with NIH colleagues, Dr. Roth's research led to the study and characterization of insulin receptor defects in human diseases, including obesity, diabetes, acromegaly, anorexia nervosa, lipotrophic diabetes, and in other rare disorders of insulin resistance.

His research has been recognized by numerous special lectureships and awards including the Banting Medal of the Ameri-



can Diabetes Association in 1982, that association's highest award for scientific achievement; the Gairdner Foundation Annual Award in 1980; the First Annual Lita Annenberg Hazen Award for Superior Achievement in Clinical Research from the Mt. Sinai School of Medicine in 1979; and the Diaz Cristobal Prize presented at the triennial meeting of the International Diabetes Federation (1979) for the outstanding research paper in diabetes in any journal from 1975 to 1978.

In 1963 Dr. Roth came to NIH as a clinical associate in the NIADDK Clinical Endocrinology Branch. After 2 years as a fellow he was appointed senior investigator in the branch. A year later he became chief of the section on diabetes. In 1974 the section became a branch, and Dr. Roth became its first chief. He retained that position until his current appointment. □

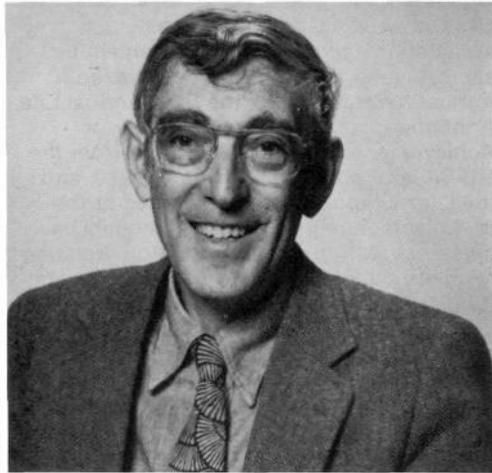


The American Cancer Society recently presented the Hubert H. Humphrey Inspirational Award to Barbara Boggs Sigmund (c) at the ACS Annual Volunteers Luncheon in Washington, D.C. Mrs. Sigmund, daughter of U.S. Representative Lindy Boggs and the late House Majority Leader Hale Boggs, received the award from Frances Humphrey Howard (r), sister of the late senator, who praised Mrs. Sigmund's "optimism, energy, warmth, and commitment," despite the loss of an eye last year to cancer. Mrs. Howard is special assistant to the associate director for extramural programs at the National Library of Medicine. Shown also is Dr. LaSalle D. Leffall, Jr., professor and chairman, department of surgery, Howard University's College of Medicine and ACS national medical director.

Four NIH-Supported Scientists Awarded Prestigious GM Cancer Foundation Prizes

Cancer research by four NIH-supported scientists was recognized June 14 by awards from the prestigious General Motors Cancer Research Foundation. The four award winners presented scientific lectures on Wednesday, June 15, in the Clinical Center's Masur Auditorium.

Each of three General Motors Cancer Research awards of \$100,000 and a gold medal is given annually to one or more scientists judged by their peers worldwide as having made the most noteworthy recent contribution to cancer knowledge.



Dr. Ames

The Foundation was formed in 1979 to provide practical support for cancer research. The three awards are given to signal accomplishments of scientists around the world in basic and clinical cancer research. Each award includes an additional \$30,000 to support a workshop.

Dr. Bruce N. Ames, who developed the world's most widely used test to determine whether a given chemical damages DNA and therefore may cause cancer, has been named the winner of the foundation's 1983 Charles S. Mott Prize. Dr. Ames is professor of biochemistry at the University of California in Berkeley, and a former grantee of NIADDK, NIGMS, and NIEHS.

Dr. Raymond L. Erikson, (no photo available), the first scientist to identify a chemical made by a cancer gene, was named winner of the Alfred P. Sloan Prize for his major contribution to understanding how cancer begins. Dr. Erikson is professor of cellular and developmental biology at Harvard University, and a former grantee of NCI and NIAID.

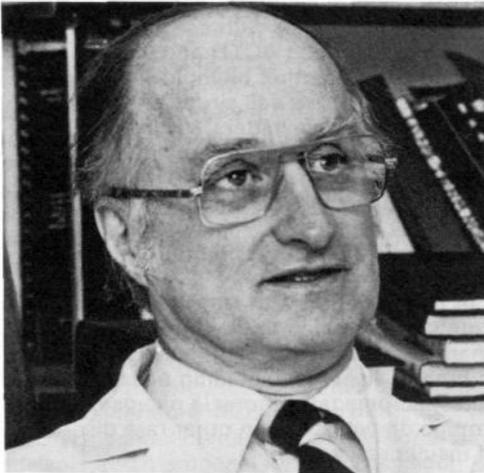
Drs. Emil Frei III and Emil J. Freireich, who together developed the first cure for leukemia and whose studies profoundly affected the whole of modern cancer chemotherapy, were named the winners of the 1983 Charles F. Kettering Prize. These two scientists began their research careers in 1955 at the National Cancer Institute, and were later NCI grantees.

Dr. Frei is director and physician-in-chief of the Dana-Farber Cancer Institute in Boston and professor of medicine at the Harvard University School of Medicine. Dr. Freireich

is Ruth Harriet Ainsworth professor of developmental therapeutics and chairman of the department of developmental therapeutics at the University of Texas System Cancer Center/M.D. Anderson Hospital and Tumor Institute in Houston, Tex. He is also professor of medicine at the University of Texas Medical School.

Ames Test

Dr. Ames' widely used test to determine possible carcinogenic chemical damage to DNA has had a major impact on reducing



Dr. Frei

potentially hazardous chemicals in the environment.

He used genetically developed bacteria to measure whether a chemical can damage genes. Mutation, as this process is called, is closely associated with cancer causation. The Ames test is usually the first in a series of evaluations of a chemical used to estimate its cancer-causing potential to man.

In addition to developing the screening test, Dr. Ames established the relationship between a chemical's ability to cause mutations and its potential for causing cancer. He also helped clarify how mutations of DNA occur and, recently, began to identify naturally occurring anticancer substances.

The test is currently used in more than 3,000 government, industry and university laboratories throughout the world as an early warning system for detecting mutagens and possible carcinogens. In the 12 years since its development, it has been used to screen more than 5,000 chemicals.

The Ames test has indicated that a wide variety of common chemicals—both natural and synthetic—may be carcinogenic. Whole new areas of research have evolved from studies using the test, and currently, scientists have begun to focus on naturally occurring mutagens.

Dr. Erikson is the first scientist to identify a chemical made by a cancer gene. His studies have made a major contribution to understanding how cancer begins. His research represents a systematic attack on the problem of identifying exactly what happens in a cell when a cancer gene is switched on.

In 1977, Dr. Erikson and his colleagues identified a chemical in the cells of animals infected with Rous sarcoma virus that was produced by the sarcoma gene contained in the virus. He called the chemical, which was a large protein molecule, pp60^{src}.

It was the first time anyone had pinpointed exactly what a cancer gene produces once inside a normal cell. This study showed how the Rous sarcoma virus, acting through its src gene, could induce cancer in an animal by producing just a single new chemical.

Dr. Erikson then went on to characterize this newly found cancer-triggering substance as an enzyme, a chemical that changes other body substances. It was the first time cancerous changes in the cell were conclusively linked to enzymes.



Dr. Freireich

Dr. Erikson's studies indicate that pp60^{src} can trigger changes in a cell's physical structure, its ability to grow under certain laboratory conditions and the rate at which particular growth-related biochemical processes occur.

Once scientists discovered viral cancer genes in the 1970's, they began to look for the normal cellular counterparts of these genes, called cellular homologues. The presence of such genes would provide evidence for the hypothesis that cancer genes were once normal genes that had been stolen long ago during viral infection.

By early 1983, scientists had discovered the cellular homologues of nearly every known cancer gene. They also had begun identifying the chemicals made by these normal genes and comparing them with those of the corresponding cancer genes. Results showed the chemicals were virtually the same.

Dr. Erikson and others showed that the cellular counterpart of the src gene, for instance, could be found in normal cells of many kinds of animals, including man. In every case, these normal genes produced small amounts of a substance very similar to pp60^{src}.

Dr. Erikson and his group reported that there are two such chemicals in normal human fibroblasts.

In the future, Dr. Erikson hopes to map the sequence of molecular events triggered by pp60^{src}, and discern the precise molecular pathways that lead to malignancy.

Dr. Frei and Freireich together developed

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the first cure for leukemia in studies which profoundly affected the whole of modern cancer chemotherapy.

Working together for 17 years, the two researchers developed the first treatment for leukemia that truly cured patients. In the process, they established nearly all the principles of scientific chemotherapy trials for cancers of all kinds.

The type of therapy they devised—using many drugs in combination—virtually revolutionized cancer medicine and is now one of the mainstays of treatment for most types of cancer.

The two researchers first set out to understand the barriers to effective cancer therapy. During the late 1950s, they conducted studies that showed how transfusions of white blood cells could help ward off infection and investigated the preventive use of antibiotics and germfree isolation rooms. These efforts, which helped reduce the number of patients dying of infection, were later widely emulated by other leukemia specialists.

Because patients with leukemia no longer produce functioning platelets—the cells involved in blood clotting—they are at risk for uncontrolled bleeding.

The two scientists developed a way to prevent hemorrhaging by transfusing only platelets. This work, plus studies showing how to avoid immune complications by giving platelets from a single donor, helped dramatically reduce bleeding problems.

While these studies were under way, Drs. Frei and Freireich also investigated new drugs and new ways to administer existing drugs. They also began to combine drugs, based on the idea that effectiveness would be increased and side effects—if the drugs had different ways of acting—would not.

In 1961, they demonstrated for the first time that two drugs given together worked better than when administered sequentially. By the mid-1960's, Drs. Frei and Freireich had established nearly all the guidelines that would result in the leukemia cures of the 1970s. □



Children at the NIH preschool, l to r: Alyssa Grauman, Geoffrey Mok, Harald Baltzer, Natuski Nakagawa and Elicia Berman wear their favorite T-shirts with NCI's Pediatric Branch Teddy Bear. The T-shirts remind everyone that "Handwashing Prevents Infection . . . It Really Does." The shirts will soon be available at the NIH R&W stores on the campus. Buttons and posters are available without charge from the Pediatric Branch at (301) 496-4256.

HHS AWARDS

(Continued from Page 1)

Division small and minority business procurement during Fiscal Year 82." Dr. Malone accepted the award for NIH whose "activities have contributed to the accomplishment

of the Department's efforts to increase procurements from small and disadvantaged businesses and women-owned business firms."

Distinguished Service Award - Scientific category



Dr. Gary Felsenfeld

"For outstanding research on the structure of chromatin in animal cells and on the effect of variations of that structure in controlling gene expression."



Dr. Maxine F. Singer

"For major scientific discoveries in biochemistry and molecular biology, and her leadership in making recombinant DNA research possible."

Secretary's Special Citation for Ten Outstanding Employees of the Year



Joan B. Fuller

"In recognition of her consistently superior performance in support of cardiovascular surgery research in the National Heart, Lung, and Blood Institute."



Otis Ducker

"For outstanding contributions in implementing an exemplary program to provide equal opportunity for minorities, women and the handicapped."

HHS Outstanding Handicapped Employee of the Year Award



Frances B. Cannon

"For sustained high productivity in diverse laboratory assignments and for creating new opportunities for the handicapped in the community and at NIH."

HHS Volunteer Award



William F. Stancliff

"For genuine concern and caring for the patients in the NIH Clinical Center's Pediatric Oncology Department and his resourceful and creative assistance to the staff responsible for planning patient activities."



Dr. Malone

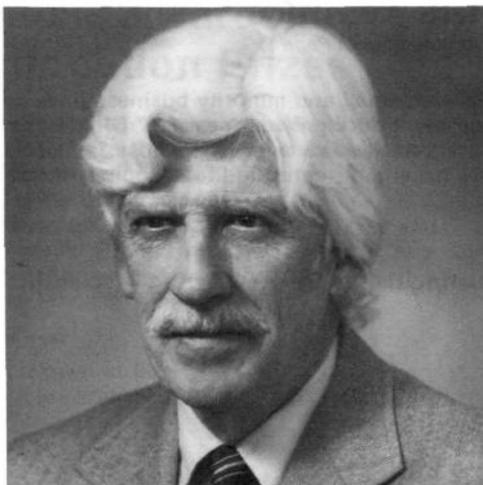
SENIOR OFFICIALS

(Continued from Page 1)

Departmental Superior Service Award (1965) and Distinguished Service Award (1968). More recently, he achieved Distinguished Executive Rank in the Senior Executive Service (1980).

Dr. Rall served as Acting NIH Deputy Director for Science from July 1, 1981, to June 1, 1982, and again from April 1 to the present.

Dr. Raub, who joined the NIH in 1966, was formerly NIH Associate Director for Extra-



Dr. Rall

mural Research and Training. Prior to that position, he served as associate director, National Eye Institute (1975-1978), and chief, Biotechnology Resources Branch, Division of Research Resources (1969-1975).

Dr. Wyngaarden characterized Dr. Raub as "particularly well-qualified to meet the challenges and opportunities in NIH's extensive extramural program" and noted that "he has consistently sought to maximize the value of the NIH training program."

A graduate of Wilkes College in Wilkes-Barre, Pa., in 1961, Dr. Raub received his Ph.D. in 1965 from the University of



Dr. Raub

Pennsylvania.

In 1982 he achieved the HHS Distinguished Service Award and the SES Meritorious Executive Rank Award.

During the period 1966-1978, Dr. Raub led the effort to develop the PROPHET system, a national computer resource for pharmacologists and others who study chemical/biological interactions.

PROPHET is the most nearly comprehensive set of information-handling tools for this area of science ever to be presented in a unified system and offered as a service to the biomedical research community. □

Where To Get Information on Major Diabetic Study

The June 7 issue of *The NIH Record* reported that the Diabetes Control and Complications Trial (DCCT) is now recruiting volunteers to participate in the study at 21 cooperating medical centers (listed below) in the U.S. and Canada. Additional information can be obtained by contacting these centers or by writing DIABETES, NIADDK, Bldg. 31, Rm. 9A-04, Bethesda, MD 20205, or calling (301) 496-3583.

Diabetes Control and Complications Trial Centers

CASE WESTERN RESERVE UNIVERSITY

Saul Genuth, M.D.
Mount Sinai Medical Center
1800 East 105th St.
Cleveland, OH 44106

CHILDREN'S HOSPITAL OF PHILADELPHIA

Lester Baker, M.D.
University of Pennsylvania
34th and Civic Center Blvd.
Philadelphia, PA 19104

CORNELL UNIVERSITY MEDICAL COLLEGE

Lois Jovanovic, M.D.
1300 York Avenue
New York, NY 10021

HENRY FORD HOSPITAL

Fred W. Whitehouse, M.D.
2799 West Grand Blvd.
Detroit, MI 48202

JOSLIN DIABETES CENTER, INC.

Lawrence I. Rand, M.D.
W.P. Beetham Eye Unit
1 Joslin Place
Boston, MA 02215

MASSACHUSETTS GENERAL HOSPITAL

David M. Nathan, M.D.
Diabetes Unit, Bulfinch 4
Fruit St.
Boston, MA 02114

MAYO FOUNDATION

F. John Service, M.D.
200 First St., S.W.
Rochester, MN 55905

MEDICAL UNIVERSITY OF SOUTH CAROLINA

John A. Colwell, M.D.
171 Ashley Avenue
Charleston, SC 29425

ST. LOUIS PARK MEDICAL CENTER RESEARCH FOUNDATION

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Chemical Safety Training Being Offered For Summer Employees in June

The Division of Safety is sponsoring a monthly half-day program entitled "Recognition and Control of Chemical Hazards in the Laboratory." The program is designed to provide a basic set of skills in identifying and dealing with a wide range of hazards associated with research laboratories.

The June 30 and July 28 courses have been designed to better meet the needs of the summer employee population. All courses are held in the Lister Hill Auditorium, Bldg. 38A, from 8:30 a.m. to 12:15 p.m.

Additional information can be obtained from the Occupational Safety and Health Branch, DS, 496-2960. □

Evaluating Elderly Patients Focus of NIA Conference

The National Institute on Aging will sponsor a conference on assessment technology and the elderly patient on June 29-30. Cosponsors for this technical assessment conference include the American Medical Association, the NIH Office of Medical Applications of Research, and the National Center for Health Services Research.

As the number of Americans over the age of 65 continues to grow rapidly, older persons will become increasingly dependent on formal medical and social services.

Comprehensive patient evaluations—those that consider interacting medical, psychological, social, and environmental factors—can provide a basis for identifying treatable conditions and for recommending interventions that are rational, beneficial, humane, and cost-effective.

The conference will offer a forum where physicians, nurses, social workers, hospital and nursing home administrators, physical therapists, physicians' assistants, and others may learn more about the clinical resource known as assessment technology.

Both developers and users of assessment techniques—which include test instruments, patient evaluation procedures, and assessment scales—will present their experiences and define the science base underlying these techniques.

The conference will be held at the Masur Auditorium at the Clinical Center. For more information, call Michele Dillon, 468-6555, or Dr. Daniel Cowell, 496-5608. □

Monkey Research Symposium Slated at Michigan State U.

A special symposium on current research at the Cayo Santiago monkey colony will be held at the sixth annual meeting of the American Society of Primatologists, Aug. 7-10, at Michigan State University in East Lansing. Investigators from the United States, Puerto Rico, Canada, and Great Britain will discuss a range of topics that include infant social development, mating, gerontology, genetics, and behavior.

Cayo Santiago, a small island located off the southeast coast of Puerto Rico, is home to over 1,000 free-ranging rhesus monkeys (*Macaca mulatta*).

The core population, which consisted of about 400 rhesus monkeys, was brought over from India in 1938 by the late Dr. C. Ray Carpenter under the sponsorship of the John and Mary Markel Foundation and the Government of Puerto Rico.

Since 1972, the colony has been used primarily for long-term studies of social behavior and genetic microevolution. Currently, the Animal Resources Program of the Division of Research Resources and the University of Puerto Rico, Medical Sciences Campus, support the colony.

Additional information about the symposium can be obtained by writing to the Director, Caribbean Primate Research Center, Box 297, Sabana Seca, Puerto Rico 00749. □



Justine S. Grauman (r) and Dr. Lois A. Salzman (l), have been chosen to represent NIAID as delegate and alternate, respectively, to the NIH Women's Advisory Committee. Their 3-year appointments were announced recently by Dr. Richard M. Krause, Institute Director. As members of the committee, Ms. Grauman and Dr. Salzman will advise the Federal Women's Program coordinator about problems of particular concern to NIH women, especially promotion of equal opportunities for women at NIH. Ms. Grauman is currently a program officer for the Genetics and Transplantation Biology Branch, and Dr. Salzman is a research chemist in the Laboratory of Biology of Viruses.

Dr. Finlayson Honored For NIH Library Service

Dr. John S. Finlayson of the National Center for Drugs and Biologics (NCDB), FDA, has received a \$500 cash award from the center honoring his 14 years of service on the NIH Library Advisory Committee. Dr. Finlayson is chief of the NCDB Plasma Derivatives Branch.

Dr. Paul Parkman, NCDB acting scientific director, made the surprise presentation May 19 during a meeting of the committee attended by NIH Acting Deputy Director for Science, Dr. Joseph E. Rall.

The FDA award resulted from a memorandum from Dr. James B. Wyngaarden, NIH Director, to Dr. Arthur Hull Hayes, FDA Commissioner, expressing the gratitude of the research community located on the NIH campus for Dr. Finlayson's many contributions.

Dr. Wyngaarden cited especially the great amount of time Dr. Finlayson devoted to reviewing the library's journal collection and his major role in establishing a new journal retention policy in the face of a severe space problem.

Lab Animal Care Slated For Hearings

Two meetings to receive statements from the public concerning the revision of the *Guide for the Care and Use of Laboratory Animals* will be held in San Francisco and the Chicago area.

The San Francisco meeting will be at the San Francisco Hilton on July 11, the Chicago meeting on July 12 at the Holiday Inn, O'Hare/Kennedy in Rosemont, Ill. Both meetings will start at 9 a.m.

Oral presentations will be limited to 5 minutes each and must be scheduled by the National Research Council's Institute of Laboratory Animal Resources.

Each oral presentation should be accompanied by a written statement with 20 copies to be given to the committee at the meeting.

To schedule a presentation or get additional information, individuals should write or call Dr. Earl W. Grogan, Institute of Laboratory Animal Resources, National Research Council, 2101 Constitution Ave., N.W., Washington, DC 20418. His telephone number is (202) 334-2590. Presentations must be scheduled before July 6. □



Joining in the presentation were (l to r): Dr. Eugene Weinbach, NIAID, Library Advisory Committee chairman; Dr. Rall; Dr. Finlayson; Carolyn Brown, NIH Library chief; Dr. Parkman; and Dr. Joe R. Held, Director, DRS.

Multiple Sclerosis Still a Puzzling Ailment: Hard to Diagnose or Treat

By Diane Striar

"Hundreds of treatments, from the poisonous belladonna plant to strychnine, have been tried on multiple sclerosis in the last century," according to Dr. Dale McFarlin, chief of NINCDS's Neuroimmunology Branch. "But clinical research on the disease has long been hampered by the nature of multiple sclerosis—it's a disorder with spontaneous periods of remission or improvement which can mask the true effects of an apparently successful treatment."

Dr. Henry McFarland, assistant chief of the Neuroimmunology Branch, expressed the problem succinctly:

"We have had patients on experimental protocols who got better while they were being treated. The problem is, we couldn't tell whether it was the treatment that helped, or whether they would have gotten better by themselves without treatment."

Multiple sclerosis is a disorder that destroys the protective myelin sheath surrounding nerve fibers, producing such symptoms as weaknesses, pain, and blurred or double vision.

Most MS patients experience these symptoms sporadically, in episodes called exacerbations, followed by periods of remission. For some of these patients, time will not worsen the severity of the symptoms; in others, it will.

There is also a different, chronic form of MS in which symptoms are always present and become progressively worse. This variation in symptoms makes it difficult to predict how a patient would react in a research study.

There also is no laboratory test that can confirm an MS diagnosis, a necessary step in selecting research patients. Even a neurological exam may not produce the clear-cut diagnosis required.

A patient's symptoms can indicate "possible," "probable," or "clinically definite" MS. Using a "possible" MS patient in research is risky. If the disease is not really MS, data on that patient would be of little value to the study.

More importantly, "possible" MS patients might actually have another, treatable disease that would be neglected until an accurate diagnosis is made.

Probable MS patients can be useful subjects for some research studies, since there is only a small chance that these people have been incorrectly diagnosed. But it is the clinically definite MS patient who yields the most reliable research data.

Cause Not Identified

Although scientists have not yet identified the cause of MS, they speculate that an infectious agent or an overactive immune response which attacks the body's normal tissues may be responsible for the neurological disorder.

Since the major portion of the immune response is under genetic control, Drs. McFarlin and McFarland are studying identical and fraternal twins for clues to the disease.

One or both twins in each set have multi-



Dr. McFarlin, chief of the NINCDS Neuroimmunology Branch, examines an MS patient while the patient's fraternal twin brother watches.

ple sclerosis. The scientists hope to discover a particular genetic factor relating to the cause of MS.

Throughout the twin study, investigators have been hampered by the lack of a diagnostic laboratory test for MS.

"The research was set up to study people who had either probable or clinically definite MS, and their normal twins," Dr. McFarland said.

"However, when we started to examine the unaffected twins we found some of them had minor abnormalities and also minor changes in their spinal fluid.

"Since it's critical for this study to be able to say which twins are affected and which are not, this has been a problem."

One research finding by the Neuroimmunology Branch may help scientists develop a laboratory test for MS. When the investigators analyzed the white blood cells of the twins, they found that in four sets, the twin with MS had a greater immune response to measles than did the unaffected twin.

"When presented with measles virus, the white blood cells of the MS twin divided more often than those of the normal twin. Also, the MS twin's white cells killed more of the measles virus-infected target cells," Dr. McFarland said.

The twin study has also yielded early data which may relate to the cause of MS, he noted, adding:

"Information collected so far indicates that the normal twin in an MS identical twin pair has a higher-than-average chance of eventually developing the disease.

"But the odds diminish as the normal twin ages: the longer this twin remains MS-free, the less likely he or she is to develop the disease."

There are a number of older twin sets in which only one twin has MS. "This suggests that environmental factors are at least as important as genetic traits," he said.

MS twins are also participating in NINCDS therapeutic studies. In one protocol, white blood cells from a normal twin were removed by a process called leukopheresis. These cells were then infused into the MS twin to slow down a suspected overactive immune response.

"Since the MS twin's condition became no worse," said Dr. McFarland, "this procedure may be worth pursuing in other MS patients."

The validity of experimental MS therapies—such as the leukopheresis performed on the twins—can be particularly difficult to interpret.

MS symptoms often worsen after periods of activity, stress, fever, and exposure to heat. And the patient's anxiety or depression can cloud interpretation of a particular treatment's side effects.

The testing of experimental drugs on MS patients poses its own kinds of problems. Tests of certain drugs against placebos have shown that patients seem to improve under either treatment. This placebo effect is a common occurrence in MS patients.

Dr. McFarland is wary about the use of strong drugs in early-stage MS patients. "In the early years of MS, there is no way of telling which patients are going to have a mild course and which ones are going to have a severe course," he said.

"Also, early in the disease, patients tend to get better anyway by themselves. For these two reasons, there is a reservation about using an experimental drug that has substantial side effects. The drug's risk must be balanced against possible benefits."

If a patient has a severe course, drug side effects might be justified provided the drug also helps the patient in some way, according to Dr. McFarland. "But, if the patient has only a mild course, it would be difficult to justify side effects such as increased risks of cancer." □

NIH Procurement Process Enters the Electronic Age

By Bill Hall

Spending \$175 million a year is no simple task.

For years, ordering, receiving, and paying for equipment, supplies, and services at NIH was tedious, and required a tremendous amount of paperwork.

This procurement process involved many offices at NIH.

Initiating purchase orders was the responsibility of the Procurement Branch of the Division of Administrative Services. Handling payments was the function of the Operations Accounting Branch in the Division of Financial Management. Keeping track of materiel was the job of the Supply Operations Branch, DAS.

Each office kept its own records and created its own system for processing the same order, causing many duplicative operations.

Now an automated system to handle these complex management functions has been developed by computer professionals in the Data Management Branch of the Division of Computer Research and Technology through joint efforts of the materiel management, financial management, and computer organizations of NIH.

Known as the NIH Administrative Data Base (ADB) this central computer system is linked with a network of remote terminals throughout NIH. The "electronic headquarters" for carrying out the procurement process, ADB eliminates repetitive records and procedures by creating one central data base for purchasing equipment, supplies, and services.

The ADB can do three main things:

- Create and store large central information files and make them available for review and to generate accounting and other reports.
- Provide centralized and delegated procurements between the Procurement Branch and other NIH offices.
- Coordinate financial management activities throughout the agency.

Two types of procurements can be performed—centralized and delegated.

A centralized procurement, originating in the Procurement Branch, is an order for any type of equipment or service that NIH needs.

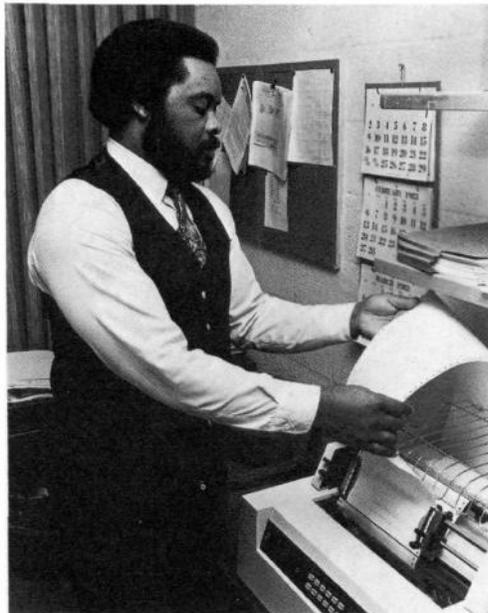
A delegated procurement, originating in a BID administrative office, is restricted to certain kinds of purchases.

An ADB feature known as DELPRO allows each BID to initiate delegated orders on certain types of equipment or services such as repairs to laboratory and office equipment or professional services like writing and photography.

The Procurement Branch must still monitor delegated orders, but DELPRO saves time for the BIDs by cutting the number of orders the Procurement Branch must process.

Automating ordering, receiving and paying at NIH has produced several benefits.

Because data are entered into the system only once, paperwork has been reduced substantially. For example, the handling of delegated procurements and receiving of documents has been cut 100 percent, reduc-



Computer professionals of the Data Management Branch at NIH's Division of Computer Research and Technology designed the Administrative Data Base System.

ing overtime costs by over \$200,000.

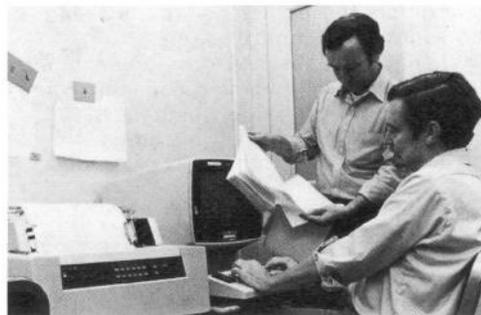
The average time taken to pay vendors has been cut from 35 days to 5 days. This cut has:

- Reduced the number of payments paid after 30 days from 50 percent to 3.5 percent;
- Reduced the number of unpaid invoices from 46,000 to 12,500;
- Absorbed a reduction of 10 full-time permanent positions and cut temporary employment by 50 percent;
- Improved staff productivity from 5 to 11.5 vouchers per man-hour;
- Reduced the overtime payroll in Accounts Payable from over \$73,000 to less than \$5,000;
- Increased cash discounts taken from zero prior to 5/1/81 to approximately \$300,000 per year.

All these reductions have resulted in cost savings of approximately \$1.3 million.

Although the ADB is one large system, it is actually made up of several groups of data bases.

For example, the ADB maintains several data bases that help the Procurement Branch keep track of orders. The vendor master data base contains information on all



Through the use of DELPRO, NIH Administrative Offices can initiate certain types of orders and daily monitor the status of unpaid orders.

vendors authorized to do business with NIH.

The source data base monitors requested new orders to make sure orders do not exceed price limits established for the vendors named in the orders. The common account number data base ensures that purchases are charged to valid accounts in each NIH ordering office.

A system this size must be monitored and updated when changes are required. Staff members of the Data Management Branch maintain and continually refine the ADB.

The data base applications development and maintenance team interprets the needs of the ADB users and produces the required software to meet those needs. This team must also refine the software as users' needs change.

Systems support is provided by two groups in the Computer Center Branch. One group oversees terminal installation and security while the other group monitors daily ADB performance and conducts system-wide maintenance.

The ADB now handles procurement and receiving for NIH materiel management and some aspects of NIH financial management, including accounts payable and miscellaneous obligation/payment systems.

When fully operational, the ADB will be used to manage NIH training, travel, contract and grant data as well as all materiel and financial data. The system will also be linked to other automated systems of NIH and other Federal agencies. □

Dr. Richard Suzman Joins NIA

Dr. Richard Suzman recently joined the Behavioral Sciences Research Program, National Institute on Aging, as a health scientist administrator.

In 1980-81, Dr. Suzman worked on a temporary assignment at NIA during which time he assisted in program planning in

research on psychosocial factors in health. He will assist in the development of a program of research and training grants concerned with the

role of older people in a changing society.

He came to NIA from the University of California/San Francisco where he was assistant professor in the department of psychiatry and directed a project on the impact of economic cycles on the health of the elderly.

His research interests include the effects of change caused by North Sea oil development on mental health in Shetland and the impact of automobile plant closings on the mortality of the workers. In addition, he has participated in a six-nation study of the consequences of modernization.

He earned his A.B. at Harvard University in 1964, a diploma in social anthropology from Oxford University in 1965, and his Ph.D. in social psychology from Harvard in 1973. □



Dr. Suzman



Looking on as Dr. Edward N. Brandt, Jr., Assistant Secretary for Health, cuts the ribbon to open the NIH Fitness Center during the Health and Safety Expo held recently are, l to r: Dr. Thomas E. Malone, Deputy Director, NIH; Glenn V. Swengcos, President's Council on Physical Fitness and Sports; Donna Speigler, deputy associate director, Office of Research Services; and Janet Vizard, director, NIH Fitness Center.

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Lung Lubricant Improves Premature Babies' Breathing

A new procedure for treating premature infants with respiratory distress syndrome (RDS) has been pioneered and is being tested by researchers supported by the National Institute of Child Health and Human Development.

Healthy 9-month pregnant women undergoing cesarean childbirth have helped save the lives of other mothers' premature babies by donating their amniotic fluid which contains a beneficial lung lubricant called "surfactant."

The procedure—used on eight very premature infants so far—was developed through research at the University of California Medical School in San Diego.

Details of the research were presented at the 1983 joint meeting of the American Pediatric Society, the Society for Pediatric Research, and the Ambulatory Pediatric Association in Washington, D.C., May 4.

After successfully treating premature animals with human surfactant, Drs. Louis Gluck, Mikko Hallman and T. Alolen Merritt found that the purified lung substance—taken from human amniotic fluid and put into the tracheas of newborns with RDS—significantly improved their breathing. The infants weighed less than 1,200 grams (approximately 2 1/2 pounds) and were treated within 10 hours after birth.

Inflates Air Sacs

Surfactant is an emulsifying substance produced by the fetus largely after the 35th week of gestation. It helps inflate the alveoli (air sacs) in a baby's lungs after birth and prevents the tiny sacs from collapsing and sticking together after each breath.

RDS is a common and often fatal condition affecting very premature infants who have not yet produced enough surfactant. It has been estimated that RDS and its complications account for 8,000 to 10,000 neonatal deaths among live-born infants each year in the United States and affects some 40,000 newborns annually.

In NICHD's prospective controlled trials at the Infant Special Care Unit in San Diego, Calif., Dr. Gluck and his team treated eight very low birth weight infants who suffered from severe RDS.

The human surfactant was deposited in the infants' tracheas via a tube inserted through the mouth some 6 hours after birth while the infants received mechanical ventilation. A group of 17 untreated low birth weight infants with severe RDS served as controls.

X-rays and blood gas analyses showed that within minutes, respiration of the eight surfactant-treated infants improved considerably compared to the newborns receiving conventional mechanical ventilation without surfactant.

"The beauty of natural surfactant is that it increases oxygenation to the infants so that we can reduce the mechanical ventilation, and give less oxygen," said Dr. Gluck. Under certain conditions oxygen therapy—while lifesaving—causes eye and brain damage.

In a process developed by Dr. Mikko Hallman, the natural surfactant had been isolated from the amniotic fluid of full-term mothers during cesarean section after lung maturity of the mothers' own babies had been confirmed.

"Out of four cesarean sections we can collect enough surfactant to treat one baby with respiratory distress. The isolation technique is relatively inexpensive," Dr. Gluck said.

According to Dr. Summer J. Yaffe, director of NICHD's Center for Research for Mothers and Children, "It is essential that further studies evaluate the effectiveness and safety of the human surfactant treatment before these findings are translated into widespread clinical usage.

"We hope that this new development in fetal medicine will further reduce this country's infant mortality rate which, in 1982, was 11.2 deaths per 1,000 live births."

Teneke Boddé □

And what is a weed? A plant whose virtues have not yet been discovered.—*Ralph Waldo Emerson* □

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