**PHS Co-Sponsors Meeting on Grant, Award Programs**

The first of a new series of regional meetings on PHS grants and award programs is scheduled for April 2 and 3 at the David P. Woehl, Jr. Hospital, St. Louis, under the sponsorship of Washington University and the Public Health Service.

This conference will provide an opportunity for biomedical scientists, academic administrators, university business officials, and PHS staff to discuss the interrelationships between research activities and grant and award administration.

Arranged by DRG

The conference was arranged by the Division of Research Grants in response to requests from medical schools, graduate schools and other institutions. It is designed to provide a forum for discussion of scientific program-management as effectively and economically as feasible.

Seven States and 97 institutions have been invited to participate, including current grantees and organizations that have expressed interest in PHS extramural programs.

Participation by PHS staff will

(See GRANT MEETING, Page 7)

**DBS Adapts Autoanalyzer to Measure Hemagglutinins in Flu Virus Vaccines**

Division of Biologics Standards investigators have successfully adapted the autoanalyzer, an automatic testing technique widely used in blood chemistry, to a system for measuring hemagglutinins in influenza virus vaccines and virus suspensions.

Influenza virus possesses the ability of agglutinating chicken red cells. Measurement of this agglutinin activity makes it possible to estimate the virus content of the influenza vaccine suspensions at any time during the processing of the vaccine.

This titration procedure, known as the CCA (chicken cell agglutination) test, is usually performed manually, employing either a densitometer or colorimeter to measure the agglutinin.

A CCA unit is defined as that concentration of influenza virus hemagglutinin which, under a prescribed set of conditions, causes agglutination of one-half of the red cells in a unit volume of a 0.75 percent red-cell suspension.

Results More Uniform

Use of the automated system, with its continuous-flow technique for separation of agglutinated from nonagglutinated chicken red cells, has been found to produce more uniform and more readily reproducible results.

(See AUTOANALYZER, Page 6)

**Scientists Develop Pathology Code for Rapid Computer Storage and Retrieval**

Two years ago it might have taken an NIH scientist as long as six months to search the Clinical Center’s Pathological Anatomy Department’s autopsy files for pertinent and usable data on any disease. Today a case record library of pathologic diagnoses is stored on magnetic tape and is available for retrieval by the NIH computer in a matter of minutes.

This remarkable progress in pathology data storage and retrieval has far-reaching implications for future scientific inquiry.

This progress has been achieved through the combined efforts of Dr. Louis B. Thomas, Head of the Surgical Pathology and Postmortem Service, Pathologic Anatomy Branch, NCI, and Dr. Arnold W. Pratt, Head of the Energy Metabolism Section, Laboratory of Physiology, NCI. Martin Epstein, of the Computation and Data Processing Branch, DRS, provides the computer service for this program.

**Named to Committee**

Six years ago Dr. Thomas was appointed by the American College of Pathologists to a Committee on Nomenclature and Classification of Disease whose primary aim was to develop a standardized nomenclature to help pathologists organize and better utilize their data through improved communication.

The committee developed a coded nomenclature, and for the past two years, its field trial edition of the new code, called the Systematized Nomenclature of Pathology (SNOP), has been used by several hundred pathologists in the United States and in approximately 35 foreign countries.

The pathology data storage and retrieval program at NIH made use of the field trial edition, provided by the National Institutes of Health.

(See PATHOLOGY CODE, Page 8)

**Many From NIH To Attend April FASEB Meeting**

One hundred and fifty-eight papers reporting results of biological research by NIH scientists have been submitted for presentation at the 40th Annual Meeting of the Federation of American Societies for Experimental Biology, to be held April 9-14 in Atlantic City, N. J.

Approximately 3,400 papers are expected to be presented at this year’s meeting, with authors reporting results of basic research in all areas of the biological sciences that have application in medicine and public health.

**17,000 Expected**

Two hundred and ninety-eight regular sessions, numerous informal meetings, and 32 symposia have been scheduled during the five days of sessions, with an estimated attendance this year of 17,000.

Scientific sessions will be held in Convention Hall and nearby hotels and motels, including the Ambassador, Colony, Deauville, Donna, Ritz-Carlton, Shelbourne and Traymore.

A general session is scheduled for Saturday, April 10, at 8 p.m. in the ballroom of Convention Hall, at which Dr. J. Bronowski, Deputy Director of The Salk Institute for Biological Studies, will discuss “The Philosophy of Biology.” He will be introduced by Dr. Philip (See FASEB MEETING, Page 6)

**House Hearings on FY ’66 Budget to End Tomorrow**

With House Appropriations Subcommittee hearings on the DH&SWG appropriation bill for Fiscal 1966 scheduled to conclude tomorrow (March 24), full committee action on the measure is expected to follow shortly.

Meanwhile, the Senate Appropriations Subcommittee began its hearings on the NIH portion of the bill March 15, with testimony by Dr. James A. Shannon, Director of NIH.
Ohio Wesleyan Chorale
To Present Concert
This Evening at CC

At 7:30 this evening the Women's Chorale of Ohio Wesleyan University will present a program of sacred and secular music for patients at the Clinical Center, NIH employees, their families and friends. The concert will be held in the CC first floor auditorium, where seating preference will go to patients.

The Chorale, under the direction of Robert E. Bowles, has won acclaim for its singing tours through Great Britain and the European continent as well as many sections of the United States. Tonight's concert was arranged through Elizabeth Hughes, President Pro Tempore of the Chorale and former employee of the National Institute of Arthritis and Metabolic Diseases.

The exhibit wa s accepted on behalf of the Library by Dr. Luther L. Terry, Surgeon General of the Public Health Service; Dr. N oman Q. Bril l, Chairman of the Department of Psychiatry, University of California Medical Center at Los Angeles, and Chairman of the Library's Board of Regents; and Dr. Martin M. Cummings, Director of the Library.

Grants to Aid Training
Of Teachers of Blind

The U.S. Office of Education recently made grants totaling $648,900 to 15 colleges and universities to train teachers of children who are blind or otherwise visually handicapped.

Institutions will use the money during the academic year 1965-66, beginning in September, to provide fellowships and traineeships.
**Vaccine Sought Against Respiratory Disease That Afflicts Infants**

Surgeon General Luther L. Terry of the Public Health Service recently announced the award of a $214,000 contract to Eli Lilly and Company for the development of a preventive vaccine against respiratory syncytial virus, the single most significant agent responsible for severe, sometimes fatal, respiratory disease in infants.

The contract was awarded by the National Institute of Allergy and Infectious Diseases.

The company will make use of the zonal centrifuge, newly developed by the Oak Ridge National Laboratory in collaboration with NIH and the Atomic Energy Commission.

**Machine Is Versatile**

This machine is capable of separating and concentrating purified virus particles in volumes wherefore not possible. The different particles can then be studied to determine which portion stimulates resistance to disease in man.

A vaccine incorporating concentrations of only those particles of the virus which contain immunizing antigen would have the desirable properties of safety and increased potency.

Virtually no one is immune to respiratory syncytial virus infection, but infants under six months of age are particularly susceptible. In at least one large study in a pediatric hospital, this virus was causally related to approximately 14 percent of all serious respiratory tract illnesses requiring hospitalization, including bronchiolitis and bronchopneumonia seen over a number of years. Reinfec tion is common and results in upper respiratory diseases.

**10,000 Deaths Yearly**

Epidemics occur annually throughout the United States and other parts of the world. An effective vaccine might eliminate many of the 10,000 yearly infant deaths attributed to acute respiratory disease.

The contract with Lilly is part of a collaborative program undertaken by NIAID with a number of industrial and university scientists.

A group of university and government scientists constitute the Vaccine Development Board which advises the Institute on program objectives and the merit of contract proposals.

The National Cancer Institute Act was passed by Congress July 23, 1937 and signed by President Franklin D. Roosevelt on August 5, 1937.

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**J. M. Morel, CC Technologist, Develops Tomography Device**

By Frank Smith

How often the doctors say, "We'll have to have more X-rays taken!"

A safer, easier, quicker, less expensive, and sometimes more accurate way of taking many of those "extra" X-ray pictures has recently been invented by Joseph M. Morel, Supervisory Radiographic Research Technician in the Clinical Center Diagnostic X-ray Department.

When the doctor says "more X-rays," what he often has in mind is not merely more but different kinds of X-ray pictures.

For instance, he may be interested in getting a better look at a brain tumor. And since an ordinary X-ray picture will tend to confuse the tumor with the mass of body structure in front of and behind it, it is desirable which blurs out everything except the area in which the tumor is lodged.

He needs a picture that will show just one specific plane or layer of body structure more clearly—what the medical profession calls a tomograph or body-section radiograph.

Ordinary radiographs are obtained by directing radiation from a tube, through the body, and onto a film.

**X-Rays Blurred**

Due to the spreading direction in which X-rays travel, precise movement of two of the three terminals (tube, body, and film) can hold a central cross-section of the body in constant focus, while causing projections of the front and back portions of the body to be constantly displaced on the film and thereby blurred.

To properly move the objects involved, until now, required a great complex of equipment, much of it not as accurate as desired, the best of it very large and heavy and quite expensive, and all of it causing considerable X-ray exposure to the patient. One of the best conventional systems for tomography, for instance, involves a massive arrangement of machinery whereby the patient lies on a table and the X-ray tube and film pivot above and below him.

**Aided by DR5**

With the important skilled assistance of George W. Blakeslee and several others in the Instrument Engineering and Development Branch, Division of Research Services, Mr. Morel has developed a device that is a vast improvement and refinement of previous equipment. It provides the necessary precise movement with an unprecedented combination of accuracy, versatility, low cost, portability, and mass production.

The device makes it possible to center a cross-section of the patient's body over an axis of rotation, and then rotate the patient during X-ray exposure.

The X-ray tube and the film remain stationary, resulting in a tomograph somewhat the shape of a double cone lens in which the cross-section pictured is broadened at its extremities.

Moving the film simultaneously and parallel with the patient's body results in a straight plane, as in a conventional tomograph. The width of the cross-section picture varies directly with the amount of turning done by the body.

The base of the device consists of a portable platform much like (See TOMOGRAPHY, Page 1)
Imagine a luxury liner crossing the Atlantic carrying this weird assortment of characters—Public Enemy No. 13 complete with sawed-off shotgun in a violin case; a rich, balding, engaged to a starched shirt, and a female revivalist turned hip nightclub star—and you have the setting for "Anything Goes," the spring production of the R&W Hamsters. The lights go on April 28 and continue through May 2.

The curious passengers on the ship make for an interesting and exciting time, and that's not all, there are such great Cole Porter tunes as "Blow, Gabriel Blow," "I Get a Kick Out of You," "You're the Top," and the title song "Anything Goes," to keep things hopping.

ALOC Players Starr'd

Now in rehearsal, the cast of "Anything Goes" will star Suzanne Meintzer Brock as the blonde dreamgirl "Hope Harcourt" and Ashton Morris (Treasury) as the rich playboy "Billy Crocker." Both have played leading roles in American Light Opera Company productions.

Veere Silverman (BSS) will play the role of the swinging evangelist nightclub star, "Reno Sweeney."

Playing the part of "Moon Martin," Public Enemy No. 13, is Murray Gould, whose wife Sally is an NIH secretary.

Another Hamster favorite in the show is Dottie Mathis who plays "Hope's" mother, "Mrs. Harcourt."


The four "Angels" from "Reno's" nightclub act are played by Lynnette Watley (DRG), Dawn Ann Smith (Parkland Jr. H., S.), Pat Craig (W. J. H. S.), and Shirley Farnham (W. J. H. S.).

Chorus members singing and acting in the show are Kenneth Braun (CC), Joyce Richards (BSS), David Cooperman (Northwood H. S.), Alice LaRossa, Cheryl Anne Laughery (NCI), Lillian Imber (NINDB), Wendy Ratner (CC), Evelyn Bees (NCI), and Patricia Ann Roczey (CC).

Singers, Dancers Needed

Director Pierre LaMare would like to see more people turn out for both male and female singing and dancing parts for this production. Anyone interested should see Director LaMare, or Choreographer Luis Garcia at rehearsals in the CC auditorium on Mondays and Thursdays at 7:30 p.m. and Saturdays and Sundays at 1 p.m.

Medical Radiology Technician Anne E. Doolin demonstrates how patient would be positioned to afford a clear cross-section picture of the lung area. Visible at bottom is a sprocket-chain connection that causes film to move as patient is turned in chair atop the steel wheel—Photo by Ed Hubberd.

Still another adjacent to the device is a light-weight wooden table which can take the place of the chair and, supporting the patient in a lateral position, afford a still greater variety of tomographs.

A simple sprocket-chain connection gives the necessary simultaneous, parallel motion to the film which is mounted on a pole about two feet from the patient.

This relatively small amount of equipment can yield easily and accurately, a tomograph of virtually any part of the human body.

Further, it can demonstrate structures such as soft tissues and certain lesions somewhat better than conventional tomography.

Still another advantage is that, by curving the film and moving it in the direction opposite to that of the patient, the patient can be X-rayed while rotating through a full circle of 180 degrees, a curved sub-surface (such as a picture of the entire jaw bone, eliminating the confusing superimposition of the areas in front of and behind it).

Device Decreases Exposure

The new device greatly cuts down on the amount of X-ray exposure usually involved in tomography because (1) the patient can be turned at a relatively much greater velocity than the X-ray tube can be made to move in the conventional method, and (2) the distance that the body must move is considerably shorter than that covered by the tube in conventional methods.

With respect to this second facor, the new system usually means turning the patient through only a 10° to 20° arc, for a tomograph of 1-2 inch plane of body structures.

Automats placed at chosen points on the steel wheel turn the X-ray tube on and off as it rotates. In everyday use at the Clinical Center, the new device has already proved highly feasible despite the fact that the CC has all of the conventional tomography equipment found in leading university hospitals.

Three instances in which Clinical Center staff find the new device especially helpful involve patients with calcified heart valves, patients in whom a pneumo-encephalographic procedure has been performed, and patients who have had cancers removed from the throat.

The speed with which tomography can be performed under the new system permits a relatively motionless picture of the heart, and the versatility of the new system permits a radiograph of the anterior portion of the third ventricle when the brain, such as has been extremely difficult to demonstrate by present tomographic procedures.

Tomography of the base of the skull in post-operative patients where the stages of healing is relatively comfortable for the heavily bandaged post-operative patient, whereas tomography with conventional apparatus would cause extreme discomfort because of the awkward way radiography head would have to be positioned.

In terms of dollars, it has been estimated that the new device could be produced and sold for somewhere in the neighborhood of $1,000 to $1,500. It would cost that much just to have the Clinical Center's conventional equipment moved from one room to another.

System's Potential Cited

"This radiographic system has greatly enhanced our ability to support patient care and clinical research," says Dr. Betty Hathaway, Chief of the Diagnostic X-ray Department. "And we believe that it holds great promise for the extent and quality of X-ray technological services everywhere."

The National Institutes of Health is protecting the Government's rights to utilize the new radiographic technique. Mass production of the device will be left to private industry.
President Congratulates John W. Finn and Five Other HEW Employees

John W. Finn, Assistant Chief of the Financial Management Branch, OAM-OD, was one of six Department of Health, Education, and Welfare employees recently honored for developing programs resulting in economy in government operations.

The six honored by the Department were congratulated by President John Johnson on March 3 in Secretary Anthony J. Celebrezze's office following ceremonies at which the President unveiled a portrait of Senator Abraham A. Ribicoff, former HEW Secretary.

Mr. Finn was selected for this honor because of his role in developing and implementing the new grant payment process.

Comments Quoted

Comments prepared by DHEW officials stated: "Although the development and implementation of a grant payment system based on overall cash needs of the grantee rather than individual approved grant awards is the work of many dedicated people within the Department, the leadership and effectiveness of Mr. Finn has been outstanding."

"The system resulted in $89 million being held in the Treasury at the end of Fiscal Year 1964 that would have otherwise been disbursed to grantees. The average daily balance of deferred payments between November 1963 and July 1964 was $48 million."

"The savings in interest costs over the 7-month period is estimated at $800,000. This was the result of a limited pilot project."

"The system is now being extended under Mr. Finn's supervision to DHEW grants to colleges, universities, and non-profit organizations. Eventual total savings will significantly exceed savings so far realized."

Juvenile Court Cases in '63 Set All-Time High

An all-time high of 601,000 juvenile delinquency cases were handled by the juvenile courts of the United States in 1963, according to a report recently released by the Children's Bureau of the Welfare Administration, DHEW.

The report points out that delinquency cases increased 8 percent over 1962, while the entire child population—aged 10 through 17—increased only 4 percent.

In addition, about 366,000 traffic cases were disposed of by juvenile courts in the country in 1963. The increase in traffic cases (17 percent) was more than twice that of the increase in delinquency cases (excluding traffic).

Pathology Code

(Continued from Page 1)

With the advent of good weather, work on the Center Drive widening and grading project progresses rapidly. This photo, taken March 15, shows base material being spread on the new lanes of Center Drive. Paving operations are now underway. This portion of the 2-phase project is expected to be completed by mid-April. Work on the second phase, relocation of South Drive to intersect Rockville Pike north of the present intersection, will be started shortly.—Photo by Ed Hubbard.

Reverend Robey Named CC Training Chaplain

The Rev. Robert B. Robey was recently appointed Training Chaplain at the Clinical Center, to which capacity he will not only serve as Protestant Chaplain but will also help develop educational programs to benefit hospital staff, community, other clergy and students of theology.

In announcing Chaplain Robey's appointment, Rev. LeRoy G. Kerney, Senior Chaplain at the CC, pointed to these factors which "afford a special learning opportunity in attending the spiritual needs of patients at the Clinical Center":

1. The longer-than-usual hospital stay required of research patients.
2. The unusual cross section of patients at the CC.
3. The Center's extraordinary resources for medical and biological sciences but the social and behavioral sciences as well.

"This learning opportunity can, with the addition of Chaplain Robey to our staff, be more appropriately shared through the new educational programs he is to help develop," Chaplain Kerney said.

In accepting the NIH appointment, Rev. Robey leaves his position as Chaplain Director (Protestant) of the District of Columbia Department of Corrections, in which capacity he was responsible for religious ministry to Protestant inmates in five institutions.

Prior Service Noted

During his seven years with the Department of Corrections, Rev. Robey has served as liaison with community churches and clergy and conducted a program of clinical pastoral education.

Previously, Chaplain Robey was the first Protestant Chaplain certified through a two-year Chaplain Internship and Residency program at St. Elizabeth's Hospital, where he also served as a staff chaplain.

A native of West Virginia, Chaplain Robey has served as a Methodist pastor in Illinois, West Virginia, and Maryland. He received Bachelor degrees in both Arts and Divinity from Fairmont (W.Va.) State College and Garrett Theological Seminary in Evanston, Ill.

An accredited supervisor with the Council for Clinical Training who has served on the staff of the Pastoral Institute at Washington, D.C., Rev. Robey is endorsed by the Commission on Chaplains of the Methodist Church and by the Council of Churches of Greater Washington.

The NIH Latin American Office was established in Rio de Janeiro, Brazil, on July 1, 1962.
Resident Patients in Mental Hospitals Decline; Alcoholic Admissions Increase

Total Below 500,000
First Time in 15 Years

The number of patients resident on any one day in State and county mental hospitals decreased in 1964 for the ninth straight year, dropping to below 500,000 for the first time in 15 years, according to the Public Health Service.

However, there were more than 300,000 admissions to these hospitals in 1964—the largest number in history.

The decrease in resident patients, in the face of rising admissions, results from much shorter hospital stays, according to a report prepared by the Office of Biometry, National Institute of Mental Health.

Live Releases Double

Net live releases from the hospitals have more than doubled in less than 10 years, up from 126,498 in 1955 to 271,506 in 1964, the report shows. There were 45,186 deaths in the hospitals in 1964.

The 1964 total of 490,754 resident patients in the Nation's 289 State and county mental hospitals represents a 10.9 percent decrease since 1956, the first year in which the total number of resident patients declined. Between 1953 and 1964 the drop was 2.8 percent, compared to the previous year's decline of 2.1 percent.

Total admissions to the hospitals rose from 178,003 in 1955 to 302,946 in 1964. According to the report, this 70 percent increase over a 10-year period has resulted in a 1954 rate of 160 admissions per 100,000 civilian population, compared with 110 in 1955. Of the 1964 admissions, 138,112 represented patients with no prior psychiatric inpatient experience.

Personnel Ratio Increases

There are now 199,600 full-time personnel caring for the mentally ill in State and county mental hospitals. The ratio of personnel to patients—a steadily increasing one—has reached the level of one full-time employee for every 2.5 resident patients.

Maintenance expenditures for the care of these patients increased to a total of $1.1 billion in 1964, or an average of $9.23 daily for each resident patient, more than double the $3.06 spent in 1955.

The report—"Provisional Patient Movement and Administrative Data, State and County Mental Hospitals, United States, 1964"—is available from the Public Information Section, National Institute of Mental Health, Bethesda, Md., 20014.

One in 7 New Patients Admitted Is Alcoholic

Alcoholics, particularly those with the most severe forms of the disease, are increasing among State mental hospital admissions. According to Dr. Stanley F. Yolles, Director of the National Institute of Mental Health.

A study by the Institute's Office of Biometry reveals that one in seven newly admitted patients is an alcoholic, an 18 percent rise in 10 years. In nine states, disorders associated with alcoholism lead all other diagnoses in mental hospital admissions.

Recent figures analyzed by Ben Z. Locke, NIMH statistician, show a startling rise in the number of alcoholics diagnosed with "chronic brain syndrome associated with alcoholism," the most severe and hopeless of the three classifications of the disease.

Brain Damage Permanent

Patients in this group suffer permanent destruction of the tissues of the brain. The damage results from metabolic or nutritional defects caused by prolonged use of alcohol.

These alcoholics undergo severe personality changes, delirium, confusion, amnesia, confabulation, or talkativeness about things that never happened, inflammation of the nerves, and pain in the arms and legs. The brain damage may be diagnosed by the electroencephalograph.

Moreover than half the alcoholics now in State mental hospitals suffer from this irreversible form of alcoholism—a 50 percent increase in this group in the past 10 years. They also occurred during a period when the number of patients in mental hospitals has dropped.

Patients in public mental hospitals in 1952 totaled 331,981 in contrast to approximately 490,000 today. Resident patient rates for these hospitals have dropped from 435 per 100,000 population in 1952 to about 359 per 100,000 now.

Growth Rates Compared

In contrast to the "chronic brain syndrome" patients, the other two classifications of alcoholics, "acute brain syndrome associated with alcoholism," and "sociopathic personality disturbance, alcoholism addiction," have grown at a much slower rate.

An analysis of one characteristic State—Ohio—furnishes this profile of the typical alcoholic admitted to a mental hospital: The odds are better than four to one that he will be male, probably separated or divorced, with little or no elementary education. He is most likely to be admitted for the first time in his forties.

The person least likely to become an alcoholic patient, according to these statistics, is the married female with some college education, either under 35 or over 54 years of age. Figures from other studies show that the Ohio profile accurately represents the national picture.

AUTOANALYZER

(Continued from Page 1)
ducible results than the standard CCA test methods.

The speed with which the results can be obtained is increased many fold, permitting the performance of many tests and opportunities for multiple reiteration.

The basic components of the autoanalyzer include a sampling device to introduce reagents into the continuous-flow system; proportioning pumps to equalize the flow of the reagents; a heating device to bring them to the desired temperature; and glass coils submerged in water in a constant temperature incubator in which the reagents are mixed.

Other Components Listed

Other components include a settling process in which the agglutinated red cells are separated from non-agglutinated red cells; a colorimeter to measure the hemoglobin content of lysed cells remaining in the agglutinated layer; a recorder to trace the colorimeter values.

Except for introducing reagents into the system, the entire measuring operation is carried out under automated conditions, including the recording of a permanent record of the test results.

Adaptation of the automated system to the measurement of influenza virus hemagglutinins was made by Dr. J. A. Morris, J. C. Jenkins, and R. L. Horswood, all of DBS.

Dr. Morris described the work at a recent conference on Automation in Industrial Pharmaceutical Process and Quality Control, sponsored by the New York Academy of Sciences.

Dr. Warren Discusses Handicapped Programs

Dr. Stafford Warren, the President's advisor on mental retardation, was scheduled to discuss "State and National Action Programs for the Handicapped" at the Fifth Annual Mental Health Rehabilitation Awards Day Luncheon at Sacramento, Calif., on March 18.

Governor Edmund G. Brown was to deliver the principal address at the banquet that evening, at which awards were presented to Californians who have contributed significantly to mental health.

Under Dr. Frei's direction, significant advances in supportive treatment were made at the National Cancer Institute. Through the use of plasmapheresis, hemorrhage-controlling platelets and plasma can now be removed from whole blood and some plasma returned immediately to the donor.

This process permits an individual to donate more frequently, and greatly increases the available supply of vital platelets.

Leukemia Patients Benefit

An adaptation of the same process is now being applied toward collecting granulocytes from whole blood or bone marrow, severing the use of bone marrow, severing the use of bone cancer patients.

Dr. Frei's leadership of groups conducting collaborative studies is regarded by the National Cancer Institute as an important factor in their success.

A native of St. Louis, Mo., Dr. Frei studied at St. Louis University and Colgate University before entering Yale University School of Medicine where he received an M.D. in 1948. He served his internship and residency in Medicine at St. Louis University Hospital, joining the staff of the NCI in 1954.
Outside Dial Tone Changes To Low Hum Next Sunday

The Communication Section of the Office Services Branch, OD, reports that beginning next Sunday, March 28, a new dial tone will be heard at NIH when dialing "0" for an outside telephone line.

Instead of the familiar dial tone now heard when dialing "0", to make a local Metropolitan Area call, a tone pitched in a lower frequency will be heard. This new tone will not be as loud as at present and will be more of a monotone hum.

The change is necessary because the telephone company is gradually modifying telephone central offices throughout the area with new electronic equipment. The NIH "inside," or reservation, dial tone will remain the same.

DRS Training Course in Research Animal Care To Be Given in April

"Caring for Research Animals," a training course given by the Division of Research Services, will be held for the second time beginning early in April.

Prepared jointly by DRS's Environmental Services Branch and Laboratory Aids Branch, the course is for animal caretakers and related workers. It provides basic training in good environmental control practices and proper animal management.

The training course consists of eight weekly sessions of one hour each, dealing with such subjects as importance of good animal care to research, basic characteristics and diseases of some common laboratory animals, waste disposal procedures, housekeeping, and proper sanitation methods.

For more information about the course and starting dates, contact Institute or Division personnel offices.

NIH Co-Sponsors Series Of Medical Seminars

The National Heart Institute co-sponsored again this year a series of medical seminars for Montgomery County high school students. The seminars are designed to stimulate a greater interest in medicine among students and thereby affect their career. About 250 students attended each of the five sessions.

Other sponsors of the seminars, held at the National Naval Medical Center and at NIH, are the Montgomery County Tuberculosis and Heart Association, the Montgomery County Board of Education, the Montgomery County Health Department, and NNMC.

At the final session, competitive examinations were given to select 12 students to be awarded summer study opportunities at NIH and at NNMC. The winners of the Research Fellowships will be announced soon.

Dr. John Ross Jr. of the Institute's Cardiology Branch is a member of the Student Research Fellowship Committee. NIH staff members who spoke at the seminars included Dr. Ross, Dr. Edmund Sonnenblick, and Dr. Charles Ambush of the Cardiology Branch, and Dr. Daniel Steinberg of the Laboratory of Metabolism.

Warren Powell, Chief of the Sanitation and Training Unit, Environmental Services Branch, DRS (left), points out important features of a well-managed animal room to Calvin S. Hawkins, NNDB (center), and Charles Ambush, NIH, who participated in last year's "Caring for Research Animals" training course—Photo by Sam Silverman.

During February, the Clinical Center Blood Bank reports, 141 units of blood were received from NIH donors. In the period of the same week, 1,751 units were used by Clinical Center patients.

Success of Hemodialysis Changes Role of Nurse

Success of hemodialysis in treating renal failure is changing the emphasis of nursing care from comfort measures for terminal patients to active, scientific research participation, according to a former nurse specialist in the general clinical research center in the University of Washington Hospital in Seattle. The center is supported by the Division of Research Facilities and Resources.

The increasing mortality rate for acute renal failure, which was 26 percent in 1963 compared with 60 percent for the period from 1954 to 1959, has shifted the emphasis to knowledgeable care as part of a research team studying patients treated by the artificial kidney.

Nurse Monitors Machine

The nurse must be prepared to monitor the operation of the hemodialyzer and to give comprehensive care to patients whose life depends upon the use of this machine.

A discussion of the principles of hemodialysis, the dialysis procedure, and technical nursing observations for which the nurse is responsible are discussed in an article in the February issue of the American Journal of Nursing.

The author, Carol W. Trusk, noted that "the success of nursing in caring for end-stage renal failure patients who are on hemodialysis has opened up an exciting new field for nurses and has given them an opportunity to participate actively in a complex and technical area of medicine where the survival of patients often is directly related to the quality of the nursing care."

In addition to DRFR support for the center, the research project on hemodialysis is supported by the National Institute of Arthritis and Metabolic Diseases.

9 NIH Employees Reach Two-Gallon Donor Mark

The Blood Bank reports that nine NIH employees have given as much as two gallons of blood to date. They are Robert D. Murrill, Scientist Research Facilities Branch, DRFR; Donald Goldthorpe, Information Officer, NIGMS; Dr. Karl Frank, Associate Director for Intramural Research, NNIB; Donald B. Andrews, Information Officer, NNIB; Ervin J. Liljegren, Administrative Officer for Intramural Research, NIMH; Paul N. Carter, Administrative Officer-For Intramural Research, NIMH; Andrew L. Spence, Library Technician, Laboratory of Physiology, NCI.
Cancer Institute Clinical Associates Win 3 Awards

Effect of Prednisone in Multiple Myeloma With Hypercalcemia Studied

Prednisone administered to patients with multiple myeloma and hypercalcemia has been found to decrease calcium loss from bone and reduce the pool of soluble, readily available calcium by a primary antinflammatory effect, according to a National Cancer Institute study.

An excess of calcium in the blood occurs in about 50 percent of patients with multiple myeloma. The present study investigates the role of the cortico-steroid, prednisone, in five patients with multiple myeloma (four hypercalcemic) and two "normal" patients without bone disease or myeloma, in the control of the metabolic imbalance of these patients. Such a study is essential to the development of a rational dosage of the cortico-steroid, prednisone, as could be given in the control of hypercalcemia.

Prednisone therapy resulted in a rapid reduction in serum calcium concentration in only the hypercalcemic patients. The decrease was associated with a relative net calcium retention by decreased bone resorption. The calcium concentration was not lowered as a result of excretion through the gastrointestinal tract or kidneys.

Results Described

The miscible calcium pool size (comprising all available extracellular calcium), the bone formation rate (BFR) and the bone resorption rate (BRR), as determined by kinetic studies were elevated in hypercalcemic patients and were reduced by prednisone therapy.

The decrease in BFR (24 percent) was relatively greater than that of BRR (20 percent). Normal patients had little change in either.

Only small changes in calcium absorption and renal calcium transport were observed during prednisone therapy, with no change in bound calcium found.

The investigators concluded that prednisone, by acting against the cells responsible for bone resorption, helps decrease the rate of calcification and reduce the pool of soluble, calcium-releasing cells and therefore calcium loss into the miscible pool.

Dr. Carol J. Bentzel, Paul P. Carbome, and Leon Rosenberg, of the Radiation Branch, Medicine Branch, and Metabolism Service, NCI, reported their findings in the Journal of Clinical Investigation.