Nixon Urges Congress
To Approve Health Plan

Calling "the general good
health of our people . . . the
foundation of our national
strength," President Nixon sent
Congress a message on March 2
requesting health care reform.
His proposals included legislation
for national health insurance
and health maintenance as well as
Medicare and Medicaid reforms.
The President directed HEW to
make an intensive study and as
soon as possible recommend "a
plan for developing a safe, fast,
efficient nationwide blood
collection and distribution sys-
tem."

Secretary Elliot L. Richardson
was also asked to plan a series
of projects to "demonstrate the
feasibility of developing integrat-
ed and uniform systems of health
information."

Noting recent measures enacted
by Congress—the Comprehensive
Health Manpower Training Act of
1971, the Nurse Training Act of
1971, and the National Cancer
Act—President Nixon urged the
Congress to act on his health
care system proposals.

One portion of the Message of
(See HEALTH PLAN, Page 7)

While still an undergraduate
at the University of Chicago, Dr.
Weinberg chose a career as a re-
search mathematical biophysicist.
He received his B.S. degree in
1935, his M.S. a year later, and
(See DR. WEINBERG, Page 6)

Atomic-Powered Heart Engine Developed;
NHLI Begins Long-Term Animal Trials

The first atomic-powered heart engine has been developed by the
National Heart and Lung Institute and its contractors. A heart-assist
system with the nuclear engine was implanted in a calf on Feb. 14.
Thus begins evaluation of the nuclear engine for powering the
artificial heart or heart-assist de-
vice in the living animal.
The first total replacement arti-
ficial heart to be totally im-
planted has been developed and
has undergone short-term animal
tests.

All Systems 'Go'

This implant is powered electrically, but may also be powered
by a small implantable nuclear
engine. The complete system is now
ready for long-term animal trials.
These developments were an-
nounced at a press conference
March 2 by Dr. Theodore Cooper,
NHLI Director, and Dr. Lowell
T. Harmison, acting chief, Medical
Devices Applications Branch,
NHLI, and project director.
Both the artificial heart and
the heart-assist system are perfor-
ing up to design specifica-
tions and yielding vital informa-
tion.

Dr. Harmison said that the nu-
clear-powered devices might be-
come available for use in humans
by the end of the decade.
The system implanted in a calf
on Valentine's Day consists of two

A totally implantable artificial heart,
designed by Dr. Harmison and de-
veloped by contractors under the direction
of NHLI, is intended as a total replace-
ment for the sick, living heart.

Dr. Harmon's declaration was the use
of a 6-pound, 3-by-8-inch cylinder containing a
miniature thermal engine with a
nuclear heat source.

Hydraulic pressure generated by
the engine is conveyed by a tube
to the blood pump and its control
(Continued on Page 8)
NIH Schedules 'Code Blue'

"Code Blue," a 27-minute film, will be shown to NIH employees on Wednesday, March 22, at noon in the 14th floor auditorium of the Clinical Center. The film may also be seen in the CC Jack Masur Auditorium on Wednesday, March 22, at 5:15 p.m.; Wednesday, March 29, at noon, and Thursday, March 30, at 5:15 p.m.

Training Seminars Planned For Supervisory Personnel On Assisting the Alcoholic

Seminars on the subject of alcoholism have been planned by the Office of Personnel Management and the Employee Health Service. This training program, for supervisory personnel, will provide information on how to try to help the alcoholic employee return to full productive capacity.

Experts in professional fields will speak on such topics as Behavior Problems; Modification of Attitudes; Modern Methods of Dealing with Troubled Employees, and Employee Health Counseling and Community Resources.

A representative from the U.S. Civil Service Commission will discuss established guidelines.

The program will not exceed one full day during official working hours. Registration forms will be sent to managers and supervisors in the near future. The program will be repeated until all who register have attended the seminar.

Code Blue' Called Best Recruitment Film

"Code Blue," a 27-minute film, has been called "the best documentary made" in the field of minority recruitment by National Medical Association officials.

In initial screenings, the reaction of black and other minority audiences has been exciting.

Invariably met with applause at its conclusion, "Code Blue" is in unprecedented demand among minority groups and schools across the country.

Dr. Herman Evans, a recent graduate of Howard University College of Medicine, narrates the production which tries to overcome the main reason minority students have for not entering medical careers—"Too long, it costs too much, and it's too hard." The film was produced by Blackside of Boston for the Bureau of Health Manpower Education.

According to BHME, American minorities are vastly underrepresented in health careers.

For example, blacks account for 11.5 percent of the nation's population, but only 3 percent of its physicians, 2.7 percent of the dentists, and 5.7 percent of the professional nurses.

Separation Procedures Explained At Meeting for Comm. Officers

A special meeting for NIH Commissioned Officers who are separating from active duty this coming June or July will be held Wednesday, March 22, at 2:30 p.m. in the Jack Masur Auditorium, Clinical Center.

Officers will be informed about separation procedures, travel entitlements, shipment of household effects, and veteran benefits by the Office of the Assistant Director for Commissioned Officers, OPM.

Administrative personnel concerned with these procedures may also attend.

Free Clinic Seeks Volunteers

In order to expand medical services, the Bache Memorial Free Clinic is seeking volunteers to help staff its programs. The clinic, located in the basement of St. John's Episcopal Church, 6701 Wisconsin Av., Bethesda, is staffed by physicians, nurses, pharmacists, lab technicians, and trained nonprofessionals—all volunteers.

Psychiatric counseling, medical diagnosis and treatment, and drug problems are among the services offered at the clinic. It is open on Sunday, Tuesday, and Thursday evenings from 7 to 10 p.m.

For further information call Dr. Mike Friedman in the evenings: 933-8772, or John Eubank, daytime at the Free Clinic number: 565-3232, or evenings at home: 942-3519.

In the film, two obstetricians (left) from Harlem Hospital in New York City prepare to deliver a baby.

Dr. Evans (r) is interviewed by Fremont High School students in Oakland, Calif., during the filming of "Code Blue."
Katherine Steele Dies, Secretary With NIAID

Katherine E. Steele, 58, secretary to the head of the Medical Mycology Section, Laboratory of Microbiology, NIAID, died in Washington, D.C., on Feb. 28, after a long illness.

Miss Steele worked for NIH for almost 21 years and for the Federal Government for more than 29 years.

When she came to work at NIH in July 1951, she joined the staff of the National Microbiological Institute, the predecessor of the National Institute of Allergy and Infectious Diseases. She worked in NIAID for the remainder of her career.

Miss Steele was the recipient of a sustained superior work performance award in 1962.

A native of Winchendon, Mass., she attended Burdett College and Wilson's Teachers College.

According to Dr. Herbert Hansen, head of the section, "Miss Steele was a dedicated individual ready to expend the additional effort needed on any occasion. She will be greatly missed by her co-workers."

She is survived by her sister Gertrude S. Bresnahan of Washington, D.C.

Prof. Granit, Fogarty Scholar, To Chair International Meeting

Professor Ragnar A. Granit, Fogarty Scholar, will be the chairman of a 2-day conference on Control of Movement and Posture.

The meeting, to be held on March 27-28, at Stone House, Bldg. 16, will bring together neurologists and neurophysiologists from NIH, other parts of the U.S., and several foreign countries.

For further information call Tanya Fried, Ext. 64265.

Shoichi Yokoi, World War II Hold-Out

On Guam, Helps Science—Unintentionally

A World War II Japanese soldier who was afraid to return to Japan after the war, has inadvertently made a significant contribution to medical science. The soldier, Shoichi Yokoi, hid on Guam for 28 years living off the plant and fish life of the island.

One of the foods he ate was cycad, a plant that has been considered a possible cause of two fatal neurological disorders which have a phenomenally high incidence on Guam.

**Disease Explained**

One is amyotrophic lateral sclerosis (ALS), a fatal progressive muscular atrophy, sometimes referred to as Lou Gehrig's Disease. The other is parkinsonism-dementia (PD). Cycad is also being studied as a possible cause of cancer.

But, said Dr. Jacob Brody, head of the National Institute of Neurological Diseases and Stroke Epidemiology Branch, who examined him, "If cycad is involved in ALS or PD you couldn't prove it by him."

"Outside of cultural shock and being a little thin, he was in excellent shape mentally and physically. He had no evidence of either disorder."

The cycad plant, explained Dr. Brody, "looks like a palm tree with nuts growing on it. Guamanians make flour from the nut, which contains a product that is highly toxic unless it is soaked in water for a week.

**Native Find Yokoi**

Dr. Brody was at the NINDS Research Center on Guam conducting drug trials on ALS patients when Yokoi was first discovered by some islanders who saw him fishing.

Since 1956, the branch has been studying a number of genetic and environmental factors at the Guam Center which could be related to ALS and PD, including the possibility of a slow virus.

In both diseases a deficiency in the brain chemical dopamine occurs as in Parkinson's disease.

The Guam PD patients respond favorably to treatment by L-dopa, but the drug does not appear to help the ALS patients.

**Doctors Obtain Permission**

ALS is the cause of approximately one in every 10 Guamanian deaths in persons 25 years or older, and PD is the cause of one in every 10 adult deaths.

Before examining Yokoi, Dr. Brody and his two consultants at the Center, Drs. Kwang-Ming Chen and Yoshiro Yase, first obtained permission from the Guamanian Governor, the Guam Mem-

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Dr. Chen is from the National Taiwan University Hospital in Taipei. Dr. Yase is chief of the Division of Neurological Diseases, Wakayama Medical College, in Japan.

They brought Yokoi samples of the cycad nuts and he recognized them, described how he prepared the nuts and told of seeing Guamanians make flour from the nuts during the war.

"Yokoi was obliging and cooperative," Dr. Brady said. "In fact, he said he wanted to come back and help us with our research because he knew all about the edible plants on Guam."

**Schools Request Programs On Black History Material**

There have been many requests for the program and insert given to the audience attending ceremonies honoring Black Contribution to America (see NIH Record, March 1), according to Spencer Logan, chairman of the Program Committee, and Deputy EEO Officer.

The program includes biographies of authors who have written about black history, and the insert contains material on famous black Americans and their accomplishments.

Mr. Logan said that schools and Sunday schools are using the material in history and race relations classes.

Civil Service Announces Retroactive Pay Decision On Wage-Price Freeze

The U. S. Civil Service Commission has announced that many Federal employees will receive retroactive payments to make up for the within-grade increases that were lost as a result of the 90-day—Aug. 15—Nov. 14—wage-price freeze.

This move is based on a recent decision by the Comptroller General of the United States. NIH employees will be notified how and when those who are eligible will receive their retroactive payments.

The Comptroller General also ruled that most wage-grade employees who had adjustments in their basic pay rates held up by the freeze will receive those adjustments, retroactive to their original effective dates—if the wage surveys on which the adjustments are based were ordered before Aug. 15.

In the Washington, D.C. metropolitan area the wage-grade survey was not ordered until after Aug. 15. Therefore, the adjustments will be retroactive to Nov. 14.

Because of a later survey, lithographic employees are covered by an adjustment effective Feb. 13.

For further information, employees may contact their personnel offices.

Dale D. DeWold has been named personnel officer for NEI, NICHD, and DRR. He received his B.A. degree from Pennsylvania State University, and has completed course requirements for an M.P.A. degree. Mr. DeWold has been doing research in air pollution control.

EEO offices in the Washington, D. C., area have also asked for this subject matter.

Louis Raymond Perkins, adjunct professor of Black Studies, Federal City College — Upward Mobility College, developed the program and insert material.

Mr. Perkins is using these facts in his black history course at Upward Mobility College.

The snow that made some of us cringe Feb. 24 changed a barren weeping willow tree into a work of art.—Photo by Ed Driscoll
International Scientists Meet on Campus To Assess Forms of Cancer Therapy

The results of the studies of various cancer therapies were reported by distinguished cancer investigators from Europe, Canada, and the United States, at a meeting, Jan. 31-Feb. 1, of the National Cancer Institute Breast Cancer Task Force Treatment Subcommittee.

The therapies under discussion included surgery, radiation, and drugs.

At the opening session, Dr. H. Stephen Gallagher, M.D., Anderson Hospital and Tumor Institute, Houston, urged the establishment of a national pathology center for breast cancer declaring that regional nodes of a patient with apparently early breast cancer should be treated with irradiation at the time of surgery to the primary tumor.

A comparison is being made between simple mastectomy followed by radiotherapy and simple mastectomy alone, with treatment of regional nodes only when undoubted progression occurs.

Hormone Treatment Evaluated

Dr. James W. Meakin, assistant professor of Medicine, Ontario Cancer Institute in Toronto, reviewed a study, started in 1965, to assess the effect of hormone therapy — ovarian irradiation and progestins — on the recurrence of the disease and patient survival following surgical treatment of the primary lesion.

Long-term results of a 1948-1955 clinical trial at the Christie Hospital in Manchester, England were summarized by Dr. Mary P. Cole of that hospital and Bolton Radium Institute.

The purpose of the study was to assess the value of artificial menopause by ovarian irradiation in the treatment of breast cancer patients.

Summarizing the results of the trial, Dr. Cole stated that ovarian irradiation does appear to increase the crude survival rate of early breast cancer patients.

There also appears to be a delay, sometimes of years, in the recurrence of cancer in the ovary-irradiated group contrasted with the control group. Younger patients appear to do less well than older women.

Current clinical studies of the Research Campaign Trial, designed to determine whether the regional nodes of a patient with apparently early breast cancer should be treated with irradiation at the time of surgery to the primary tumor.

Dr. W. Watson Alberts Named Grants Associate

Dr. W. Watson Alberts has joined the DRG Grants Associates Program for one year of training in grants administration.

Dr. Alberts comes to the Division of Research Grants from the Mount Zion Hospital and Medical College, San Francisco, where he served as a visiting scientist and attending staff member since 1966.

He received his B.A. in 1951 and his Ph.D. in Biophysics in 1956, both from the University of California.

From 1963 to 1968, he was the recipient of a Research Career Award from the former National Institute of Neurological Diseases and Blindness.

Since 1969, Dr. Alberts has been an advisory editor of the Journal of Biomedical Systems.

He is the author of 36 publications stemming from research done predominantly with human subjects.

European Breast Cancer Group were reviewed by Dr. J. C. Heuson, Institute Radium Brussels. Dr. Henri Tagnon of that Institute, and chairman of the European Group, was also at the meeting.

Recent chemotherapy findings using single drugs were reviewed by Dr. Stephen K. Carter, chief of the Cancer Therapy Evaluation Branch, NCI.

Drug Studies Reviewed

Combination drug regimens under study in the U.S. were described by Dr. Ezra M. Greenspan, Mount Sinai Hospital, New York City. Combination therapy for advanced breast cancer was initiated through an NIH-funded cooperative group study in 1959.

NCI-funded cooperative group studies of single drugs and combination regimens were outlined by Dr. Pierre Band, a Canadian scientist now working with the Eastern Cooperative Oncology Group, and by Drs. Robert Johnson, University of Wisconsin; Barth Hoogstraten, University of Kansas Medical Center, and Louis Leone, Rhode Island Hospital in Providence.

The breast cancer meeting was arranged by Dr. Erwin P. Vollmer, chief, Endocrine Evaluation Branch, and executive secretary of the Task Force. Dr. Nathaniel I. Berlin, scientific director for General Laboratories and Clinics, is chairman of the Task Force.

Co-chairman is Dr. Alfred S. Ketcham, clinical director. Dr. Paul Carbon, associate scientific director for Clinical Trials, is chairman of the Treatment Subcommittee.

Dr. W. Watson Alberts

Dr. Alberts

Dr. W. Watson Alberts, 60, chief of the Section on Steroids in the Laboratory of Chemistry, National Institute of Arthritis and Metabolic Diseases, died of cancer Feb. 20 in Bethesda.

Dr. Sato, who received his Ph.D. degree in Organic Chemistry from the University of Rochester in 1946, specialized in the study of steroids.

He significantly contributed to the elucidation of the structure of the alkaloïds solasodine and tomatidine.

Dr. Sato joined the staff of the Steroids Section in 1950 after 4 years at the Rockefeller Institute for Medical Research in New York City.

At NIH, Dr. Sato worked on research projects involving the fundamental chemistry of the steroids with the dual objective of clarifying the chemistry of the biochemically important steroids and of devising new synthetic methods for making them available for biochemical and medical research.

A native of Portland, Ore., Dr. Sato obtained his M.S. degree from Oregon State College and his B.A. from Reed College.

He was the author or co-author of more than 60 technical articles on drugs and held two patents on drug degradation procedures.

Over the past several years, Dr. Sato was an invited speaker at four international chemical meetings held in Germany and Japan.

Dr. Sato is survived by his wife, Lury, and two children, Paul and Ronald, at the home address, 6206 Rockhurst Road, Bethesda.

Dr. Yoshio Sato Dies, NIAIM Section Chief

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CODE BLUE (Continued from Page 2)

Among the 827,000 American Indians, there are 38 physicians and only one Indian dentist.

In 1969 fewer than 750 minority students entered as freshmen in the Nation's medical schools. The figure rose to 1,370 in 1971.

The number will continue to grow only if minority students set their sights higher in order to increase their representation in the medical profession.

The film is available on a free loan basis from Modern Talking Picture Service which reports more than 800 bookings with schools and organizations during the first month of availability, as well as telecasts on 61 TV stations.

Clips of the film have appeared on the WRC-TV evening news, and other area stations are contemplating its use.
NUCLEAR-POWERED ENGINE DEVELOPED BY NHLI

The Harmonson-TECO artificial heart pump (left) is the latest in a series of experimental pumps designed by NHLI to assist the sick heart. Implanted in the chest, the pump accepts blood under low pressure from the heart's left ventricle and pumps it at high pressure into the aorta. The cylinder (right) is a modified Stirling-cycle engine designed to power the artificial or heart assist devices. A digital display unit (1) monitors, in watts, the hydraulic energy generated by the nuclear-powered engine.

(Continued from Page 1)

The heat-energy source is about 100 grams of plutonium-238 (Pu-238) in a 3-layer metal capsule designed and proven to withstand corrosion, high impact and crush pressures, and cremation to insure against leakage of the radioisotope in an accident.

Two nuclear thermal engines have been tested. One is a vapor cycle steam engine, the other a modified Stirling-cycle engine that has undergone over 6000 hours of continuous operation in a bench test.

The vapor engine develops hydraulic pressure to operate the blood pump in synchrony with the irregular beating of the sick natural heart on a beat by beat basis.

In this system, the water alternates many times each second between the vapor and liquid phases—the steam generated from a single drop of water is enough to run the system.

Converts Heat to Gas

The modified Stirling engine converts heat from the isotope to pressurized gas by heating and cooling helium in a closed cycle.

The high pressure pneumatic energy is converted to hydraulic fluid energy to drive the blood pump.

The nuclear engines provide adequate power in a controlled form for operating either the assist or the total replacement heart implanted wholly within the chest.

The hydraulically operated heart-assist pump, based upon the total heart designed by Dr. Harmonson, connects the apex of the heart's main pumping chamber (left ventricle) to the descending portion of the body's main artery (the aorta).

The alternate withdrawal and re-entry of hydraulic fluid into the pump’s actuating chamber activates the controller unit to compress the pumping chamber, causing the blood to flow into the aorta at normal physiologic pressures—sparking the left ventricle most of the effort required to pump the blood throughout the body.

The new pump also features a blood cooled heat exchanger that dissipates 70 percent or more of the excess heat from the engine, and a lining of flocked Dacron fibers to promote the growth of a compatible layer of “living tissue” on all blood contacting surfaces.

Unit Totally Implantable

The first complete unit—a totally implantable artificial heart to replace the heart and be self-contained within the body has been developed.

Similar to the natural heart, the total artificial heart contains four pumping chambers—two atria and two ventricles with the energy unit nested between the blood pumping chambers.

The system consists of the pumping chambers, the energy converter, the heart control computer, and implanted energy storage and receiving units.

The complete heart has been designed to adapt to three types of internal power control systems—electrical, nuclear, or pneumatic.

The artificial heart is attached to the stumps of the major blood vessels that remain after the natural heart has been removed.

The total heart responds immediately to the changes and physiological needs by altering heart rate and stroke volume.

The efficiency of the total heart is in the range of 30-40 percent, which is at least as high as the natural heart.

The totally implanted system is now entering the phase of long-term evaluation in animals after 2 years of engineering and short-term animal tests.

Yvonne Wulff and Ann Kelly (r) organize computer tapes containing speech bibliographies.

Information Center for Communications

Gives Data for Students, Researchers

Whether you are a concerned parent wondering why your child is having trouble learning to talk, a graduate student in audiology (hearing testing), or a researcher studying Information Center for Hearing, Speech and Disorders of Human Communication can be a valuable resource.

The Center, supported and guided by the National Institute of Neurological Diseases and Stroke, provides one of the most comprehensive data analysis services in the country.

It is directed by Dr. John E. Bordley, Professor Emeritus, Johns Hopkins' Department of Laryngology and Otology.

The staff, under the program direction of Lois Lunin, is bringing together material from other bibliographic services. They are integrating it with their own highly selective analysis of articles appearing in more than 1,700 communication journals.

An offshoot of this integration is a regular alerting service, Current Citations on Communication Disorders., available from the Center free of charge.

In addition to their bibliographic program, the Center emphasizes other services to the otolaryngology community.

These include holding workshops and conferences and publishing state-of-the-art reports.

The Center, along with the Brain Information Service at UCLA and the Clinical Neurology Information Center at the University of Nebraska, is directed

Edith Dunlap Elected Manager, NIH Branch, Bank of Bethesda

Edith E. Dunlap has been elected manager and assistant cashier of the Bank of Bethesda, NIH branch.

Mrs. Dunlap, with the bank since 1953, has been at this post since last June. Previously, she was with the Kensington branch.

Dr. Stephan Retires; Dental Researcher

Friends and former colleagues of Dr. Robert M. Stephan honored Dental Research scientist recently served 26 yrs., remembers when—

Dr. Stephan, whose father and grandfather were dentists, wanted to be an anthropologist, but he was told "... their lot was starvation," so the NIDR investigator turned to dentistry.

Food Effects Explained

Also, he determined the effects of various foods on the acidity developed by bacteria on animal teeth.

At that time, neither the Clinical Center nor NIDR existed, Dr. W. H. Sebrell directed NIH, and Dr. H. Trendley Dean shepherded dental research.

Dr. Stephan remembers that "Dr. Dean, Arnold, Scott, Elove, McClure, Hamp, and I all worked closely together. A Miss Blue, although not part of our section, did all the typing, and Bill Poole was the only one available to help in the laboratories." Dr. Stephan said that his most exciting scientific experience happened when he was trying to test the theory that decay is directly related to acidity on enamel surfaces.

He tested the teeth of children in a receiving home and found no acidity. Next, he tested the teeth of an otherwise healthy teenager who, during the past year, had developed decay on nearly every tooth. Again no acidity.

Dr. Stephan asked what the boy had done in the past months that was different from his usual routine—he worked as a grocery clerk for a year, but had lost his job a month before Dr. Stephan saw him.

The lad had helped himself to a cookie each time he opened the bin for a customer. Since losing the job he had not eaten cookies because his dad could not afford them.

Dr. Stephan gave the boy quarter to buy his chocolate-covered favorites, with orders to return right after lunch.

And then a test (pH 4.0) given to the boy, convinced the dentist that mouth bacteria used dietary sweets to make strong acids in an astonishingly short time.

Further observations led Dr. Stephan to prove that human foods, especially sweets, really do cause bacterial reactions which increase acidity on teeth enough to dissolve enamel and cause decay.

Dr. Stephan thinks that the best thing a person can do to preserve his teeth for a lifetime is to "eat nutritious meals, starting with a good breakfast, so that you need bedtime sweets, and if you must snack, rinse with water afterwards.

Dr. Stephan considers that the high-speed drill is the greatest advance in dental treatment in modern times because it has measurably "shortened operating time and reduced pain and the nerve-wracking aspects of dentistry."

Dr. Stephan was once president of the NIH Sailing Club, but says he rarely sails today. He and Mrs. Stephan love to square dance, and Dr. Stephan will speak on Paracelsus in Basle: A Loss of Nerve.

April 3 Deadline Is Set

For Management Intern Program Applications

Applications now being accepted for the 1972 NIH Management Intern Program must be received by April 3.

The program develops men and women for administrative positions with the prospect of eventual senior level appointments.

Management interns receive a year of on-the-job training in general administration and administrative specialties. Graduates are eligible for appointments at GS-7, 8, and 11.

To qualify for the program, employees must have taken the Federal Service Entrance Examination and provide documented results.

Requirements Stated

Employees who need to take the FSEE, may obtain registration information from personnel offices.

Additional requirements are a bachelor's degree, or 4-5 years of responsible experience of a non-clerical nature, or a combination of college and work experience.

A Personal Qualifications Statement (SF 170 or 171) must be completed and sent to the ADA Personnel Office, Bldg. 31, Room B22-39, Attention: MI Program.

Forms are available in the B/1/D personnel offices. For further information, call Ken Maize, Ext. 62146.

Election of Officers to Be Held

At History of Medicine Meeting

An election of officers will take place at the next meeting of the Washington Society for the History of Medicine, March 22, at 8 p.m., in the Billings Auditorium, National Library of Medicine.

Before the election, Manfred Waserman and Dr. Peter Krivatsy, both with NLM's History of Medicine Division, will discuss historical medical topics.

Mr. Waserman's subject is An Itinerant Surgeon in the Revolutionary Era: The Papers of Dr. Zuriel Waterman. Dr. Krivatsy will speak on Paracelsus in Basle: A Loss of Nerve.
Different Immunology in Primate Viruses May Aid Search for Human Cancer Cause

National Cancer Institute scientists have discovered that three new RNA viruses which may cause cancer from similar RNA viruses found in the mouse, rat, hamster, and cat. The scientists isolated the cancer-associated enzyme, RNA-dependent DNA polymerase, from two RNA type-C viruses, leukemia million.

To attack the problem of sickle cell anemia—an inherited disease trait is carried by about 2 million Americans—$10 million was allocated in fiscal year 1972. An advisory committee of prominent black leaders, organized to help direct the effort to combat this painful disease, made its recommendations and an aggressive action program is ready. An increased budget of $15 million in fiscal 1973 is proposed.

Antibody Inhibition Compared

The NCI scientists also reported that reverse transcriptase from ESP-1, a proposed human cancer-causing RNA virus found in tumor cells from a child with a relatively rare lymphatic cancer, Burkitt's lymphoma, was inhibited by the antibody to an extent comparable to inhibition among the lower mammals, particularly the mouse.

These findings support previously reported evidence suggesting that the virus may have mouse virus characteristics.

Distinction Detected

The investigators suggest that the distinction they have detected between the lower and higher mammals reflects evolutionary differences between the leukemia and solid tumor RNA viruses of these two groups.

Other Discoveries Reported

Discovery of the woolly monkey virus was announced by Drs. G. H. Theilen, D. Gould, M. Fowler, and D. L. Dungworth, USC School of Veterinary Medicine at Davis, Calif., in the October 1971 Journal of the National Cancer Institute.

Discovery of the gibbon ape virus was reported in the Feb. 9, 1972 issue of Nature New Biology by Drs. Thomas G. Kawakami, Sally D. Huff, Patricia M. Buckey, Donald L. Dungworth, and Stanley P. Snyder, the USC School of Veterinary Medicine at Davis; and Raymond V. Gilden, Flow Laboratories, Rockville, Md.

RD-114, the virus from human muscle tissue, was described in the Jcn. 5, 1972 issue of Nature New Biology by Drs. R. M. McAllister, and M. Nicholson, the Children's Hospital of Los Angeles; M. B. Gardner, R. W. Rongey and S. Rasheed, USC School of Medicine, Los Angeles; P. S. Sarma and R. J. Hubnser; NCI; M. Hatanaka, S. Oroszlan and R. V. Gilden, Flow Laboratories, Inc. Rockville, and A. Kabigting and L. Vernon, Microbiological Associates, Bethesda, Md.
Artificial Kidney Meeting Weighs Research Results And Evaluates Progress

The research results and the evaluation of progress in artificial kidneys was discussed at a recent meeting of the Artificial Kidney-Chronic Uremia Program, held at the Holiday Inn, Bethesda, Md.

The program, part of the National Institute of Arthritis and Metabolic Diseases, is currently funding about 70 projects.

Accomplishments Covered

Dr. G. Donald Whedon, NIAMD Director, in his address to the research contractors, consultants, and members of his staff attending the meeting, stressed the accomplishments of the program.

"When this program began only 6 years ago, there were perhaps 500 patients on dialysis. Now there are about 6,000," Dr. Whedon stated.

A new generation of artificial kidneys is being developed and several models are in commercial production. Much remains to be accomplished, but improved dialysis equipment is now available to meet a variety of needs.

Dr. Whedon also pointed out that "our understanding of the functioning of the kidney itself, of the molecular configurations of uremic toxins, and many other aspects of the entire problem are being elucidated by your work."

Changes Listed

Topics reported on and discussed at the meeting included:

1) The development of chemicals in semipermeable capsules (microencapsulated detoxicants) that can be swallowed to absorb some of the blood wastes left in the body by ailing kidneys. The capsules are then carried away by natural elimination;
2) Determining criteria for optimal treatment with artificial kidneys within the limits imposed by hemodynamics (study of the movements of blood), and;
3) Evaluating and developing new blood access systems through which the artificial kidney is connected to the patient's circulatory system.

The report on conference topics will be published within a few months, and distributed to scientists in the field of dialysis research and development.

Researchers Weigh Methadone As A Treatment for Addiction of Heroin

Many people mistakenly assume that since methadone is used to treat heroin addiction it is automatically safe, according to Dr. Leon Roizin, professor of Neuropathology, New York Psychiatric Institute, Columbia University.

He spoke at a recent National Institute of Neurological Diseases and Stroke seminar.

"We have data conclusively showing that methadone can often be fatal when it is used in combination with other depressant drugs, including tranquilizers, or with alcohol," Dr. Roizin said.

Methadone is addictive, like heroin, but it is taken orally, while heroin is often injected. Methadone produces many of the same side effects but its cost is negligible compared to the black market cost of heroin.

Approximately 50,000 of the estimated 600,000 heroin addicts in the country are experimentally receiving methadone from several centers located in large cities.

"In the majority of cases, heroin addicts are by-products of the drug culture using a toxic cocktail of several drugs simultaneously," Dr. Roizin said.

"If you give a person 1 gram of barbiturates or a quart of alcohol, he will usually recover. But if you simultaneously give an addict heroin or methadone, a gram of barbiturates or a quart of alcohol, irreversible, fatal lesions result."

Dr. Roizin based his comments on a recently completed study of 400 heroin addicts now using methadone under an experimental program in New York City.

These users were selected for the study because they were found to be taking other drugs or alcohol in addition to methadone.

Studies of brain tissue from 14 deceased users showed that methadone accumulates in the tissues, producing changes in them.

Changes Listed

"In the long-term user," according to Dr. Roizin, "these changes could set off a whole new chain of abnormal processes."

The changes include hyperactivity (increased growth) of certain (glial) cells and evidence of increased permeability of cerebral blood vessels.

In addition, there may be a degeneration of nerve synapses (connections) and the presence of so-called senile plaques—a change similar to that found in persons with presenile dementia (premature aging).

Dr. Roizin observed this condition in three of the 14 deceased patients.

He also found that many methadone users continue to use some heroin as well. He also reported instances of users who "shot" (injected) methadone, a practice which can result in almost instant death.

Another concern is the user who goes off methadone and then returns to it at the same dosage. His body can no longer tolerate that amount of the drug.

Another problem user is the pregnant mother. Methadone has been shown to cross the placental barrier; babies addicted to methadone are now being born. And scientists are finding that in infants, methadone addiction is harder to combat than heroin addiction.

"Methadone is not the ultimate answer for treatment of heroin addiction," Dr. Roizin said.

"We are working to find a better treatment and to find improved antidotes to block and neutralize the destructive action of methadone overdose or methadone used in combination with drugs or alcohol."

Since methadone accumulates in the tissues, short-term antidotes are only temporarily effective, and the user can die after the antidote has worn off.

Dr. Roizin pointed out that most methadone users are not adequately warned about the hazards when receiving treatment from the centers.

He declared that ignorance is contributing to the "devastating number of young people dying from narcotic use and misuse."

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By Carolyn Holstein

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