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Dr. Eagles Named Ass't Director of Neurology Institute

Dr. Eldon Lewis Eagles, Associate Research Professor of Maternal and Child Health at the University of Pittsburgh School of Public Health, has been appointed to the newly established position of Assistant Director of the National Institute of Neurological Diseases and Blindness. The appointment is effective August 30.



In his new position, Dr. Eagles will serve in a major advisory role to the Institute's Director, Dr. Richard L. Masland.

At the University of Pittsburgh, where he has been since 1960, Dr. Eagles' research has led to a better understanding of hearing problems and recently resulted in improved hearing tests for children.

Born in Moneton, New Brunswick, Canada, Dr. Eagles received

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1,000th Prisoner Volunteer Admitted to Clinical Center

By Frank Smith

On August 11 the NIH Clinical Center admitted the 1,000th Federal prisoner to serve as a Normal Patient Volunteer here. He was one of 23 such volunteer patients admitted at that time.

"This is a significant event," said Dr. Jack Masur, Clinical Center Director, "since some of our most important research projects would not be possible without the active collaboration of the men who join the center's Normal Volunteer Program under the sponsorship of the Federal Bureau of Prisons."



Mrs. Adine P. Laser of the Patient Admissions Department welcomes and checks in the 1,000th Federal prisoner to serve as a Normal Patient Volunteer here. In background is Senior Correction Officer Clyde E. Herron of the Federal Bureau of Prisons.—Photos by Sam Silverman.

The prisoners who come here to serve as "normals" or "controls" in clinical research do so entirely of their own free will, and only after rigorous examination to assure that they meet the strict criteria established by NIH and the Bureau of Prisons.

Meets Requirements

The 1,000th prisoner volunteer, a 35-year-old man from the Federal Prison Camp at Eglin Air Force Base in Florida, was able to meet these requirements. He will participate in a study of respiratory tract infections ("the common cold") conducted by the National Institute of Allergy and Infectious Diseases. This is the primary NIH study for which prisoners have volunteered.

After a volunteer's blood level of antibodies (disease-fighting proteins) against a particular virus is determined, he allows himself to be infected with a measured dose of a cold virus.

Undergo 'Damp Misery'

Institute investigators can then calculate with some certainty the incubation time of the virus and study clinical symptoms, if any.

This means, in effect, that the 23 prisoner volunteers who signed in on August 11 are presently undergoing the damp misery of colds for the sake of the rest of humanity.

Learning about the natural antibody levels of effective defense against colds enables investigators to get basic answers they need in working toward vaccines to stimulate the same kind of antibody production.

Studying healthy volunteers,
(See VOLUNTEERS, Page 4)

4 U.S. Scientists Win Awards for Bolivian Research

Surgeon General Luther L. Terry recently announced that four U. S. Public Health Service scientists have been honored by the Government of Bolivia for their contributions to the betterment of the health of the Bolivian people.

Drs. Karl M. Johnson, Ronald B. Mackenzie, Merle L. Kuns, and, posthumously, Henry K. Beye were



Wearing the medals just received from the Bolivian Government are three of the four USPHS scientists so honored. From left: Dr. Karl M. Johnson, Director of MARU; Rear Admiral Ronald Monje Roca, who officiated at the ceremonies; and Dr. Ronald B. Mackenzie and Dr. Merle L. Kuns, also of MARU. The late Dr. Henry K. Beye, Director of MARU at the time of his death, received the award posthumously.—NIAID Photo.

awarded the Order of the Condor of the Andes, one of Bolivia's highest decorations, in recognition of their research on hemorrhagic fever, a serious viral illness that has ravaged parts of northeastern Bolivia for the past five years.

Bolivian Receives Award

Dr. Luis Valverde Chinel, an official of the Bolivian Ministry of Health, also received the Order of the Condor of the Andes for his part in the disease studies.

The decoration consists of a silver and gold cross surmounted by the figure of a condor. Illuminated certificates of merit also were awarded to a number of other persons who have contributed to the project.

The awards were presented July
(See BOLIVIA, Page 7)

Apgar Scoring Method Helps Forecast Newborn Infant's Chances of Survival

The ability to forecast within the first five minutes of life the chance of a newborn baby's surviving the initial 28 days is the subject of a report by investigators of Public Health Service's Collaborative Perinatal Research Project.

The report is based on approximately 17,000 one- and five-minute Apgar scores collected within 13 major medical centers throughout the United States.

The Apgar scoring system, originally described by Dr. Virginia Apgar in 1952, gives a numerical rating to five basic body functions—heart rate, respiration, muscle tone, reflexes, and skin color. A low score would represent a baby in poor condition; a high score, a baby in good condition.

Scores Determined

In the study just reported, an Apgar score of zero to one taken at five minutes after birth meant that the infant had only a 50 percent chance of surviving the first

28 days of life, whereas a score of nine or 10 (the maximum rate) indicated a 99.5 percent chance of surviving this same period.

Evidence Presented

The collaborating investigators—J. S. Drage, M.D., National Institute of Neurological Diseases and Blindness; Charles Kennedy, M.D., Children's Hospital of Philadelphia; and B. K. Schwarz, NINDB—present evidence that the Apgar scoring method is helpful in forecasting the infant's chances of surviving the neonatal period, and that the great majority of

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the NIH Record

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NEWS from PERSONNEL

TEST DRIVE SET

Plans for a combined charity drive for Federal personnel have been formed for the Washington, D. C., area and are reaching final stages in six other test areas across the country.

This fall, for the first time, the campaigns of the UGF, National Health Agencies, and International Service Agencies will be consolidated into a single drive known in Washington as the Combined Federal Campaign. Also for the first time, payment of pledges by voluntary payroll allotment will be authorized.

President Johnson, in a recent memorandum to Federal department and agency heads, announced details of the drive in the National Capital area.

President Urges Participation

"I am confident," the President told agency heads, "Government personnel will welcome this opportunity to demonstrate that in one combined campaign all the basic needs of these (health, welfare, and social service) agencies can be adequately fulfilled and that they will meet squarely their civic responsibility with a generous gift or pledge."

He added that reduction in campaign costs through the successful consolidation of fund-raising drives "will represent a significant achievement in our total program to effect greater economy in Government operations."

Experiments with the combined drives are in response to widespread requests from employees and servicemen for a one-time giving arrangement, to reduce manpower costs to the Government, and to make possible increased con-

tributions through voluntary payroll withholding.

NIH personnel will be given further information about authorizing deductions from their paychecks when DHEW instructions to implement this program are published.

TRAINING COURSES PLANNED

Plans for secretarial/clerical training in 1964-65 are well under way in the Employee Development Section of PMB. On the basis of last year's experience a more concise program is being provided for new employees, with more time devoted to intensive training in the subjects indicated below.

A four-hour program orienting the new employee to the NIH will be scheduled for each Monday afternoon, to include NIH history and organization, as well as instruction in office safety and a roundtable discussion of office etiquette and attitude toward the job.

A three-hour course in telephone techniques and courtesy is scheduled for the weeks of September 15 and January 19, and the first 12-hour secretarial workshop is being offered September 23-24.

Workshop Emphasis Listed

The workshops will emphasize organizing office routines, public relations, written and oral communications, human relations, and the secretary's responsibility for self-improvement.

Shorthand Refresher and Business English courses are to be given in the fall and spring, along with courses in dictating and transcribing techniques and typing proficiency.

A schedule, which will help to plan more effectively for all training in this area, will be available to all supervisors and employees around the first of September.

R&W Reserves 'House' At Shady Grove Sept. 11

The Recreation and Welfare Association of NIH has announced an entertainment bargain for musical comedy fans.

Friday night, September 11, will be R&W-NIH Night at the Shady Grove Music Fair. The association has reserved all 1,500 seats, at discount prices, for the 8:30 performance that evening of "Stop The World I Want To Get Off," starring Joel Grey, direct from Broadway.

Special discount prices for this performance are \$3.55, \$3.15, and \$2.45. All tickets (no vouchers) are now available at the R&W office in Rm. 1A18, Building 31, on a first come, first served basis.

6 Study Sections Added By DRG to Help Review Increased Applications

Next month, 52 Division of Research Grants Study Sections will hold meetings to review 3,510 proposals submitted for the July 1 deadline. This compares with 3,203 submitted for the same review period for Fiscal Year 1964.

DRG has increased its Study Sections from 46 to 52 this year in order to meet the expanded responsibilities for initial review of applications in the extramural programs of NIH and the Community Health and Environmental Health Divisions of the Bureau of State Services.

Two of the newly created panels are the Disease Control and Applied Physiology Study Sections.

Existing Study Sections divided into two groups to handle increased workloads in specific areas include the Allergy and Immunology Study Section and Bacteriology and Mycology Study Section into A and B panels.

Sections Duties Explained

Study Sections review research grant applications for scientific merit and make recommendations for approval, disapproval, or deferral to the National Advisory Councils which meet in November and December.

The first meeting for the new fiscal year will be that of the Tropical Medicine and Parasitology Study Section in a 3-day session, September 2-5, at Stone House.

The last, extending into October, will be that of the Mental Health A Study Section in a 4-day session at Stone House, October 1-4.

\$35 Billion Expended in Social Security Benefits

More than \$35.5 billion in monthly social security benefits has been paid out to wage earners' dependents and survivors during the past 25 years, Anthony J. Cele-

Georgetown U. Citation Honors Dr. Stewart, First Woman Recipient

Dr. Sarah E. Stewart, Head of the Human Virus Study Section of the Cancer Institute's Laboratory of Viral Carcinogenesis, has been named by Georgetown University as a "Medical Man of Georgetown."

She is the first woman graduate to receive this honor, which is bestowed periodically in the Georgetown Medical Bulletin. Dr. Stewart was also the first woman to earn an M.D. degree at the university, in 1949.

As described in the citation, "This distinction is unique in itself. However, we honor Dr. Stewart further for her scientific achievements, particularly in the field of cancer research. Her combined ability and compassion, intelligence and good humor are contributing much to the field of medicine.

"We add Dr. Sarah E. Stewart, a gracious woman and gifted scientist," the Bulletin said, "to the list of Georgetown University medical alumni who are outstanding in their service."

Dr. Stewart was born in Tecalitlan, Mexico. In addition to her Georgetown M.D., she earned a B.S. from the New Mexico Agricultural College in 1927; an M.S. from the University of Massachusetts in 1930; and a Ph.D. from the University of Chicago in 1939.

Interns at Staten Island

Having served her internship at the U.S. Public Health Service Hospital at Staten Island in 1949-50, Dr. Stewart practiced for one year at the PHS Outpatient Clinic in Washington, D.C.

She joined the NCI staff in 1951 and was stationed at the PHS Hospital in Baltimore, Md., in 1951-54.

She returned here in 1954, serving in the Laboratory of Biology, and transferred in 1961 to the Laboratory of Viral Oncology where she holds the rank of Medical Director in the Commissioned Officer Corps.

Dr. Stewart has become one of the leading investigators in the field of research on viruses in relation to cancer. Included in the formal recognition given to her is the 1963 "G. Lenghi Prize" awarded by the National Academy of Lincei, Rome, Italy.



Dr. Stewart

Shannon Delivers Eulogy At Memorial Service For Dr. Joseph Bunim

Co-workers and friends of the late Dr. Joseph J. Bunim, Clinical Director of the National Institute of Arthritis and Metabolic Diseases, honored his memory with a service at the B'nai Israel Synagogue in Washington, August 10.



Dr. Bunim

Dr. James A. Shannon, NIH Director, in delivering the principal eulogy said of Dr. Bunim, "His passing has robbed us of a personality in the first rank of those who dedicate themselves to research in the medical sciences."

Dr. Shannon attributed part of the widespread feeling of shock at Dr. Bunim's death to his "seemingly indestructible youthfulness."

He went on to say that "there are men like dynamos, a source of energy, the driving force behind projects and programs. Subsequently it seems difficult to conceive that these enterprises were originated by a single person."

"Joseph Bunim," he said, "belonged to this category of men. He radiated power and energy which by some mysterious means set many men and events in motion."

Calls Talents Unique

Referring to Dr. Bunim's numerous and well-known research accomplishments, Dr. Shannon said, "Wherever one looks in this field, he has left his mark. His talents were unique in that he was gifted both in the domain of original research and in the compilation and exposition of knowledge."

"For Joseph Bunim," Dr. Shannon added, "there was no politics or ideology in suffering from disease. He believed that men are linked by common pain and suffering, and linked also by the common joy of conquering disease and disability."

The religious service was conducted by Rabbi Henry Segal, who also delivered a eulogy of Dr. Bunim. In his talk, Rabbi Segal likened Dr. Bunim to the Joseph of Biblical literature who "dreamed a great dream, and then went on to make that dream a reality."

Helen Balaguer Retires From Heart Institute

Helen Balaguer, a staff member in the National Heart Institute's Intramural Research programs area since it was first organized in July 1949, recently retired after 34 years of Government service.

Mrs. Balaguer was secretary to Dr. Bernard B. Brodie, Chief of the

12,780 Flea Specimens Given to Smithsonian

Dr. William L. Jellison, special consultant to NIAID's Rocky Mountain Laboratory in Hamilton, Mont., recently presented the Smithsonian Institution with a collection of 12,780 specimens of North American fleas.

In acknowledging the gift, Dr. T. D. Stewart, Director of the Museum of Natural History, noted that its addition to the Smithsonian's own collection will give "permanent housing to historically important materials on which were based early North American studies of arthropods as disease vectors."

Instrument Symposium And Equipment Exhibit To Be Held Oct. 5-8

More than 40 scientists of national and international repute and 76 of the Nation's leading manufacturers of research equipment will participate in the forthcoming 14th Annual Instrument Symposium and Research Equipment Exhibit, to be held here October 5-8.

Sponsored by NIH, the 4-day symposium and exhibit will spotlight the latest advances in research methods and instrumentation.

Dr. Alan J. Sheppard of the Division of Nutrition, Food and Drug Administration, will serve as Chairman of the opening session on thin-layer, separation chromatography.

Topics Listed

Topics of subsequent sessions include artificial organs, electroanalytical techniques and polarography, microanalytical techniques, inorganic trace analysis and mass spectrometry, luminescence, marine macro- and micro-biology, exobiology, fast reaction monitoring, and energy, the physical concept, its biochemical aspects and instrumentation for calorimetry.

Dr. James A. Shannon, Director of NIH, will welcome participants at the opening meeting in the Clinical Center auditorium at 2 p.m., October 5.

Other sessions are scheduled at 8 p.m. that day; at 9 a.m., 2 p.m., and 8 p.m., on October 6 and 7; and at 9 a.m. and 2 p.m., on October 8, when the symposium ends.

The research equipment exhibit

NHI Laboratory of Chemical Pharmacology, from 1955 to 1962, and had been special assistant to Dr. Sidney Udenfriend, Chief of the Laboratory of Clinical Biochemistry, since 1962.

In April 1964, Mrs. Balaguer received one of the first quality-pay-increases awarded at NIH.

Clinical Center Patients 'Have a Ball' At Annual Outdoor Carnival August 12



Patient Randy Keeton places his pet turtle, George, in the "start" circle for turtle race.—Pumphrey Photos.



Linda Green, a Clinical Center patient, contemplates toy animals available as prizes. Her escort is Karoline Grabner, a Gray Service Volunteer.

"My husband thinks I'm in a hospital. Wait till he gets a load of this!"

The lady had just had a "crazy snaps" picture taken of her at the Clinical Center Patients' Carnival on August 12, and she was, in her own words, "havin' a ball."

So were the more than 200 other patients who turned out to join in the fun: youngsters, old-timers, and in-betweeners.

Wheelchairs, canes and intravenous equipment didn't seem to interfere with anyone's ability to forget the pills and operations and just have a good time, from 6:30 p.m. 'til dark.

The patients' outdoor recreation area was decked out in lights, tenting, smart-looking booths, bright flags, streamers and balloons.

Entertainment Varied

Stirring music by the U. S. Navy Band was punctuated only by choice local talent and an occasional toot from the Sheraton-Park Hotel miniature train as it signaled more free rides.

And the CC Nutrition Department had concocted a low-calorie punch for the benefit of those on special diets.

Individuals and organizations from the Washington area pitched in to help the Patient Activities Section provide this very special annual event for CC patients.

As he cut the ribbon to open the evening's festivities, Dr. Clifton K. Himmelsbach, CC Associate Director, expressed appreciation on behalf of the hospital staff for the fine spirit shown in providing "this important link with the community" for the patients.

will be located in Building 22. It will be open daily from 10 a.m. to 5:30 p.m., October 5-8.

Complementing the exhibit, special instrumentation sessions will be held in Building 16 each morning throughout the meeting. Technically qualified representatives will discuss and demonstrate newly developed items and their applicability to laboratory-clinical re-

search.

All persons with an interest in research instrumentation are invited to attend the symposium and exhibit. Last year over 6,000 visitors were registered from the medical and health-related professions, colleges and universities, and industry. Among them were scientific observers from 22 other countries.

New Members Are Named to NIDR Committee

Four new members have been appointed to 4-year terms on the Program-Project Committee of the National Institute of Dental Research, it was announced recently by Dr. Francis A. Arnold, Jr., the Institute's Director.

The new appointees are Dr. Richard C. Greulich, Professor of Oral Biology and Anatomy, University of California Schools of Dentistry and Medicine at Los Angeles; Dr. Stanley C. Harris, Professor and Chairman, Department of Physiology and Pharmacology,

Northwestern University Dental School, Chicago; Dr. Coenraad F.A. Moorrees, Associate Professor of Orthodontics, Forsyth Dental Center, Harvard School of Dental Medicine, Boston; and Dr. William M. Heston, Vice President for Student Services, Western Reserve University, Cleveland.

The Dental Program-Project Committee, consisting of 12 professional and public leaders, meets three times each year to assist the Public Health Service in reviewing applications for support of broad programs of dental research.

VOLUNTEERS

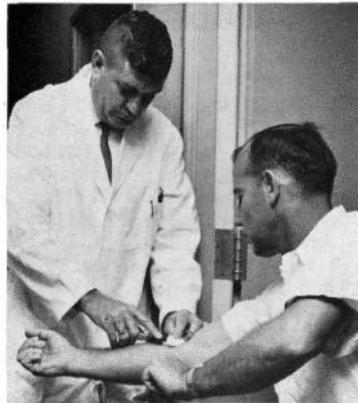
(Continued from Page 1)

rather than large population groups over long periods of time, puts a real dent in the years it takes to develop, test, manufacture, and distribute a vaccine.

Targets of the vaccines sought through this study are the colds and pneumonias that cost the Nation nearly \$5 billion each year and account for untold misery and considerable mortality—viral pneumonia constituting a leading cause of death in infants.

Only in recent years has it been possible to grow these cold viruses in pure cultures and administer them in precise doses.

This resulted in development of the NIAID research project, which



Following admittance to the Clinical Center, the 35-year-old volunteer patient contributes a blood sample, drawn by Medical Technician L. P. Durocher. The "common cold" research project begins with an accurate count of the volunteer's antibodies against a specific virus.

first prompted our clinical investigators to request prisoners as volunteers at the Clinical Center.

Because of the size of the project, and because it would require, on short notice, the services of 20 to 30 volunteers with special antibody characteristics, it was reasoned that prisoners could more appropriately answer the need for these "normals" than could the private citizen volunteers who serve in other projects.

Bureau of Prisons Cooperates

As a result, the cooperation of James V. Bennett, then Director of the Bureau of Prisons, was enlisted.

In May of 1960, Dr. Vernon Knight, NIAID Clinical Director, visited the Federal prison at Lewisburg, Pa., to recruit the first 12 volunteers—selected from 55 applicants—for the respiratory virus studies.

To date, men from 16 different institutions in 13 States have served as Normal Patient Volunteers. Each prisoner volunteer

Teachers Go 'Back to School' at NIH To Study Latest Scientific Advances

Fourteen high school teachers of physics and chemistry are being introduced to the latest advances in these subjects as applied to biomedical research by scientists at the National Institutes of Health.

The 14, along with 48 other specially selected high school science teachers from across the country, are participating in the Ninth Annual High School Chemistry-Physics Teachers Institute, sponsored by American University and the Joint Board on Science Education.

Work in NIH Labs

The teachers spend three days each week working with scientists in the NIH laboratories, where the more sophisticated laboratory techniques and equipment are available to them.

Commenting on the program, Edward Nicholas, Head of the NIH Recruitment and Placement Section, said, "One of the aims of the Federal science effort is to interest more of the Nation's young people in pursuing scientific careers.

"Since the scientific interests of the Nation's youth are often proportional to the quality of their high school science teachers, this program, designed to further the teachers' knowledge of the latest scientific advances, is basic to fulfilling that aim."

One of the participants in the program, Richard Moreau, a high school chemistry teacher in Midland High School, Midland, Mich., noted another advantage of the summer laboratory experience.

Experience Valuable

"Very often," he said, "teachers are called upon to act as vocational guidance counselors. This actual laboratory experience, in addition to giving us an opportunity to work with specialized equipment and procedures, also gives us a more realistic understanding of the problems involved in day-to-day research work and enables us to better advise students who are interested in pursuing a career in the laboratory."

Mr. Moreau, a chemistry teacher for six years in Michigan, is working with Dr. Norman Sharpless in the Laboratory of Physical

generally agrees to stay at the Clinical Center for a period of three months.

Prisoners have also participated here in highly successful tests of an effective drug against malaria induced by heavily infected mosquitoes. Thousands of other prisoners also serve in the research conducted elsewhere by other parts of the Public Health Service and in countless independent studies throughout the country.

Biology of the National Institute of Arthritis and Metabolic Diseases, studying the interaction between vitamin D and calcium salts by employing techniques of nuclear magnetic resonance and ultraviolet spectroscopy.

The teachers participating in the program, financed by a grant from the National Science Foundation, spend an hour and a half each morning in the classrooms at American University, attending lectures on recent advances in chemistry and physics by visiting professors and scientists.

They also spend two days each week in the university laboratories, performing experiments in conjunction with the lecture series.

Selected from over 600 applicants from high schools throughout the country, the teachers and their families are brought to the Washington area on a small travel allowance and paid a weekly subsistence stipend while they participate in the 7-week program.

Terry Assigns Gallagher Division Deputy Chief

Dr. Joseph A. Gallagher, Medical Director of the Peace Corps since 1962, has been assigned by Surgeon General Luther L. Terry as Deputy Chief of the Division of Hospital and Medical Facilities of the Public Health Service. He assumed his new responsibilities August 17.

In his new assignment Dr. Gallagher, who has had extensive hospital experience, will be associated with the unit of the Public Health Service that administers the Hill-Burton Hospital Construction Program throughout the Nation. The Division is headed by Dr. Harold M. Graning, Assistant Surgeon General.

To Have Other Duties

In addition to his duties as Deputy Chief, Dr. Gallagher will be Acting Chief of the Educational Facilities Branch which plays a major role in the administration of the construction grants provisions of the Health Professions Educational Assistance Act of 1963 (P. L. 88-129).

In the words of PHS Surgeon General Luther L. Terry, "All this work is little known to the general public because it is carried on quietly. But we in the Public Health Service are keenly aware of the value of these research projects. We have the greatest appreciation of the contributions of prisoner volunteers in the development of new medical knowledge and the improvement of public health."

Heart Institute Produces New Radio Series for National Distribution

A new series of ten 2-minute spot programs about heart research and heart disease will be available to radio stations across the country in early fall, it was announced recently by Dr. Ralph E. Knutti, National Heart Institute Director.

Produced by the National Heart Institute and written in simple, non-scientific language, the shows are designed to provide interesting new information for the public about advances in heart research.

The public will also hear important heart health services and be encouraged to learn more about the heart and how it works. The leading killer in the U. S. and many foreign countries today is heart disease, which causes more than one-half of all deaths in the U. S. annually.

Written by Louis Cook

The series, written and produced by the NHI's Louis Cook, covers such subjects as: "Care of Your Heart," "Your Heartbeat," "Heart Attack," and "Mechanical Heart."

Other programs deal with: Artificial Pacemaker, Electrocardiograph, High Blood Pressure, Circulatory System, Countershock, and Heart Sounds. Technical advisor was Dr. John D. Turner, now serving on the President's Commission on Heart Disease, Cancer and Stroke.

To be presented on 12-inch platters with five 2-minute spots on each side, the series will be distributed to radio stations upon request.

Broadcasters can look forward to receiving a letter soon from the Surgeon General of the Public Health Service describing the series more fully and including a return postcard which will serve as a request for the series.



Dr. C. William Hall (left), working at the National Heart Institute on leave from Baylor University College of Medicine, Houston, Tex., points to a historic artificial bypass ventricle. The heart mechanism was presented to Dr. Alfred R. Henderson (right) of the Smithsonian Institution for placement there among other medical archives. The ventricle, developed by Dr. Hall and Dr. Domingo Liotta, also of Baylor, was the first artificial circulatory pumping device used in a human.—Photo by Lou Cook.

Vivian Thierry Receives Award for Ghana Work

Vivian L. Thierry, a medical technologist with the Infectious Diseases Section of the National Institutes of Health and Medical Research Joint Research Program—Ghana, recently received a sustained superior work performance award for "her demonstrated technical excellence, unusual ability to carry out manifold responsibilities, and her devotion to duty."



Miss Thierry

Miss Thierry has worked in Ghana since October 1962. She will return to NIH next October to work in the Clinical Pathology Department of the Clinical Center.

The NIH role in the West African collaborative research program is administered by the National Cancer Institute.

DR. EAGLES

(Continued from Page 1)

most of his medical education and training in Halifax, Nova Scotia. He has an M.D. degree from Dalhousie University in Halifax.

His career includes general medical practice, 15 years as medical health officer in Nova Scotia, training in public health at the University of Toronto and the Johns Hopkins University, Baltimore; research in hearing at the University of Pittsburgh, and several teaching positions.

He is a member of three Public Health Service advisory committees for hearing problems and is Executive Director of the Subcommittee on Hearing in Children of the Committee on Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology.

Memberships Cited

Dr. Eagles is a member of numerous professional organizations, including the American Speech and Hearing Association, American Association for the Advancement of Science, Committee on Conservation of Hearing, American Academy of Ophthalmology and Otolaryngology, and the American Medical Association.

For the past seven years he has participated in a broad, NIH-supported study of the magnitude and nature of hearing problems in children. He is the author or co-author of numerous articles on public health and hearing loss.

Dr. Eagles' wife, Dr. Juanita Archibald Eagles, has been Associate Research Professor of Nutrition at the University of Pittsburgh.

Further Clarification of Antigenic Composition Of Tuberculin Reported

Division of Biologics Standards investigators have found that the carbohydrate fraction of tuberculin can cause a tuberculin reaction in sensitive guinea pigs, refuting previous belief that protein components alone are responsible.

Two components of tuberculin—one mostly carbohydrate (GA) and one mostly protein (FB)—were isolated and injected intradermally into guinea pigs sensitized with killed BCG organisms. Both fractions produced typical tuberculin reactions indistinguishable in appearance, intensity, and time of development.

Enzymes' Action Described

The sequential action of two proteolytic enzymes, pronase and trypsin, caused little alteration of the reactivity of the carbohydrate fraction, but almost completely eliminated that of the protein fraction.

Although enzyme digestion reduced the already low nitrogen content of GA, there was no corresponding loss of skin reactivity, illustrating the lack of correlation between nitrogen content and skin reactivity.

Agar gel diffusion, using antiserum against all of the tuberculin fractions in which GA and FB are found, showed that protein digestion eliminated all but one of at least four precipitin bands usually formed by FB. After enzyme treatment of GA, only one band was lost.

This evidence indicates that tuberculin, containing a mixture of antigens derived from the tubercle bacillus, is even more complex than had been thought.

Possibility Explained

It is possible that the carbohydrate fraction, previously almost ignored, may contain an antigen specific to the species of mycobacterium that causes tuberculosis.

Investigators have long been trying to isolate such an antigen which may make possible a more specific diagnostic test for tuberculosis.

Dr. Harold Baer presented a report of his work, and that of his colleague, Dr. Sotiros D. Chaparas, at the Symposium on Tuberculin held in London. Dr. Baer is Chief, and Dr. Chaparas is a member of, the Section on Allergenic Products, Laboratory of Bacterial Products, DBS.

This is the fourth paper in a series on the antigenic composition of tuberculin, the first of which was published in 1961.

NIH SPOTLIGHT

Liljegren Recalls the Simple Life Here, When Softball Was Played on CC Site



This wintertime picture, resurrected from the NIH photo files, reveals Top Cottage in its original location, atop the wooded hill on which the Clinical Center now stands. In 1948 it was moved to the present site of Building 31.

By Ruth Silbey

NIH Information Trainee

Some of the advantages NIH employees enjoyed in 1941 were fewer telephone numbers and digits to remember, a smattering of buildings fairly close together, with no need for connecting buses or bus schedules, and, for lunchtime athletes, a convenient softball diamond where the Clinical Center now stands.

Ervin Liljegren, Administrative Officer for Intramural Research of the National Institute of Arthritis and Metabolic Diseases, was the source of these recollections covering a span of 23 years at NIH.



Mr. Liljegren

As a member of the Old Timers Club, comprised of employees who have been at NIH 15 years or more, his memory is refreshed each year at the Old Timers' banquet where friendships are renewed and reminiscences dusted off.

All the Old Timers remember NIH when it had only 500 people in six buildings, 3-digit telephone extensions and a mimeographed telephone directory.

Today, the nine Institutes and four Divisions are big business, employing over 10,000 people in 48 buildings spread over most of the reservation and into nearby communities.

Other Changes Noted

Even the professions represented at NIH have changed significantly with passage of the years, Mr. Liljegren points out. When there was no Clinical Center, there were no patients. Consequently NIH scientists were almost exclusively concerned with laboratory research. And the need for the hundreds of nurses and technical, maintenance, and administrative personnel that now

staff the Clinical Center didn't exist.

With the increase in size has come an increase in specialization. In the old days, Mr. Liljegren recalls, it was a simple enough matter to make a change in a laboratory. "You simply picked up a phone, called a carpenter, and he came over and took care of it. Of course, a lot of the jobs these days are awfully complicated. Complexity has just about done for the Jack-of-all-trades."

'In the Sticks'

In 1941, he says, NIH was pretty much out in the sticks. Bethesda was just beginning to grow, and Rockville was a quiet little county seat of 2,500 people. Today Rockville's population exceeds 37,000, many of whom are NIH employees.

Mr. Liljegren especially remembers one building, Top Cottage, which was on the hill now occupied by the Clinical Center.

The cottage was an attractive old home, cared for by the wives of PHS Commissioned Officers stationed at NIH. Since it was not then a part of the government reservation, it was often used as a recreational facility.

The NIH Recreation and Welfare Association also qualifies as an old timer, since it has been part of NIH for 15 years. Mr. Liljegren remembers that Mrs. Luke Wilson, donor of much of the land on which NIH is built, used to supply curtain material for the

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Dr. Leon Heppel Wins Meritorious Medal for Nucleic Acids Research

Dr. Leon A. Heppel, a recognized authority on nucleic acids and Chief of the Laboratory of Biochemistry and Metabolism of the National Institute of Arthritis and Metabolic Diseases, recently was awarded the Meritorious Service Medal of the Public Health Service Commissioned Corps.

The award, granted under the Commissioned Corps Honor Awards program, was presented to Dr. Heppel by Dr. James M. Hundley, Assistant Surgeon General for Operations, during ceremonies at NIH.

Dr. Heppel was cited for "his outstanding excellence in research concerning nucleic acids, on the series of enzymes which act on polynucleotides and on their relationship to the biochemical code of genetic transmission of cellular structure and function."

Dr. Heppel developed and refined many of the methods vital to cur-



Dr. Leon A. Heppel, Chief of the Laboratory of Biochemistry and Metabolism, NIAID (right), accepts congratulations of Dr. James M. Hundley, Assistant Surgeon General for Operations, on receiving the PHS Meritorious Service Medal.—Photo by Bob Pumphrey.

rent nucleic acid investigation and played an important role in helping to crack the so-called genetic code, which lies at the heart of the reproduction of all living things.

He was the first to prepare the homogeneous, well characterized oligonucleotides that are now being used in all-important fundamental studies on the nature of the structure of nucleic acids.

A native of Granger, Utah, Dr. Heppel graduated from the College of Chemistry of the University of California, Berkeley, in 1933, and received his Ph.D. in biochemistry from the same institution in 1937. In 1941 he received his M.D. degree from the University of Rochester.

Concurrent with his medical studies, Dr. Heppel held research fellowships in physiology and pharmacology. His research studies during this period were concerned mainly with potassium metabolism

Chemical Found 90 Percent Effective in British Clinical Use Against Smallpox

Speaking before a special seminar of the National Institute of Allergy and Infectious Diseases August 6, Dr. Robert H. Nimmo-Smith of the Wellcome Laboratories of Tropical Medicine in London, England, reported that a smallpox chemoprophylactic proved 90 percent effective in clinical trials.

When the drug, N-methylsatin betathiosemicarbazone (Marboran), was administered during the incubation period of smallpox, the British biochemist said, the chemical effectively prevented infection in at least 90 percent of persons exposed to the disease.

The study reported by Dr. Nimmo-Smith resulted in part from the finding of Dr. Randall L. Thompson, Special Assistant for Collaborative Research, NIAID, in the early 1950s that the thiosemicarbazones possessed anti-viral activity.

May Block Infection

Findings from this and other work permit investigators to postulate that Marboran may possess the ability to block infection by other DNA-containing viruses. Cytopathological studies indicate that the drug does not prevent entry of virus into cells but obviously interferes with viral replication.

Treatment consisting of two 3-gram doses of Marboran given by mouth on a single day was found not only to prevent infection, Dr. Nimmo-Smith said, but also to permit development of immunity from concomitant smallpox vaccination.

The drug was equally effective in vaccinated and in non-vaccinated individuals, he said, and evidence has accumulated which indicates that it is effective for the serious complications of smallpox vaccination.

Low toxicity, poor absorption, and rapid excretion mark the drug as a potentially safe anti-viral agent. The most common unpleasant reaction has been a high incidence of vomiting beginning six to

and electrolyte physiology. He became a PHS Commissioned Officer in 1942 and was assigned to NIH.

Dr. Heppel began his studies in nucleic acid chemistry in 1947. In 1959 he was appointed to his present position of laboratory chief. His work merited a Guggenheim Fellowship in 1953, which he spent at the University of Cambridge, England, studying nucleic acid structure and polynucleotide synthesis by transfer reactions.

In 1960 he received the Hillebrand Award of the Washington Chemical Society and, the same year, presented an honorary NIH Lecture entitled "An Enzymatic Approach to Nucleic Acid Chemistry."



Dr. Robert H. Nimmo-Smith, Wellcome Laboratories of Tropical Medicine, London (left), indicates promising data from clinical study of Marboran to Dr. Randall L. Thompson, Special Assistant for Collaborative Research, NIAID, who introduced him to NIAID's special seminar audience.—Photo by Jerry Hecht.

eight hours after dosage but lasting only a few hours.

The drug appears to cause some delay in gastric emptying but is completely excreted in 48 hours, Dr. Nimmo-Smith said, adding that different ethnic groups seem to react somewhat differently to the drug.

Prior to clinical trials, presently under way in India, Pakistan, and Brazil, studies had been conducted to investigate the drug's effect in mice, rats, rabbits, dogs, and monkeys. These species exhibited no striking differences of response or of toxicity among themselves or as compared with man.

At the present time the most convenient dosage form of the drug for mass administration in the tropics seems to be an oral suspension; however, consideration of proper dosage form continues under investigation.

LILJEGREN

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Hamsters' productions that were generally lampoons or one-act plays titled "Life at NIH."

During World War II, Mr. Liljegren recalls, the NIH took on war-time projects, largely collaborative efforts with the National Naval Medical Center across the pike. A great deal of testing was done on conditions for aviators, types of clothing, toxicity of various chemicals, and the effects of atomic radiation on humans.

A former track star at the University of Minnesota, Mr. Liljegren came to NIH as a laboratory assistant in the now defunct Division of Industrial Hygiene. He

Flu Vaccinations Urged For 'High Risk' Groups By Acting Head of PHS

Acting Surgeon General David E. Price recently announced that the Public Health Service has approved recommendations calling for vaccination against influenza, especially among people in "high-risk" groups.

The recommendations came from the Surgeon General's Advisory Committee on Immunization Practice, which advises the Surgeon General on recommended public health practice involving specific preventive agents, including inactivated and "live" vaccines and antitoxins.

Provides Protection

Influenza vaccine has been shown in repeated control trials to confer substantial protection (60 to 80 percent) against the epidemic disease, the committee reported.

The incorporation of recent A₂ and B isolates in the 1963-64 vaccine and the increase in their concentration during 1964-65 should result in a vaccine capable of conferring substantial protection in 1964-65.

However, the committee pointed out that as yet there has been no opportunity to evaluate the newly constituted vaccine under conditions of a natural challenge.

The committee foresees no major influenza outbreak in the United States this year. However, since there is always a possibility of local outbreaks, it recommended that "vaccination should begin as soon as practicable after September 1 and, ideally, should be completed by mid-December."

High Mortality Groups

Since there is normally a 2-week delay in the development of antibodies, the committee noted, "it is important that immunization be carried out before influenza occurs in the immediate area."

The committee recommended that immunization should be considered and generally recommended for persons in groups who experience high mortality from epidemic influenza. Such groups include:

Persons at all ages who suffer from chronic debilitating disease, persons in older age groups, and pregnant women.

holds a B.A. in business administration in addition to a B.S. in chemical engineering. After 15 years as a chemist, he decided to go into administrative work in order to make full use of his training.

NIH has changed enormously in 23 years. "It's a safe bet, though, that NIH people and most of their problems have remained essentially the same," Mr. Liljegren says.

NIAID Booklets Describe Research at MARU and Give Staff Orientation

Two booklets, *The Middle America Research Unit and Working for the Middle America Research Unit*, prepared by the Information Office, National Institute of Allergy and Infectious Diseases, have just been issued.

The first describes research activities conducted at the Middle America Research Unit (MARU), a major Public Health Service installation in the Canal Zone, operated by NIAID in collaboration with the Walter Reed Army Institute of Research.

Orientation Guide

The second pamphlet is an orientation guide for the use of MARU staff members. MARU occupies a tropical setting favorable for the studies being conducted on widespread fungal diseases and on important anthropod-borne infections endemic in Central and South America.

It has been much in the news recently, particularly because of the research its scientists have been conducting on Bolivian hemorrhagic fever, a highly fatal disease that has reached epidemic proportions in the Beni Province of Bolivia.

These booklets are available from the NIAID Information Office, Bldg. 31, Rm. 7A27, Bethesda, Md. 20014.

Psychiatric Aides Play Important Part in Work Of Aiding Mentally Ill

Psychiatric aides at St. Elizabeths Hospital were reminded recently of their increasingly important contributions to work with the mentally ill by Dr. Robert H. Felix, Director of the National Institute of Mental Health.

Speaking at the 17th Annual Psychiatric Aide Awards Program, Dr. Felix reported some of the findings of a nationwide survey of psychiatric aides undertaken by the NIMH in collaboration with the National Association for Mental Health.

"As an indication of how important an aide's personal contact and support can be to the therapeutic process," Dr. Felix said, "a large percentage of the nurses surveyed indicated that patients are affected when an aide leaves or quits."

He said there appears to be almost universal desire on the part of aides for more training to help them do a better job in providing the kind of care that will motivate the patient to strive for recovery.

"A majority of the aides surveyed stated they wanted training in nursing procedures," he said, "and 25 percent wanted instruction on types and causes of mental illness."



In the town square of San Joaquin, Bolivia, four USPHS scientists and one Bolivian Ministry of Health official are honored by award of the Order of the Condor of the Andes in recognition of their success in prevention of Bolivian hemorrhagic fever that ravaged portions of the country for the past five years. A bronze bust of the late Dr. Henry K. Beye, Director of MARU at the time of his death, was unveiled at the San Joaquin ceremonies.—NIAID Photos.

BOLIVIA

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25 in the town of San Joaquin, center of the disease outbreak, before an audience of townspeople and representatives of the U. S. and Bolivian agencies participating in the investigation.

The Bolivian Minister of Health, Dr. Guillermo Jauregui Guachalla, accompanied by the Commander in Chief of Bolivia's Armed Forces and the Commander of Bolivia's Fluvial Forces, officiated at the ceremonies.

Minister Jauregui, assisted by John Stutesman, Counselor of the American Embassy in La Paz, unveiled a monument erected in the town square in honor of the late Dr. Beye, who headed the investigating team at the time of his death, April 8.

Dr. Beye Honored

Dr. Beye was Director of the Middle America Research Unit (MARU), a field laboratory of the Public Health Service operated in the Canal Zone by the National Institute of Allergy and Infectious Diseases in cooperation with the Walter Reed Army Institute of Research.

The monument to Dr. Beye consists of a bronze bust and plaque atop a 10-foot concrete pedestal.

Earlier the same day, the San Joaquin hospital was renamed the Henry K. Beye Hospital at services presided over by the Bishop of Beni.

On behalf of Mrs. Beye who was unable to attend, acceptance of the



This closeup reveals detail of the bronze bust, tablet and pedestal erected in memory of Dr. Henry K. Beye in the town square of San Joaquin.

posthumous award was acknowledged by Dr. Dorland J. Davis, Director of Intramural Research, NIAID.

The ceremonies were attended by the Chief of the U. S. Military Group to Bolivia, the Chief of the U.S. AID Mission in Bolivia, and

Small-Particle Aerosols Of Rhinovirus NIH 1734 Cause Tracheobronchitis

Scientists of the National Institute of Allergy and Infectious Diseases have found that tracheobronchitis can be produced with minute doses of rhinovirus in small-particle aerosols.

Natural infection of man with rhinovirus is characterized by both upper (common cold) and lower (tracheobronchitis) respiratory tract involvement.

Previous studies by scientists of the Laboratory of Clinical Investigation, NIAID, showed that nasopharyngeal inoculation of susceptible volunteers with rhinovirus produced an illness that was usually limited to a common cold syndrome.

Study's Aim Explained

Another study was undertaken to determine the response of susceptible volunteers to lower respiratory tract inoculation by means of small-particle (approximately 1-micron) aerosols.

Aerosols containing a mean dose of only 25 infectious units (50 percent tissue culture infection doses) of rhinovirus NIH 1734 were administered to eight antibody-free volunteers.

Subsequently all volunteers were found to shed virus from the nasopharynx: three had acute febrile tracheobronchitis, three had milder tracheobronchitis (one had fever), two had upper respiratory illness with some cough (one had fever).

In contrast, there were only three febrile illnesses and two instances of mild tracheobronchitis among 31 antibody-free volunteers inoculated intranasally with from 600 to 32,000 infectious units of NIH 1734.

Conclusion Cited

It was concluded that tracheobronchitis can be produced by inoculation with minute doses of rhinovirus in small-particle aerosols, presumably because the virus is made available to infect susceptible lower respiratory sites.

The researchers suggest that the heterogeneous populations of particles which represent airborne discharges from colds contain similar small-particle aerosols which may be responsible for the natural transmission of acute respiratory diseases.

The scientists, Drs. T. R. Cate, R. B. Couch, W. F. Fleet, and V. Knight, reported their findings at the meeting of the American Federation for Clinical Research.

representatives of the Southern Command of the U.S. Army, the Caribbean Command of the U.S. Air Force, the U.S. Peace Corps, and the U.S. Public Health Service.

SURVIVAL

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deaths associated with low scores actually occur during the first 48 hours of life.

The Apgar score at five minutes was more efficient than the score at one minute. The authors suggest that scoring at five minutes would be a valuable addition to the earlier rating in identifying high-risk patients. Quick and intensive therapy for the infant at risk could then be instituted.

When the infant's birthweight is taken into consideration the predictive value of the Apgar scores increases. Infants of the lowest birthweight group reported had the highest mortality rate within the group of low Apgar scores.

However, infants of low birthweight, who generally have a poorer prognosis, do relatively well when their Apgar scores are high.

Weight, Scores Related

The study also suggests that large babies (over 9 pounds) tend to have somewhat lower scores.

A strong association of scores with birthweight was observed. Scoring lowest on the average were infants weighing under about 3½ pounds. Highest were infants weighing from about 6½ to seven pounds.

Within birthweight groups Apgar scores seem to have a predictive ability regarding neonatal mortality. Whereas neonatal mortality for the group weighing under about 4½ pounds is 30 percent in the overall Collaborative Study population, it is 77.9 percent for infants with Apgar scores 0-3 at five minutes, but only 5.9 percent for those with 5-minute scores of 9-10.

Tests Evaluated

Originally, Apgar tests were evaluated in terms of 28-day survival of infants. The newer data indicates that mortality associated with low scores is predominantly mortality during the first two days. In 28 days a 23 percent mortality was recorded among infants with scores of 0-1. Of these, 19 percent died within the first two days.

The report appears in the August issue of *Obstetrics and Gynecology*.

The Collaborative Study of Cerebral Palsy, Mental Retardation and Other Neurological and Sensory Disorders of Infancy and Childhood is supported by the National Institute of Neurological Diseases and Blindness.

The thing is to describe the object we have gotten to know, with a depth of penetration achieved through feeling.—*Andrew Wyeth from Conversations With Artists.*



Fifty secondary school students recently toured NIH as part of the Widening Horizons Program, a 6-week summer program designed to familiarize Washington, D. C. school children with the cultural, educational and occupational opportunities in the Washington area. Here a group of students watch Miriam B. Bowman, a technologist in the Clinical Chemistry Section of the Clinical Center's Clinical Pathology Department (background), as she demonstrates the operation of an automatic diluting machine in one of the laboratories. In the foreground, Dr. Douglas Morningstar, also of the Clinical Pathology Department, blends sodium and potassium on a modified patwin flame photometer.—Photo by Jerry Hecht.

Increase Shown in Use Of Psychiatric Clinics And Day-Night Services

A steady growth in the number of psychiatric outpatient clinics in the United States and a growing use of another type of facility—the psychiatric day-night service—is shown in the 1963 edition of *Outpatient Psychiatric Clinics, Psychiatric Day-Night Services*, now off the press.

In the past few years outpatient clinics have grown at a rate of about 100 each year, from a total of 1,500 in 1961.

Added to the Directory for the first time is a list of available psychiatric day-night services which total more than 100.

Services Listed

Information about the outpatient clinics and day-night services, listed by location, includes auspices, geographic area served, special groups and ages served, clinic or service schedule, professional staff, and, if a day-night facility, what services are available.

Other mental health resources are listed, such as State hospitals, public institutions for the mentally retarded, Veterans Administration hospitals, and State departments dealing with mental health and mental retardation.

The directory is the result of a uniform reporting program begun by the Biometrics Branch of the National Institute of Mental Health in 1952, with the cooperation of the



Dr. James M. Hundley, PHS Assistant Surgeon General for Operations (left), congratulates Dr. A. Baird Hastings after presenting him with a certificate of tribute. Dr. Hastings, retired from Harvard and now Head of the Laboratory for Metabolic Research, Scripps Clinic and Research Foundation, La Jolla, Calif., has been an advisor to the PHS for nearly 20 years and is currently a member of the National Advisory Heart Council of the NHI.—Photo by Bob Pumphrey.

reporting facilities, State mental health authorities and State mental health associations.

The National Association for Mental Health is co-producer of the directory, PHS Publication No. 1129.

Single copies may be obtained from the Public Information Section, NIMH, Bldg. 31, Rm. 2A47; multiple copies from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, at 70 cents each.

PHS Study Data Shows Higher Rate of Diabetes Than Previously Thought

Diabetes is a considerably greater public health problem than was previously believed, according to the Public Health Service.

As recently as 1962 the number of known and unknown cases of diabetes was estimated to be three million. Today, data indicates the number is four million or over.

Data from the Sudbury (Mass.) Health Study, the Tecumseh (Mich.) Community Health Study, the Federal Employee Screening Program, and a study of 111,087 people carried out by the National Center for Health Statistics shows a higher rate of diabetes than would have been expected from past concepts of prevalence.

Data Is Analyzed

Final prevalence figures for the United States will have to await analysis of data now under way, according to Dr. Glen W. McDonald, Chief of the Diabetes and Arthritis Program, Division of Chronic Diseases.

Dr. McDonald in elaborating on the findings of these data, attributed the rising rate to the increasing number of older people in our population, the number of overweight, broader diagnostic concepts, the possibility that more people will inherit the disease, and more sensitive screening tests.

Diabetes is detected by a blood test designed to give a relatively quick gauge of a person's ability to assimilate sugar once it is introduced into the body in food. In diabetes, the body's mechanism for the proper handling of sugar is defective, and high blood sugar is usually a sign of the ailment.

Early Diagnosis Essential

According to Dr. McDonald, the important goal is the early identification of the diabetic who carries the strain but who does not know that he has diabetes.

"Studies are being carried out to spot these 'suspects,'" Dr. McDonald said. "By prescribing medication and regulating diet and exercise, we believe that physicians will soon be able to delay the onset of the disease. When diabetes does occur, it should be less severe, bring fewer complications, and be controlled more easily."

"Because of the increasing amount of research on prevention, identification of 'suspects' is doubly important, so that they can take advantage of new techniques as they are discovered," he said, adding, "an annual blood test is the best protection an individual can have, particularly if he is over 40, overweight, or has diabetes in the family."