Clinical Center Celebrates First 40 Years of Clinical Research
By Carla Garnett

The year was 1953. President Dwight D. Eisenhower had begun his first term in the White House. The Department of Health, Education and Welfare had just been established in April, relocating the Public Health Service from the Federal Security Agency. On July 6, NIH's Clinical Center admitted its first patient—an elderly man from the rural area north of Bethesda—to its newly established intramural clinical research program, according to a front-page NIH Record article.

Two years earlier, President Harry S Truman, on the campaign stump for Democratic presidential hopeful Adlai Stevenson, helped place the cornerstone for an unfinished, enormous facility constructed during the height of the Korean War. Begun in 1950, that battle would end 3 weeks later almost five decades of contributions of biomedical and behavioral research for the nation, NIH has as its mission science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability. While NIH's extramural and intramural researchers are responsible for "science in pursuit of fundamental knowledge," their interactions with health educators, communication specialists and the media help apply that knowledge so the public can get the facts.

NIH is the major agency within the federal government that supports research, training, and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability. While NIH's extramural and intramural researchers are responsible for "science in pursuit of fundamental knowledge," their interactions with health educators, communication specialists and the media help apply that knowledge so the public can get the facts.

International Conference Concludes
Gestational Diabetes Ills May Continue After Delivery
By Anne Blank

More than a century ago, physicians recognized gestational diabetes, a condition of glucose intolerance that occurs in pregnancy and disappears after delivery, as one of many possible constitutional problems associated with pregnancy. It was only 15 years ago, however, at a meeting at NIH, that gestational diabetes was formally recognized as a subgroup of diabetes mellitus.

In the United States, gestational diabetes mellitus occurs in approximately 3 to 5 percent of pregnant women annually. Unlike other types of diabetes, gestational diabetes has a limited duration, disappearing after delivery. But even so, both mother and child may go on to develop other complications. Potential adverse outcomes of gestational diabetes include: an increased risk in mother and child of later developing diabetes mellitus; macrosomia (larger than normal infant for gestational age; 4,000 grams), which may result in delivery complications necessitating operative delivery; and obesity in the child. Unfortunately, while patients can manage gestational diabetes with proper diet and insulin treatment if necessary, little is known about how to prevent these potentially serious long-term problems.

Accordingly, in an effort to clarify current knowledge of the disease, as well as to identify appropriate areas of future investigation, a group of scientists and clinicians involved in gestational diabetes with proper diet and insulin treatment if necessary, little is known about how to prevent these potentially serious long-term problems.

Biostatistics Conference Draws Distinguished Alumni

An audience of more than 250 biostatisticians and others interested in applications of statistics to medicine filled the Lister Hill auditorium and two overflow rooms for the recent NIH Conference on Current Topics in Biostatistics.

The 2-day conference was held to commemorate almost five decades of contributions of biostatisticians to NIH and to create an inter-institute forum for discussion of approaches to the design, implementation and analysis of biomedical studies. Statisticians representing nearly all of the institutes discussed problems ranging from sampling methods to estimating the number of neurons in tissue culture wells to the design of large, simple clinical trials for the study of AIDS treatments.

NIH alumni—statisticians who previously worked at NIH beginning in 1947—were invited discussants. These individuals included: Dr. John C. Bailar III (1956-1980 at NCI), currently professor of epidemiology, McGill University; Dr. Seymour Geisser (1955-1965 at NIMH, NIAMD), currently professor and
and education in nutrition as it relates to health maintenance, disease treatment and prevention, and human development through the life cycle. Each of the ICDs supports nutrition research related to its own particular mission, including the three ICDs that joined NIH last October from the former Alcohol, Drug Abuse, and Mental Health Administration. More than any other agency, NIH provides an environment to get the facts in order for the public to glean helpful information from nutrition in the news.

In recent years, the news value of food and nutrition information has been extraordinarily high. NIH-supported research forms the foundation of scientifically sound information on the relationship of nutrition to health education. Communicating such information to health and education professionals and the public has been and remains a mandate taken seriously by staff at every institute, center, and division at NIH. Their challenge is to translate technical scientific findings into messages for the public that are accurate and easy to understand.

Communicating valid health messages to the American public is the focus of a Nutrition Month scientific seminar in March. All NIH’ers may join the nutrition coordinating committee to hear “Food for Thought and Thought for Food,” given by Marc Stern, chief, News Branch, Office of Communications, OD, and Calvin Jackson of OC’s Audiovisual Branch on Thursday, Mar. 4, 3-4 p.m. in Bldg. 31, Conf. Rm. 6.

Other activities planned during March include:

- Nutrition Symposium, “Nutrition and Multimedia Technology: Exploring New Options,” cosponsored by the DHHS Office of Disease Prevention and Health Promotion and the NIH nutrition coordinating committee on Mar. 17, 9 a.m.-12:30 p.m. (registration from 8 to 9 a.m.) in Masur Auditorium, Bldg. 10, accompanied by exhibits in the Clinical Center’s Visitor Information Center (VIC).
- Nutrition and health video clips from NCI and NHLBI will be shown during the month in Bldg. 10’s VIC and Bldg. 31, A-wing entrance.
- Nutrition education exhibit displayed with ICD nutrition education materials in the Bldg. 31 cafeteria corridor.
- Several ICD nutrition exhibits on display in the VIC.
- Nutrition Month specials in the GSI cafeterias (see box above).
- For more information about Nutrition Month activities, contact Nancy Gaston, Division of Nutrition Research Coordination, 496-2324.

NIH Cafeterias Promote Healthy Eating

In observance of Nutrition Month, Guest Services, Inc., which operates five cafeterias on campus, will be promoting healthy eating throughout March:

- Cafeterias will be offering heart healthy entrees and specially priced vegetable plates wherever entrees are served.
- Slice-your-own, high-fiber, low-sodium breads are available; angel food cake will be offered as a low-fat dessert; hummus and pita bread will be offered on salad bars.
- The newly renovated clinic cafeteria on the second floor of Bldg. 10 has several more healthy offerings—vegetarian, Healthy Choices deli meats and all-natural, no-fat potato chips (called “dirty chips”). Hamburgers are served on freshly baked, salt-free doll rolls. French fries are cut fresh and cooked in peanut oil. Chicken breast sandwiches use skinless, boneless fresh, lean meat. Sausage subs are low-cholesterol, reduced fat without additives.
- All cafeterias now serve no-sodium bottled water along with a variety of natural juice drinks. A 25-cent discount will be offered on the price of Homestead or Greenspring bottled water to customers showing membership to a fitness center.

Guest Services will also be distributing “Stay Young at Heart” recipe cards along with featured specials served in the cafeteria.

DES ‘Express’ Recommended for Small Jobs, Speedy Response

NIH’s Division of Engineering Services reminds customers of its "DES Express Service," which provides rapid response to small but essential jobs that in the past have been given low priority. Under “Express” DES accepts work that can be done by one mechanic in 1 to 2 hours—installing a bulletin board, hanging chalk or marker boards, adding shelves to an existing installation, installing/ moving electrical receptacles where there is existing electrical service, installing clocks or light fixtures and other small jobs.

When customers need such services, they simply phone in the request for Express service to the maintenance section responsible for the customer’s building. The maintenance section will dispatch the appropriate trades mechanic to do the work, normally within 24 hours.

Requests too large for Express will be referred. As a quick reference, customers in buildings 10, 10A and the clinics should call the Clinical Center maintenance section, 496-5862; in buildings north of South Dr. (i.e., the road that runs from the Metro Station straight through campus to Old Georgetown Rd.), call the north maintenance engineering section, 496-5083; and in buildings south of South Dr., call the south maintenance engineering section, 496-6484.

If not satisfied after using Express, call the Performance Concerns Hotline (see box).

The NIH Record

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Tips on Elevator Safety Offered by DES

Last December a Department of Agriculture worker in Alexandria, Va., tragically fell 14 floors to her death. It appears that she and a fellow worker were stuck between the 10th and 11th floors on an elevator during a power failure. Becoming impatient, the elevator passengers forced open the car doors and, enlisting the help of a third employee on the 10th floor, forced open the hall doors as well. As the woman attempted to exit the elevator onto the 10th floor, she lost her balance, fell backward beneath the elevator car and plunged to her death.

Failure to remain calm and patient, coupled with the circumvention of the safety devices on the car and hoistway doors, were the ultimate factors affecting this unnecessary accident.

The elevator section of the Maintenance Engineering Branch (MEB), Division of Engineering Services, within the Office of Research Services, is responsible for the safe and dependable operation of all NIH elevators. NIH is fortunate in that all high-rise buildings on campus are equipped with back-up emergency generators to provide power during outages. In addition, MEB elevator mechanics are trained in proper procedures to move an elevator to the next floor without power.

MEB is sensitive to the uncomfortable, and at times, traumatic feeling people may experience when stuck on a stalled elevator. To alleviate that experience, MEB has established procedures to ensure almost 24-hour coverage for elevator emergencies. Trained elevator mechanics are on duty from 7 a.m. to midnight, Monday through Friday, and from 9 a.m. to 9 p.m. weekends and holidays. In addition, on-call MEB mechanics are available at all other times with a response time not to exceed 30 minutes.

In the unlikely event that an NIH on-call mechanic is unable to respond, a contract mechanic with a response time not to exceed 1 hour can be provided.

In addition, all elevators on campus are equipped with emergency telephones. Most of these lines are directly connected to the NIH elevator section and require one just to pick up the receiver and wait for a response that should be almost immediate. There are a few elevators in Bldg. 10, used primarily for patient transport or patient emergencies, that require a user to dial the NIH operator who will relay the message to the appropriate area. These phones should be used for any emergency, including elevator emergencies.

The MEB has also established internal procedures to be followed by the elevator mechanics and other personnel in the event a passenger becomes stuck on a malfunctioning elevator. All elevator procedures, including emergency procedures, are comprehensive and subject to periodic review.

Elevators are, without question, the safest mode of transportation yet designed. Their safety record in number of passengers carried and miles traveled is unequalled.

Unfortunately, accidents can and do happen on elevators; the overwhelming majority can be attributed to human error. If an employee is faced with this unpleasant circumstance, there are a few procedures that should be observed:

- DO NOT ATTEMPT TO FORCE THE DOORS!
- Remain calm and patient. You are in no danger.
- Use the emergency phone and an elevator mechanic will be dispatched to release you.
- Follow any instructions received from the elevator mechanic.
- While awaiting the mechanic's arrival, stand back from the doors.

Remember, elevators are extremely safe and in no danger of falling. Remain inside the car and try to stay calm. Help is on the way.

NINDS Sponsors Poster Day

Scientists from NINDS's intramural program will present some of their latest research findings on the nervous system at the third annual Research Poster Day, Thursday, Mar. 4, from 10 a.m. to 4:30 p.m. at the Clinical Center, Bldg. 10. The event is part of the institute's ongoing Decade of the Brain activities.

More than 120 posters highlighting both basic and clinical neuroscience research will be on display in the Visitor Information Center. Attendees can meet with NINDS scientists, who will be on hand to answer questions about their research from noon to 2 p.m.

NIH'ers are invited to view the posters and take advantage of this opportunity to talk with NINDS researchers displaying their work. Interested representatives from private industry, academia, and state and local governments are also welcome to attend and are encouraged to explore potential collaborations with federal scientists.

As part of poster day, NINDS is sponsoring a "Distinguished Alumnus Guest Lecture" to be given by Dr. Solomon H. Snyder, director of the neuroscience department at Johns Hopkins University. He will speak on "Novel Neural Messengers in the Brain" at 2 p.m. in Masur Auditorium, Bldg. 10. For more information, call Jan Heffernan, 496-5468.

Warren Gives Next Genome Lecture, Mar. 18 in Lipsett

Dr. Stephen Warren is the next speaker in the Human Genome Lecture Series. Titled "Triplet Repeat Expansion Mutations: The Example of the Fragile X," his talk will explore the newly discovered genetic phenomenon that results in Fragile X syndrome and other inherited disorders.

The lecture will be held Mar. 18 at 11:30 a.m. in Lipsett Amphitheater, Bldg. 10.

An associate investigator at Howard Hughes Medical Institute at Emory University School of Medicine, Warren is also an associate professor in the university's department of biochemistry, in addition to being a consulting cytogeneticist for the school of medicine.

He received his bachelor's degree in zoology and his Ph.D. in human genetics from Michigan State University. As a postdoctoral fellow, he worked on somatic cell and molecular genetics at the University of Illinois College of Medicine.

An elected member of the Human Genome Organization, Warren is also a member of the American Society of Human Genetics, the American Society of Microbiology and the Genetics Society of America. For more information or to schedule an appointment with Warren, contact Dr. Carol Dahl, 402-0838.

These are some of the more than 40 members of the NIH advisory committee for employees with disabilities, which held its first gathering of 1993 on Jan. 28. The committee meets the fourth Thursday of each month, from 1 to 2:30 p.m. Meetings are open to all employees. Goals for the year include developing a resource library with disability-related materials, developing written materials on accessibility and reasonable accommodation, and helping OEO develop a desk-to-desk survey of employees regarding the needs for reasonable accommodation. For more information, contact committee chair Dr. Cheryl Chanaud, 402-2242.

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after the first patient entered the CC. Ironically, and as proof that history repeats itself, Truman used the occasion to appeal for a national system of health insurance, according to Dr. Richard Mandel, a contract historian who has researched the CC's beginnings for the past year.

To celebrate the birth of NIH's intramural clinical research program, the Clinical Center contracted Mandel to gather information recollecting the hospital's beginnings in 1953. A CC anniversary committee is planning a 2-day festival, "The First Forty Years," for July 8-9. As part of the festival, Mandel will compile his findings in a 40-page brochure and an exhibit, both complete with old photos and memorabilia.

"The overriding theme," said Mandel, discussing the concept behind the exhibit, "is institutional adaptability in a context of dynamic change and rapid growth."

Since 1953, the hospital, which in 1981 added an ambulatory care research facility and renamed itself after Sen. Warren Grant Magnuson, has grappled with its uniqueness, if not its mission. Designed to transport research findings quickly and directly to patients, the Clinical Center permits laboratories to share quarters with patient-care facilities. Combining its two driving forces with the tremendous growth the CC has experienced made adaptability a must.

"To stay on the forefront of biomedical research," Mandel said, "the Clinical Center has continuously reinvented itself."

President Harry S Truman (front, r) places the cornerstone in the still-unfinished Clinical Center on July 9, 1951. Also attending the ceremony were (from l) Dr. William Sebrell, NIH director from 1950 to 1955; Oscar Ewing, administrator of the Federal Security Agency, NIH's parent agency until April 1958; John McShain, primary building contractor; and Dr. Leonard Scheele, U.S. Surgeon General from 1948 to 1956. Before adding the surgical wing in 1963 and completing the clinics in 1987, CC construction spanned nearly 7 years from November 1948 to August 1955. Photo: Sam Silverman

Even today the facility's structure is facing a reinvention of sorts. By the turn of the century, NIH master planners, who project 20 years into the agency's physical future, fully intend that major portions of the current CC will be razed and significantly rebuilt. Multiple additions and renovations to the building have severely taxed its infrastructure, demanding a more permanent solution to CC growth.

Mandel said that not long after occupancy in 1953, inadequacies in the building cropped up, beginning with the ventilation system: The building was not designed for air conditioning in all parts, and worse, the air intake system was improperly equipped to prevent reinfection.

"The Clinical Center was designed to entertain and care for long-term patients," he explained. "Back in the early fifties, 3 months was the average stay for these 'professional' patients with exotic disorders that required annual observation. Today, the average stay is down to about a week, and the outpatient traffic has dramatically increased."

A number of the original blueprints, and a few of the original design personnel, are being consulted to plan the new CC structure, Mandel noted.

If changes in its original framework are noteworthy, then the remarkable growth of the Clinical Center's heart and soul must be considered monumental. In the first month or so of admitting patients, about 25 beds on just one nursing unit were available to three institutes—NCI, the National Heart Institute, and the National Institute of Arthritis and Metabolic Diseases. By the next year, nearly 250 patient beds for use by all institute intramural programs were available.

The institutes have changed how they use the
was disbanded—a tribute to the cardiac CC as well. In 1963, for example, one of the hospital’s crown jewels—a surgical wing for a medical rarity, but common, and therefore research that made the type of surgery no longer cyclotrons, to be run in an underground CC.

In 1984, the first magnetic resonance imaging unit arrived at the CC, followed in 1985 by two cyclotrons, to be run in an underground CC.

"To stay on the forefront of biomedical research, the Clinical Center has continuously reinvented itself." —Dr. Richard Mandel, historian

addition. In 1991, another diagnostic device—a 56-ton magnet—was added to a specially built annex to the Clinical Center.

"As it adds operating services and emerging technologies to meet new realities," Mandel said, "the hospital adjusts internally and projects a more appropriate persona. What is fascinating about this process is the depth and variety of resources that the hospital’s leadership has usually been able to mobilize in situations of wide-ranging change."

Mandel said through all the changes, some things about the CC seem to have remained constant.

"The hallmark of the Clinical Center was that you could be very young and still get a good position as a researcher," he noted. "The Clinical Center is unique among American hospitals in that it is governed not by a board of physicians but by a collaborative partnership between scientists and a clinical staff.

"The collaboration works best, it would seem, when the scientific talent for finding new experimental solutions is productively engaged with the clinician’s primary instinct for patient care."

It is the spirit of collaboration, which has shaped the CC and indeed all of NIH, that the anniversary committee will seek to capture during its July festival. Mandel said combing through old records, photos and other materials was only a small part of his task toward that end. Oral history—talks with people who were at the CC in the 1950’s and interviews that can provide what Mandel describes as “history that talks back to you”—accounted for the most important part of his past year’s work.

Gathering CC alumni and current researchers to lecture, the anniversary event combines history with discovery and patient care with bench science—but that is the way it has always been at the hospital.

"The Clinical Center has always been a collective product," Mandel concluded. "Throughout its history, it has always involved a multiplicity of persons. It really is one of a kind."

Circa 1962, National Cancer Institute director Dr. Kenneth Endicott (l) points out a cancer-causing virus—Rauscher’s leukemia, magnified 350,000 times—to longtime biomedical research supporter Sen. Warren Grant Magnuson (D-Wash.), who sponsored the 1937 legislation creating NCI and for whom the Clinical Center is named. The work describing the first known tumor virus in animals was done at the CC by NCI’s intramural research program. Photo: The Magnuson Papers, University of Washington.
BIOSTATISTICS CONFERENCE PACKS TWO OVERFLOW ROOMS
(Continued from Page 1)

director, School of Statistics, University of Minnesota; Nathan Mantel (1947-1974 at NCI), currently research professor of statistics, American University; Tavia Gordon (1954-1977 at NHI, NCI, NHLBI), currently research professor, George Washington University biostatistics center; Dr. Marvin Zelen (1963-1967 at NCI), currently professor of biostatistics, Harvard University; Fred Ederer (1957-1986 at NCI, NHI, NEI), currently senior epidemiologist, EMMES Corp.; and Dr. Marvin A. Schneiderman (1948-1980 at NCI), currently principal scientist, National Research Council.

A banquet was held following the first day of scientific sessions to honor those statistical scientists who were the catalysts for the initiation and growth of biostatistics beginning in the late 1940's. The conference and banquet celebrated past achievements as well as ongoing methodologic and collaborative research in biostatistics.

NIH statisticians have made seminal contributions to applied and theoretical statistics particularly in biomedical research. This work includes the widely used Mantel-Haenszel test, which allows the combining of evidence from a number of 2x2 contingency tables; the development of the odds ratio as a measure of association in case-control studies; the formulation of logistic regression for the estimation of the probability of disease as a function of risk factors and confounding variables; and the methodology for "early" stopping of clinical trials where efficacy is demonstrated prior to the scheduled completion of the trial. This early work defined the unique and important role that statistics played at NIH and set the stage for the continuing role of statistics in the biomedical community today.

NIH director Dr. Bernadine Healy addressed the conference, saying, "Statistics has had a glorious history at NIH. Indeed, for almost 50 years NIH has been home to the most influential biostatisticians and most profound developments in the design and analysis of biomedical experiments. For example, the statistical foundations for epidemiologic case-control studies, the use of regression models for identification of high-risk individuals and key..."
Nurse Scientists Set Research Agenda to Year 2000

By Marianne Glass Duffy

Fifty-three senior nurse scientists from across the country sat in the darkened Pooks Hill Marriott conference room holding electronic keypads, eager to cast their votes following 3 days of meetings. But before the voting could begin, they were asked to test the equipment by answering some random questions.

"First of all, how many of you are from the Midwest?" Almost instantly, the room's enormous screen danced with demographics as the nurses punched in answers on their keypads.

"Now, how many of you are over 50?" Absolute silence dissolved into laughter as the screen remained unchanged. One thing was certain—the equipment was working perfectly.

So began the final voting session of the Second Conference on Research Priorities in Nursing Science, known as CORP #2. Top nurse scientists representing nearly every area of nursing met recently to recommend an updated set of research priorities for the National Center for Nursing Research. The priorities will guide a portion of NCNR's funding from 1995 through 1999.

"The CORP brings together a broad range of nurse scientists to share, debate and finally select nursing's top research priorities," says NCNR director Dr. Ada Sue Hinshaw. "It is the nursing research community's proactive voice."

At this year's conference, nurses used an electronic keypad—formally known as an interactive audience response system—to share their ideas and suggestions and, ultimately, to vote on them. Known as the IRIS system, it enabled the moderator to display questions requiring a yes/no response as well as those with up to 12 response choices. The system promoted an atmosphere of heightened participation and attention, as well as anonymity, as more than 50 participants communicated through a phone-like keypad roughly the size of a pager.

Perhaps the best part of the IRIS system was the instant feedback—seeing within seconds a visual analysis of the vote. It was a far cry from the devil's advocacy debate and hours of manual revisions needed after the first CORP.

Held in 1988, CORP #1 identified seven priorities targeted for research emphasis in order to promote scientific depth in those areas, all of which are considered vital to the health of the American people. The priorities were: low birth weight, HIV infection, long-term care, symptom management, nursing informatics, health promotion, and technology dependency.

After 3 days of meetings, CORP #2 adjourned with a list of seven research priorities addressing Americans' health needs in the 1990's. The National Advisory Council for Nursing Research then narrowed the focus to five priorities for emphasis—one each year—in the years 1995 through 1999. They are: developing and testing community-based nursing models; fostering health-promoting behavior to prevent HIV/AIDS in women and other special populations; developing and testing approaches to remediating cognitive impairment; testing interventions for coping with chronic illness; and identifying behavioral factors and testing interventions to promote immunocompetence.

While these CORP-set priorities receive funding emphasis, the resultant grants receive about one-third or less of NCNR's total competing grant funding in any one year. The majority of NCNR's funds are for meritorious research proposed by investigators on topics of their choice. Either way, the nursing community benefits from the creative intelligence of its members.

**PGS Computer Training Classes**

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Classes are offered by the DCRT Training Program without charge. Call 496-2339 for more information.
studying or treating gestational diabetes met recently at an international NIH conference. Co-sponsored by NICHD and NIDDK, “Adverse Perinatal Outcomes of Gestational Diabetes Mellitus” addressed obstetrical complications of gestational diabetes, and long-term implications for mother and child. Organizers of the conference were Dr. Gilman Grave, chief of NICHD’s Endocrinology, Nutrition and Growth Branch, Dr. Maureen Harris, chief of NIDDK’s national diabetes data group, and Dr. Boyd Metzger, acting chief in the division of endocrinology, metabolism and nutrition at Northwestern University Medical School, who also served as conference chairman.

The need for a better understanding of the relationship between gestational diabetes and future maternal and pediatric problems is especially critical now for several reasons, noted Metzger. First, the prevalence of diabetes mellitus is increasing worldwide, and evidence indicates that there are more cases of gestational diabetes, as well. Second, developing countries, in particular, are ill-equipped to cope with this increase, and desperately need programs for diagnosing and treating diabetes. Third, the impact of lifestyle changes on the prevalence of diabetes remains unclear and needs to be determined. Finally, there is a pressing need to identify groups at high risk of developing gestational diabetes in order to intervene with proper treatment, and to facilitate the appropriate distribution of finite health care resources.

“We have identified the risk of certain adverse outcomes, but we have not specifically related them to the degree of glucose intolerance,” Metzger said. “The data suggest that the more severe the state of glucose intolerance during pregnancy, the higher the risk of later diabetes in the mother.”

Scientists already have identified certain factors that may help determine which groups are more likely to develop gestational diabetes. These include maternal obesity, maternal age greater than 25, a family history of diabetes, Black or Hispanic ethnicity, previous birth complicated by macrosomia, previous stillbirth, having had a child with a birth defect, and excessive amniotic fluid (polyhydramnios). The benefit of identifying these factors lies in the possibility of developing appropriate interventions to prevent gestational diabetes in high-risk women, noted Dr. Donald Coustan, professor and chairman in the department of obstetrics and gynecology at Women & Infants Hospital of Rhode Island in Providence.

Although the risk of perinatal mortality does not appear to be higher in infants born to women with gestational diabetes, there is a greater risk of other complications. Beginning with macrosomia at birth, obesity in the offspring of women with gestational diabetes is often a life-long problem, which may be life-threatening. As an example, Dr. David Pettitt, assistant chief of NIDDK’s diabetes and arhritis epidemiology section, cited a study of Pima Indians, who are native Americans living in the southern Arizona desert. In this study, investigators found that the children of diabetic women were much heavier at birth than the children of nondiabetic women. And at each of three subsequent reevaluations, done in childhood, adolescence, and the later teenage years, this group of children weighed more than the children of nondiabetic women. Since obesity itself is a risk factor for developing both diabetes and gestational diabetes, the children of women with gestational diabetes are beginning life already at risk of future diabetes.

“Diabetes in pregnancy is a vicious cycle,” Pettitt said. “Not only does the mother have problems in pregnancy, but the infants have problems at birth and are much more likely to go on to be obese and to develop diabetes; they may already have diabetes by chilbearing age.”

Macrosomia occurs when the extra glucose in the blood of women with gestational diabetes causes the fetus to make more insulin to cope with the excess. The extra glucose is then converted to fat, which results in a large-for-gestational-age infant. Additionally, the increased insulin levels may lead to neonatal hypoglycemia (low blood sugar), which may necessitate intravenous administration of glucose after delivery. Although not all infants born to women with gestational diabetes have macrosomia, the condition occurs twice as frequently in pregnancies complicated by gestational diabetes as in uncomplicated pregnancies.

“I look at this as a child who is genetically predisposed to developing diabetes,” Pettitt explained. “He is just being overfed throughout the last part of pregnancy. By the time the child is born, he’s already set up to become obese.”

Macrosomia, if severe enough, may mean that the infant is too large for vaginal birth, necessitating operative intervention, such as cesarean delivery or assistance with forceps. Another serious complication is shoulder dystocia, a condition in which the infant’s shoulders become impacted either because they are too large or because they are in the wrong position. Fifteen to 30 percent of infants with shoulder dystocia suffer injury to the nerves in the arm (brachial plexus); most heal in 1 year, but approximately 0.2–2 percent have permanent injury.

“I don’t think there’s any doubt that the bigger the baby is, the more likely it is to get into trouble when it’s born,” said Dr. David Hunter, chairman of the department of obstetrics and gynecology at Norwalk Hospital in Connecticut.

The question now waiting to be answered is: how can these problems be prevented? One method is through diet and exercise. Women who fall into one or more of the high-risk groups may want to practice weight control and increase their level of exercise, both of which have been linked to a reduction in diabetes risk. Screening is also extremely important because the earlier the disease is diagnosed, the earlier diet modification and insulin treatment, if necessary, can be initiated. Appropriate treatment begun in a timely manner has been shown to reduce perinatal morbidity. The problem with conventional screening methods that test glucose tolerance is that there may be false positives, as well as false negatives. Additionally, screening tests generally involve a one-time sampling, while glucose tolerance may change throughout the course of pregnancy. Hunter suggested that proper screening would involve a continuum of sampling throughout pregnancy.

Because of these limitations, investigators are now devising a plan for a new study, one that would be longitudinal to measure adverse outcomes over time, multi-center, multi-ethnic, and multinational.

“What I see as the bottom line is that in this country and some other parts of the world, we’ve established a standard of care and widespread screening based on imperfect data,” Coustan said. “Rather than continue as we are, I think it’s appropriate to stop and obtain more data.”

For a free brochure called Understanding Gestational Diabetes: A Practical Guide to a Healthy Pregnancy, call 496-5133.

Julie F. Foley of the Experimental Toxicology Branch, NIEHS, received the Diamond Cover Merit Award for a manuscript published in the Journal of Histotechnology. She was the lead author on the paper titled, “Analysis and Evaluation of Proliferating Cell Nuclear Antigen (PCNA) in Rat Tissue by an Improved Immunohistochemical Procedure,” which appeared in the journal. The award recognizes a published paper that demonstrates originality and that is of widespread interest to journal readership. The award is sponsored by Miles Inc.’s diagnostics division, and the winner is presented with eight classic reference works in histology collectively titled The History of Microscopes and Microscopic Technique, and a plaque depicting the journal’s cover page.
The Epidemiology and Biostatistics Program (EBP), part of NCI's Division of Cancer Etiology (DCE), recently implemented organizational changes affecting several branches. The reorganization will "strengthen and better reflect the current scientific thrusts of the program," said Dr. Joseph Fraumeni, associate director for epidemiology and biostatistics. The changes should also improve organizational efficiency and allow room for future expansion in major areas.

The most extensive change in the program is the establishment of two new branches, the Viral Epidemiology Branch and the Genetic Epidemiology Branch, from what were formerly the viral epidemiology and the family studies sections of the Environmental Epidemiology Branch. Dr. William Blattner is the new chief of the Viral Epidemiology Branch, and Dr. Margaret Tucker now leads the Genetic Epidemiology Branch.

Dr. William Blattner
Margaret Tucker now leads the Genetic Epidemiology Branch.

The Viral Epidemiology Branch is divided into two sections: the AIDS and cancer section, headed by Dr. James Goedert, and the viral studies section, led by Blattner. "There has been an explosion of knowledge about transmissible agents and the risk of cancer," said Blattner. He added, "The creation of a branch dedicated to viral studies will elevate the importance of studies of viral-associated cancers, in concert with the body of knowledge emerging about other etiologic factors."

Blattner said that the Viral Epidemiology Branch will continue its focus on human retroviruses, HTLV and HIV, and expand where appropriate into a number of other areas. These areas include characterizing the natural history of the human retroviruses, searching for new associations between viruses and cancers, and studying infectious agents already connected with cancer incidence, such as the hepatitis B and C viruses (linked to liver cancer), and human papillomaviruses (some of which are linked to cervical cancer). He said the branch is also developing an expanded registry of AIDS patients with cancer and undertaking etiologic studies of these patients. Fraumeni noted that, "AIDS research has been a prominent part of the activities of our group."

Fraumeni said the new Genetic Epidemiology Branch was created because, "Genetics has become an extremely important area of cancer research. There have been rapid advances in molecular biology in recent years that can now be applied to epidemiologic approaches." The new branch's focus is on interdisciplinary research, and it will continue to evaluate the interplay of host susceptibility and environmental exposures in causing different types of cancer. The branch's activities encompass clinical, epidemiologic, genetic, and laboratory studies of persons at high risk of cancer, while maintaining a database of cancer-prone families. Tucker, chief of the new branch, said that, while the orientation of the branch is similar to that of the former family studies section, the size and scope of the research program has increased.

"There have been many developments in molecular genetics that will help us develop epidemiologic studies to better understand the mechanisms of genetic predisposition and interactions with environmental factors," she said.

In addition to its new branches, the EBP established a nutritional epidemiology section, with Dr. Susan Devesa as chief. Among other activities, this section will investigate patterns of cancer incidence and mortality in efforts to generate and test hypotheses about cancer etiology, and it will help interpret cancer statistics for NCI and other organizations.

The Biostatistics Branch also formed a statistical research and applications section, led by Dr. Robert Tarone. This section will conduct research on statistical methods and their application to experimental, clinical, and epidemiologic studies. In addition, the Biostatistics Branch named Dr. Joseph McLaughlin as deputy branch chief.

NEI's Cooke Retires After 32 Years
NEI Executive Officer Kenneth Cooke retired recently after 32 years of government service. He spent 15 of those years with NEI, and the remainder in other NIH institutes.

Cooke came to NIH in 1968 to work in a lab at NCI. Shortly after his arrival, he became the first NIH employee to enroll in the inhouse NIH Management Intern Program, a program that still exists and prepares promising staff for careers in the administrative arena. After a year of intense training, he worked at NICHD as a budget analyst, and in 1972 accepted the position of NEI's budget officer. After 4 years, he left NEI to become NIAID's deputy executive officer. In 1981, Cooke returned to NEI to become executive officer, a position he held until his retirement in December.

Cooke expressed great satisfaction with his many years of work with the NEI director and deputy director to create an "administrative structure second to none at the NIH." He also takes great pride in the establishment of NEI's employee appreciation day, which began 3 years ago under his guidance. It is held annually in the spring to honor NEI employees for their contributions to the goals and mission of the institute.

When asked about his retirement plans, he said, "My goal is not to be on a schedule for a while." His hobby is buying, restoring, and selling antiques and antique lighting, which he hopes to continue full time.

He and his wife, Audrey, are residing in their newly built home in the Frederick area.

Take a Florida Spring Break
Spend spring break in Orlando, Fla., Apr. 3-6. For $384 per person double occupancy, you'll spend 4 days/3 nights at the home of Walt Disney's Magic Kingdom, Universal Studios and Sea World. R&W also offers discount tickets to several of these and other attractions. Price includes hotel, airfare and unlimited-mileage rental car. Space is limited. Call 496-4600 for more information.

Linda Huss
New Feature

**The NIH Life Sciences Education Connection**

Say “biomedical research” and most people naturally think of NIH. Say science education and most naturally think of... NIH? Yes, more and more, NIH is becoming a significant player in educating our nation’s youth. This column, The NIH Life Sciences Education Connection, is one way to keep the NIH community informed of some of the activities that are going on in the area of life sciences education and public understanding of science.

Scientists are needed to volunteer to work with elementary, middle, and junior high schools in a variety of capacities including science fair projects, presentations and demonstrations, student and teacher mentoring, curriculum development and other activities for science education programs on and off the NIH campus. For more information contact Dr. Patricia Hoben in the Office of Science Education Policy, 402-2470.

Do you have computers, microscopes or other equipment you’re not using? You may soon be able to donate that equipment directly to local schools. Last February, the Stevenson-Wydler Act was amended to give federal laboratories the authority to dispose of their used equipment directly instead of going through GSA surplus. Procedures for implementing this new authority are currently being developed. We’ll keep you posted.

In addition to science education for students, NIH is interested in creating greater public understanding of science in the adult population. One example is an attempt to educate the general public on the role of animals in biomedical research. A pamphlet, Animals: The Vital Link to Health and Safety, is now available from the Office of Laboratory Animal Research (OLAR). The publication describes options for the use of animals in research that are currently available to scientists in biomedical research, testing and teaching. It also shows how scientists continue to seek ways to reduce and/or refine the role of animals in the laboratory while advancing human health and consumer and workplace safety. The publication was developed by "Partners in Discovery," a group formed as a result of the 1987 NIH Centennial Observance and comprised of representatives from government, medical institutions and research-based pharmaceutical companies. Copies are available from OLAR, 402-1058.

Institutes, centers or divisions that want to disseminate publications or other learning materials for K-12 students or teachers at national science teacher conferences can contact the Office of Science Education Policy, 402-2469 for more information. The office works with other Public Health Service agencies to represent PHS at the conferences. OSEP is also trying to identify interested parties to present information about innovative K-12 programs, initiatives or science teaching techniques at the conferences.

**NINDS Unveils Re-Entry Program for Neurological Sciences**

NINDS has established a new grant program to help scientists return to active research in the neurological sciences after experiencing an interruption in their careers. The Program for Re-Entry into the Neurological Sciences (RENS) will provide support for up to 4 years through a postdoctoral Research Career Development Award. With this support, basic and clinical neurological scientists who have been away from neurological research but have high potential to become independent investigators will have the opportunity to update their research skills and learn new techniques.

"The RENS program has the advantage of being an award to the individual whose research career is being restarted, and not just a supplement to someone else's grant," said Dr. Constance Atwell, who heads the NINDS extramural activities division. "Recipients are provided with research funds that are under their direct control, in addition to salary support. This provides the awardees with a research grant track record in their own names, which should make them more competitive for future independent support upon successful completion of their career development awards."

Candidates for the award must have training and experience in an area of basic or clinical neurological science (including both a doctoral degree and at least 2 years of postdoctoral research) and have experienced a career interruption of 3 to 8 years. Candidates must also be nominated for the program by a member of a nonfederal public or private institution and must be U.S. citizens.

For more information, contact Edward Donohue, 496-4188.

**AAAI, NIAID, NHLBI Join Ranks To Train Minorities in Asthma**

Asthma-related deaths and hospitalizations are on the rise, particularly among young African Americans and other minorities. A critical factor in solving this growing public health problem is the need to increase the number of physicians practicing in inner cities as well as basic and clinical researchers from the minority community.

NIAID and NHLBI are joining the American Academy of Allergy and Immunology (AAAI) in a program to train minority individuals—high school, undergraduate, graduate, medical students, postdoctoral trainees and investigators—to work in the field of asthma, allergy and immunologic diseases.

The three will support postdoctoral level scientists for 2 years. During the second year, additional awards will be made. In addition, the institutes will provide funding for research opportunities to minority high school, undergraduate and medical students, under the supervision of investigators at established laboratories.

In a joint statement announcing the program, NIAID director Dr. Anthony S. Fauci and NHLBI director Dr. Claude Lenfant state, "The academy, NIAID and NHLBI recognize the importance of heightened efforts in basic and clinical research to address the high rates of asthma morbidity and mortality among minorities. This is one of several initiatives undertaken by the NIH to address the issue of asthma, particularly as it affects minorities. We are pleased to work hand in hand with the AAAI to address this issue as well as another challenge facing research today—the underrepresentation of minorities working in these scientific areas."

NIAID and NHLBI will supplement ongoing research grants with additional monies to support minority individuals in basic and clinical research in the fields of asthma, allergy and immunologic diseases. The academy may make awards to individuals in research programs not funded by NIAID or NHLBI.

For application information, contact Dr. Milton Hernandez, 496-7291, or Dr. J. Sri Ram, 496-0895.

**Spring Shopping Spree Sponsored**

R&R will host a shopping trip on Friday, Mar. 26 to the Williamsburg Pottery Factory and the Berkeley Commons Outlet Center. Deluxe motorcoach leaves Bldg. 31C at 7 a.m. and returns at approximately 7:30 p.m. Cost is $25 per person and includes transportation, shopping information and morning refreshments. Call 496-4600 to sign up.
DCRT Hosts High-Performance Computing Workshop, Mar. 6-8

As part of the White House-led high-performance computing and communications initiative, DCRT will cosponsor, with DoE’s Pacific Northwest Laboratories, a workshop on high-performance computing in chemistry on the NIH campus Mar. 6-8.

The weekend meeting, featuring world-class computational chemistry experts from around the country, will offer the opportunity for scientists developing algorithms and software for advanced computer architectures to exchange ideas, present results, and discuss problems. Sessions will be devoted to:

- high-performance computing issues (3/6, 8:30 a.m., Bldg. 10, Lipsett Amphitheater)
- macromolecular simulation (3/6, 2 p.m., Bldg. 10, Masur Auditorium)
- quantum mechanical methods (3/7, 8:30 a.m., Bldg. 10, Lipsett Amphitheater)
- computer science issues (3/7, 2 p.m., Bldg. 10, Lipsett Amphitheater)
- new methods (3/8, 8:30 a.m., Bldg. 10, Lipsett Amphitheater)
- computer hardware issues (3/8, 2 p.m., Bldg. 31, Conf. Rm. 10).

The Monday morning session will be opened by NIH deputy director for intramural research Dr. Lance Liotta and chaired by DCRT director Dr. David Rodbard. Dr. Gregory Petsko of Brandeis University will present the first talk of the day entitled “How Enzymes Really Work: A Demilitarized Zone in the Battle Between Theory and Experiment.”

DCRT is home to NIH’s own massively parallel computer, which is already being enlisted against such biomedical problems as protein and nucleic acid sequence analysis, protein structure determination and prediction, and biomedical image processing. Scientists attain high performance with parallel machines by breaking large problems into smaller parts that can be solved concurrently (NIH Record, Aug. 20, 1991).

For more information on the workshop, contact DCRT’s Dr. Bernard Brooks, 496-0148, or Dr. Robert Martin, 496-1111. A book of meeting abstracts will be available at a later time.
NINDS's Roscoe Brady Honored by Alpert Foundation

Dr. Roscoe O. Brady, chief of NINDS's Developmental and Metabolic Neurology Branch, recently received the 1992 Warren Alpert Foundation Prize.

The foundation, created in 1986, established the prize to recognize those scientists whose research has contributed directly to the cure or prevention of a disease. The foundation's scientific advisory committee unanimously recommended Brady for the award for his 30 years of groundbreaking research in the area of lipid storage disorders. He has defined much of what is known of the biochemistry of this group of disorders and has stimulated investigation across the field of biomedical research.

Brady's insight and research are responsible for a series of discoveries about lipid storage disorders. This work has led to earlier and more accurate diagnosis as well as carrier and prenatal detection for many of the disorders. His scientific efforts have also led to the first effective therapy for Gaucher's disease. His accomplishments have given patients relief from pain and debility and have reduced stress and anxiety among families affected by these disorders.

Lipid storage diseases are hereditary conditions in which large amounts of complex fatty materials (lipids) accumulate in tissues. This excessive and dangerous storage of fats can cause enlarged spleens and livers, bone degeneration, mental retardation, and even death. Gaucher's disease, the most common lipid storage disorder, affects an estimated 15,000 people in the U.S. There are approximately 1,500 patients with Fabry's disease in the country, and about 600 people have Niemann-Pick disease. The other lipid storage disorders are more rare.

After Brady discovered the enzymatic defects in Gaucher's disease, Niemann-Pick disease, and Fabry's disease, he went on to develop reliable enzymatic procedures for early diagnosis. His accomplishments also provided the means to identify a large percentage of the carriers of these disorders. The technique allows for the monitoring of pregnancies at risk for the disorders. This option for genetic counseling is now widely used throughout the world. Brady then directed his attention to developing effective therapies for patients with metabolic disorders and successfully introduced enzyme replacement therapy for Gaucher's disease.

In enzyme replacement therapy, enzymes are isolated, purified, and injected into the patient's bloodstream to replace missing or inactive enzymes. The treatment is similar to giving insulin to patients with diabetes.

Brady's research has brought him many honors, including the 1982 Albert Lasker Clinical Medical Research Award and the 1982 Passano Foundation Award. He is a member of the National Academy of Sciences and its Institute of Medicine.

Seminar Examines Sickle Cell Disease

"Sickle Cell Disease: A Paradigm for Therapies for Genetic Diseases" is the topic of an NIH Science Writers Seminar to be held Tuesday, Mar. 9 from 9:30 a.m. to noon in Bldg. 31, Conf. Rm. 6.

The moderator will be Dr. Griffin Rodgers, chief, molecular hematology unit, Laboratory of Chemical Biology, NIDDK. He will also discuss research on the manipulation of dormant genes to treat sickle cell disease.

The current understanding of the molecular and cellular basis of sickle cell disease will be described by Dr. Constance Noguchi, a research physi­cist also in the Laboratory of Chemical Biology.

Dr. Arthur Nienhuis, chief of NHLBI's Clinical Hematology Branch, will discuss the progress being made to develop gene therapy for sickle cell disease.

For information, contact Bobbi Bennett, 496-8855.