

Still The Second Best Thing About Payday

## Women's Infections on Rise

### Social Inequalities Add Fuel To AIDS Fire, Scholar Says

Declaring that "poverty is the least studied risk factor for AIDS," scholar Janie Simmons painted a depressing portrait of a worldwide AIDS pandemic that seems, almost diabolically, to be targeting the most vulnerable element of society—young women and girls in developing nations.

Speaking on the topic of "Women, Poverty and AIDS," at an AIDS/Epidemiology and Clinical Research Interest Group seminar in Lipssett Amphitheater recently, she warned that despite headlines announcing declining rates of overall deaths due to AIDS, "there is a contrary trend among African American and Latino women" in this country and in poor women worldwide. "There is a continuing and steady rise in HIV infections in women internationally," said Simmons. Women, she charged, are diagnosed later in their disease than men, die sooner than men following diagnosis and are treated less equitably.

"This has never been an equal opportunity disease," she said. "It is now largely a disease of poverty," particularly in Sub-Saharan Africa and Southeast Asia. "Where you find the most poverty, you also find the most AIDS."

The pandemic is composed of multiple subepidemics, she explained, and in women and girls, the infection rate is exploding. In the age group 10-29, women are being infected at a much higher rate than men, she said. "Ninety-one percent of those infected who are under age 13 in the U.S. are girls."

How did AIDS become a leading cause of death in women, she asked? Besides a

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## Alternative to Marrow Transplant Eases Donation, Recovery Time

By José Alvarado

(Second story in two-part series on obstacles and advances in bone marrow transplantation.)

An alternative procedure to traditional bone marrow transplantation may speed up blood cell recovery in leukemia and cancer patients, as well as save donors the trouble of going through surgery to extract marrow from the rear of the pelvic bone. Patients transplanted with peripheral blood stem cells (PBSCs)



Donor Richard Haddon undergoes apheresis at the NIH blood bank; a machine harvests his peripheral blood stem cells.

also begin producing infection-fighting white blood cells sooner, according to NIH studies.

The National Marrow Donor Program views peripheral blood stem cell transplants as a new treatment option available for unrelated donors and patients. Currently, most PBSC transplants are autologous—cells are removed from a patient, stored as the patient receives high-dose therapy, and reinfused into the same patient. In the setting of related-donor (sibling) transplants, PBSCs

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It's Festival Time Again. The intramural research community gathered earlier this month for its annual fall classic, the NIH Research Festival. See more photos on p. 6.



Dear Editor,

I read the article *Bad Air Days* (Aug. 12) and the replies to the article by Jim Nagle and Carl Henn (Sept. 9). While their pleas for use of public transit and carpooling are undoubtedly public spirited, several practical problems exist with both carpooling and use of public transit. I work an adjusted schedule, from 7:30 to 5 Monday, Tuesday, Wednesday, and Friday, 7:30 to 4 every other Thursday, with the alternate Thursday off. After work on Thursday, I have a regular appointment in Rockville at 4:30.

Several years ago I registered, under pressure, for carpooling, but nobody on the list I was furnished had hours remotely similar to mine, nor was anyone within 2 miles of me. To get to anyone on the list, I would have had to drive several miles out of my way, saving little gas and requiring much extra time. Further, I occasionally work late, until 7 p.m., and sometimes far later when working on a special project, which is incompatible with any carpooling. As for public transportation, buses that go near my house run every half hour both morning and evening, with the latest bus leaving NIH at 6:45. In order to arrive on time, I must leave more than half an hour early, while in the evening I arrive home almost an hour later. Hence, except in emergencies, I drive to work—a 15-20 minute drive each way.

Unless some of these practical problems are overcome, many persons like me will continue to drive to work. Pay parking for employees may encourage a few persons to join inconvenient carpools or take public transportation, but will just require most of us with irregular schedules to pay, reducing take-home pay.

Jennie Hunt, NLM

### Deaf Awareness Program, Nov. 6

Kick your stress and be entertained at NIH's 5th Deaf Awareness Program on Thursday, Nov. 6 from 11:30 a.m. to 1 p.m. in Lipsett Amphitheater, Bldg. 10. The number of deaf and hard of hearing employees at NIH is growing and all NIH'ers are encouraged to learn more about one of the rich, diverse communities on campus. Sponsored by NIDCD, NINDS, CC, NHLBI, NIDA and OD, this year's program is themed, "Let's Break Down the Walls of Silence."

The featured speaker is Dorothy Wilkins, assistant professor and deaf studies/American sign language coordinator at the National Technical Institutes of the Deaf. In addition, Bernard Bragg, an actor, director, playwright and lecturer, will perform. Also, challenge your knowledge with a game of Deaf Trivia. Sign language and voice interpretation will be provided. For reasonable accommodation, contact Carlton Coleman, 402-8014 (tty) or 496-2906 (voice). ■

### APAO Elects New Leadership

The members of the NIH Asian/Pacific Islander American Organization recently elected the following officers and council members for 1998: Mary Yuen, president; Victor Fung, vice president; Prahlad Mathur, treasurer; Molly Eng, executive secretary; Fu Sen Hu, co-executive secretary. Council members include Aftab Ansari, Bill Bunnag, Lucie Chen, Nancy Cummings, Hameed Khan, Sunnie Kim, Rita Liu, Opendra Sharma, Laura Sheehan, Thomas Shih, Rashmi Gopal-Srivastava, Sudhir Srivastava, Christina Teng and Nancy Wright. ■



NIAMS, NIAID and the Arthritis Foundation announced recently that they are joining forces to support (with additional funding from ORWH) a national consortium of 12 research centers to search for genes that determine susceptibility to rheumatoid arthritis. Genetic factors are known to play a role in predisposing people to the disease, but scientists do not yet know much about the specific genes involved. In what is the largest such effort in the world, researchers participating in the North American Rheumatoid Arthritis Consortium (NARAC) hope to learn more about genes that play a role in the disease. On hand for the announcement are (from l) NARAC principal investigator Dr. Peter K. Gregersen; Dr. Doyt L. Conn and Debra Lappin, Arthritis Foundation; Dr. Anthony Fauci, NIAID director; Dr. Stephen Katz, NIAMS director.

## N I H R E C O R D

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NCI Scientist Cleared

## NRC Vindicates NIH Response to Contamination Incident

The Nuclear Regulatory Commission on Sept. 17 denied a petition to revoke or suspend NIH's nuclear materials license that had been brought by two visiting fellows who were among 27 people apparently deliberately exposed to radioactive phosphorus-32 in an NCI laboratory in June 1995. The decision closes a 2-year investigation and leaves blameless NIH's rules for handling radioactive isotopes—NRC determined NIH did all it could reasonably do to prevent misuse of the isotopes. It also finds that the accusations made by the fellows against their supervisor were groundless.

The petition was filed in October 1995 by Dr. Maryann Wenli Ma and her husband, Dr. Bill Wenling Zheng, visiting fellows in NCI scientist Dr. John Weinstein's lab who were expecting a child—later born without complications—at the time of the contamination. Ma was exposed to radiation in excess of NRC occupational limits, but a series of NRC investigations could not determine exactly how. Twenty-six others were exposed, at levels lower than Ma, from a contaminated water cooler. None of the exposed individuals is expected to suffer future adverse health consequences.

NRC decided not to pursue enforcement action against NIH on three grounds: there was no evidence that NIH contributed directly or indirectly to the deliberate misuse of licensed material; NIH couldn't have "reasonably foreseen that an employee would maliciously misuse licensed material as appears to have been done in this case"; and because NIH cooperated fully in the investigation.

Ma and Zheng had also made a variety of accusations against Weinstein, who was their supervisor at the time, including that he insisted they begin working with isotopes before being properly trained, and that once the contamination was discovered, he interfered with the NIH radiation safety response

and delayed transport of Ma to the hospital for emergency treatment. NRC found all of the complaints to be baseless.

NRC had previously taken enforcement action against NIH, however, based on the findings of NRC inspections that followed the contamination incident. NIH was fined \$2,500 for violating NRC security and control requirements and was cited for minor, isolated violations of NRC requirements related to radiation safety training, ordering radioactive materials, inventory control of such materials, monitoring, and the issuance, use and collection of dosimetry. (NIH contested these violations in May and September 1996.) The NRC concluded, however, that none of these violations contributed to the P-32 contamination incident.

Since the incident, NIH has "made significant efforts to improve its control of radioactive material," said NRC. "NIH has tightened its standards for the security and use of radioactive materials," noted NIH deputy director for intramural research Dr. Michael Gottesman. "As a result, NIH now has among the most stringent such standards found in research institutions."

Gottesman also credited Weinstein, a senior investigator in the Laboratory of Molecular Pharmacology, with cooperating fully with 2 years' worth of investigations not only by teams from NRC, but also by the FBI, the HHS inspector general's office, and the NIH Police. "[Weinstein] is an outstanding scientist and supervisor," he stated.

Ma and Zheng have applied several times to have their contracts as visiting fellows extended since the contamination occurred, and have received those extensions, but are scheduled to leave NIH early next year. Since the incident, they have been working off-campus in an NIDCD laboratory. ■



*Dr. James F. Battey, NIDCD acting director, welcomed participants to the second biennial Hearing Aid Research and Development Conference at the Natcher Bldg. recently. Co-sponsored by NIDCD and the Department of Veterans Affairs, the 2 1/2-day meeting was an opportunity for manufacturers, academicians and clinicians to communicate with one another on hearing aid technology.*



*Dr. William Paul, director since February 1994 of NIH's Office of AIDS Research, has announced that he will leave OAR. An immunologist who also heads the NIAID Laboratory of Immunology, he will return full-time to his lab, redirecting his scientific efforts to searching for a safe and effective HIV vaccine and for new approaches to vaccine development in general. "It has been an honor and a challenge to lead the NIH AIDS research effort at a time at which real progress in AIDS research and treatment have been made," he said. "My departure must not be interpreted to indicate that I believe the OAR's work is done or that its mandate is any less important. In fact, it is quite the contrary. Formidable obstacles lie ahead, not only for my successor, but for all of us dedicated to finding solutions to the challenge posed by HIV." A search committee for a new OAR director is being established.*

### Does This Describe You?

You sleep a lot, almost always 9 or more hours a night, or, you sleep very little, almost always 6 hours or less each night. You do not have any sleep disturbances. You are between ages 20 and 31. You do not take any types of medication or birth control pills. You have no history of mental illness and are in good health. You are willing to spend 5 consecutive nights at the Clinical Center. Call today for more details, 496-6981.

#### AIDS AND INEQUALITY, CONTINUED FROM PAGE 1

biologic vulnerability—virologists have reported that virtually the entire reproductive tract in women is vulnerable to HIV entry—strong factors include poverty, gender and inequality. “Social status magnifies a woman’s biological predisposition to HIV,” she said.

Simmons recited a harrowing litany of social arenas in which women, particularly in the developing world, face inequalities: housing, health care, land ownership, schooling, jobs, legal protection, etc. “Gender inequality is a significant factor in infection and survival,” she said. “Women are powerless in many economies.”

One scholar has characterized the world’s deprived social milieu, into which AIDS is simply one more unwelcome enemy, as “a synergy of plagues,” Simmons noted. Social disintegration and “toxic social environments” can therefore be regarded as a “cause” of AIDS, she suggested.

**“I have heard stories of Thai women who are washing out their condoms after use,” she related. “That’s just ridiculous.”**

Simmons read two alarming biographies from a text she coedited with Drs. Paul Farmer and Margaret Connors, *Women, Poverty and AIDS—Sex, Drugs and Structural Violence*. One involved an Indian girl sold into sexual slavery by desperately poor parents, and the other was about a Harlem woman whose family collapsed under the weight of drug addiction, poverty and AIDS. Only by examining the social and economic forces shaping the AIDS pandemic can successful interventions be imagined, she argued.

“I have heard stories of Thai women who are washing out their condoms after use,” she related. “That’s just ridiculous. And there are lots of poor places that don’t even have condoms.”

She urged much more interdisciplinary—and highly critical—analyses of how and why AIDS is progressing almost unchecked in many populations. “The anthropologists, the physicians, the epidemiologists—they can’t just go off and do their thing independently,” she said. “Only by combining our insights will we be able to get a better grip on the epidemic. We have to enlarge our theoretical framework, and maybe redefine who we are allied with.”

Simmons works for the Hispanic Health Council, Inc., in Hartford. She is also affiliated with the Institute for Health and Social Justice, part of a nonprofit group called Partners in Health, which works with community-based organizations in poor communities in Haiti, Peru, Mexico and Boston.—Rich McManus ■

### LiveWire Electrifies NIH

This month, DCRT launches *LiveWire*, NIH’s first Web-based, online magazine, offering easy access to key DCRT services and up-to-date computer information.

“Web technology has finally matured enough to produce an online magazine of this quality,” says



LiveWire Editor Dan Zoll

*LiveWire*’s editor Dan Zoll, who produced DCRT’s popular quarterly newsletter *PCBriefs* for 8 years. “It usually takes weeks to get a printed

publication to people’s desks, but I can update and distribute *LiveWire* in a matter of minutes.”

*LiveWire* (<http://livewire.nih.gov>) allows readers to: register for computer training classes; get answers to their computer questions via email; read articles on the latest computer technology; learn tips and tricks for different computer systems.

To subscribe, follow the prompt on the magazine’s front page, and you will be notified automatically when new material is available.

“I’m always looking for new material and new contributors,” says Zoll. So if you have an idea for a computer- or Web-related article, or even an ongoing column, *LiveWire* is looking for you. Just email your suggestion to the editor via the magazine’s home page. ■

### Open Season for FAES Insurance

The FAES Health Insurance Program is holding an open season Nov. 3-26. The program is open to those who work for or at NIH in full-time positions but are not eligible for government plans. This includes NIH fellows, special volunteers, guest researchers, contractors and full-time temporary personnel. The minimum enrollment period is 3 months.

Open season is for those who did not enroll when first eligible and for current subscribers to make changes. FAES offers two programs this year: Blue Cross/Blue Shield Select Preferred Provider Plan, and Principal Health Care, a health maintenance organization. Information about rates and benefits, effective Jan. 1, 1998, may be obtained from the FAES business office, Bldg. 10, Rm. B1C18. ■

### Extramural Associates Program Turns 19

The Extramural Associates (EA) Program, a component of the Office of Extramural Research, OD, recently celebrated its 19th birthday in the form of the 1997 Biennial Update Conference attended by some 82 EA alumni. The program was conceived in 1977 and officially began with its first class of EAs in 1978. Its enduring popularity is evidenced by the fact that all three members of the first EA class are still active and at the same institution they were in back in 1978. Moreover, they all attended the conference and, coincidentally, two of the three were interviewed for participation in the EA program by current director Dr. Matthew A. Kinnard.

The objective of the EA program was and remains to promote and maximize the participation of



*Extramural Associates Program director Dr. Matthew Kinnard presents an award to NIH deputy director Dr. Ruth Kirschstein at the recent biennial conference. Kirschstein delivered a luncheon address at the 2-day update.*

minority and women's institutions in biomedical and behavioral research. The purpose of the update conference is to provide a forum for all EA alumni to revisit NIH, learn about new and revised NIH and other federally sponsored programs, learn the latest technology available on

information retrieval and exchange and to encourage collaboration among EAs and others.

Kinnard showed that the EA program is accomplishing its mission: EA institutions are experiencing heightened rates of success in submitting proposals and receiving NIH support other than MARC and MBRS; EA institutions are receiving as much if not more research support from other federal agencies than they receive from NIH; the culture and climate for research on EA campuses is quickly being transformed; and EA graduates are rapidly being elevated to positions of authority such as chancellors, presidents, vice presidents, deans and heads of departments on EA and other campuses.

The next scheduled biennial EA update conference is in 1999. **R**

### NIDDK Launches Bladder Control Campaign For Women, Kits Available Now

Talk may be cheap. But when it comes to treating urinary incontinence, women and their health care providers share precious few words. An estimated 11 million American women experience loss of bladder control, yet only half seek treatment. And those who do often wait years before asking their doctors about it.

The National Institute of Diabetes and Digestive and Kidney Diseases recently launched the "Let's Talk About Bladder Control for Women" campaign. The print-based campaign seeks to help women and their health care providers talk about and treat urinary incontinence.

Dr. Leroy Nyberg, director of NIDDK's urology and women's health programs, explained the need for an awareness campaign on this topic: "Urinary incontinence can have a hugely negative impact on the social and economic well-being of people who try to cope without seeking treatment."

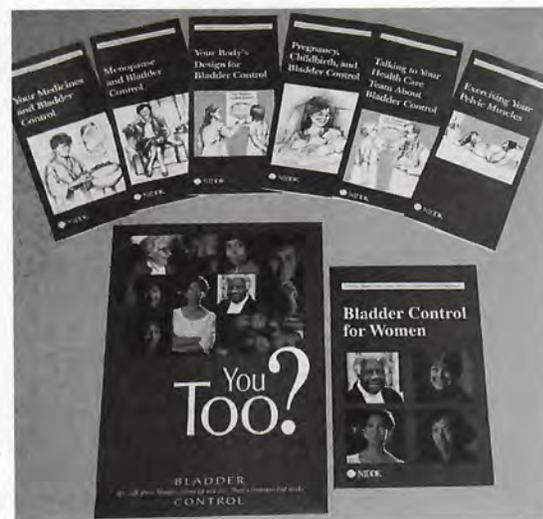
"Incontinence is never normal at any age," said Dr. Neil Resnick, chief of gerontology at Brigham and Women's Hospital in Boston.

A recent study estimates that 1995 costs for incontinence care totaled more than \$27 billion in people 65 and older, including nearly \$10 billion for disposable absorbent products and indirect costs for lost productivity of family caregivers.

NIDDK's "Let's Talk About Bladder Control for Women" campaign breaks up the odious topic into six easy-to-read brochures and one booklet. The booklet, *Bladder Control for Women*, is the cornerstone of the campaign, as it includes sections on finding the right health professional, identifying the problem through tests, and treating the root cause.

Health care professionals can order kits that include all the patient materials, an illustrated bladder control diary, and a fact sheet, "What Your Female Patients Want to Know About Bladder Control." Quantities of each title can also be ordered separately.

To order these materials call (800) 891-5388. They are also available online on NIDDK's home page at <http://www.niddk.nih.gov>. **R**



### Chamber Players Perform

The Rock Creek Chamber Players will perform an all-Beethoven program at 3 p.m. on Sunday, Oct. 26 in the 14th floor assembly hall at the Clinical Center. This free public concert, sponsored by the recreation therapy section, will include the septet for strings and winds, the "Ghost" trio for piano and strings, and the *Great Fugue* for string quartet. For more information call (202) 337-8710.

Bigger Tent Philosophy?

## Intramural NIH Shows Off October-Fest Atmosphere

Under clear skies and amid 80-degree temperatures, NIH's intramural scientists gathered for the 1997 Research Festival on Oct. 6-10. Chaired by Dr. Allen M. Spiegel, scientific director for NIDDK, this year's program was highlighted by two retrospectives: "The NIH Intramural Research Program: Sixty Years in Bethesda," a special history symposium to mark the 10th anniversary of the Dewitt Stetten, Jr., Museum of Medical Research; and the 10th anniversary celebration of the In Vivo NMR Research Center. In addition, there were: a

bigger and better postdoc job fair, two evening barbecues, 2 days of symposia, workshops and posters, and the culminating Technical Sales Association exhibit show, which was barely contained in a huge aluminum-sided tent that looked bigger than ever—even if it wasn't.

"They told me that

it's not really bigger than the others we've had," said Gregory Roa of NIH's Visitor Information Center, who helped organize festival events, "but instead of the soft, canvas walls we're used to seeing, this one has sides made of metal. They also asked for an extra day and a half to set it up." This year, all festival events were centrally located in or around the Natcher Bldg.



Dr. Lei Bi (r) of NHGRI's Laboratory of Genetic Disease Research shares her work during the third poster session.



*Bird's Eye View:* Natcher's lobby and atria were lined for 2 days with more than 300 intriguing, colorful displays but few were as elaborate—or as attention-getting—as the one shown here complete with computer, monitors and laser technology.

PHOTOS: CARLA GARNETT



Above, Dr. LaMonica Stewart (l), an NIGMS pharmacology research associate fellow working in NCI's Laboratory of Chemoprevention, explains her work to possible collaborators. At NIH nearly a year, Stewart said her first Research Festival was fruitful. "We met several people who seemed interested in the project, people we wouldn't come in contact with on an everyday basis," she commented. At left, researchers discuss a poster whose title alone suggested its festival-like surroundings, "Conformational Intermediates in Phage HK97 Capsid Maturation: Popcorn and Balloons."

## DCRT Courses and Programs

All courses are on the NIH campus and are given without charge. For more information call 594-3278 or consult DCRT's home page at <http://www.dcrn.nih.gov/>.

Parachute Startup for Windows 95	10/24
LAN Services and Email from Parachute	10/24
Overview of SAS Release 6.12	10/27
Getting Started with C	10/27-30
NetMeeting Including Video Conferencing	10/27
BRMUG Macintosh Users' Group	10/28
Using SQL to Retrieve DB2 and Oracle Data	10/28-29
Choosing the Right PC: What You Need to Know	10/29
Buying a Mac	10/29
SILK Web Technologies	10/30
Advanced Web Presentations w/PowerPoint 97	10/30
A Look at MS Exchange for End Users	10/30
NIH Backup and Recovery Service	10/31
NIH Data Warehouse: Property Management Mini Session	10/31
NIH Data Warehouse: Procurement and Market Requisitions Mini Session	10/31
Network Security at NIH	11/3
C++	11/3-6
Oracle SQL Plus	11/4-5
Macintosh Shortcuts and Techniques I	11/4
Macintosh Shortcuts and Techniques II	11/5
Electronic Forms Users Group	11/5
Advanced Features of HTML	11/6
Producing Tables with SAS	11/6-7
Search Engines and Your Website	11/7
Using MS Outlook to Manage Your Information	11/7



After working this summer in NIAID laboratories, high school students recently celebrated the partnership between NIAID and their respective schools. Earlier this year, students from Crossland High School in

Temple Hills, Md., and Dunbar High School in Washington, D.C., were interviewed and selected by lab chiefs for summer work experience. Along with lab work, students attended scientific lectures, toured the Clinical Center and campus and participated in a poster session. In the future, these students will be eligible for NIAID's Introduction to Biomedical Research program, designed to acquaint academically talented college minority students with career opportunities in this broad field. Pictured are (standing, from l) Tarik Barrett, Bin-Giang Cheung and Shaka Barrett and (seated, from l) Arleta Craig and Porsha Pickett.

## Wednesday Afternoon Lectures

The Wednesday Afternoon Lecture series—held on its namesake day (usually) at 3 p.m. in Masur Auditorium, Bldg. 10—features Dr. Jacqueline K. Barton on Oct. 22; she will give the annual Stetten Lecture on the topic “DNA-Mediated Electron Transfer: Chemistry at a Distance.” She is professor of chemistry at Cal Tech.

On Oct. 29, Dr. Jonathan Beckwith speaks on “Making, Breaking and Shuffling Protein Disulfide Bonds in vivo.” He is principal investigator, department of microbiology and molecular genetics, Harvard Medical School.

The series shifts to a special Monday slot on Nov. 3 at 3 p.m. when Dr. Peter B. Dervan, professor of chemistry and chair, division of chemistry and chemical engineering, Cal Tech, gives a talk on “Molecular Design for DNA Recognition: An Approach Toward Gene-Specific Transcription Inhibition in vivo by Synthetic Ligands.”

Normalcy prevails on the following Wednesday, Nov. 5, when Dr. James E.K. Hildreth, associate professor of pharmacology and pathology, Johns Hopkins School of Medicine, lectures on “The Role of Host Adhesion Molecules in the Biology of Retroviruses.”

For more information or for reasonable accommodation, call Hilda Madine, 594-5595.



The NIH Police Branch recently hired a new deputy chief of police, Maj. Danny Eugene Rains, 43, who has worked in various law enforcement posts for the past 22 years. His last position was chief of police for the Department of Veterans Affairs (VA) hospital in North Chicago. His 11 years as head of VA police agencies has also included chief's posts at VA hospitals in Danville, Ill., and Houston. Rains has also served as assistant chief of police and detective at various medical centers throughout the country and has been both a patrol officer and an investigator. His new responsibilities include expansion of the current Community Policing Program at NIH and serving as head of the Police Community Relations Council, whose members include employees from all segments of NIH.



It seems like poetic justice that these two signs came together recently outside the soon-to-be-demolished Apartment Bldg. 20 on Center Drive. A stop is indeed ahead for the venerable old home for many distinguished NIH'ers. A workman evidently left the old Bldg. 20 address sign—and its concrete footings—against a traffic sign. Asbestos removal was going on inside the structure at mid-month. The apartment must fall to make way for the new Clinical Research Center.

**STEM CELL DONATION**, CONTINUED FROM PAGE 1

are gradually replacing marrow as the preferred source of transplant material. In settings where the recipient is unrelated to the donor, PBSC transplants are generally performed only when a second donation is needed to counter graft rejection, as the recipient's body rejects donated marrow; or when engraftment does not continue, that is, the transplanted stem cells simply fail to grow and produce new blood cells.

The use of unrelated-donor PBSC transplants was initially limited by the fear that the large number of lymphocytes present in PBSC collections would increase the incidence and severity of graft-versus-host disease, in which these lymphocytes identify the recipient's body as foreign and attack it. There was also concern that growth factors—proteins used to stimulate development of blood cells from collected

### The Few, the Proud, the Ex-Navy Man

Richard Haddon of Woodbridge, Va., works for a company that burns trash to generate electric power, so he already knows about the advantages of recycling. For the second time in less than a year, he visited NIH recently to "recycle" his own stem cells—they are helping cure a woman in Europe of chronic myelogenous leukemia.

Last April, he underwent surgery here to harvest stem cells from his bone marrow. He happens to share tissue type (human leukocyte antigens) with a woman overseas dying of leukemia. The woman now shows no trace of leukemia, but signs of rejection of Haddon's marrow are appearing, so she needs a reinfusion of the "good guy" cells that help build blood cells and reconstitute her immune system.

Thanks to peripheral blood stem cell (PBSC) transplantation, Haddon can offer a "booster" dose of cells more painlessly than the initial operation. On Oct. 6, in a 5-hour procedure in the Clinical Center, Haddon contributed PBSCs that were hand-carried on a flight that evening to Europe. The recipient got them via infusion the following morning.

Just 8 months ago, Haddon would have been asked to undergo a second surgical harvest if the first one didn't "take." That was before the NIH Blood Bank adopted PBSC transplants for certain situations.

"This is the ideal situation in which to give blood-derived stem cells," said Dr. Susan Leitman, head of the blood services section in the department of transfusion medicine. "They engraft quicker, the donor doesn't need to go to the operating room again, and there's no anesthesia involved."

Haddon did have to take a 5-day course of a blood cell growth factor delivered via injection, to stimulate his circulating PBSCs. "This gives a 50- to 100-fold increase in PBSC's," explained Leitman. The factor has some minor side effects: "The worst part is the headache," said Haddon. "It's not like a normal one. It's more like a fog. There's also some achiness in my back and knees. You just feel 'off' while you're taking it." Patients typically recover within 24 hours of the harvest, noted Leitman. "With PBSC transplantation, the discomfort comes before you donate, whereas with marrow donation, the pain comes after," she said.

An ex-Navy man, Haddon brushed off the blahs. Compared to the benefits, it was clearly no big deal.—Rich McManus



*Dr. Susan Leitman, head of the blood services section in the CC's department of transfusion medicine, checks on Haddon during a 5-hour harvesting procedure.*

stem cells—might promote circulation of tumor cells in cancer patients.

But the positive response of leukemia and cancer patients to autologous PBSC transplants, and their growing application, have led scientists to consider widening the use of PBSC transplants among unrelated donors and patients. According to NIH studies, whether a center uses autologous bone marrow, stem cells or both during transplant does not affect the cure rate for a disease. However, patients transplanted with peripheral blood stem cells begin producing infection-fighting white blood cells sooner, which reduces the period of time they are at risk of developing a serious infection. Based on preliminary results in related transplants, NMDP is conducting a study to evaluate unrelated PBSC transplants.

All blood cells develop from immature cells called stem cells. Most are found in the bone marrow, although some, called peripheral blood stem cells, circulate in blood vessels throughout the body. Stem cells can mature into red blood cells (which carry oxygen), white blood cells (which fight infections), and platelets (which help blood to clot).

In the October 1996 compilation of "Seminars in Hematology," Dr. Susan Leitman, head of the blood services section in the Clinical Center's department of transfusion medicine, and her colleague Dr. Elizabeth Read, examine the results of several studies of PBSC transplants. "The advantages of using peripheral blood rather than marrow as the source of a stem cell graft are numerous. In the autologous setting, these include (1) avoidance of anesthesia and physical discomfort and hospitalization required of marrow harvest; (2) harvesting stem cells even when the marrow is infiltrated with tumor, or is severely hypocellular due to fibrosis or irradiation; and (3) collection of a larger number of stem and progenitor cells because several blood volumes can be processed repeatedly, whereas marrow collection is limited to 1 to 2 liters."

Further, Leitman and Read state, "If the initially promising results of PBSC allografting continue to be realized, it is likely that primary transplants accomplished via the NMDP will also move away from marrow and toward blood as the hematopoietic source (to stimulate the development of blood cells)." They point out how PBSC transplants "have virtually replaced autologous marrow transplants in Europe; in England, greater than 90 percent of autologous hematopoietic grafts are currently derived from mobilized blood progenitor (stem) cells."

Jaime Oblitas, manager of the Marrow Donor Program in the department of transfusion medicine, estimates that, in the United States, PBSC transplants number around 500 to 600 per year, compared to 4,000 allogeneic bone marrow transplants per year.

As in bone marrow transplants, donors and patients who participate in PBSC transplants must have matching human leukocyte antigens (HLAs). HLAs are proteins found on the surface of white blood cells and other tissues that are used to match donor and patient. Whereas marrow transplants involve a surgical process to remove marrow from the interior of the pelvic bone, PBSC transplants are more akin to the hassle-free routine of blood donation.

The PBSC transplant procedure begins when the donor is injected with a growth factor, which causes stem cells to multiply and be released from the marrow into the blood stream. This is done because stem cells normally present in peripheral blood circulate in much lower concentrations than in marrow. The relatively small number of stem cells found in peripheral blood before the growth factor is given makes it difficult to collect enough cells for a successful transplant. The donor, therefore, is injected with the growth factor for 5 consecutive days. This may cause some side effects such as bone or muscle aches, headaches and fatigue.

Peripheral blood stem cells are harvested in a nonsurgical process called apheresis or leukapheresis. The procedure is similar to one used by blood centers to collect platelets, in which blood is removed from a large vein in one arm and is sent to a machine that separates out cells by centrifugal force. The remaining blood is returned through a tube to the other arm. Typically, apheresis takes about 3 to 4 hours to complete. Sometimes, stem cells can't be collected using the veins in the forearm, therefore a plastic tube called a central line is placed in the femoral vein, located in the groin area. NMDP literature says 1 in 6 PBSC donors require a central line.

In an NMDP survey of volunteer donors provided with information comparing marrow and PBSC donation, 59 percent say they would be open to considering a PBSC donation. ■

### Disability Employment Awareness Program

The NIH 14th annual Disability Employment Awareness Program, "Ability: The Bridge to the Future," is scheduled for Thursday, Oct. 23 from 11:30 a.m. to 1 p.m. in Wilson Hall, Bldg. 1.

The program will include Paul Meyer of the President's Committee on Employment of People with Disabilities, and Bill Demby, a disabled Vietnam veteran, "disAbility Awareness Project" counselor, and sports enthusiast. Entertainment will be provided by the "Fabulous Flying Fingers," a signing and singing chorus from Barnsley Elementary School in Rockville. Also, there will be a demonstration of accessible office equipment, sponsored by USDA's TARGET Center. NIH has a contract with the TARGET Center to help employees who have special needs. Sign language interpretation will be provided. For more reasonable accommodation, contact Carlton Coleman, 496-2906 (v/tty).

Employees will also have an opportunity to volunteer for the new committee for employees with disabilities at NIH, which meets Oct. 28 at 11:30 a.m. in Bldg. 31, Conf. Rm. 9. Call John Miers for more information, 443-4058 (v/tty). ■



*NIH's grants management community created the first-ever grants management advisory committee Award of Excellence to honor Thomas G. Turley, chief, NHLBI Grants Operations Branch. The award comes with a plaque and \$10,000, contributed by every institute and center, and OD's Office of Extramural Research, and*

*heartfelt thanks for Turley's years of innovation, dedication, and leadership. Often done on his own time, Turley's work brought NIH's grants management into the computer age. As his award citation notes, his efforts date back to the early 1980's, "before most NIH staff acknowledged or recognized the value of computer applications." Among his many achievements is the design of the "Grants Management Infonet" on the World Wide Web.*

### EEO Officers Hold Retreat

ICD equal opportunity officers held a retreat recently in Warrenton, Va. The three major themes of the gathering were race relations, fairness, and equal opportunity at NIH. Dr. Delois Pittman Weeks, dean of the College of Health Sciences at Florida International University, spoke to the group about "Identifying the Barriers Facing Prospective Minority Scientists in Today's Climate." A final report incorporating the data gathered and recommendations is forthcoming. The officers will be having discussions with employees and management to address these critical areas. ■

### FAES Concert Set, Nov. 2

The FAES Chamber Music Series will present the Aulos Ensemble with Jane Bryden, soprano, at 4 p.m. on Sunday, Nov. 2 in Masur Auditorium, Bldg. 10. Tickets are \$20 at the door; \$10 for students and fellows. For more information call 496-7975.

### Garden Club Meets, Nov. 4

The NIH Garden Club will meet at noon on Tuesday, Nov. 4 in Bldg. 31, Conf. Rm. 7. Composting, especially of fall leaves, will be the main focus. Everyone interested in gardening is welcome. Email Karen Helfert at kh21k@nih.gov for more information.

## Females Needed for Research

The National Institute of Child Health and Human Development is looking for healthy female volunteers, ages 18-43, to participate in menstrual cycle studies. Volunteers must have normal menstrual cycle length (25-34 days) and may not be on any chronic medications including birth control pills. Studies include endometrial biopsy, ultrasounds, and blood levels of hormones. Volunteers will be paid. For more information call 402-1481.

## Risk Factors Cluster To Harm Health

By Susan M. Persons

October, the month when Americans traditionally celebrate Halloween, conjures up superstitions such as "bad things occur in threes." Whether counting airplane crashes or personal setbacks, many believe that negative events tend to cluster. Now science has found a thread of truth in this common belief.

While investigating the health of those with the "bad luck" of being born into poverty, Dr. Redford B. Williams and his colleagues are testing the hypothesis that "people of lower socioeconomic conditions (SES) have an increased illness burden because the harsh conditions in which they live cause a clustering of behavioral, psychological, social, and biological characteristics that, through cellular and molecular processes, lead to increased vulnerability to pathogens."

Williams, a professor of psychology and psychiatry at Duke University Medical Center, presented evidence of his work on psychosocial risk factors at a recent NIH Office of Behavioral and Social Sciences Research seminar. He reported, "I am now convinced, after over 25 years of personal involvement in research on psychosocial risk factors and health, that these factors, and their biobehavioral accompaniments, do not occur—or act—in isolation.



Dr. Redford Williams

It is becoming increasingly clear that psychosocial and biobehavioral characteristics tend to cluster in the same individuals and groups."

Although it is well known that behavioral/physical risk factors such as smoking, high blood pressure and high cholesterol levels, and sedentary life styles increase the risk of life-threatening illnesses such as coronary heart disease, Williams identified psychosocial risk factors that are also detrimental to health. "It is increasingly clear that low SES, hostile personality, depression, social isolation, and job strain also contribute to poor health, and that these psychosocial risk factors have biobehavioral accompaniments."

According to Williams, the challenge for future investigation is to understand how psychosocial and biobehavioral factors interrelate over time to contribute to life-threatening illness. Understanding this "web of interrelationships" is critical to advancing health. "While psychosocial risk factors are not specific to any one health problem, and although they probably do not directly cause disease, they lower resistance and accelerate disease processes," he said.

What is new about psychosocial risk factors? Williams reported that for "Type A" personalities the current consensus is that hostility is the key health-damaging component. Anger, cynicism, and aggressive responses are components of "hostility" that predict early mortality. Depression and social isolation are also significant contributors to the web that envelops one's health. "Even for those who are otherwise healthy, depression or a sense of hopelessness is a predictor of high death rates. And in elderly populations, low levels of perceived social support are more predictive of mortality than age itself," stated Williams.

Job strain is especially notable as a psychosocial risk factor. "A sample of women working outside the home who reported high job strain, were also more hostile, depressed, and socially isolated," Williams said. Biologic changes similar to those of depressed and hostile persons are also present in those who have high demand/low control jobs or life situations.

"Although there is strong evidence that psychosocial risk factors cluster in the same individuals," Williams reported, "it is equally important to note that they cluster in the same groups. The clustering of these risk factors in low SES populations undoubtedly worsens their health." Williams offered two plausible explanations to explain why those born into harsh living conditions have increased risk factors: First, lower SES persons learn that the world can be unpredictable, dangerous, depressing and alienating, and they cope by using food, alcohol, and nicotine to ameliorate their distress; and second, these harsh conditions reduce CNS serotonin function. A depletion of CNS serotonin in animal studies actually causes increased aggression and decreased affiliative behaviors. Decreased serotonin also plays a role in depression and increased alcohol consumption.

Perhaps most surprising, studies have shown that SES is not just relevant to the low end of the SES gradient—that with each step down from the highest economic level, there is a step down in health. "This clearly indicates the validity of SES as a very potent predictor of health problems, especially when access to care and poor health habits are controlled," Williams said. ■

### Injured on the Job?

Have a work-related upper extremity problem or injury, i.e., carpal tunnel syndrome, tendonitis, or repetitive strain injury of the fingers, wrist, elbow or shoulder? USUHS is conducting a study that includes a \$40 payment. Volunteers must be ages 20-60, seen by a physician within the past month and currently working. Call (301) 295-9659. ■

## NIDCD Director Snow Feted at Retirement

Dr. James B. Snow, Jr., the first director of the National Institute on Deafness and Other Communication Disorders, said at his recent farewell reception, "I am most proud of the development of an outstanding staff of the institute who are meeting the expectations of the scientific community in all mission areas of the NIDCD."

Appointed as director in February 1990, he guided the institute through its formative years and brought research in human communication to the threshold of the new century. Snow said, "I believe that some of my greatest accomplishments were encouraging a strong effort in the molecular genetics of hearing



*NIDCD Budget Officer Pat Sparks shares a photo album that was created for Snow. He was also honored by members of NIH's Management Cadre program, which he helped found.*

impairment in the intramural and extramural programs, as well as the progress made in developing vaccines against otitis media." He also established support for nationwide clinical trial cooperative groups, and led increased collaboration among federal agencies that have responsibilities in human communication.

Prior to his tenure at NIDCD, Snow taught medical students and resident physicians and carried out research. His practice has dealt with the clinical problems of hearing impairment, dizziness, loss of

*NIH director Dr. Harold Varmus congratulates Dr. and Mrs. Snow at recent retirement send-off.*



the senses of smell and taste and the disorders of voice, speech and language.

In addition to the send-off given him by colleagues, Snow was recognized by several organization directors including NASA, the Department of Veteran's Affairs and the Alexander Graham Bell Association. In separate ceremonies, Snow was honored by the American Academy of Otolaryngology-Head and Neck Surgery, Self Help for Hard of Hearing People, and the National Council of Communicative Disorders for his service to 46 million people who have communication challenges.

Many colleagues, staff members and friends thanked Snow for his knowledge, leadership and careful stewardship of federal resources in his effort to improve the quality of life for Americans challenged with disorders of human communication.

As to his plans for retirement, Snow said, "I plan to pursue leisure activities and long-held intellectual interests in addition to biomedical science for which I have not had much time. Also, I plan to spend more time with family and friends."

Snow and his wife Sallie will reside in Easton, Md.—Cheryl D. Fells ■

## Nine Appointed to OAM Advisory Council

Nine new members have recently been appointed to serve on the Office of Alternative Medicine's program advisory committee. They are: Dana J. Lawrence, professor, National College of Chiropractic, Lombard, Ill.; Dr. Raymond H. Murray, department of medicine, Michigan State University; Dr. Karen N. Olness, director, division of general academic pediatrics, Rainbow Babies and Children's Hospital, Cleveland; Dr. Everett R. Rhoades, associate dean for community affairs, University of Oklahoma School of Medicine; Dr. Harry G. Preuss, professor, Georgetown University Medical Center; Dr. Alexander G. Schauss of Tacoma, Wash.; Dr. Paul A. Nutting, director, Ambulatory Sentinel Practice Network, Inc., Denver; Dr. Marilyn J. Schlitz, director of research, Institute of Noetic Sciences, Sausalito, Calif.; and Dr. Gilbert Rameriz, associate professor, department of public health and prevention medicine, University of North Texas Health Science Center, Fort Worth. ■

## Irish Dancing Featured at Fundraiser, Oct. 25

Don't forget to purchase your ticket to the Irish Dancing and Music Festival in Honor of Henry Lancaster Transplant Fund. Lancaster, a third-year fellow in oral medicine at NIDR, is trying to raise funds to help cover costs associated with a double-lung transplant he needs to survive cystic fibrosis (see story, Sept. 23 *NIH Record*). The *Riverdance*-like event will be held Saturday, Oct. 25 at 7 p.m. in Masur Auditorium, Bldg. 10. Featured are Tir na nOg (Land of the Forever Young), a theatrical presentation with Irish dancers including step, set and ceili; Elke Baker, U.S. national Scottish fiddle champion; Sean Culkin School of Irish Step Dancing, including child and adult dancers and traditional Irish musicians and singers; an intermission featuring refreshments from Sutton Place Gourmet, Fresh Fields, Bruegger's Bagels, and homemade baked goods; and a raffle with more than 20 door prizes. Tickets are \$10, and are available at all R&W gift shops or by calling 496-4600.

## Males Needed For Study

**The Behavioral Endocrinology Branch, NIMH, is seeking male volunteers ages 18-45 to participate in a 5-month study of the effects of reproductive hormones on brain and behavior.**

**Volunteers must be free of medical illnesses and not taking any medication on a regular basis. They will complete daily rating forms and be asked to participate in one of several protocols. Payment will be in accordance with the duration of each visit and the type of protocol. For more information, call Linda Simpson-St. Clair, 496-9576.**

'A Lot of Little Reasons to Prevent Fire'

## NIH Marks Fire Prevention Week with Help Of Preschoolers, Barbecue Lunch

Bldg. 31A's patio was crawling with preschoolers eager to learn fire prevention and safety skills as NIH celebrated National Fire Prevention Week on Oct. 7. Bused from NIH's day care centers, several hundred youngsters donned comically oversized fire fighter boots and coats to go along with their pint-size fire hats, which were offered as giveaways to the kids. In addition, fire trucks, ambulances and other emergency vehicles were available for on-lawn exploration. Tours were led through the Fire Safety House, where the main attraction was the well-supervised escape ladder that allowed the children to practice leaving second-floor areas in cases of emergency. A bomb detection dog, a search and rescue dog and an arson dog were also in attendance, as well as Sparky the Fire Dog, who greeted visitors and offered safety tips. For adults, there were crime prevention and fire safety displays and demonstrations, as well as a barbecue lunch provided by George Starke's Head Hog Restaurant. The annual event was sponsored by the Emergency Management Branch, Division of Public Safety, Office of Research Services.



Fire Protection Inspector Joan Kilinski and Assistant Fire Chief Bob Lenox help preschoolers try on fire fighter gear.



Folks from Head Hog Restaurant serve up barbecue sandwiches, baked beans and cole slaw for NIH'ers during the recent Fire Prevention Week event.

PHOTOS: CARLA GARNETT



Above, a tiny tot dons a medical collar, as she and her friends get a lesson about emergency rescue and the role of the ambulance from Fire Fighter Rich Pullen. At far left, Fire Fighter Paul Donaldson guides practice "escapes" from the Fire Safety House, which was a popular attraction with the kids; (at near l) a display on house fire alarms and smoke detectors drew adults.