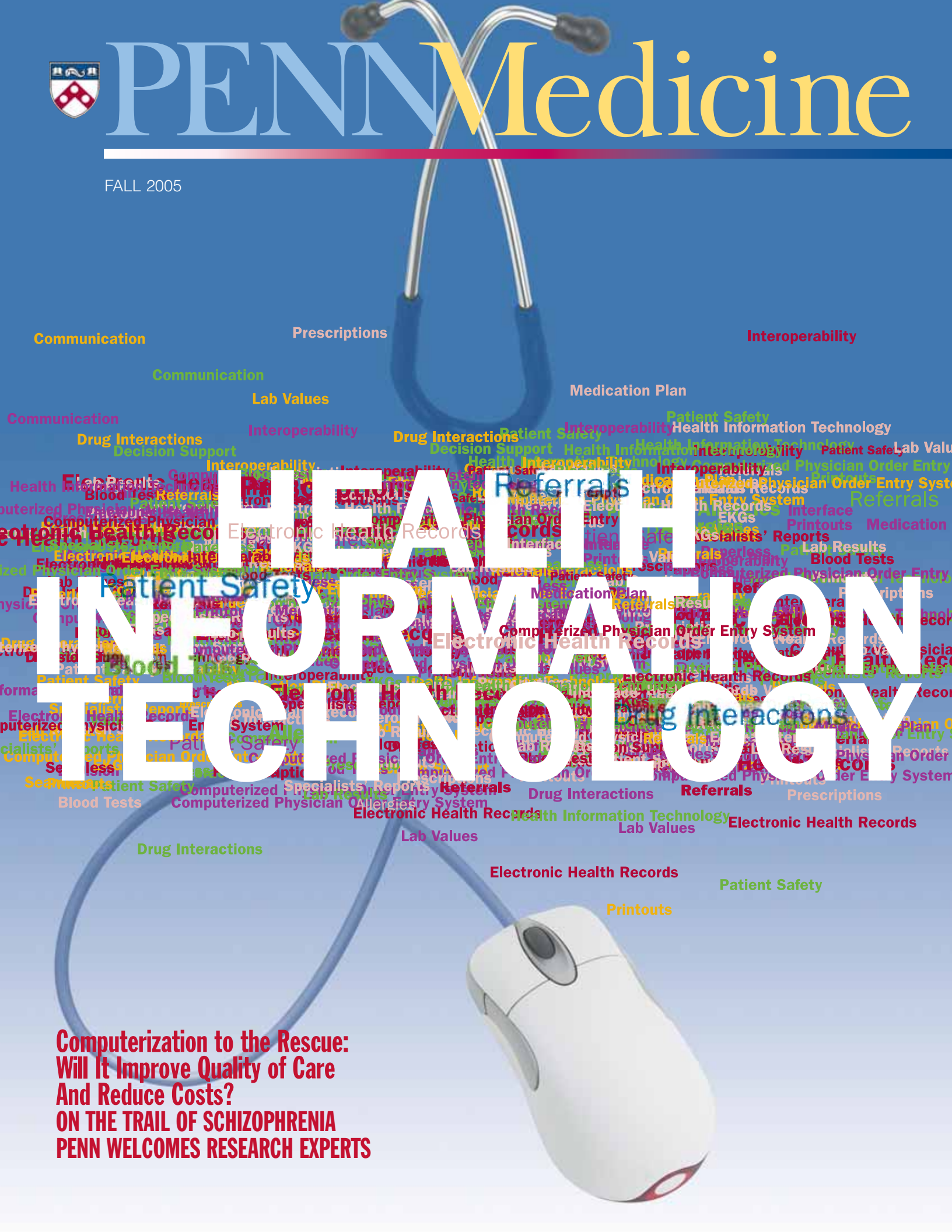
PENN Medicine

FALL 2005



HEALTH INFORMATION TECHNOLOGY

Computerization to the Rescue: Will It Improve Quality of Care And Reduce Costs?

ON THE TRAIL OF SCHIZOPHRENIA

PENN WELCOMES RESEARCH EXPERTS

Reputation

If you go to the Internet, where students of all ages get much of their information, you can access Google and enter the name "Albert Schatz." One of the hits is for Wikipedia, which calls itself "the free encyclopedia." According to Wikipedia, Schatz "isolated streptomycin in the course of his graduate work at Rutgers University. The antibiotic was the first effective treatment for tuberculosis and a number of other diseases." So far, that seems incontrovertible.

But Wikipedia continues: "Schatz's supervisor, Selman Abraham Waksman, took the credit for Schatz's work and received the Nobel Prize in Physiology or Medicine for it in 1952. Waksman contributed nothing to the work; he initially rejected the project and did not even enter the laboratory where Schatz made his important discovery."

Next, if you enter "Waksman" in Wikipedia's search engine, you find a somewhat confusing account. One sentence states, "It was at Rutgers that Waksman discovered several antibiotics, including streptomycin." The next paragraph, however, takes it all back: "Waksman is often wrongly credited with the discovery of streptomycin. The work was entirely that of Rutgers graduate student Albert Schatz. Fearing a tuberculosis infection, Waksman initially rejected the research project and never entered the laboratory where Schatz isolated streptomycin."

Wikipedia describes itself as "an encyclopedia written collaboratively by many of its readers." Apparently there are Wikipedians who don't much care for Waksman.

From discoverer of one of the most important antibiotics and recipient of the Nobel Prize to a fraud who claimed credit for another's work! Adam Lipworth, now a third-year student in Penn's School of Medicine, refers to Waksman as "a living icon" in the time after the discovery of streptomycin, as renowned for his generosity to his laboratory staff and to his institution as for his scientific achievements. So what happened?

Lipworth is in an excellent position to know. In March, he won the William Osler Medal for best unpublished essay on a medical-historical topic written by a student enrolled in a school of medicine or osteopathy in the United States or Canada. First awarded in 1942, the Osler Medal is presented by the American Association for the History of Medicine. Lipworth's essay, which just snuck under the limit of 10,000 words, is called "The Waksman Campaign: Dr. Selman Waksman's Struggle to Preserve His Heroic Image Through a Bitter Credit Dispute Over Streptomycin."

What helped set Lipworth's essay apart were the interviews he conducted with many of the surviving principals. Waksman died in 1973, but Lipworth was able to interview and meet with Schatz on several occasions and also attended the memorial service for Schatz earlier this year.

In his essay, Lipworth contends that there is no question that Schatz performed the significant technical work in isolating *Streptomyces griseus*, the actinomycete that is responsible for streptomycin. On the other hand, he also notes that Waksman had been working in the field for many years and had in fact isolated *Streptomyces griseus* in his Rutgers lab in 1915. Its significance, however, would not be clear for nearly 30 years.

On the central paper on streptomycin, published in 1943, both men were among the authors – but Schatz was listed as senior author. Schatz was also included in the initial patent application; by U.S. patent law, any contribution must be noted, no matter what the hierarchy was in the workplace. Lipworth notes that the scientific community remained largely loyal to Waksman, while the popular media tended to side with Schatz. Waksman's attempt to salvage his reputation included a published autobiography, interviews, and letters to newspapers. On the whole, Lipworth remains neutral on the matter of proper credit. At the end of his essay, however, he refers to media representations that greatly simplify a complex dispute.

Lipworth wrote "in blocks," he says, finding time during winter break and when he wasn't in clinics. It took "hundreds of hours." But there was a payoff: Lipworth calls the essay "the most important and exciting academic pursuit of my life."

He is confident that medical history "will be a part of my career." And he does not have to look far for an example. In 1993, Chris Feudtner, then a Penn student, won the Osler Medal. Now an assistant professor of pediatrics at Penn and a pediatrician at The Children's Hospital of Philadelphia, Feudtner has continued to pursue medical history, as his recent book *Bittersweet: Diabetes, Insulin, and the Transformation of Illness* (2003) demonstrates.

As for Lipworth, he is considering various specialties, including medical pediatrics, infectious diseases, and emergency medicine. Not surprisingly, he has also thought about starting a history of medicine club at Penn.

Since winning the Osler Medal, Lipworth's paper on Waksman's campaign to preserve his reputation won the 2005 Krumbhaar Award, presented by the Francis C. Wood Institute for the History of Medicine and the Section on Medical History of the College of Physicians of Philadelphia. The reputations of Edward Krumbhaar and Francis Wood, respected professors from Penn's past, have remained unblemished. ●

John Shea

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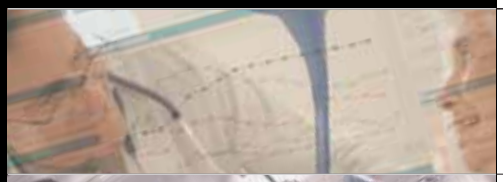

R: BETTER INFORMATION TECHNOLOGY FOR BETTER HEALTH
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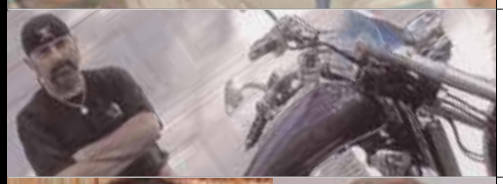
Across the nation, hospitals are implementing specialized computer information systems to reduce costs, reduce medical errors, and improve the quality of care. The Federal guru of health information technology, David J. Brailer, M.D., did his training at Penn.



A NEW CENTER TREATS CONGENITAL HEART DEFECTS
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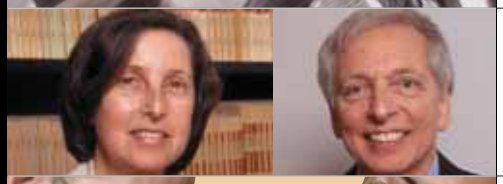
Most primary-care physicians and some cardiologists have not trained to care for patients with complicated congenital heart defects. Gary Webb, M.D., was recruited to head a joint venture by Penn's Health System and The Children's Hospital of Philadelphia to fill that need.



A PAIR OF ACES
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Jonas H. Ellenberg and Susan Smith Ellenberg, both biostatisticians, arrive at the School of Medicine with stellar reputations in research. As associate deans, they will work to bolster grantsmanship and collaborations with industry, as well as to re-engineer Penn's clinical research.

GENE SLEUTHS ON THE TRAIL OF SCHIZOPHRENIA
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"We are in a new era of research in schizophrenia," says Steven E. Arnold, M.D. In part, that's because of patients who arrange to donate their brains as part of longitudinal studies. One promising avenue is determining the roles of proteins in the brain.

CAN WE WARD OFF AGING?
By John Shea
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As more and more Americans are living longer, many of them are also looking for ways to appear younger and feel younger. A recent multidisciplinary symposium at Penn took a look at this socio-cultural trend.

A SPOTLIGHT ON THE CLASS OF 1955
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Fifty years ago, members of the Class of 1955 set off to establish themselves in the world of medicine. Now, 43 classmates share a little of what they have done since earning their medical degrees.

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DEPARTMENTS

On a Roll

For the ninth consecutive year, the Hospital of the University of Pennsylvania was listed in the annual "Honor Roll" of hospitals by *U.S. News & World Report*. In its issue dated July 18, 2005, *U.S. News* included HUP among only 16 hospitals in the nation – and the only one in the Delaware Valley region – to be recognized as an "Honor Roll" hospital.

To be included in the *U.S. News* Honor Roll, the hospitals must rank high in at least six of the 17 medical specialties surveyed by the magazine. HUP was cited in 14 specialties: Cancer; Digestive Disorders; Ear, Nose, & Throat; Geriatrics; Gynecology; Heart & Heart Surgery; Hormonal Disorders; Kidney Disease; Neurology & Neurosurgery; Psychiatry; Rehabilitation; Rheumatology; Respiratory Disorders; and Urology. No other hospital in the Philadelphia region was cited in as many specialties. In addition, The Children's Hospital of Philadelphia, where many of Penn's pediatric faculty members practice and teach, was ranked best in the country in pediatrics.

According to Ralph W. Muller, chief executive officer of the University of Pennsylvania Health System, "As the primary teaching hospital of Penn's School of Medicine, HUP attracts extraordinary clinicians, scientists, and students that help advance patient care in America through pioneering initiatives in biomedical research."

U.S. News & World Report evaluated approximately 6,000 hospitals around the country.

Departmental Chairs: Advancing from Within

Deborah A. Driscoll, M.D., G.M.E. '87, has been appointed chair-designate of the Department of Obstetrics and Gynecology. She succeeds Michael T. Mennuti, M.D. A member of Penn's medical faculty since 1989, Driscoll served as the department's vice chair for education and academic affairs. She was promoted to associate professor in 1998.

After receiving her M.D. degree from New York University, Driscoll completed her internship and residency training in obstetrics and gynecology at the Hospital of the University of Pennsylvania. She then took a fellowship in reproductive genetics, also at Penn. She is board certified in obstetrics and gynecology, clinical genetics, and molecular genetics.

Driscoll is considered an exceptional clinician who has been widely recognized for her expertise in adolescent gynecology and in the care of women with genetic disorders. Her specific areas of clinical expertise include prenatal genetic diagnosis, genetic screening and counseling,

adolescent and pediatric gynecology, and polycystic ovary syndrome. Driscoll is particularly known for her research on the DiGeorge and velocardiofacial syndromes and on the genetics of congenital heart defects. She is co-investigator on a National Institute of Environmental Health Sciences grant and project leader on a grant from the National Heart, Lung, and Blood Institute.

Driscoll is widely recognized as an outstanding teacher, mentor, and role model for medical students, nursing students, residents, and fellows. As course director for the medical students' clerkship in obstetrics and gynecology and, recently, as co-director of "Introduction to Reproduction," she has been responsible for highly successful curricular innovations. Among her honors is the Christian R. and Mary F. Lindback Award for Distinguished Teaching (2004).

An exemplary citizen of Penn's community, Driscoll has served on many important institutional boards and committees, including the Ethics Committee and the Medical Board at HUP. She currently chairs the School of Medicine's Committee on Admissions and serves as co-chair of the Gender Equity Council.

A member of the executive committee of the Reproductive Scientist Development Program, she is a fellow of the American College of Obstetricians and Gynecologists and a founding fellow of the American Society of Human Genetics. She has appeared annually on *Philadelphia* Magazine's "Best Doctors in Philadelphia" lists, including the 2005 listing, as well as on similar lists at the regional and national levels.

Stephen M. Hahn, M.D., has been named chair-designate of the Department of Radiation Oncology. He also becomes the Henry K. Pancoast Professor of Radiation Oncology. Hahn succeeds W. Gillies McKenna, M.D., Ph.D. A member of Penn's medical faculty since 1996, Hahn has a secondary appointment in the Division of Hematology-Oncology of the Department of Medicine. Since arriving at Penn, Hahn has served as director of the Photodynamic Therapy Program in the Department of Radiation Oncology. He also directs the Farnesyltransferase Inhibitor Program for treatment of cancer of the lung, head and neck, and pancreas, and he is involved in clinical trials that also employ radiation treatment in those areas.

A native of Philadelphia, Hahn received his M.D. degree from Temple University

School of Medicine. He took his internship and residency in internal medicine at the University of California, San Francisco Hospitals, where he was chief resident in 1987-88. Hahn then moved to the Medicine Branch of the National Cancer Institute in Bethesda, Md., as a fellow in medical oncology. He completed his training as a resident in radiation oncology at the NCI. His first faculty appointment was as senior investigator there.

Hahn has achieved national and international recognition for his contributions as a clinical and translational investigator in the area of experimental therapeutics related to radiation oncology. He has been a driving force in the clinical development of the hypoxia marker drug EF5 for human use. Project leader on a multidisciplinary National Cancer Institute/NIH program project grant and principal investigator on an NIH RO1, he is also a co-principal investigator on several other sponsored studies.

In 1999, Hahn was honored by his department with the Giulio J. D'Angio, M.D., Award for Excellence in Teaching in Radiation Oncology.

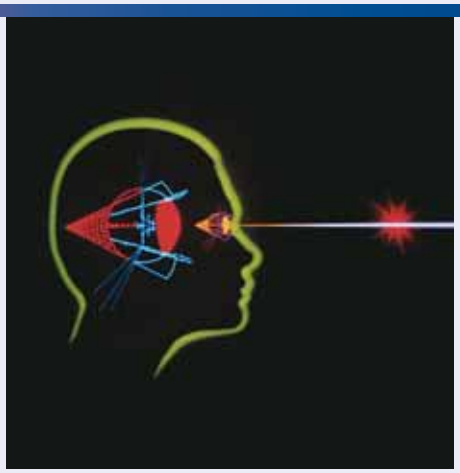
An active member of the institution who serves on numerous academic committees, Hahn has been chair of the Committee on Studies Involving Human Beings (IRB #5) since 1998. Before his recent appointment, he served as vice chair and director of research for the Department of Radiation Oncology. On the national level, Hahn has served in leadership roles in the American Society of Therapeutic Radiology and Oncology, the premier professional organization in the discipline.

Welcoming a Surgical Pioneer

Joel D. Cooper, M.D., a world-renowned authority on airway surgery who performed the world's first successful lung transplant and pioneered lung-reduction surgery for patients with late-stage emphysema, joined Penn's medical staff on October 1. He has become chief of a newly established Division of General Thoracic Surgery.

Cooper is coming to Penn from Washington University in St. Louis. He had been recruited there in 1988 to build a thoracic surgery program and establish a lung transplant program. For the past 10 years, he has served as chief of the Division of Cardiothoracic Surgery. Before that, Cooper had gained recognition at the University of Toronto as leader of its thoracic surgery program.

According to Larry Kaiser, M.D., chair of Penn's Department of Surgery, Cooper is "the pre-eminent thoracic surgeon in the world. It's a huge gain for Penn."



Ophthalmology Sightings

Edward N. Pugh, Ph.D., the Jules and Doris Stein Research Professor of Ophthalmology, will deliver the Proctor Lecture and receive the Proctor Medal at next year's meeting of the Association for Research in Vision and Ophthalmology, the largest eye research organization in the world. The award recognizes outstanding research in the basic or clinical sciences as applied to ophthalmology. Pugh will share the award with Trevor Lamb, Sc.D., of the Australian National University, with whom he developed a comprehensive model of photoexcitation in rod receptors for use in electroretinograms.

At the same meeting, **Joshua L. Dunaief, M.D., Ph.D.**, assistant professor of ophthalmology and a scientist at Penn's F. M. Kirby Center for Molecular Ophthalmology, will receive the Cogan Award and deliver the Cogan Lecture. The award recognizes outstanding scientific achievement in the field of eye and vision research by a physician-scientist age 40 and under. Dunaief will be honored for his innovative investigations of iron metabolism and oxidative damage in the pathogenesis of age-related macular degeneration.

According to Stuart L. Fine, M.D., chair of the Department of Ophthalmology, these are two of the three most prestigious awards in eye research and ophthalmology: "It is quite astonishing that two of the three awards in 2006 will go to members of our department."

Continues on page 4

Eric A. Pierce, M.D., Ph.D., assistant professor of ophthalmology and a scientist at the Kirby Center, was named director of the scientific advisory board of the Foundation Fighting Blindness. The mission of the foundation is to drive research that will provide preventions, treatments, and cures for people affected by retinitis pigmentosa, macular degeneration, Usher Syndrome, and the entire spectrum of retinal degenerative diseases. Pierce succeeds **Alan M. Laties, M.D., G.M. '61**, the Nina C. Mackall and Harold G. Scheie Research Professor of Ophthalmology at Penn, who had been director of the scientific advisory board since its founding 33 years ago.

HONORS AND AWARDS

Yale E. Goldman, M.D. '75, PhD., professor of physiology and director of the Pennsylvania Muscle Institute, has been named the recipient of the Fellow of the Biophysical Society Award, to be presented in February during the society's annual meeting. Goldman is being honored for his "leading research in the area of myosin-based motility and studies of muscle, using experiments distinguished by the use of very clever, unique apparatus, all home built, and novel experimental paradigms."

Two researchers at the University of Pennsylvania School of Medicine were named among the nation's most promising young scientists and presented with the 2004 Presidential Early Career Award for Scientists and Engineers. **Tejvir Khurana, M.D., Ph.D.**, and **Kevin G. Volpp, M.D., Ph.D.**, were among the 60 outstanding scientists and engineers honored at a ceremony June 13 at the White House. Ten federal departments and agencies annually nominate scientists and engineers at the start of their independent careers whose work shows exceptional promise for leadership at the frontiers of scientific knowledge during the 21st century. Participating agencies award these scientists and engineers up to five years of funding to further their research in support of critical government missions.

Khurana, an assistant professor in the Department of Physiology, was nominated by the National Institutes of Health for his studies of the molecular mechanisms underlying muscle specialization and the physiology of muscle diseases. He employs a variety of cutting-edge research techniques to study Duchenne muscular dystrophy and other muscle diseases. Khurana has been a leader in the study of two important muscle-related proteins, myostatin and utrophin, that might offer therapeutic strategies for muscular dystrophy. Khurana is also a researcher at the School of Medicine's Pennsylvania Muscle Institute.

Volpp, an assistant professor of medicine in the Division of General Internal Medicine, was nominated by the Department of Veterans Affairs for his work in using econometric methods to study the effects of social policies and health-system design on the health of patients and populations. Volpp also studies the effects of financial incentives on health behaviors. An assistant professor of health-care systems at Penn's Wharton School, Volpp is also a senior fellow at Penn's Leonard Davis Institute of Health Economics and at the Center for Health Equity Research and Promotion at the Philadelphia Veterans Affairs Medical Center. He is a program member of the Cancer Control and Outcomes Program at the Abramson Cancer Center.

Marija Drndic, an assistant professor in the Department of Physics and Astronomy at Penn's School of Arts and Sciences, also received the award.

Flaura Koplin Winston, M.D. '88, associate professor of pediatrics in the School of Medicine and attending physician at The Children's Hospital of Philadelphia,

recently accepted the National Heroes Award for Outstanding Research Project on behalf of Children's Hospital. The award is sponsored by the Emergency Medical Services for Children program, which is administered by the Health Resources and Services Administration and the National Highway Traffic Safety Administration. The award recognizes Partners for Child Passenger Safety, a unique research partnership between Children's Hospital and the State Farm Insurance Companies that has led to the enactment of two federal laws and 32 state laws on safety standards and the use of restraints for child passengers. Winston is principal investigator for the partnership as well as scientific director of TraumaLink: The Interdisciplinary Pediatric Injury Control Research Center, which she founded. Among other topics, the surveillance system of Partners for Child Passenger Safety has identified the prevalence of and risks to children in inappropriate restraints; the risk of airbags for restrained children; the risk of injury to child passengers in pickup trucks; child injuries associated with side-impact crashes; and trends in the use of booster seats.

Jack Ludmir, M.D., G.M.E. '85, left, receives his honorary degree from Dr. Manuel Burga, rector of the Universidad Nacional Mayor de San Marcos. His father, Abraham Ludmir, M.D., looks on.

Ludmir Honored for Humanitarian Work in Peru

For the past 20 years, **Jack Ludmir, M.D., G.M.E. '85**, has worked to improve perinatal and maternal mortality in his native country of Peru. "We are trying to raise awareness and respect for the dignity of women and the importance of having healthy moms and babies through the reproductive process," said Ludmir, who is chair of the Department of Obstetrics and Gynecology at Pennsylvania Hospital, part of the University of Pennsylvania Health System.

Ludmir has helped achieve these goals by training health-care providers, overseeing the distribution of much-needed medical equipment to hospitals, and caring for and teaching young mothers and pregnant women, especially in indigent populations.

At Lima's Universidad Nacional Mayor de San Marcos, Ludmir implemented an exchange program for University physicians and Pennsylvania Hospital's Ob/Gyn residents. For this program, as well as his volunteer work with patients in the hospital, the Universidad awarded him an honorary degree of Doctor Honoris Causa.

Ludmir also established an exchange program at Lima's Hospital Nacional Docente Madre Niño San Bartolomé, the oldest hospital in Peru. When Pennsylvania Hospital recently updated the fetal monitors in the labor and delivery division, Ludmir raised money to send the older, still-functional monitors to San Bartolomé and two other Peruvian hospitals, where more than 20,000 babies are delivered every year. For his work, San Bartolomé awarded him its medal for merit.

Advocating for poor mothers and babies in Peru is a family affair for Ludmir. His father, Abraham Ludmir, M.D., G.M. '56, is an obstetrician and gynecologist who practiced in Philadelphia and Lima.

Reducing Suicide Attempts

Cognitive therapy, developed by **Aaron T. Beck, M.D.**, in the 1960s, has been shown successful in significantly reducing suicide attempts by those who have already attempted suicide.

A team of Penn researchers – with one member from James Madison University – reported its findings in *The Journal of the American Medical Association* (August 3, 2005). As the article states, "Attempted suicide is one of the strongest risk factors for completed suicide in adults," and individuals who had attempted suicide were 38 to 40 times more likely to commit suicide than those who had not attempted it. The Penn study followed 120 people who took part in a 10-week session of cognitive therapy. The result, according to the researchers, was that participants in the cognitive therapy group "were approximately 50 percent less likely to attempt suicide during the follow-up period [18 months] than participants in the usual care group." The cognitive therapy group also exhibited significantly less hopelessness.

The New York Times reported that this particular brand of talk therapy "may offer the best chance to save those at the highest risk of taking their own lives" (August 9, 2005).

Its practitioners describe cognitive therapy as usually more focused on the present, more time-limited, and more oriented toward problem-solving than more traditional therapy. One of its goals is to identify distorted thinking and, as a consequence, modify beliefs and change behaviors.

The *JAMA* article notes that additional studies are warranted to see how such "evidence-based treatments" will fare in community-based mental health centers and the like. As Beck told *The New York Times*, "We'll see what happens in the real world. That will be the true test."

George K. Brown, Ph.D., lead author of the study, is a research assistant professor of psychiatry at Penn. Beck, an emeritus professor of psychiatry at Penn, is the senior author.

Dr. David J. Brailer: A policy maker trained at Penn.

Prescription: Better information technology for better health

By Martha Ledger
Photographs by Tommy Leonardi

Throughout the nation, hospitals are implementing computerized systems to reduce costs, reduce medical errors, and improve the quality of care. They have had failures and successes, but some experts believe it's only the beginning of a major transformation.

Carmen E. Guerra, M.D., an internist in Penn's Health System, is enthusiastic about electronic health records (EHRs). Yet her overwhelmingly positive experience with them over the past two years has not nudged her cardiologist husband, who practices with a group of 21 physicians in New Jersey, to adopt them. Although she's invited him to visit her office many times to see how electronic charting works, so far he hasn't taken her up on the offer.

David J. Brailer, M.D., G.M.E. '91, Ph.D. '92, the national coordinator for health information technology in the U.S. Department of Health and Human Services, will try to succeed where proselytizing on the home front has failed. His job is to computerize Dr. Guerra's husband's practice. Not directly, of course, but by supporting the development of standards and the certification of electronic products and by creating financial incentives that will make the adoption of health information technology (HIT) more palatable.

Brailer's charge is to develop and implement a strategic plan for HIT that will reduce costs, reduce medical errors, and improve the quality of care overall. Economists, policy makers, physicians, and even the general public agree on the need for system-wide changes. The United States now spends $1.8 trillion a year on health care, almost 16 percent of the gross domestic product – twice the percentage spent, on average, by the European Union countries. When health-care spending reaches an estimated $3.4 trillion in 2013, as expected, it will represent almost 19 percent of the gross domestic product.

The frequency of medical errors is similarly out of control. In 1999, the Institute of Medicine estimated that up to 98,000 hospital deaths occurred annually because of medical errors. A study done at Harvard's School of Public Health and Institute for Healthcare Improvement and reported in *The Journal of the American Medical Association* in May 2005 showed no significant reduction of that figure, despite many initiatives in patient safety throughout the last five years.

Brailer intends to find ways to make patient and other health-care information flow from place to place. As he suggests, the availability of information can totally transform health care and make whole what is now a dangerously fragmented and expensive system. EHRs can knit together all the diverse encounters that make

up a patient's medical history. Information technology can also link all aspects of the provider's delivery system. According to Brailer, physicians will be "making better treatment decisions, nurses and pharmacists delivering safer care, and consumers making better choices among treatment options."

Brailer entered the national policy scene with the highest backing. In April 2004, President Bush established the Office of National Coordinator for Health Information Technology and called for the majority of Americans to have EHRs within a decade. He had referred to EHRs in his State of the Union speech that January and would do so 50 more times throughout the year. Brailer was appointed in May 2004. Because he was already advising White House staff on health information technology needs, he was able to hit the ground running. Ten weeks later, his office put forth its Framework for Strategic Action with four overarching goals.

The first involves the establishment of EHRs in clinical practices, and achieving this goal is uppermost for Brailer. The second deals with the mobility of these records – to make them available whenever treatment decisions are made. The third goal is to provide electronic pathways for consumers so they can monitor their own health issues and also have access to health information that is personally relevant. And the fourth seeks to organize health information for societal needs, like public health research, bioterrorism surveillance, and the tracking of products or procedures that turn out to be harmful.

While the EHR is the fundamental building block of the transformed system Brailer envisions, what makes it useful is its ability to travel and notify whatever doctor a patient sees of potential troublemakers like drug allergies or quirky EKGs. Unless such information flows from one place to another, EHRs are only a notch better — they're legible — than paper charts. But when a doctor's electronic records can be received by other doctors — when their electronic systems are "interoperable," in the jargon of the field — the patient is better protected against medical errors and inappropriate or redundant treatment.

P. J. Brennan, M.D., chief medical officer of UPHS, stands behind one of the screens showing an electronic patient chart.

To pave the way for interoperability, HHS Secretary Michael Leavitt announced this past June that his department would issue four requests for proposals that address the architecture of an Internet-based nationwide health information exchange, standards for data, certification of information-systems products, and security and privacy requirements. Through this competitive process, the most creative and experienced people working in the field will attempt to crack the interoperability nut. "This is health policy by procurement instead of by regulation," a pleased Brailer told *The New York Times*.

It took a year of grueling work to reach this point, but Brailer hadn't accepted the job because he thought it would be easy. "I said no nine times," he jokes, explaining, "I see myself as a scientist entrepreneur. I'm not a policy person or a Washington person." But he also recognized how special a time it was. "The president was going to step out on this," he says, "and there was a chance to have a big impact in a short period of time. Everybody always thinks about that, and I've got a chance to do it."

Despite his initial misgivings, helping to redesign the whole nation's health-care delivery seems like a natural part of Brailer's professional trajectory, even back to when he was 12 and his favorite toy was a home-assembly computer. He graduated from West Virginia University School of Medicine in 1986. As a student, he wrote a paper on expert systems that won the National Library of Medicine's first Martin N. Epstein Award for Medical Computing

Research. He also was one of the first medical students to serve on the board of trustees of the American Medical Association.

At Penn, after taking a residency in internal medicine, he became a fellow in general medicine and a Robert Wood Johnson Clinical Scholar. During that time he studied a range of practical ways to improve the health-care system. In one project, he analyzed whether computerized decision support resulted in better diagnostic and treatment decisions. (It did.) In another, he considered how hospitals might operate as "focused factories" that radically lower costs and error rates. This particular study became his dissertation for the doctorate he earned in 1992 in management science and applied economics from the Wharton School. But the project that would more pointedly launch the next stage of his career was a study of how to measure risk-adjusted hospital complications. The algorithms he developed were subsequently licensed to a start-up company called CareScience that Brailer ran as chairman and CEO until 2003. Among the CareScience projects he directed was a widely publicized electronic information system for Santa Barbara County in California that used the Internet to connect hospitals, pharmacies, labs, and physician offices, using whatever computer systems they already had.

"He's very bright," says Patrick J. Brennan, M.D., chief medical officer of Penn's Health System. A professor of medicine, he also serves as chief of clinical effectiveness and quality improvement for UPHS. Brennan knew Brailer as an intern, a Wharton student, and the designer of an information system that Brennan's department bought. "When I talk to him about the things he knows about, things I think I have a rudimentary understanding of, I always feel he's in a different universe."

In Washington, however, Brailer quickly had to learn how politics works when Congress struck the $50 million appropriation he'd been promised from its budget. "I am more of a maven than a salesperson," he said in an interview for *Technology Daily* shortly after the cut. "I certainly need to be a better salesman, considering our appropriation." But his pocket hardly remained empty long enough to inconvenience him. President Bush restored his budget through a reshuffling of funds, and Brailer's office was allocated a considerably larger sum — $125 million — in FY '06.

His political skills were also quickly apparent, as he reached out to various interest groups that could advance his cause. He assembled a leadership panel of executives from major companies that are large purchasers of health care for their employees. He also put out a request for information, asking how a national health information network might be developed, and then assembled a government-wide task force of 120 members to review the suggestions that flooded in. In 2004, between May and December, he accepted nearly 90 speaking engagements, the majority to audiences of practitioners and consumers.

In April, Brailer's campaign to promote HIT came to Penn, where he gave the Samuel P. Martin III, M.D., Memorial Lecture, sponsored by the University's Leonard Davis Institute of Health Economics. In his speech, titled "Scientific Research on the Value of Health IT: Do You Have to Believe It to See It?" he noted that estimated costs for comprehensive HIT range from $80 to $450 billion. No study taken alone, he said, is wholly convincing. Savings — estimated from yet other studies — would mount from 7.5 percent to 30 percent of national health-care expenditures, depending on how thoroughly IT is implemented. The low end represents savings from reducing errors; the middle reflects a decrease in redundant and unnecessary procedures; and the high end results from a consumer-driven market in which well-informed patients choose cost-effective doctors and treatments. Despite the significant problems that remain unsolved, financing and privacy chief among them, Brailer expressed optimism that HIT has "good potential to change the world."

Although she certainly is not on Brailer's payroll, Carmen Guerra makes her own strong case for how EHRs have improved her practice of internal medicine. Before computerization, a patient would often arrive for a check-up and the chart hadn't been delivered. Now she has all the information she needs on her computer screen. Specialists' reports are there, so she doesn't have to dig out letters. Lab results appear immediately after the tests are done. Guerra is prevented from missing a symptom because the program won't close until all the body's systems have received some comment. She can also give the patient a printout that summarizes

Carmen Guerra, M.D., right, a UPHS internist, is an enthusiastic supporter of electronic health records, which improve patient care and patient safety.

their discussion and reinforces a medication plan or health goals. The patient can even use the printout as a referral to a specialist because written into the chart is exactly the reason for the referral.

As Guerra sees it, electronic charting has also aided billing. Procedures used to be coded at the checkout desk, and if mistakes were made, there was no reimbursement. Coding takes more of her time, but she thinks she can do it more accurately than a non-medical worker. Before computerization, the short time between patients made it difficult to document everything that happened during the examination — and without documentation, there was no payment. With the computer, Guerra can easily pull up a list of the patient's medical problems and be quickly organized for note writing.

Guerra's in a hurry — she wants more specialties to be on the system. The Health System's clinical practices are being incorporated slowly over time, according to Eric Pifer, M.D., a practicing internist who serves as chief medical informatics officer for UPHS. One-quarter of the practices — accounting for between 250,000 and 260,000 outpatient visits annually — are already hooked up, he says, and it will take another five years for the rest to be on board.

Long before then, Guerra hopes that e-mail will be seamlessly incorporated into the EHR. She's using it more and more to communicate with patients and currently has to copy and paste these exchanges into the patient's electronic chart. She also has her own contribution to its content: She wants to be sure that when computerized charts become mainstream, they contain prompts about colorectal cancer screening, which is the subject of her public health research.

As an EHR user, however, Guerra is in the minority of physicians — 17.5 percent — according to figures reported this spring by the Centers for Disease Control and Prevention. Cost was not an issue for her, because the system was paid for, installed, and is maintained by Penn's Health System. Her cardiologist husband and his colleagues, however, represent the majority, who don't use electronic charting.

Right now, small practices are five times less likely to have EHRs than practices of more than 50 doctors. Brailer worries that large physician groups will put in information systems and most small ones won't. "We can't let that happen," he says, "or we're going to get two different levels of care."

Yet he is sensitive to the problems facing small physician groups. Electronic start-up in a solo practice can cost as much as $30,000, and yearly maintenance runs around $5,000. It takes significant time to learn how to use a system and then refine it, and more than a third of the systems actually fail to become operational. (Large and complex systems fail, too: in 2003, in the most publicized of hospital IT failures, Cedars-Sinai Medical Center in Los Angeles suspended its multi-million dollar computerized physician order entry [CPOE] system just three months after it was instituted. According to the *Los Angeles Times*, physicians claimed the system "was endangering patient safety and required too much work.") Small practices can't undertake big risks. "It's hard to expect them to," Brailer says, "when patients and insurers get all the benefits."

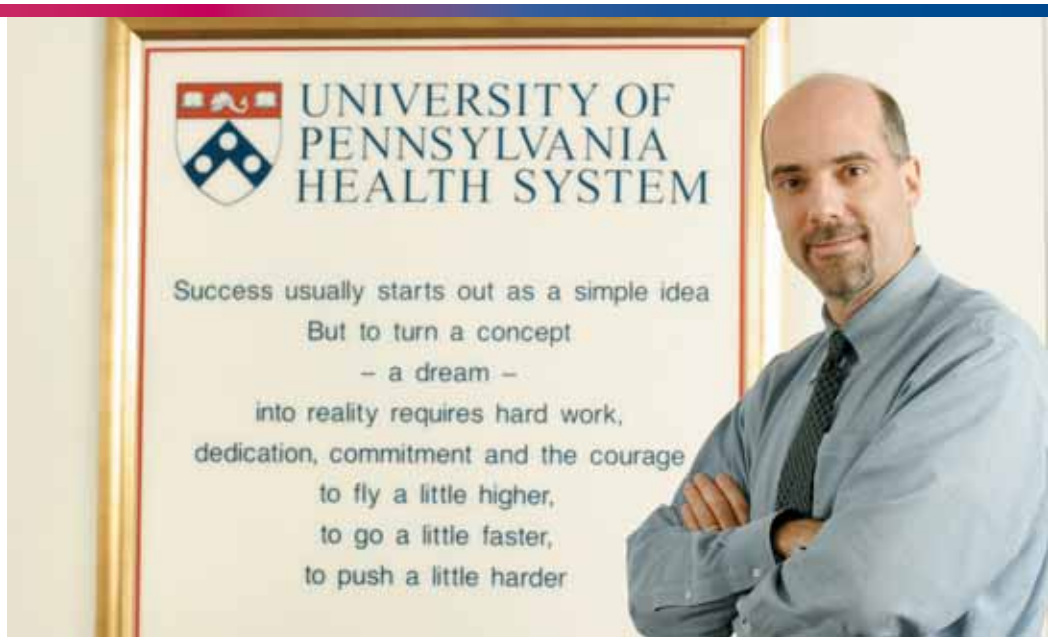
Tax credits and low-interest loans have been suggested for small practices. The government has also funded startup regional health information organizations to unite many small practitioners into buying groups and also to provide advice and training. Such organizations advance interoperability because the practitioners all deal with the same vendor. Brailer promises to make sure that the systems his office supports for small practices are tailor-made for small practices.

So what advice would Brailer give Guerra's husband and his 20 colleagues?

"I'd tell them to get in the game," Brailer says, "to start working with this and figure out how to make it work. Buy a product that makes sense, get good expert advice if they can find it. The issue is not what EHR system they buy. It's how they use it to transform their practice to be

smoother and more patient-focused, how they share information with other practitioners and make the workflow better for the entire practice.

"I'd tell them it's a journey," Brailer says, "not a destination."



According to Eric Pifer, M.D., input from physicians, nurses, and pharmacists helped design Penn's clinical information system.

Pifer, the physician and clinical information-system expert who has worked closely with computerization in both UPHS's clinical practices and its hospitals, warns that there's always a significant process of maturation. "People wrongly think that once they invest their $5 to $10 million in a system, they're done," he says. "They're wrong – it's just the beginning." That's true whether you're talking about EHRs or CPOE systems, and UPHS's history with the latter is instructive.

The Health System instituted its first CPOE system in 2000 to assist communication between doctors, nurses, and pharmacists. It didn't contain decision support, which Pifer describes as prompts, reminders, questions, or any other means that help a doctor make a clinical decision. Wanting decision support as well as greater efficiency, UPHS installed a second-generation CPOE system in 2004. Called Sunrise Clinical Manager, it replaced "a fancy form of e-mail" (Pifer's phrase) with a very powerful tool. Sunrise is operational at the Hospital of the University of Pennsylvania and Penn Presbyterian Medical Center and is scheduled to come to Pennsylvania Hospital in the coming year.

Yet, as Pifer says, installation was just the beginning. Some aspects of Sunrise are under construction while others are still being adjusted. Even when the eventual users participate in planning, Pifer points out, the shortcomings of a system are never fully apparent until it is used. "We paid residents $40 an hour to come tell us exactly what all their processes were. We had a lot of input from them, a lot from nurses, a ton from pharmacists. They were all designing the system. But there's something different that happens when the rubber hits the road.

"Then you really start thinking to yourself, did we get it totally right? Did we use the software to its best advantage? Did we reengineer this process in a way that is the most beneficial? When you start thinking about those things, you really sort of change [the system] over time."

In developing the decision-support function of the CPOE system, Pifer is matching up typical medical errors with the information that will head them off. The next step is to design ways to present that information. On a magic-marker board in his office, Pifer has ranked the hospitals' safety goals and corresponding decision-support interventions.

Eventually, the system will give doctors specific feedback on several types of things. One is errors of omission — for example, neglecting to order medication after surgery to prevent blood clots in the leg. The computer can warn doctors if that prescription is missing. It can prompt them to ask questions they might otherwise forget, such as vaccination status, or remind them about blood tests to monitor the effect of a specific medication. The system can also pick up trends, like subtle changes in a lab value that have occurred over time and require the doctor's attention.

Pifer always has the user in mind. "It's not just windows popping up, saying, 'Consider this.' It involves the way you set the system up, the way the system looks when you log into it, the way it ranks things from first to last."

Pifer is also aware of the user's patience. Too much decision support can actually lead to sensory overload and a fatigue phenomenon. "What we're seeing," Pifer says, "is an extinguishing effect. If you warn doctors about a particular condition too many times and if you warn them about too many conditions, they just blow past the information. You have to use judgment to know when you should give information and when you shouldn't."

Ross Koppel, Ph.D., would agree that the way clinicians use CPOE systems should be rigorously scrutinized. An adjunct professor of sociology at Penn, Koppel was principal investigator of a study of hospital workplace culture and medication errors conducted through the School of Medicine's Center for Clinical Epidemiology and Biostatistics. Between 2002 and 2004, a team Koppel led at Penn discovered that, although the first-generation CPOE

Ross Koppel, Ph.D., emphasizes the need to repair computer system problems aggressively.

system then in use at Penn's Health System was eliminating a host of medical errors, it was also causing a variety of new ones. Koppel's team turned up 22 kinds of mistakes, which they divided into two major groups: information errors generated by fragmentation of data and failure to integrate the hospital's several computer and information systems; and flaws in the interface between humans and machines reflecting machine rules that do not correspond to how work is organized or people customarily behave.

As Koppel put it, "We seem to think that we can just wrap people and organizations around the new technology, rather than make the technology responsive to the way clinicians and hospitals actually work."

His paper, titled "Role of Computerized Physician Order Entry Systems in Facilitating Medication Errors," was published in *JAMA* in March 2005. Koppel explains that his article focused on ways of figuring out how any system is working and the need to aggressively repair problems. Response to the article, however, ran the gamut from fear that the whole HIT movement might be undermined to matter-of-fact agreement that new technologies are imperfect and the responsible thing to do is search out their flaws and fix them. By then, UPHS had already replaced the system Koppel studied for reasons unrelated to the published findings. In addition, Pifer's comments show that he is aware of the kinds of concerns Koppel raised – and determined to deal with them. For his part, Brailer called Koppel's article and another cautionary study in the same *JAMA* issue "a useful wake-up call."

Although it's never clear beforehand how systems will perform and how users will adapt to them, it's easy to predict that HIT will have a dramatic effect on medical practitioners.

Pifer feels that access to more information goes to the heart of his ability to be a better doctor. "When I started at Penn in 1997, I'd say that maybe 20 percent of the time, I didn't have the information I needed to take care of the patient I was seeing. And I'm talking about big stuff. The patient may have had a catheterization or gotten a pacemaker. I would walk into the examining room, and the first time I'd find out about the pacemaker is when the patient is showing me his scar. It was infuriating."

Doctors armed with data will be able to focus their attention on what Brailer calls their essential job of making wise decisions: "IT frees physicians from being little computer chips themselves, where they have to remember every fact about every drug, every treatment, and every latest bit of research. It's very stressful now for physicians, knowing that your memory stands between life and death for your patient."

Some people in the field, however, worry that data-rich, ultra-safe systems might rob the physician of autonomy. A recent article in *Annals of Internal Medicine* notes that medical students and residents are very smart and are problem-solvers; a major reason they choose medicine is the desire to function with a lot of autonomy.

On the other hand, Brailer thinks autonomy went out the window long ago. "Any physicians who believe they still have autonomy are not being paid by health plans," he says. "You can write any drug permutation you chose, but to overcome the formulary barriers and pre-authorizations, you have to be willing to spend an hour doing it. That's not autonomy," he says. "That's the appearance of autonomy."

For Brailer, a team-based environment supported by HIT is more satisfying professionally and more appropriate to today's multi-disciplinary approach to treating chronic illness.

Brennan, chief medical officer of UPHS, suggests an intriguing metaphor. "It's like taking a fighter pilot and making him into a commercial airline pilot. You want fighter pilots to be ingenious and creative, to really go to the heart of the problem and solve it. You want commercial airline pilots to follow the rules and flight patterns and communicate in very precise ways." Then he adds, "I think we're at a transition point from fighter pilot to commercial pilot. But it's a transition that will play out over years and decades and not over weeks and months."

At the same time, Brennan says, the essence of being a physician will not change. "Ultimately, in health care, a human being has to touch a patient at some point. And that interaction is essential to the success of our health-care delivery system."

Information technology enables that interaction, says Brailer. "It puts physicians back in control because it's very clear how physicians make decisions. IT makes it easy for them to do what they want to do. It also creates an audit trail that furthers accountability. I think that's really good for medicine. I think it's very positive for physicians.

"And it's a plus for consumers of health care," he adds. So much so that when he speaks before consumer groups, he urges people to ask their doctors if they are using EHRs. "And if they're not," Brailer says, "ask them why." ●

STUDENTS FOREVER?

On the surface, the last thing students who have just earned their medical degrees would want to hear is a challenge from one of their fellow graduates to "continue to behave like students." But that's exactly what Joseph H. Hedrick, representative of the Class of 2005, exhorted them to do at the School of Medicine's 239th Commencement, on May 15. What's more, he got an enthusiastic response from the rest of the newly minted doctors.

The 147 students who received their degrees gathered with family, friends, faculty members, trustees, some members of the Class of 1955, and administrators at the Philadelphia Marriott Downtown. The strains of the Watson Highlanders Bagpipe Ensemble launched the ceremonies, leading the Class of 2005 into the fifth-floor ballroom. There, they heard remarks by Gail Morrison, M.D. '71, G.M.E. '77, vice dean for education, and Arthur H. Rubenstein, M.B., B.Ch., executive vice president of the University of Pennsylvania for the Health System and dean of the School of Medicine. Helene Gayle, M.D.'81, director of the HIV, TB, and Reproductive Health Program of the Bill & Melinda Gates Foundation, delivered the graduation address.

Gayle, a member of the board of PENN Medicine, asserted that a medical degree is "one of the most powerful tools I know to enable you to make a difference." Today, the health gap between developed and developing worlds is growing larger. The efforts of young physicians are vital in a world in which "microbes don't stop at borders," 45 million Americans lack health insurance, and children die everyday of preventable diseases. "We have an obligation to take care of one another," said Gayle, who went on to cite the campaign to eradicate smallpox as a clear example of what can be achieved. She mentioned the work being done to fight HIV in Africa. "We could change the statistics in our lifetime," she insisted; but, so far, "we're not doing enough." Her generation, she said, is "leaving a lot for you new graduates to do."

So is Hedrick. In his address, he began by alluding to a "legend" that in 1899, "a clerk in the U.S. Patent Office tendered his resignation, claiming that science had reached its pinnacle and nothing remained for humankind to discover or invent." Hedrick then referred to "the auspicious group of graduates you see before you this afternoon," who arrived at Penn's medical campus believing the tough part was over. "Not unlike the patent clerk, we were wrong." Through class after grueling class, before and after clinical education, they persisted. And each time they finished the class or rotation, they thought the tough part was over. "Once again, we were wrong."

"We laugh, but I think this may be the most important lesson one can learn in the medical field: We will never know all there is to know. We will never be finished learning. So we must never again make the mistake of believing that the tough part is over. And though we officially shed the title today, we must never cease to be students." According to Hedrick, "We must actively seek out intellectual challenges to extend the scope and depth of our understanding despite any risks they may pose to image or ego."

Then it was time for the recitation of the Hippocratic Oath, which the members of the Class of 2005 recited – for the first time as doctors. ●

— John Shea

Part of the Team at the Philadelphia Adult Congenital Heart Center. From left to right: Gary Webb, M.D., director; Desiree Fleck, C.R.N.P.; Richard Donner, M.D.; and Martin St. John Sutton, M.B., B.S.

A New Center Treats Congenital Heart Defects

By Susanne Hartman

Jim Hendrix wasn't your typical newborn or even 13-year-old, for that matter. "I was robbed of a normal childhood," Hendrix explains. "I couldn't keep up with the other kids. I was always tired and short of breath and had to rest." Hendrix, from Ocean City, N.J., was born with a defective heart.

Although doctors detected the defect before Hendrix's second birthday, when he "blacked out" during a tantrum, they did not perform surgery to fix it until he reached 13. Hendrix's disease was Tetralogy of Fallot, commonly called "blue baby" syndrome, a condition consisting of a number of different congenital defects within the heart.

In addition, the little boy's strained heart was tough on his entire family, emotionally and financially. When Hendrix caught a serious bacterial infection of his blood and spent his seventh birthday in the hospital, his parents were by his side while his grandmother cared for his three sisters.

"There was always a constant worry my heart would fail, due to the limited amount of ways to help children born with congenital heart defects back then," says Hendrix. "I'm lucky that I survived long enough for technology to catch up and help me."

Extraordinary advances in medicine have allowed many patients like Hendrix to live longer, yet in 2005, most primary-care physicians and even cardiologists still have not been trained to care for these complicated patients.

Enter Gary Webb, M.D. Regarded as one of the world's foremost authorities in adult congenital heart disease, he recently was recruited to lead the new Philadelphia Adult Congenital Heart Center. It is the first of its kind in the Mid-Atlantic region and one of only a few in North America. The joint venture combines the resources of both the University of Pennsylvania Health System and The Children's Hospital of Philadelphia, each nationally recognized for excellence in pediatric and adult cardiac care.

The center opened its doors this summer to help care for this small yet quickly growing group of cardiac patients. Many patients born with congenital heart defects had surgery in childhood and are now living well into adulthood. In fact, nearly

Jim Hendrix and Friend

1 million adults are now living in the United States with congenital heart defects, including an estimated 40,000 such patients in the Greater Philadelphia region.

The Philadelphia Adult Congenital Heart Center has around 30 physicians and surgeons on the team from such areas as anesthesiology, cardiology, cardiovascular surgery, electrophysiology, cardiac catheterization, genetics, heart failure and transplantation, pulmonary hypertension, reproductive services, and imaging services. Desiree Fleck, C.R.N.P., heads the nursing services. The center also has a research program.

The team will treat many adult congenital heart conditions, such as cyanotic defects, congenital valve defects, coarctation of the aorta, and septal defects, as well as adult congenital heart defect issues that affect pregnancy.

As leader of the center and professor of medicine, Webb brings a 30-year passion for this specialized area of medicine. Yet, back when his interest was first sparked, says Webb, "I was surprised to learn that the health-care systems didn't care very much about these patients. The progress in delivering care to these patients who need it was very slow and continues to be slow. I chose this area because there's not only a great need for people's involvement but to also make a significant contribution."

Of the nearly one million American adults with congenital heart defects, half are listed in medium- and high-risk categories, which means they face premature death, serious complications, and a need for further treatment. But according to Webb, most adult cardiologists are not trained in the field and are not comfortable dealing with it. The result, he says, is a national shortage in skilled providers who work in this area.

Thus, as Webb sees it, the Philadelphia Adult Congenital Heart Center fills a void. It provides patients with access to a multidisciplinary team of experts in congenital heart defects who can provide the kind of care that they need. In addition, the center offers patients better information about their specific problem. With the sounder and more up-to-date information, patients are able to take greater charge of their own health.

Webb was recruited from Toronto, Canada, where he served for 18 years as director of the Toronto Congenital Cardiac Center for Adults and as professor of medicine at the University of Toronto. A fellow of the American College of Cardiology and of the Royal College of Physicians and Surgeons of Canada, he is founder of the International Society for Adult Congenital Cardiac Disease. He has some lofty goals for the new center here, hoping to eventually see 2,000 patients a year. As he puts it, "I've seen what excellence is in research and patient care and training. I want Philadelphia's program to emulate what we were able to accomplish in Toronto – and exceed it whenever possible."

According to Webb, the more adult congenital heart disease patients the center sees, the more they will be able to help them. So the center's team is eager for referrals.

"Our goal is to help our patients live a normal life," says Webb. "Patients who are at risk for further complications must get monitored regularly and avoid future problems rather than try to fix it after the damage is already done. We need a partnership between pediatric and adult care systems so that adults can get appropriate care in the course of their adult lives. They need to be educated and trained when going from childhood to adulthood to continue to monitor their own health so that their perhaps false feelings of good health don't ultimately cost them their future."

That is precisely the trap Jim Hendrix almost fell into. After undergoing his first open heart surgery back in 1964, Hendrix regained his strength and finally got to live the life of a normal teenager. His doctors warned him to take it easy and get a desk job and play golf. Hendrix did the opposite – surfing, skydiving, and mountain climbing his way through life for the next 29 years. Says Hendrix, "I was out to prove I could do anything that anyone else could do."

Along the way, Hendrix began by having a checkup every few years, but then less frequently. He felt so well that he didn't go see any doctors. A year ago, however, he started experiencing numbness and a tingling sensation in his hand. Also, he kept waking up with a numb leg. After enjoying decades of wonderful health, he knew something was wrong.

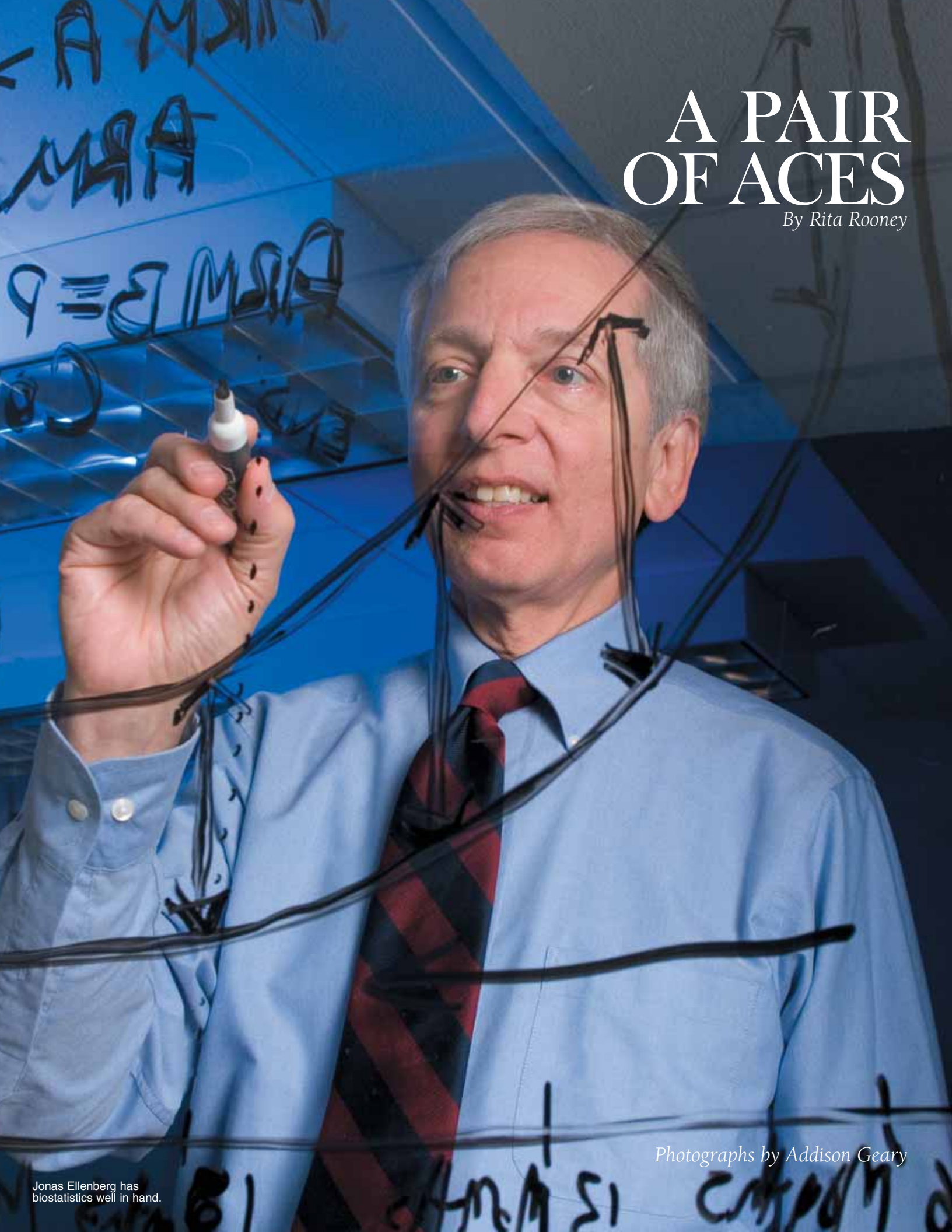
Hendrix checked into a local hospital to get tests done and was eventually referred to Webb at the Philadelphia Adult Congenital Heart Center for care. The 54-year-old man, who'd had his chest opened up and repaired already once in his life, went through the procedure again. Last May, at the Hospital of the University of Pennsylvania, two members of the center's multidisciplinary team performed the surgery. Alberto Pochettino, M.D., a Penn cardiothoracic surgeon, and Thomas L. Spray, M.D., chief of cardiothoracic surgery at Children's Hospital and the Alice Langdon Warner Professor of Surgery at the School of Medicine, closed a hole between the two upper chambers of Hendrix's heart, put in a pulmonary valve substitute, and stopped another valve from leaking. The surgery ultimately stopped the atrial fluttering of his heart.

In August, Hendrix celebrated both his 30th wedding anniversary to his wife, Barbara, and his 55th birthday. He is looking forward to many more years of riding his motorcycle. ●

For more information about the Philadelphia Adult Congenital Heart Center: http://www.philachd.org

A PAIR OF ACES

By Rita Rooney



Photographs by Addison Geary

Jonas Ellenberg has biostatistics well in hand.

Two leaders in the field of biostatistics have joined the School of Medicine with a mandate to strengthen its research component. So far, they appear willing to share a single parking place on campus.

He helped spearhead a component of the Collaborative Perinatal Project (CPP), a longitudinal study of the National Institutes of Health that changed the direction of clinical research. She used her educational skills and a cool head to bring together angry patient activists and clinical researchers during the contentious early years of AIDS clinical trials. Late last year, in a major coup for PENN Medicine, both of them joined the Department of Biostatistics and Epidemiology. And both of them were appointed associate deans, in a move to bolster aspects of the School of Medicine's already powerful research component.

Jonas H. Ellenberg, Ph.D., professor of biostatistics and associate dean for research program development, and Susan Smith Ellenberg, Ph.D., professor of biostatistics and associate dean for clinical research, share a 36-year marriage and international prominence in their relatively young, still emerging field. Each has earned the respect of colleagues who credit them with extraordinary insights in the design of questions that yield meaningful results.

Karin B. Nelson, M.D., a pediatric neurologist at the National Institute of Neurological Diseases and Stroke (NINDS), worked with Jonas on the Collaborative Perinatal Project. She says, "When I look at other situations in which people have plugged conclusions into statistical packages, it's clear that few engage their heads the way Jonas does. He generates approaches that are useful in the time sequencing of risk factors, and that's uncommon."

Speaking about their joint work on AIDS trials at the NIH, Stephen Lagakos, Ph.D., professor and chair of biostatistics at the Harvard School of Public Health, says of Susan, "What impresses me most is that she has an unshakeable faith in reason. She approaches people who normally would be combatant and gets them to focus on the scientific issue."

Sitting around the conference table in Jonas's office, discussing the choices that define their lives and careers, both Ellenbergs admit that a serendipitous series of events led them to biostatistics. Both Jonas and Susan respond affably to questions. She is more talkative than he, but each listens to the other with the kind of regard most people reserve for stories and information they haven't heard before. There is never the good-humored interruption that often occurs among couples whose work and marriages overlap.

Jonas, who earned his master's and doctorate degrees in statistics at Harvard, started out as a business major at The Wharton School. "Statistics courses were required," he says. "I found them interesting and so followed generally in that direction. A few years later, I was a statistical consultant at Tufts University Medical School and was asked to do medical consulting. It was my first introduction to biostatistics and I have never looked back."

Susan, whose focus has been on clinical trials, with emphasis on ethical considerations, took an indirect route to biostatistics as well. "My career is pretty much an accident," she says. "I never wanted to be anything but a teacher. I got my master's, taught high-school math for three years, and had my life planned." She envisioned a couple of children, followed by a return to teaching when the youngest would be in nursery school. "That was before I was exposed to clinical trials and had an opportunity to work with Jerome Cornfield, an important 20th century statistician. After that, I had no doubt this was what I wanted to pursue." After earning her B.A. degree from Harvard, she went on to receive a doctorate in mathematics from The George Washington University – and to lead a life she never envisioned while growing up in Tucson, Arizona.

Susan and Jonas met while at Harvard. As Susan puts it, "My section leader invited me to a party with grad students because most women in my psychology major were math-phobic, and she figured I could at least talk to male statisticians there."

Among Susan Ellenberg's new colleagues is Justine Shults, Ph.D., left, assistant professor of biostatistics, a specialist in longitudinal studies.

She and Jonas met and immediately connected — as friends. The friendship lasted for several years until they were at the beach one day and someone asked if it was their first date. They looked at each other, neither one sure it really was a date. It seems the question prompted some serious thought from each of them. Married not long after that, they have two adult children. Their son, Jordan, is a mathematics professor at the University of Wisconsin, and their daughter, Shana, is an equine veterinarian in Florida.

From the start, their careers flourished — albeit separately. From 1969 until 1995, Jonas was at the NIH, first as chief of the Section on Mathematical Statistics in the Office of Biometry and Field Studies of NINDS, then as deputy chief and chief of that office, and acting chief of the Neuroepidemiology Branch. In 1995, he became vice president and senior biostatistician for Westat, a research corporation in Rockville, Md., that serves government agencies as well as businesses and foundations.

Susan spent six years as a biostatistician at the National Cancer Institute and was appointed chief of the AIDS division of the Biostatistics Research Branch at the National Institute of Allergy and Infectious Diseases in 1988. From 1993 to 2004, she directed the Office of Biostatistics and Epidemiology at the Food and Drug Administration's Center for Biologics Evaluation and Research.

During these years, the couple lived close to Washington, in the house they bought while expecting their first child.

"Most people buy small and move up," Susan says. "We bought the best we could afford and renovated it over the years, until we accepted the Penn appointments. I was sentimental about moving, but it was Jonas who had invested so much personal energy in the house."

The energy to which she refers represents no small talent in home construction.

Honors and Achievements

Susan Smith Ellenberg is a fellow of the American Statistical Association and of the American Association for the Advancement of Science. An elected member of the International Statistical Institute, she has served as president of the Eastern North American Region of the International Biometric Society as well as the Society for Clinical Trials. She is an associate editor of *Clinical Trials* and has been a statistical editor for the *Journal of the National Cancer Institute*. Her book *Data Monitoring Committees in Clinical Trials: A Practical Perspective*, written with Drs. Thomas Fleming and David DeMets, was named Statistics Book of the Year for 2002 by Wiley Europe, the publisher.

Jonas, who says construction projects are more passion than pastime with him, finished a basement with electricity, plumbing, and dry wall, designed and installed a 30-foot by 70-foot brick deck with gazebo, and added built-in bookshelves, among other improvements.

Says Jonas, "My sense is that, while these projects often take a long time to complete, they don't take the time research programs do. So there is satisfaction for me in being able to finish something sooner rather than later."

Few statisticians have managed to change long-held concepts of medical practice, but that's what happened when Jonas Ellenberg and Karin B. Nelson studied cerebral palsy. Their work was part of the Collaborative Perinatal Project, a study sponsored by the NIH that followed 60,000 pregnant women through early pregnancy and delivery. A subsequent study followed the children through eight years of life. Jonas worked on the research for approximately 15 years, and his portion of the project was successful in supporting conclusions that reversed previous theory about the cause of cerebral palsy.

"Before our study, medical errors made during labor and delivery were observed to be related to cerebral palsy and a causal effect implied," he says. "Our conclusions, which have since been replicated, show this to be based on faulty logic and inadequate data. Sometimes developmental problems or genetic mutations lead to difficulties in birth, so there is an understandable association. However, the birth defect is related to something that develops closer to conception."

It is not surprising that the research of Ellenberg and Nelson has implications in many areas. Litigation becomes much more complicated once it is established that medical errors during labor and de-

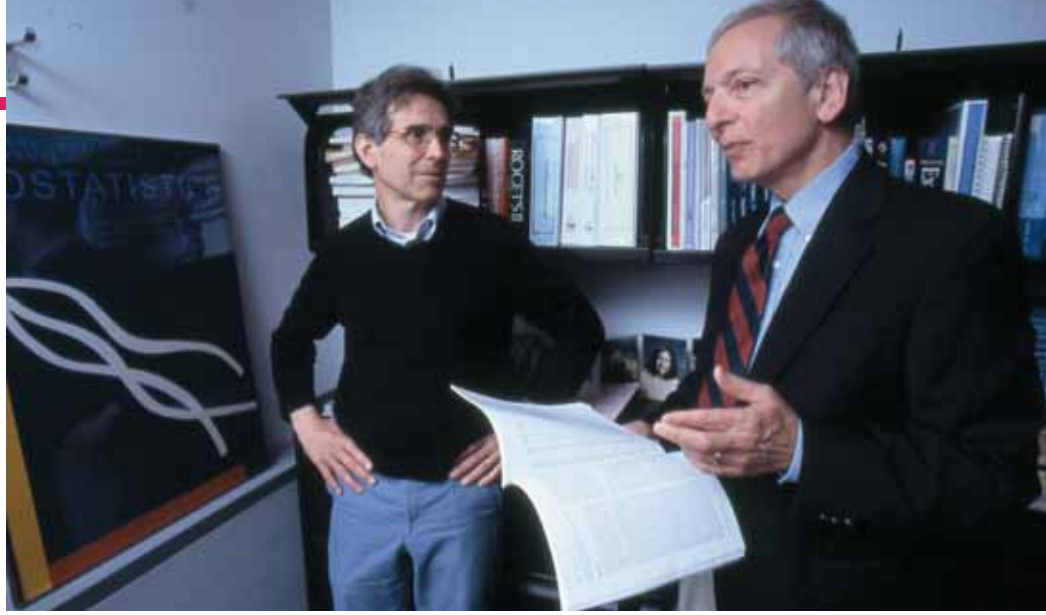
livery are not the sole cause of cerebral palsy. In fact, within certain circles of the legal community, their conclusions became known as "the Ellenberg-Nelson fallacy," a tagline that wilted before the enduring strength of the study.

Today, the website of the Centers for Disease Control and Prevention notes that causes of cerebral palsy include "genetic conditions and problems with the blood supply to the brain. Other causes of cerebral palsy happen after the brain has developed. These causes can occur during later pregnancy, delivery, or the first years of the child's life. They include bacterial meningitis and other infections, bleeding in the brain, lack of oxygen, severe jaundice, and head injury."

Another important conclusion reached by Jonas and his colleagues in the CPP related to febrile seizures. A frightening experience for parents, seizures with high fever are common in children around the age of two years. Until the research compiled by Jonas and Nelson was published, the standard care for febrile seizures was to give the child phenobarbital for two years. Although it was considered a sedative, the neuroactive drug often caused children to become hyperactive. The question asked by the study, therefore, was whether it was necessary to treat children who experienced these seizures.

"For the first time, we were able to show that such seizures are benign, eventually the children stop having them, and, with few exceptions, they do not lead to mental retardation, as previously believed," says Jonas. "Because of the size of the study, we also were able to define those situations in which neurological problems do occur and show that, for the most part, they were not related to the seizures but to another cause."

Yet some ingrained concepts die hard. Clinicians were slow to abandon a deep-rooted medical practice, so the NIH conducted a clinical trial that yielded two findings: phenobarbital did not prevent a second or third seizure, and it lowered the I.Q. in children a clinically and statistically significant amount.



Jonas Ellenberg confers with A. Russell Localio, J.D., M.P.H., Ph.D., left, assistant professor of biostatistics, who studies patient safety.

Karin Nelson remembers the NIH partnership that led her and Jonas to these conclusions. "In a study like this one, every answer one gets points to the need for more information," she says. "What does the answer tell us? What does it ask us? Jonas always had the insight to move ahead, with a rare understanding of what the next questions should be and whether the answers we were getting were useful."

Honors and Achievements

Jonas H. Ellenberg has been an editor of such books *Febrile Seizures* and *Etiology of Parkinson's Disease*. He has also served as associate editor of *The American Statistician*. An elected fellow of the American Statistical Association and the American Association for the Advancement of Science, he is also an elected member of the International Statistical Institute. He has served as president of the American Statistical Association and of the International Biometric Society. Among his other honors, he has received the Superior Service Award from the United States Public Health Service and the Secretary's Award for Distinguished Service from the Department of Health and Human Services.

Susan Ellenberg has her own triumphs, the kind that clear the way for medical progress. Even in conversation, Susan displays a down-to-earth approach that makes it easy to understand how she could melt the resistance of a hostile group.

The time was the 1980s and Susan was with the NIH, working on AIDS trials and facing the hostility of an activist community that was demanding better and faster clinical trials. One day, she received a phone call from an organization representative demanding that the group be allowed to attend future meetings of a committee she had initiated to discuss approaches to AIDS trials. It sounded fair to her, so she agreed. Attendance at the meetings grew rapidly. To the surprise of many observers, the activists began to develop an understanding of the government's position, while the scientists recognized the validity of some of the activists' concerns.

"Those early days of AIDS trials were chaotic," Susan says. "I think it was important to have those at risk understand how trials are designed and conducted. Some didn't understand why emerging results had to be kept confidential, that they were not conclusive and could cause considerable harm if clamor for a drug resulted from inconclusive positive results of a trial."

Stephen Lagakos of Harvard's School of Public Health believes Susan is among those who made some of the most significant contributions to AIDS trials. According to Lagakos, the issue itself demanded a re-examination of the ethics of clinical trials, and Susan Ellenberg was quick to organize and design solutions.

"Generally, an institutional review board signed off after reviewing the ethics of a trial," he says. "But the AIDS field was developing so rapidly, with information accumulating during the course of a trial, that it became necessary to monitor results before completion. Susan organized data and safety monitoring boards, putting together a highly impressive group of those who combined knowledge of the disease with ethics and statistics. She had the job of convincing both sponsors and government of a proposal that was new and untried at the time, but about which there is no question today."

Placebos always have been a hot topic in medicine. Critics have questioned whether they are ethical and why they are scientifically needed. In 2000, Susan Ellenberg and Robert Temple, director of the Office of Medical Policy at the FDA's Center for Drug Evaluation and Research, published two papers on the matter in the *Annals of Internal Medicine*. In them, they examined the limitations of active-controlled clinical trials (where no placebo is given) and what they saw as the exaggerated concerns about placebo-controlled trials.

Their research showed that active-controlled trials comparing a new drug with one already in use often are inconclusive. It is not uncommon, for instance, to conduct a trial in which patients are randomized to one drug or another, and when no statistical difference is found in the effectiveness of the two, the drugs are assumed to be equally effective. Varying factors, including the size of the study, the precise information sought, and the type of drug, may invalidate such conclusions. Conversely, the researchers demonstrated that placebo-controlled studies are critical to research and present no ethical problems in most circumstances if trials are vigilantly monitored and if they are performed with a careful selection of patients who understand they may be given a placebo and whose conditions are not life-threatening. The publication of this work coincided with a scheduled change in the Declaration of Helsinki of the World Medical Association to ban practically all placebo-controlled trials.

"The Helsinki position allowed no understanding of the limitation of active-controlled trials or why placebo-controlled trials are needed," Temple says. "Both are essential. Our paper clearly enunciated these issues before the rules changed and led to a modification that, in effect, rolled back the opposition to placebos." Two years after the articles by Ellenberg and Temple, the World Medical Association added a "note of clarification" reaffirming its position that "extreme care must be taken in making use of a placebo-controlled trial" but describing where it is ethically acceptable.

As a look at the literature suggests, some critics of the use of placebos remain unconvinced; but the articles of Ellenberg and Temple, frequently cited, make the strongest case for the necessity of placebo-controlled studies.

In praising Ellenberg's contributions to the research, Temple says, "Susan was highly skilled in addressing the ethical questions raised by this issue."

Much in demand as an expert, Susan Ellenberg has addressed a Congressional Subcommittee on the FDA's Vaccine Adverse Event Reporting System; has spoken on the need for guidelines in clinical trials research at the International Clinical Trials Symposium in Australia; and has served on a panel of the American Cancer Society to evaluate alternative cancer therapies.

Jennifer Wong, left, an administrative coordinator in the center for Clinical Epidemiology and Biostatistics, is assistant to both Susan and Jonas Ellenberg.

Neither Jonas nor Susan will admit to any disadvantages to toiling in the same scientific field. They do, however, point to advantages. They speak the same professional language. They get to travel together to attend the same meetings.

"Another nice thing," says Susan, "is that we only need one set of our professional journals!"

Both Ellenbergs have formidable roles to fill at Penn. As associate dean for research program development, Jonas has a mandate to promote grantsmanship among the faculty, especially for winning multi-investigator awards and those involving partners in all schools within the University. He has begun to explore numerous basic science projects being conducted at Penn and will facilitate the kind of in-house and external collaborations that ultimately move these discoveries to the marketplace. He is specifically targeting relationships with industry. These, he is careful to point out, are not new activities but are being developed with a newly coordinated approach.

"There is an enormously complex sys-

tem out there in terms of funding from NIH and other sources," Jonas says. "Unless a faculty member is searching the Web every day, he or she may not be aware of specific grants or will pick up the announcement late, giving colleagues in other institutions a head start."

Jonas's office will search for daily announcements, looking to help put logical collaborators together. The office is conducting classes for faculty throughout the medical school, training researchers how to get the knowledge they need. Staff is available to assist faculty in responding to contract and grant notices. Part of this more aggressive approach includes reviewing minutes of the NIH Council meetings. That way, Penn researchers will learn of grants before announcements hit the street. In addition, they will have a sense of how the Council is leaning as much as a year before a grant is formally announced.

Glen N. Gaulton, Ph.D., vice dean for research and research training for the School of Medicine, says Jonas's experience in government and for-profit institutions, as well as in academe, makes him ideally suited for the challenge of expanding grantsmanship at Penn.

"Our Office of Research Development has been doing an excellent job since 1993," says Gaulton, a professor of pathology and laboratory medicine. "What we now are doing is supplementing the traditional academic approach to securing grants with a new perspective. We want to expand partnerships with other institutions, especially pharmaceuticals. Jonas Ellenberg has the expertise to create and manage such relationships."

As an example, Gaulton cites a 30-year, $2.7 billion contract soon to be awarded by the NIH as follow-up to the Collaborative Perinatal Project. Penn and Westat, where Jonas formerly worked, have collaborated on a proposal to become the Coordinating Center for the National Children's Study, a longitudinal investigation of 100,000 women who will be monitored through pregnancy, with follow-up of their children through 21 years. The study expands on the CPP, not only because it is longer but because it includes major genetic and environmental components that have never been studied in such a large cohort. Some high-priority issues that will be investigated include autism, obesity, and epilepsy, and a critical advantage of the study is that results will be published on the fast track, with swift access to data. Some observers expect the new study to change the direction of research in much the same way as the CPP did.

At press time, Penn learned that it had been awarded two contracts: as one of six "Vanguard Centers" for the project, along with The Children's Hospital of Philadelphia and Drexel University, and as one of the partners that will run the Study Coordinating Center.

Since being appointed associate dean for human research, Susan Ellenberg has spent considerable time reviewing existing clinical and educational programs. One of her first initiatives will be an exhaustive survey of the kinds of clinical research training programs available at Penn to provide investigators with information they need to carry out research projects — NIH requirements, FDA regulations, and Penn rules. At the same time, she wants to track the number of fellows and junior faculty taking advantage of such training.

"We want to know if there is something more we can do for the faculty," she says. "When I first came on board, the Office of Human Research was developing a three-day training program for clinical research coordinators. It was held in the winter and was followed by a similar event in July. Both programs were highly successful and will be offered routinely. We need to make sure faculty members have these training opportunities. Training is an important feature of the ambitious NIH Roadmap initiative aimed at reengineering the clinical research enterprise in which Penn is involved."

According to Glen Gaulton, "Susan has the kind of specialized knowledge that can create the long-term vision we want to achieve. She has intimate knowledge of the processes necessary to conduct clinical research at the highest level, a level that insures the protection of patients."

These two new deans who require only one parking place at the School of Medicine appear poised for early results. Susan says she is impressed by the track record of the four-year-old Office of Human Research prior to her arrival. "They have done an amazing job, and I'm delighted to be working with them."

For his part, Jonas says, "I'm impressed that, every time I come up with an idea, I learn someone else has been thinking in the same direction. It's encouraging to know we're on the same track, which allows me to become a catalyst, moving projects forward for the benefit of Penn and medical science." ●

Steven Arnold (left) and Konrad Talbot, part of the Cellular and Molecular Neuropathology Program, examine a slide of brain tissue.

Daniel Burke

GENE SLEUTHS ON THE TRAIL OF SCHIZOPHRENIA

As someone who has long been involved in trying to halt schizophrenia, Steven E. Arnold, M.D., has found some recent reasons to be encouraged. Like other researchers in the field, he is very aware of the human and economic costs of this devastating mental illness that afflicts 1-2 percent of people around the world and about 2.2 million Americans in a given year. According to the World Health Organization, schizophrenia is the fifth-leading cause of disability in the United States and other developed nations. Suicide is much more common among people with schizophrenia than among the general population. The standard estimate has been that from 10 to 13 percent of those with schizophrenia will commit suicide, although a recent study gives the figure as 5.6 percent. Seventy percent of schizophrenic individuals are totally disabled within their communities. The symptoms can include hallucinations, disorganized and delusional thinking, attention and memory impairments, anhedonia, and an inability to take action. Although current anti-psychotic medicines can help with some of the symptoms, the disability is often chronic and lifelong – and the suffering for the individual and family is immense.

Still, according to Arnold, associate professor of psychiatry and of neurology in Penn's School of Medicine, "We are in a new era of research in schizophrenia because of recent genetic findings and because of the success of our brain collection."

And Arnold and his team of researchers in the Department of Psychiatry have played a part in both advances.

For one thing, they have been conducting a longitudinal study of older adults with schizophrenia and other severe psychiatric disorders in order to understand the course of mental illness over the lifespan. They also are seeking to correlate symptoms with cellular and molecular findings in the brain. "Schizophrenia is a brain disease with no good animal models," explains Arnold, "so if you want to understand the cellular and molecular basis of the disease, you need to look at brain tissue."

The idea for a brain collection was developed about 15 years ago, in collaboration with Penn neuroscientists, including Raquel Gur, M.D., Ph.D., the Karl and Linda Rickels Professor of Psychiatry, and John Q. Trojanowski, M.D., Ph.D., the William Maul Measey-Truman G. Schnabel Jr., M.D., Professor of Geriatric Medicine and Gerontology and co-director of the Center for Neurodegenerative Disease Research.

The people who volunteer for Penn's Psychiatric Research Autopsy Program receive a comprehensive review of their medical and psychiatric history, an annual assessment of mental and physical functioning, and, in the event of death, a brain autopsy. As the program's brochure states, "The donation of brain tissue for research is a precious gift that will benefit future generations. . . ."

In his research, Arnold has been able to compare the brains of patients with schizophrenia to those without the illness by using tissue samples from the brain collection. Reaching out to schizophrenic patients and their families to seek permission to study their brains after their deaths is certainly a sensitive task. But for Arnold, it is a vital one. Today, the collection houses hundreds of brains and tissue samples, and the information learned from these studies is critical for the discovery of new therapies to help people with schizophrenia and related disorders.

At first, the studies at Penn focused on determining whether the brains of people with schizophrenia showed any evidence of neurodegenerative or neural injury. The investigators proceeded by measuring the number of lesions typically found in Alzheimer's disease and other degenerative diseases. Somewhat to their surprise, they found no evidence of increases in such lesions in the brains of schizophrenic subjects. The next step was to measure the numbers and sizes of brain cells in different brain regions and the integrity of neuronal processes – the branches of brain cells that allow one cell to communicate with another. In these cases, the researchers found subtle abnormalities in the brains of people with schizophrenia. But the root cause for these changes at the molecular level was not obvious.

In the last few years, genetics research both in the United States and around the world has turned up important clues. Once schizophrenia was associated with variations in specific genes, researchers began to follow new biochemical, cellular, and anatomic pathways. Investigators have been finding strong support for the genes that produce dysbindin, neuregulin, DISC-1, RGS4, and several other brain proteins. In particular, the genetic association of schizophrenia with the dysbindin gene has been especially strong and had been found in populations around the world. Arnold and Konrad Talbot, Ph.D., senior research investigator in the Department of Psychiatry's Cellular and Molecular Neuropathology Program, pursued this critical lead by examining whether the levels of dysbindin protein are abnormal in schizophrenia. In an article published in the May 2004 issue of the *Journal of Clinical Investigation*, they reported that the dysbindin protein was reduced in more than 80 percent of the patients with schizophrenia by an average of 40 percent relative to matched healthy comparison cases.

They also found that, in the same brain regions in which there was a decrease in dysbindin, there was also an increase in the amounts of presynaptic glutamate packets, or vesicles, and that these findings were highly correlated. Synaptic vesicles form at the ends of nerve cells and contain chemical neurotransmitters such as glutamate. Neurons communicate with each other by releasing neurotransmitters from these vesicles. What Arnold, Talbot, and their team surmise is that dysbindin affects the manufacture or breakdown of these vesicles and, consequently, glutamate may not be released properly. As a result, communication between neurons is impaired.

The dysbindin abnormality was most prominent in the hippocampus, an area of the brain that is especially important for memory. It is also an area known to be impaired in schizophrenia. The study's findings were established by Arnold's research team first in the Penn brain collection and then in another set of brain tissues obtained from the Stanley Medical Research Institute, a nonprofit organization in Bethesda, Md., that supports research on the causes and treatment of schizophrenia and bipolar disorder. Subsequently, the schizophrenia research group at the National Institute of Mental Health replicated the study in still another sample and published its results in the *Archives of General Psychiatry*.

"The next step is to understand what dysbindin does in the brain," says Arnold. "We've found that abnormal dysbindin expression is a molecular signature of schizophrenia, but we need to know much more to translate this information into practical knowledge to help patients. We need to know what other proteins dysbindin interacts with, whether it involves just glutamate or other neurotransmitters like serotonin, dopamine, or GABA, and how dysbindin affects the electrical activity of the brain." And that leads to another important question: "Are there medicines that alter dysbindin expression in the brain?"

For answers, Arnold and his colleagues are collaborating with other researchers at the University of Oxford in the United Kingdom, The Children's Hospital of Philadelphia, U.C.L.A., and the Roswell Park Cancer Institute in Buffalo, N.Y. "One of the most exciting parts of this story is that the extensive work that has gone on in the genetics of schizophrenia is finally starting to bear fruit in terms of identifying specific genes that we can then follow up in the brain," says Arnold. "Once we determine that biochemical pathway," he explains, "medicines can be developed to stop or correct it."

As Arnold makes clear, these advances would not be possible if it were not for the individuals with psychiatric illness and their family members who take part in genetic and behavioral testing and in postmortem brain autopsies. The research is supported by the National Institutes of Health and is approved by the University's Institutional Review Board, the City of Philadelphia's Department of Public Health, and the Commonwealth of Pennsylvania's Office of Mental Health.

For more information on prospective brain donation or to request a brochure: http://www.med.upenn.edu/bbl/programs/donation. ●

Can We Ward Off

More and more Americans are living longer. At the same time, more and more of them are looking for ways to appear younger and feel younger. This socio-cultural trend was the impetus for a multidisciplinary symposium held this spring on the Penn campus, called "The Art and Science of Anti-Aging Therapies." The event was organized by two components of the School of Medicine, the Institute on Aging and the Edwin and Fannie Gray Hall Center for Human Appearance. One of the purposes of the symposium was to scrutinize some of the popular claims made about cosmetic surgery, exercise, new pills and ancient herbal remedies . . . and even the benefits of wine. Rebecca Lynn Craik, P.T., Ph.D., chair of physical therapy at Arcadia University, minced no words when she stated, "We all have to age, and we all have to die." That said, however, she spoke as part of a presentation hopefully called "Staying Young by Keeping Fit."

The symposium was intended to familiarize health-care professionals with issues they are increasingly likely to confront in their dealings with patients. Most panelists were Penn faculty members, although other academic institutions were represented. There were also speakers from other groups. For example, Daniel Perry, executive director of the Alliance for Aging Research, pointed out that, in 2000, 45 percent of the U.S. population had a chronic condition. Seventy-eight percent of U.S. health-care spending went to care for those people. Because those figures are likely to go up as the population continues to age, it is all the more urgent that local and federal governments make plans to handle the economic burden.

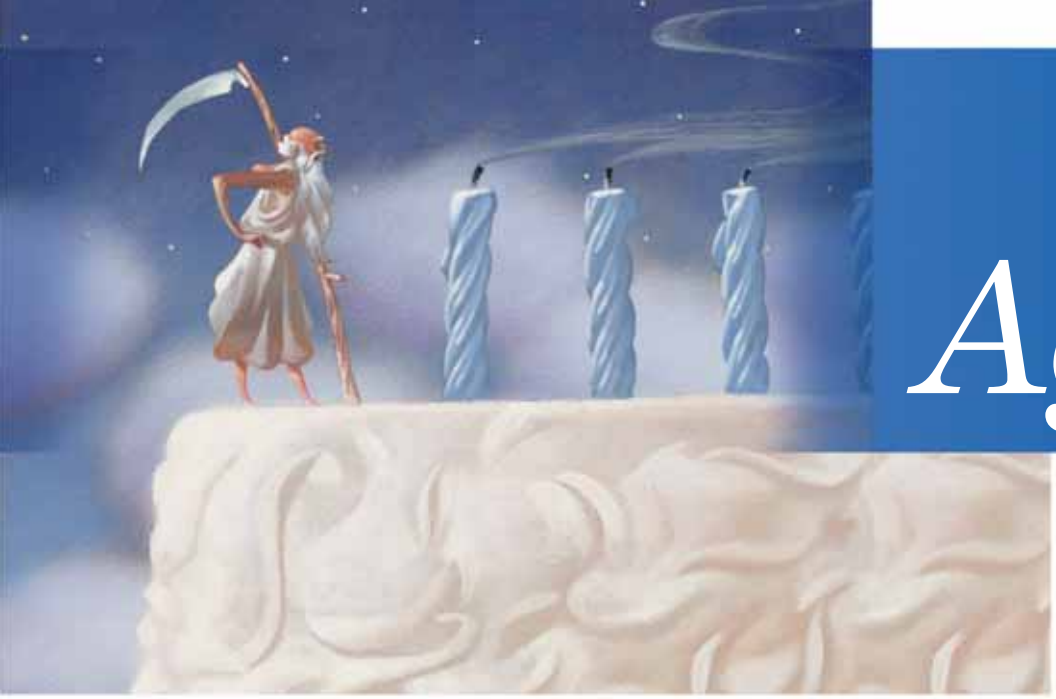
The symposium's three program chairs were Linton A. Whitaker, M.D., professor of surgery and director of the Hall Center for Human Appearance; Brad Johnson, M.D., Ph.D., assistant professor in the Department of Pathology and Laboratory Medicine and fellow in the Institute on Aging; and John Q. Trojanowski, M.D., Ph.D., the William Maul Measey-Truman G. Schnabel Jr., M.D., Professor of Geriatric Medicine and Gerontology and director of the Institute on Aging. Along with M. Kathryn Jedrziewski, Ph.D., deputy director of the Institute, they summarized the demographic rationale in a report in *Science of Aging Knowledge Environment* (27 April 2005): "[L]ess than a year from now, members of the 'baby boom' generation will begin turning 60 years old, and demographers estimate that by 2030, one in five people in the United States will be 65 years of age or older. Second, life expectancy has risen significantly in the 20th century, so that the elderly are an increasingly large segment of our population. Thus, the health care needs of a progressively aging population will continue to grow for decades."

The symposium began with some basic science, courtesy of Caleb E. Finch, Ph.D., the ARCO/Keischnick Professor of Gerontology and Biological Sciences at the University of Southern California. He spoke on "Genetics of Aging and Longevity – From Flies to Centenarians."

Rebecca Craik and Kathleen Kline Mangione, P.T., Ph.D., associate professor of physical therapy at Arcadia University, then spoke on exercise as an anti-aging therapy. Craik had the glummer task, detailing the effects of aging on the body. In a cardiopulmonary context, age-related complications contribute to "a stiffer heart." The musculoskeletal system is affected as well: periarticular connective tissue stiffens and bone mass decreases. At its most severe, that tendency can lead to osteoporosis. Aging brings a loss of muscle; strength declines, particularly explosive strength, endurance, and reaction time. Yet, turning things over to Mangione, Craik also said that exercise may have a neuroprotective effect and reduce the risk of disease.

Unfortunately, as Mangione made clear, there is disagreement among the experts as to how long and how hard the exercise must be to have any salutary effects. The Surgeon General's office recommends at least 30 minutes of moderate daily exercise. The Institute of Medicine recommends at least one hour of moderately intense physical activity per day. Mangione herself argued for at least 20 minutes of continuous exercise at least three times a week – but toward "overload," which means doing more than what is normally performed. The most efficient exercise, she said, is high-intensity activity "until you can't do one more repetition." In addition, Mangione advocated multiple types of exercise.

In the question-and-answer period that followed the first group of presentations, Finch returned to the matter of exercise when he touched on what he called "the remarkable increase in childhood obesity."



Aging?

Obesity, he said, will shorten life spans. Part of the increase in obesity is related to the fact that children and adults are exercising less. Why? he asked. "A simple reason – it hurts!" To which Craik added, "it hurts, but it's also boring!" So the option of exercise is not necessarily an easy one.

David B. Sarwer, Ph.D., associate professor of psychiatry and of surgery at Penn, raised the question "if youthfulness equals beauty, what is aging?" Facial beauty and youthfulness, he said, have traditionally represented physical health and reproductive potential. The ideal images of beauty and youth, however, are changeable. In the 1960s, Twiggy was rail thin. Today, the ideal female figure seems to be moving toward more curves and more muscles (for example, Serena Williams). How do women today try to approach that ideal? According to Sarwer, through restrictive diet, excessive exercise, and cosmetic surgery. For men, the ideal has changed, too. Sarwer showed a slide of the early G.I. Joe "action figure," then the current one, who looks like he's been feasting on steroids.

All in all, Sarwer sees increasing dissatisfaction with body image while cosmetic surgery grows more popular. Yet many patients who undergo cosmetic surgery show increased symptoms of depression both before and after the operation.

Scott P. Bartlett, M.D., associate professor of surgery and director of craniofacial surgery at Penn, looked more closely at the increase in plastic surgery cited by Sarwer. According to the American Society of Plastic Surgeons, there were about 389,000 procedures done in 1992. By 2003, that number had risen to about 2,878,000 – and the figure would be even higher, Bartlett noted, if similar procedures done in other specialties were added. In recent years, however, there has been some leveling off. Today, in fact, minimally invasive procedures like Botox injections and chemical peels are "driving the statistics."

According to Bartlett, plastic surgery is strongly associated with age. Most procedures are done in 35-50-year-old population group – and from 80-90 percent of that group are women. Bartlett also reported that the majority of his own patients were repeat patients, coming for Botox "maintenance."

Among the other presentations over the two-day symposium was "Maintain Your Brain While You Age – Pills Vs. Puzzles?" by Marilyn S. Albert, Ph.D., professor of neurology at Johns Hopkins School of Medicine. She noted the normal decline of memory function and other cognitive functions as people age. Yet she also cited several large community-based studies that suggest an association between mental activity (and psychosocial factors) and better cognitive performance.

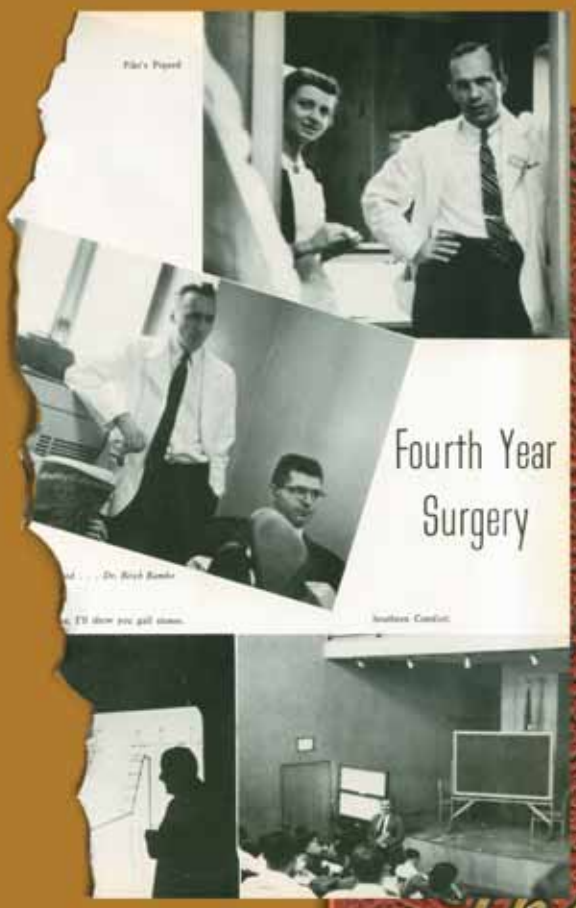
If Albert's presentation raised the hopes of all those who labor over the Sunday *New York Times* crossword puzzle, the lecture by R. Curtis Ellison, M.D., heartened the wine-lovers in the audience. Chief of preventive medicine and epidemiology at Boston University School of Medicine, Ellison has long been a champion of the protective effects of alcohol. He referred to the Framingham Heart Study, which showed that abstinence from alcohol was one of the four major risk factors for heart disease. Moderate use of alcohol, said Ellison, reduces the risk of heart disease by 50 percent. Moreover, he advocates regular, daily consumption, not the erratic pattern of many Americans, who often drink heavily on weekends.

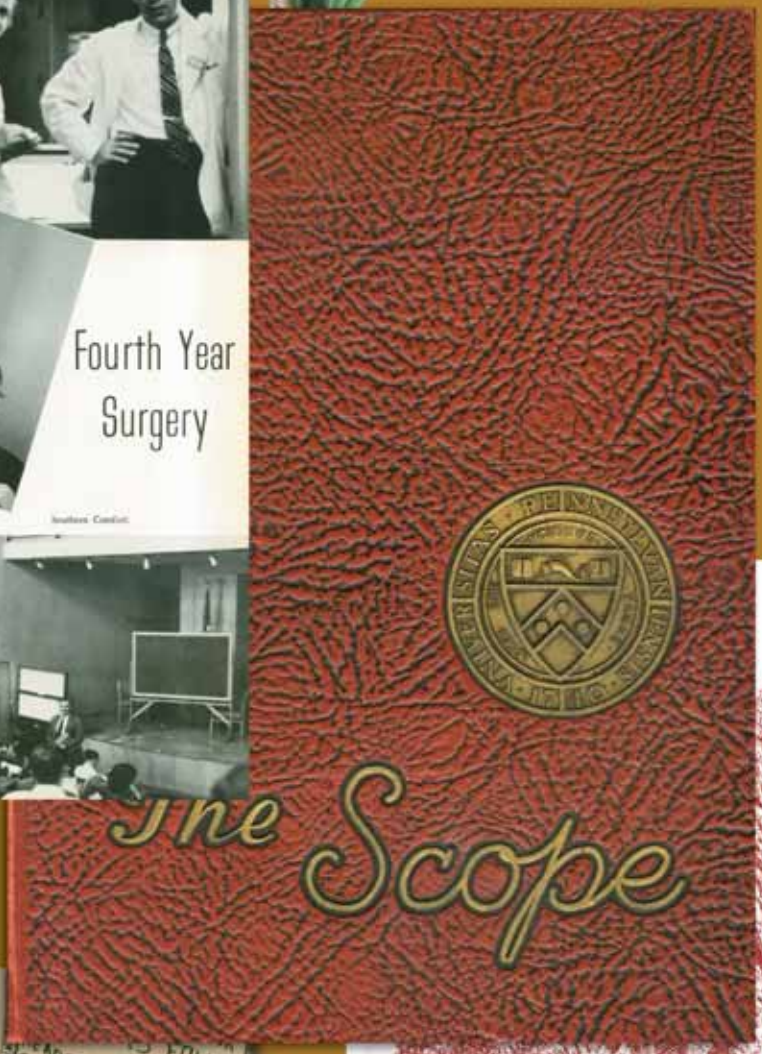
During the panel discussion of the first set of talks, Sarwer noted that they were speaking of "interventions to slow the hand of time." But, he added, we also need prevention. Like Finch, he referred to the dramatic rise in obesity, explaining that the challenge is "to prevent the next generation from following in these footsteps." As some of the presentations suggested, one of the best strategies to slow the undesirable effects of aging is to lead a healthy lifestyle. ▪

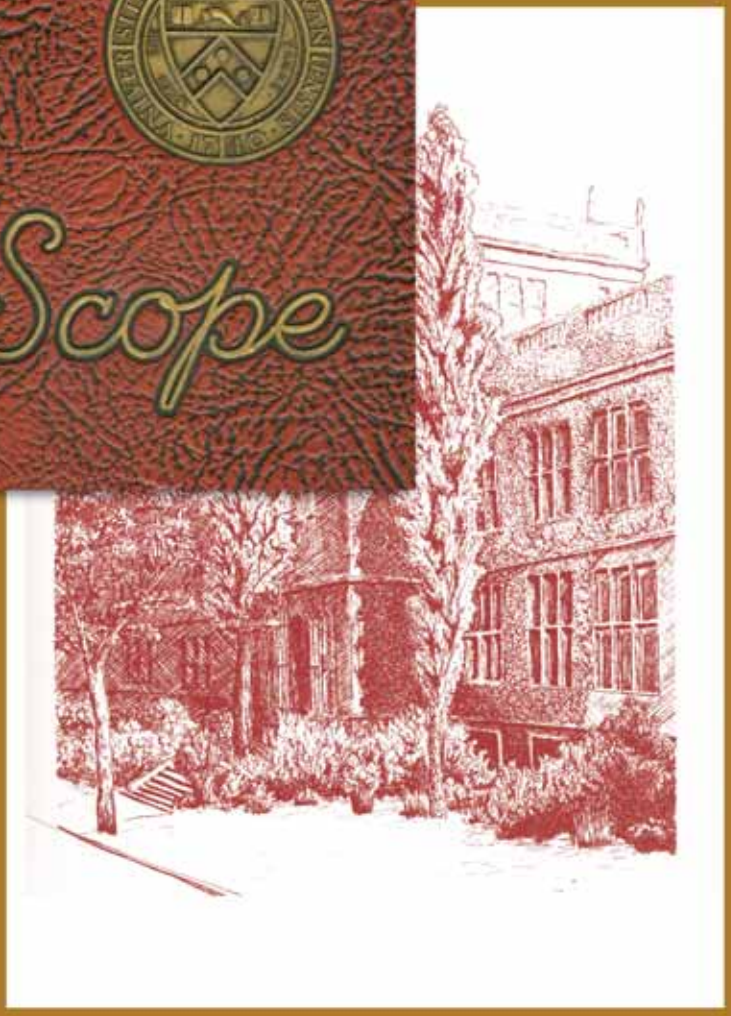
— John Shea

The proceedings of "The Art and Science of Anti-Aging Therapies" can be found at http://www.med.upenn.edu/aging/IIAnti-AgingTherapies.shtml.

A Spotlight on the Class of 1955







In his letter in the *Scope* of 1955,

Dr. John McK. Mitchell, dean of the School of Medicine, acknowledged the achievement of the graduating class: "You have worked hard to obtain the knowledge and skill which will fit you to meet the demands that will be placed upon you." Yet a new set of responsibilities, he wrote, awaited the members of the Class of 1955 in their new roles as interns. "While the educational aspects of the internship are of great importance, in practice emphasis must inevitably be placed on service to the patient, for that is the very reason for the existence of the hospital; and the intern is the servant of the hospital."

Whether the newly minted M.D.'s of 1955 went on to spend their careers in hospitals or found more fitting surroundings, they surely took to heart Mitchell's words about service to the patient. Here, drawn from questionnaires returned to the alumni relations office, are snapshots of 43 members of the Class of 1955.

1.Charles E. Alexander, Oxford, Pa., is retired from general preventative medicine. He recently returned from a trip to India where he visited the desert, the western Himalayas, and tiger reserves. He and his late wife have three children.

2.Samuel Craighead Alexander, Wayne, Pa., and Sturgeon Bay, Wis., has retired from anesthesiology. A former department chair at the University of Connecticut, he was department chair at the University of Wisconsin for 20 years. He was a member of the Council of Academic Societies of the Association of American Medical Colleges and served on the A.A.M.C.'s executive council. He and his wife of 54 years, Betty P. Alexander, have three children and seven grandchildren.

3.Thomas B. Arnold, Bloomington, Minn., is retired after 38 years of practicing internal medicine. He and his wife, De, have been married almost 20 years and have three children.

4.David Babbott, Burlington, Vt., a retired internist, is an emeritus professor of medicine at the University of Vermont. He is a former governor of the Vermont Chapter of the American College of Physicians and a recipient of its Laureate Award. He sits on the board of trustees of the Rock Point School and the Lake Champlain Land Trust in Burlington. He and his wife of 53 years, Meredith, have five children and seven grandchildren.

5. Walter M. Bortz, Portola Valley, Calif., reports that he is still practicing internal medicine. He enjoys running marathons and most recently ran the Boston Marathon in April. A former president of the American Geriatric Society, he is author of *We Live Too Short and Die Too Long* and *Dare to Be 100*, among other publications. He and his wife, Ruth, have been married 53 years and have four children and nine grandchildren.

6. Isadore Brodsky, Narberth, Pa., continues to practice hematology and specializes in oncology at Hahnemann Hospital. He is director at the Institute of Blood Diseases and Cancer. He writes that one son is now director of hematology at Johns Hopkins and another son is a surgeon on the Penn faculty. His third son is in business. Brodsky notes he doesn't plan to retire in the near future, having too much fun running his institute and practicing medicine. He and his wife of 49 years, Estelle, and have three children and five grandchildren.

7. Martin J. Bukowski, Lorain, Ohio, has retired from pediatrics. He was chief resident physician at The Children's Hospital of Philadelphia 1960-61. He has served on the ethics committee at Community Health Partners Hospital for the last 15 years. He enjoys birding, cooking, and gardening. He and his late wife, Winifred Ryan Bukowski, had four children and he is the grandfather of two.

8. Richard Cancelmo, Radnor, Pa., and Vero Beach, Fla., a retired radiologist, reports he was a voluntary associate professor of radiology at Jefferson. He also volunteers at Recording for the Blind and Dyslexic. He helps to record textbooks for students of all ages and has been asked to record medical texts. He notes that "diagnostic imaging technology has advanced tremendously from 1955-1995, and it was exhilarating to be practicing radiology during this period." He and his wife, Peggy D. Cancelmo, have been married for 50 years. They have four children and seven grandchildren.

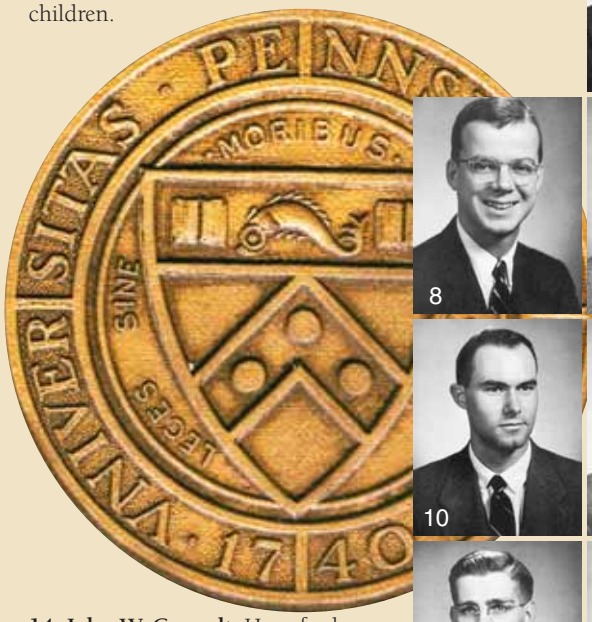
9. Rupert O. Clark, Las Cruces, N.M., is still giving occasional locums in family practice. In 1978, he received the Commendation Medal from the U.S. Public Health Service, and in 1982 he received a certificate of appreciation from the National Indian Health Board. Married for 50 years to his wife Frances Waltman Clark, they have four children and three grandchildren.

10. Richard G. Eaton, New Rochelle, N.Y., and Brewster, Mass., a retired orthopaedic surgeon, is an emeritus professor of clinical orthopaedic surgery at Columbia College of Physicians and Surgeons. A former president of the New York Society for Surgery of the Hand, he was a Founders Lecturer of the American Society of Surgery of the Hand. He and his wife of 48 years, DuRee, have three children.

11. Henry Eisner, Philadelphia, has retired from pediatrics and psychiatry. The author of dozens of articles, he received prizes for an article on croup and its causes and for an article on skin rashes. Writing and chess are among his hobbies. He and his wife, Eleanor Eisner, have been married for 46 years and have two children and four grandchildren.

12. James L. Fawcett, Bradfordwoods, Pa., a retired urologist, and his wife, Lois, have been married since 1990. He is the father of four children and grandfather of ten.

13. Maurice E. Goldman, Summit, N.J., and Longboat Key, Fla., continues to practice internal medicine. He holds faculty positions at N.Y.U. School of Medicine, UMDNJ- Robert Wood Johnson, and Columbia University. In 2003, he received the Medical Executive of the Year Award from the New Jersey Academy of Medicine. He was featured in a 1986 newspaper article in Guangzhou, China, for arranging and participating in a pioneering helicopter evacuation of a U.S. citizen from Guangzhou to Hong Kong. Goldman and his wife, Julia Ann Goldman, have been married 24 years. They have four children and four grandchildren.



14. John W. Goppelt, Haverford, Pa., continues to work full time as a psychiatrist.

15. Alexander P. Greer, Spokane, Wash., has retired from internal medicine. A former governor of the Washington State Chapter of the American College of Physicians, he received the chapter's 2004 Laureate Award. He also served as archivist/historian for the North Pacific Society of Internal Medicine. He reports that his son, William R. Greer, graduated from Penn's School of Medicine in 1993. Greer and his wife of 50 years, Dotty, have three children and eight grandchildren.

16. Herbert Gretz Jr., Schenectady, N.Y., an obstetrician-gynecologist who retired from the United States Army in 1996, continues to practice at the Walter Reed Army Medical Center in Washington, D.C., as part of the Consultation Case Review Branch. He and his wife, Shirley, have been married since 1957 and have four children and eight grandchildren.

17. Yoel I. Haller, Santa Barbara, Calif., and New York, N.Y., is retired from obstetrics and gynecology. He was a clinical associate professor of obstetrics and gynecology at the University of California at San Francisco. He and his wife, Eva Haller, are involved in international NGOs (non-governmental organizations) dedicated to improving the status of women, building schools, and preserving the environment. They were married in 1987, and he is the father of four children and five grandchildren.

18. Robert S. Harper, Worcester, Mass., continues to practice pathology at the Health Alliance in Leominster. He is a professor of pathology at the University of Massachusetts Medical School. He and his wife, Ursula, have been married 50 years and have four children and eight grandchildren.

19. Edward C. Haupt, Albuquerque, N.M., has retired from orthopaedic surgery. He and his wife, Anna, have three children and three grandchildren.

20. E. Ralph Heinz, Chapel Hill, N.C., reports he is working about 50 percent of the time as a neuroradiologist. A former chair of radiology at the University of Pittsburgh, he served more recently as chief of the neuroradiology division at Duke University. He is a recipient of the Gold Medal from the American Society of Neuroradiology. Heinz has been president of the Durham-Chapel Hill Torch Club. Among his publications is Volume 4 in *The Clinical Neurosciences: Neuroradiology*, edited with Roger N. Rosenberg. Heinz and his wife, Ann, have been married since 1976, and he has four children and five grandchildren.

21. Frank Jannotta, Tucson, Ariz., a former associate professor of pathology at George Washington University, notes that he helped in the development of cytology in the surgical setting. Married to Magdalena since 1989, he is the father of four children and grandfather of nine.

22. Whitman B. Johnson Jr., Clarksdale, Miss., a general surgeon, has served both as president and as chairman of the board of trustees of the Mississippi State Medical Association. A fellow of the American College of Surgeons, he is a former president of the Mississippi Chapter of the American College of Surgeons. He plays in and directs the Clarksdale Wind Ensemble and Stage Band. He and his wife of 51 years, Kathryn, have three children and two grandchildren.

23. David E. Kuhl, Ann Arbor, Mich., continues to practice nuclear medicine at the University of Michigan Hospital. In 2001, he received the Charles F. Kettering Prize from the General Motors Cancer Research Fund. As a radiology resident at Penn, he conceived and constructed a device that represented the first true computed axial tomographic (CAT) imaging system. Having stepped down as chief of nuclear medicine at the University of Michigan in 2002, he has enjoyed getting to spend most of his time on his research. He and his wife of 50 years, Eleanor, have a son and two young granddaughters.

24. Richard Lathrop, Bedminster, N.Y., and Jupiter, Fla., is still practicing dermatology. An associate clinical professor of medicine at the Robert Wood Johnson Medical School in New Brunswick, N.J., he was president of the New Jersey Dermatology Society in 1981-1982. Earlier, he had served on the board of the Plainfield Y.M.C.A. and continues to volunteer with Habitat for Humanity. He has been married to his wife, Barbara, since 1972.

25. George B. Lawson, Philadelphia, continues to practice psychiatry part time at Magellan Behavioral Care in Newtown. A former president of the Maine Psychiatric Association, he was an associate professor of psychiatry at Tufts University School of Medicine from 1975 to 1990. He has also served as medical director at three psychiatric hospitals. He married Delores in 2000, and he is the father of three children and grandfather of six.

26. Horace MacVaugh III, Philadelphia, is a retired cardiovascular and thoracic surgeon. He was chairman of the Department of Surgery at Lankenau Hospital and president of the Pennsylvania Association for Thoracic Surgery. He is a retired rear admiral in the Medical Corps of the U.S.N.R. He has also been a board member of his local chapter of the American Heart Association. He is the father of three and grandfather of seven.

27. Thomas McCreary, Beaver, Pa., reports that he has retired from the practice of internal medicine. He was co-founder and medical director of a county cancer treatment center. He also started and directed a nuclear medicine department and was a volunteer faculty member at the University of Pittsburgh School of Medicine for seven years. He and his wife, Patricia, have been married for 49 years. They have six children and fifteen grandchildren.

28. Charles F. McKhann, New Haven, Conn., has retired from surgery. He was a professor of surgery at Yale School of Medicine from 1980 to 2001 and is now emeritus. In addition to many published papers, he has written two books: *The Facts about Cancer* (1981) and *A Time to Die: The Place for Physician Assistance* (1999). He and his wife, Rhona, have three children and two grandchildren.

29. Stephen A. Ockner, Shaker Heights, Ohio, and Bay Harbor Islands, Fla., has retired from the practice of internal medicine and nephrology. He served as chairman of medicine at the U.S.A.F. Medical Center at Scott Air Force Base, in Illinois. After retiring as colonel in the medical corps in 1975, he joined the staff of the Cleveland Clinic and served as director of the internal medicine residency program from 1983 to 1989. For the next three years, he was chairman of general internal medicine. In his spare time, he was the tour physician for the Cleveland Orchestra, 1987-2002. He and his wife of 50 years, Paula, have four children and seven grandchildren.

30. Clarkson T. Palmer, Swarthmore, Pa., has retired from the field of Public Health. He developed a system to track childhood immunization for the Kentucky Department of Public Health. For ten years, he also served the Western Pacific Region of the World Health Organization as country liaison officer to Tonga. He was also the public health advisor for the South Pacific as well as regional advisor and director for health services development and planning. Writes Palmer, "Our economic and political systems need to learn that 'an ounce of prevention is worth a pound of care.'" He and his wife, Andrea Wilcox Palmer, have been married for 46 years and have four children and three grandchildren.

31. Lewis T. Patterson, Harrisburg, Pa., who retired from general and thoracic surgery, served as director of the Department of Surgery at the Harrisburg Polyclinic Hospital from 1968 to 1993. He and his wife of 50 years, Phyllis, have four children.

32. Philip L. Repetto Jr., Silver Springs, Md., and Stuart, Fla., a retired dermatologist, was president of the Washington, D.C., Dermatological Society in 1971. He was senior attending at Washington Hospital Center of Dermatology and adjunct clinical professor of dermatology at George Washington University Medical School. He was also chief of dermatology at Prince George's Hospital Center. Repetto reports that he volunteered at the Jonathon Dickinson State Park in Florida, doing maintenance after severe hurricane damage. He also volunteers tutoring fifth-grade math. He and his wife, Joan, married 51 years, have four sons and two grandchildren.

33. Murray R. Rogers, New York, N.Y., and New Rochelle, N.Y., continues to work full time in internal and pulmonary medicine. At Lenox Hill Hospital, he is program director of the pulmonary section and chief of interventional pulmonology. He is also associate professor of medicine at N.Y.U. School of Medicine. Recently, Rogers hosted the first Lenox Hill Hospital Continuing Education Conference on Interventional Pulmonology. He writes, "Having gone to Penn Med changed my life and that of my family." He and his wife of 53 years, Arlene, have three children and five grandchildren.

34. David T. Rowlands, Tampa, Fla., has been a professor at the University of Colorado, Rockefeller University, and Duke. During his professorship at the University of Pennsylvania, he also served as chair of the Department of Pathology and Laboratory Medicine. From 1994 to 2003, he taught periodically in Caribbean medical schools. He is currently an emeritus professor at the University of South Florida. He and his wife, Gwen, have been married 47 years. They have two children and four grandchildren.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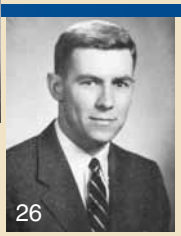
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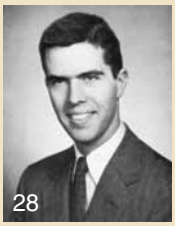
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35. David Sachs, Bala Cynwyd, Pa., works in Philadelphia as a psychoanalyst. He was a clinical professor of mental health sciences at Drexel University. He served as both training and supervisory analyst and as a vice president of the International Psychoanalytical Association. He reports that he keeps abreast of the scholarship relevant to his professional interests. He and his wife of 36 years, Romayne, have two children and three grandchildren.


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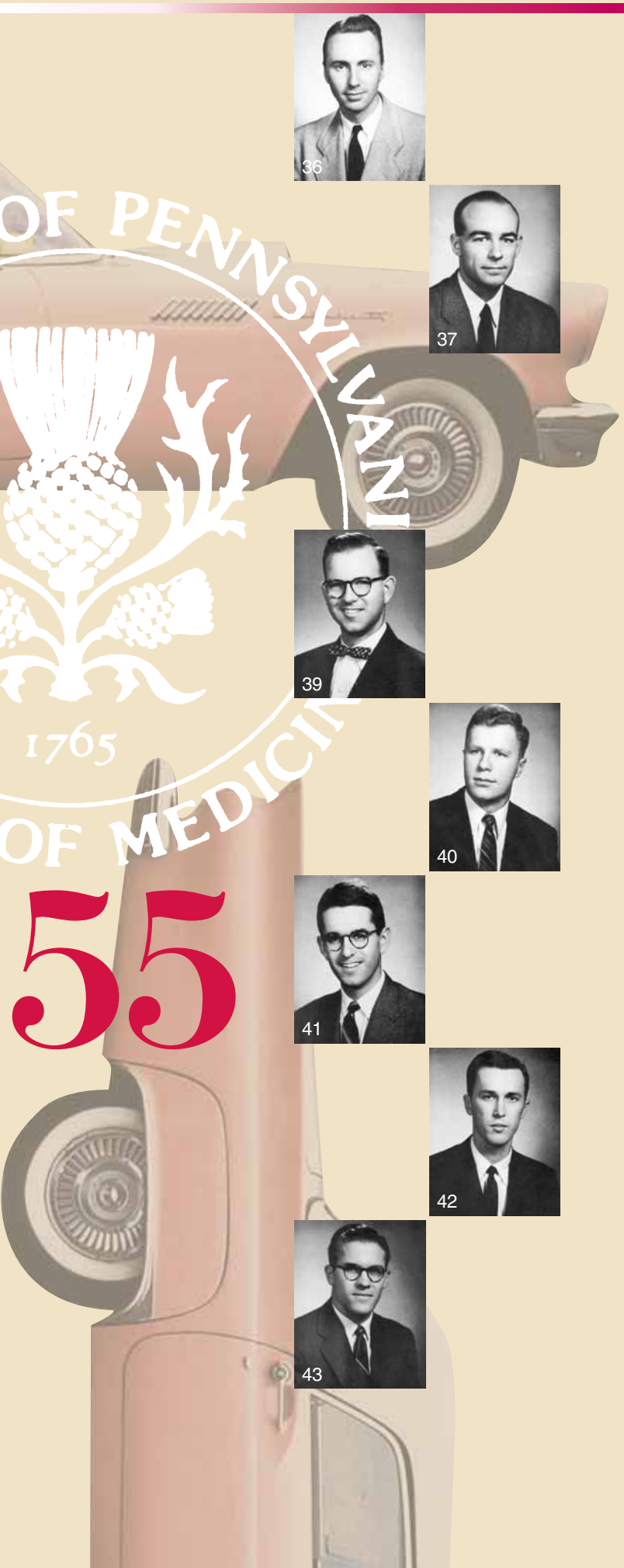


36. Steven S. Spencer, Santa Fe, N.M., reports that he is "semi" retired from internal medicine. A former faculty member at a university in Tanzania (1970-74) and at the University of Arizona (1974-79), he had a practice and held administrative positions in Flagstaff, Ariz., and at a Navajo Reservation. He also served as medical director of the New Mexico Corrections Department from 1985 to 1993. Spencer received the highest awards from the National Commission on Correctional Health Care and the Society of Correctional Physicians. He has been a member of the steering committee of the New Mexico Coalition to Repeal the Death Penalty and of the advisory council of Physicians for Human Rights. He and his wife, Joan, have been married 50 years. They have four children and seven grandchildren.

37. John Sziklas, West Simsbury, Conn., and Pocono Lake Preserve, Pa., is retired from nuclear medicine. He was a clinical professor of nuclear medicine at the University of Connecticut Health Center for eight years. In 1981-82, he served as president of the New England Chapter of the Society of Nuclear Medicine, and he also served on the chapter's credentials and membership committee. Sziklas reports that he is a "Master Gardener" in the State of Connecticut and is a member of the Connecticut Orchid Society. He has been married to Jean Cattanach for 44 years. They have three children and two grandchildren.

38. William S. Vaun, Norfolk, Conn., who has retired from internal medicine, is president of Litchfield County University Club, secretary of the Norfolk Land Trust, and a member of the board of Norfolk Senior Housing. He and his wife of 44 years, Sally S. Vaun, have one daughter.

39. Frank L. Weakly, Strongsville, Ohio, is retired from the Cleveland Clinic Foundation but serves as medical director of the Seasons of Care Home Health Agency. He is a former vice president of the American Society of Colorectal Surgeons and a former president of the Northern Ohio Hospice Association. He and his wife, Margaret, have been married for 31 years and have four children and four grandchildren.

40. Robert E. Weibel, Gwynedd, Pa., is a senior medical officer at the U.S. Department of Health and Human Services in Philadelphia. He is also an emeritus research professor of pediatrics at the University of Pennsylvania School of Medicine. In 2003, he received the Medal for Exceptional Public Service from the Office of the Secretary of Defense; the next year, he received the Administrator's Award for Excellence from the Department of Health and Human Services/Health Resources and Services Administration. He is a former director of virus and cell biology/medical affairs for Merck & Co. Weibel reports that "working on the development and use of childhood vaccines has been exciting and rewarding." He and his wife of 50 years, Katherine, have four children and four grandchildren.

41. Peter White, Perrysburg, Ohio, has retired from the practice of hematology but continues to teach. He was chief of hematology and deputy chairman of the Department of Medicine at the Medical College of Ohio, 1969-77, and chief of medicine at Presbyterian Medical Center in Philadelphia, 1977-85. He returned to the Medical College of Ohio as professor of medicine and associate dean before retiring in 2003. He is a member of the Toledo Naturalists Association, the Toledo Artists Club, and the Adirondack Nature Conservancy. He and his wife of 51 years, Polly, have four children and eleven grandchildren.

42. Paul F. Williams, Burlington, N.C., and Sunset Beach, N.C., is a retired internist. He and Sally, his wife of 42 years, have three children and five grandchildren.

43. J. R. Zuberbuhler, Beaver Falls, Pa., retired as a pediatric cardiologist. At Children's Hospital of Pittsburgh, he had been a professor of pediatrics, chief of the division of cardiology, acting chairman of pediatrics, and medical director. In 2005, he received the "Pulse of Pittsburgh" Award from the American Heart Association. He has been married to his wife, Jan, for 47 years. They have four children and eight grandchildren.

Penn Med Alumni Make the Weekend Happen

At this spring's Medical Alumni Leadership Dinner, held during Medical Alumni Weekend, Dean Arthur H. Rubenstein, M.B.,B.Ch., launched the festivities by thanking alumni for their support – and by honoring Marc B. Garnick, M.D. '72, G.M.E. '76, and Marcelle J. Shapiro, M.D. '80, G.M.E. '84, with Alumni Service Awards (see sidebar). Their contributions are impressive and, along with those of many other Penn Medicine alumni, essential.

"My philosophy is that I had a great education at Penn. It was the best four years of my life," says Shapiro. "I feel passionately that you have to give back to institutions you've gained from."

Medical Alumni Weekend simply couldn't take place without the many Penn Medicine graduates who call and write to classmates, help plan class dinners, encourage giving, and donate their time and expertise for lectures and panel discussions. Indeed, the School of Medicine depends on alumni involvement throughout the year to help fuel its growth and vitality.

For some, volunteering for the School of Medicine is a way to say "thank you" to former professors and mentors for their dedication and support. Flo Rosen, M.D. '80, G.M.E. '84, remembers practicing surgical knots one day during her Ob-Gyn rotation when a surgeon she did not recognize sat down and helped her for an hour and a half. Afterward, a nurse told her she'd just been tutored by Dr. Celso-Ramon Garcia, who helped develop the birth control pill. "There are unbelievably great people here who are committed to education," says Rosen, who served with Shapiro on their class's reunion committee.

When Robert Weibel, M.D. '55, was helping plan his reunion in 2000, he invited Dr. Lew Barness, G.M.E. '50, to the class dinner. Barness joined Penn's pediatrics faculty in 1951, the year the Class of 1955 entered medical school. Weibel particularly remembers Barness for his generosity and concern.

"I was always on a tight budget and needed to earn money in the summers. My last summer in medical school I desperately wanted to do a research project with Dr. Barness. It seemed feasible until I found out I wouldn't be paid," Weibel recalls. Seeing Weibel's distress, Barness was able to find money to pay him – "and that," says Weibel, "was the beginning of my career in clinical research."

Weibel has worked on several reunions and finds that renewing relationships beforehand enhances his enjoyment of Alumni Weekend. He's also not shy about encouraging medical alumni – whether they're his classmates or not – to include the School in their estate planning. Before this year's reunion, Weibel sent a personal letter about planned giving to the members of all reunion classes. The charitable gift annuity that he and his wife established will provide lifetime benefits for them and ultimately support the Medical Class of 1955 Scholarship.

SOM alumni work hard behind the scenes, encouraging their classmates to

Alumni Service Awards

Each year, the School of Medicine recognizes two alumni who have demonstrated a remarkable commitment to the School's Alumni Relations programs and Development efforts. For 2005, the Alumni Service Awards have gone to Marc B. Garnick, M.D., and Marcelle J. Shapiro, M.D., for their extraordinary records of commitment and loyalty to the University of Pennsylvania School of Medicine.

Marc B. Garnick, M.D. '72, G.M.E. '76, is an internationally renowned expert on urologic cancer. A clinical professor of medicine at Harvard Medical School, Garnick is executive vice president and chief medical and regulatory officer of Praecis Pharmaceuticals Company. He is also author of *A Patient's Guide to Prostate Cancer*.

Garnick has participated actively in Medical Alumni Weekend and serves on the Medical Alumni Leadership Council, which helps facilitate the growth and vitality of the School. He and his wife, Dr. Bobbi Kates-Garnick, have hosted and attended many alumni events in the Boston area.

Marcelle J. Shapiro, M.D. '80, G.M.E. '84, is currently an interventional radiologist on the staff of Jeanes Hospital in Philadelphia. She has published more than 30 manuscripts and almost 50 ab-

Marcelle J. Shapiro, M.D, recipient of an Alumni Service Award, poses with her family and Dean Arthur H. Rubenstein, right.

for 2005

stracts on diverse aspects of interventional radiology, is a Fellow in the Society of Interventional Radiology, and has lectured extensively all over the United States.

Shapiro has been a popular keynote speaker during the Elizabeth Kirk Rose Women in Medicine Dinner and has served on several panels for the program. She is also a long-standing member of the executive committee of the Medical Alumni Society. This year, she was co-chair for her class's 25th reunion, and she worked on the planning committee for the Women in Medicine Dinner. Shapiro is also a devoted mentor to female students at the School of Medicine and to residents at the Hospital of the University of Pennsylvania.

attend Medical Alumni Weekend and to participate generously in their class gifts. In addition, they often play a starring role, sharing their experiences and expertise in well-attended lectures, panel discussions, and of course the Commencement ceremonies. This year:

- Walter W. Bortz, M.D. '55, spoke on **Health as an Asset** and the relationship between a sedentary lifestyle and many age-related ailments.
- Stanley N. Cohen, M.D. '60, Hon '95, and Theodore Friedmann, M.D. '60, shared their perspectives on **The Cloning and Transplantation of Genes**.
- Andrew B. Newberg, M.D. '93, discussed his research in brain function and neuroimaging in a lecture based upon his book ***Why God Won't Go Away: Brain Science and the Biology of Belief.***
- Gil Kliman, M.D. '84, led a discussion on **New Pathways for Medical Professionals**, along with panelists Louis A. Matis, M.D. '75, Daniel J. Isaacman, M.D. '84, and Elliot J. Sussman, G.M.E. '80, WG '81.
- David Babbott, M.D. '55, inspired newly minted physicians with his **Commencement remarks** on behalf of the 50-Year Class, a Penn Medicine tradition.

Edward J. Stemmler, M.D. '60, G.M.E. '64, who was dean of the School of Medicine from 1974 through 1988, was a first-time reunion committee volunteer, like Richard Robb, M.D. '60, G.M.E. '84; Larry Chan, M.D. '85; and Michael S. Agus, M.D. '95. All agreed that contacting classmates to encourage attendance turned out to be a lot of fun.

"The alumni staff was really a treat to work with," notes Agus, the son of Penn nephrologist Zalman Agus, G.M.E. '71. The younger Agus was born at HUP – in the same obstetrical suite where he delivered his first baby on his Ob-Gyn rotation, a quarter century later. "They're really dedicated to getting folks together and helping us maintain ties to Penn Medicine and to each other," he adds.

Others, like Shapiro and Garnick, have a lengthy history of volunteering with the School.

Gary Nicholas, M.D. '65, G.M.E. '72, for example, served on his class's reunion committee, was on the National Alumni Council, and was class agent for several years.

"We've reaped a lot of benefits from the School of Medicine and should give back," says Nicholas. "That's even truer for me, because I had a full scholarship. I got into all the Philadelphia area medical schools, and I couldn't have gone to Penn without the financial support." To commemorate his reunion, Nicholas endowed a scholarship fund.

Nicholas says that through volunteering for the School of Medicine, he's enjoyed reconnecting with classmates, meeting "people of like minds" from different classes, and having the opportunity to talk with current students.

"It's great to see the landmarks that are still here," notes Nicholas. "But the changes to the physical plant are impressive. And the philosophy of the School continues to move forward and search out meaningful ways to contribute to today's world. It was really exciting to hear both the dean and President Gutmann talk about their vision for the future.

"The good news is, the School of Medicine isn't the same – it's better! It keeps changing and improving."

If you'd like to become more actively involved with the School of Medicine, please contact Kristen Rozansky, Senior Director, Alumni Development and Alumni Relations, at 215-898-5164 or medalum@ben.dev.upenn.edu to discuss volunteer opportunities.

Medical Alumni Weekend 2005

Scholarship recipients and donors: From left to right, Amma Hewitt, a Jordan Scholar; Henry A. Jordan, M.D. '62, G.M.E. '67; Barbara McNeil Jordan; Inbal Braunstein, a Jordan Scholar; and Cynthia Bartus, a Measey Scholar.

Distinguished Graduate Awards for 2005

The Distinguished Graduate Award is the highest honor that the School of Medicine bestows upon an alumnus of the School or of its residency training programs. Each year, the School recognizes alumni for their outstanding service to society and to the profession of medicine, as well as for notable accomplishments in biomedical research, clinical practice, or medical education.

Jerome F. Strauss III, M.D. '74, Ph.D. '75, G.M.E. '76, has been the Luigi Mastroianni Jr. Professor of Obstetrics and Gynecology at Penn and was founding director of its Center for Research on Reproduction and Women's Health. (On September 15, he took office as dean of the Virginia Commonwealth University School of Medicine.) Strauss also served as associate chair of Penn's Department of Obstetrics and Gynecology.

Strauss has conducted important research into the biology of fetal membranes, the genetics of polycystic ovary syndrome, placental endocrine function, and the molecular control of sperm motility. The Strauss laboratory developed the most widely used culture system for the study of placental function. The lab also took part in the discovery of the genes that are responsible for congenital lipoid adrenal hyperplasia and Niemann-Pick type C disease, a genetic pediatric disorder which causes progressive deterioration of the nervous system.

Strauss is a member of the Institute of Medicine of the National Academy of Sciences.

Carl T. Brighton, M.D. '57, Ph.D., G.M.E. '62, is the Paul Magnuson Emeritus Professor of Bone and Joint Surgery at the School of Medicine, where he has been an esteemed member of the faculty for more than 40 years. He served as chair of the Department of Orthopaedic Surgery from 1977 to 1993.

Brighton's most important contributions have been in the study of the biophysics of bone, cartilage, and other weight-bearing tissues, and the transfer of this knowledge to the treatment of fractures and osteoarthritis with specific electric fields that up-regulate the genes that promote bone repair and heal diseased cartilage. Brighton has also investigated the effect of oxygen tension on bone and cartilage metabolism and has shown that low oxygen tension favors bone and cartilage growth.

RECENT GIFTS

The **Benjamin & Mary Siddons Measey Foundation** recently made two $1 million gifts to the School of Medicine. The first establishes the Measey Medical Simulation Center, bringing new educational technology to the School's curriculum. The second provides substantial funding for the Clyde Barker – William Maul Measey Professorship in Surgery, honoring Dr. Barker's pioneering contributions in the fields of transplantation, surgical oncology, laparoscopic surgery, and gene therapy.

Mrs. Jean Bellet Green has made a $1 million gift to the Center for Advanced Medicine, creating the Penn Cardiovascular Institute's Samuel Bellet, M.D., Conference Room to honor her late husband's long and distinguished career as a cardiologist at Penn.

In honor of Dr. John H. Glick, director of the Abramson Cancer Center, **Mr. Robert A. Fox** has committed $500,000 to the Center for Advanced Medicine, which will become the Cancer Center's new home.

To make a gift to PENN Medicine, or for more information, please contact the Office of Development and Alumni Relations, 3535 Market Street, Suite 750, Philadelphia, PA 19104-3309, 215-898-8094.

ALUMNI EVENTS

You can find out more about these and other upcoming events at http://www.med.upenn.edu/alumni/events/calendar.html

November
Saturday, November 5, 10:00 a.m.- noon
Homecoming Brunch and game – Penn vs. Princeton, Philadelphia

Sunday, November 6, 5:00-9:00 p.m.
Association of American Medical Colleges Reception, Washington, D.C.

Check for more details as they become available for the following events:
February – the annual SPOOF by medical students
March – Dermatology Reception; Senior Dinner Dance
April – The annual Elizabeth Kirk Rose Women in Medicine Dinner; The Helen O. Dickens Memorial Dinner; PENN Medicine On the Road – Dallas and Houston
May – ACOG Reception; Medical Alumni Weekend; Urology Reception

Progress Notes

compiled by Jason Bozzone

Send your progress notes to:
PENN Medicine
Development and Alumni Relations
3533 Market Street, Suite 750
Philadelphia, PA 19104-3309

'50s

Philip K. Nelson, M.D. '52, G.M.E. '58, Sarasota, Fla., retired from gynecological practice in April 2003 after 51 years of practice. Beginning a new career in photography, he has been volunteering at Marie Selby Botanical Gardens in Sarasota to digitally photograph the entire living collection of some 10,000 plants. In addition, these photographs are now appearing on the Selby web site. They can be viewed at www.selby.org by going to "Research," then "Collections," and finally "Living Plants."

Tsung O. Cheng, M.D., G.M. '56, professor of medicine at The George Washington University, was appointed last fall as visiting professor at McMaster University in Hamilton, Ontario. He also served as a visiting scholar at the Population Health Research Institute in Hamilton.

'60s

Randall F. Hipple, M.D. '60, was recently honored when the city council of Williamsport, Pa., named the city's historic district after him. First elected to the city council in 1972, Hipple will be stepping down as a councilman after finishing his current term. He was instrumental in the creation and development of the downtown historic district, which over the years has become a source of pride to the city. A plaque with Hipple's name and likeness is expected to be added to the portal at the entrance to the district at West Fourth and Elmira Streets.

Stanley J. Dudrick, M.D. '61, G.M.E. '68, Waterbury, Conn., received the 2005 Jacobson Innovation Award of the American College of Surgeons. He was honored for his major contributions to science, medicine, and education through his initial research and continuing contributions to the field of nutritional support for surgical patients. In 1967, Dudrick performed the benchmark procedure using intravenous feeding in a human infant, which demonstrated that an infant could receive all nutrients by vein and still grow and develop. A professor of surgery at Yale University School of Medicine, he is chair of surgery and director of graduate medical education at St. Mary's Hospital-Yale Affiliate in Waterbury. He is also senior attending surgeon at Bridgeport Hospital/Yale New Haven Health System.

David F. Apple, M.D. '62, recently retired after 30 years as medical director of Shepherd Center, a catastrophic-care hospital in Atlanta. He will continue at the hospital part time, involved in research and fund-raising. Under his leadership, Shepherd Center was named a Model Spinal Cord Injury System by the federal government and sponsored the 1996 Paralympic Games. A former vice president of the International Medical Society of Paraplegia, Apple also served as editor of its journal.

Thomas L. Slovis, M.D. '67, Bloomfield, Mich., received the Gold Medal Award from the Society of Pediatric Radiology in May in New Orleans. A former president of the society, Slovis has written more than 200 papers and chapters. He has written 3 books and is editor of the textbook *Caffey's Pediatric Imaging*. Slovis was chief of the imaging department of Children's Hospital of Michigan for 16 years and continues on the staff. In addition, he serves as the American editor of *Pediatric Radiology*.

Frederick S. Keller, M.D. '68, is director and head of diagnostic radiology at the Dotter Interventional Institute in Portland, Oregon. In April, the Society of Interventional Radiology awarded him its Gold Medal for his many years of service. A former president of the society, he specializes in embolotherapy and the diagnosis and treatment of G.I. bleeding.

Patricia A. Gabow, M.D.'69 G.M.E. '73, Denver, Colo., chief executive officer and medical director at Denver Health, was named one of the top 25 women in health care by *Modern Healthcare* magazine (April 18, 2005). Four months later, the magazine also honored her as one of the 100 most powerful people in health care (August 22, 2005). The magazine received about 8,600 nominations. Also in August, she received an Outstanding Woman in Business award from the *Denver Business Journal*.

'70s

Kenneth M. Boyer, M.D. '70, holds the Women's Board Chair of Pediatrics at Rush-Presbyterian-St. Luke's Medical Center in Chicago and serves as chair of the department. Boyer has directed Rush's section of pediatric infectious disease since 1986. One of his specialties is streptococcus B infection.

Andrew E. Skodol, M.D. '71, professor of clinical psychiatry at the Columbia University College of Physicians and Surgeons and director of the Department of Personality Studies at New York State Psychiatric Institute in New York City, is one of the editors of the recently published *American Psychiatric Publishing Textbook of Personality Disorders*. Its comprehensive coverage of theory, research, and clinical management of personality disorders reflects the work of 70 expert contributors who review the latest theories, research findings, and clinical expertise in the increasingly complex field of personality disorders.

The second edition of *Melanoma: Prevention, Detection*, and *Treatment* has been issued by Yale University Press. Catherine M. Poole and **DuPont Guerry IV**, M.D., G.M.E. '75, are the authors. Guerry is director of the Melanoma Program and professor of medicine at Penn's Abramson Cancer Center.

Harold M. Gerber, M.D. '76, has joined the San Francisco-based Burrill & Company as managing director of its the Merchant Banking Group. His primary focus will be on assisting clients to initiate, structure, and close mergers and acquisitions and related transactions. Previously, Gerber was a managing director and head of pharmaceutical and biotechnology investment banking at Wells Fargo Securities and held similar positions at Rabobank International. He is member of the national board of directors of the American Liver Foundation.

Stephen C. Rubin, M.D. '76, G.M.E. '82, has been elected director of the Division of Gynecologic Oncology of the American Board of Obstetrics and Gynecology. This division is responsible for the accreditation of fellowship training programs and for the board certification process in gynecologic oncology throughout the United States. The Franklin Payne Professor and chief of gynecologic oncology at the University of Pennsylvania, Rubin is an internationally recognized expert in the clinical management and experimental therapy of gynecologic cancers.

Marie A. Savard, M.D. '76, G.M.E. '80, an internist, expert in women's health, author, and advocate for patient empowerment, has published *Apples and Pears: The Body Shape Solution for Weight Loss and Wellness* (Atria Books). In the book, described as prescriptive and practical, Savard and her co-author, Carol Svec, argue that body shape is the single most powerful predictor of future health. Savard explains how body shape is connected to differences in physical chemistry, hormone production, and metabolism and directly affects a woman's likelihood of becoming obese and of developing heart disease, osteoporosis, diabetes, and other conditions. Currently medical director of the Cabrini Nursing Home for missionary nuns, Savard is a member of the board of trustees of the University of Pennsylvania and chair of the Pennsylvania Commission for Women.

Saul P. Greenfield, M.D. '77, has been promoted to clinical professor of urology at the State University of New York at Buffalo School of Medicine. Since 1984, he has been director of the Department of Pediatric Urology at Women and Children's Hospital of Buffalo. Greenfield was the lead designer

for the "Greenfield/Wan Infant Stirrups," which received a U.S. patent in 2004. A member of the executive committee of the Society for Pediatric Urology, he has also served as president of the American Association of Pediatric Urologists. Since 2000, he has been a member of the executive committee of the American Academy of Pediatrics – Urology Section. An editorial reviewer for several journals, he was a co-editor of *Pediatric Clinics of North America: Updates on Pediatric Urology*. His article on the treatment of daytime incontinence in children appeared in the April 2005 issue of *Journal of Urology*.

Michael J. Klag, M.D. '78, was appointed dean of the Bloomberg School of Public Health at Johns Hopkins University. Klag had been the David M. Levine Professor of Medicine in the Johns Hopkins School of Medicine, with joint appointments in the Bloomberg School's Department of Epidemiology and Department of Health Policy and Management. He also is vice dean for clinical investigation in the School of Medicine. In that position, created in 2001, he is responsible for oversight of research that involves human volunteers. He was a founding member and interim director of the university's Welch Center for Prevention, Epidemiology, and Clinical Research; director of the Division of General Internal Medicine in the School of Medicine; and, in 2000-2001, interim physician in chief of The Johns Hopkins Hospital and interim director of the Department of Medicine. A fellow of the American College of Physicians, he was editor in chief of *The Johns Hopkins Family Health Book* in 1998.

Katharine Kennedy Treadway, M.D. '78, an assistant professor of medicine at Harvard Medical School and an internist at Massachusetts General Hospital, was profiled in *The Boston Globe* (June 14, 2005) for her highly praised teaching. "Patient-Doctor 2" is described as "a nuts-and-bolts course intended to teach second-year medical students how to take patient histories and prepare for actually touching patients. But the class has evolved into something else as well, a sort of medical story time in which the tales are real, the lessons powerful, and the goal compassion." Treadway has taught the course with Dr. Diane Fingold, and in 2002, they received Harvard Medical School's Faculty Prize for Excellence in Teaching.

Charles P. Kimmelman, M.D., G.M.E. '79, New York, N.Y., a member of PENN Medicine's Medical Alumni Leadership Council, was quoted in *The New York Times* on his work in smell and taste disorders (May 18, 2005). In the article, "Failing the Sniff Test, The Nose, Ruined," Kimmelman details the evaluation and treatment of a patient who suffers from loss of smell and taste after a head injury.

'80s

Aran Ron, M.D. '83, M.B.A., M.P.H., was named executive vice president of Group Health Incorporated, a not-for-profit insurer serving New Yorkers, and president of G.H.I H.M.O., its wholly owned subsidiary. Ron joined G.H.I. in 1998 and until recently served as senior vice president and chief medical officer. He is credited with initiating numerous preventive and disease management programs, enhancing medical management, standardizing the credentialing program, and strengthening G.H.I.'s provider networks. Board certified in internal medicine, Ron volunteers in a health clinic a half day a week. He also is chair of the accreditation committee of the Utilization Review Accrediting Committee, serves as president of the board of a foster care agency, and is an editor of the *Journal of Clinical Outcomes*. Ron is also an assistant professor of public health at Weill Medical College of Cornell University.

Joseph C. Howton, M.D. '84, has joined Adventist Medical Center in Portland, Oregon, as medical director of its emergency department. His primary responsibilities are to develop and refine the department's treatment team, strengthen medical staff relations, and advance the vision of Adventist Medical Center. A co-editor of the Schwartz textbook, *Principles and Practice of Emergency Medicine*, 4th edition, Howton is a Fellow of the American College of Emergency Physicians, where he sits on the International Emergency Medicine Committee. He is also a Fellow of the American Academy of Emergency Medicine and a member of the Society for Academic Emergency Medicine.

Marisa C. Weiss, M.D. '84, a breast radiation oncologist at Lankenau Hospital, was featured on the cover of the May 2005 issue of *Philadelphia Magazine* for its annual "Top Doctors" coverage. Weiss, who was profiled in the issue, was honored for her pioneering efforts to improve patients' access to reliable medical information and to strengthen doctor-patient relationships. She was the first radiation oncologist in the Philadelphia region to treat early stage breast cancer patients with partial breast radiation therapy, which reduces the therapy from six weeks to one week. The technique will soon be launched as a national clinical trial to study its effectiveness compared to current standard of care involving radiation therapy of the whole breast after lumpectomy. Weiss founded the nonprofit breastcancer.org in 1999 and wrote (with her mother, Ellen Weiss) *Living Beyond Breast Cancer*.

John C. Reed, M.D. '86, Ph.D., G.M.E. '89, has been named to the board of directors of Pharmion Corporation, a pharmaceutical company focused on acquiring, developing, and commercializing innovative products for the treatment of hematology and oncology patients. Reed currently serves as president and chief executive officer of the Burnham Institute, a non-profit biomedical research institute in La Jolla, Calif. During his 13 years with the Burnham Institute, he has held various roles, including scientific director of the Institute and deputy director of its NCI-sponsored Cancer Center. In additionally, he is an adjunct professor at the University of California San Diego and San Diego State University. A trustee of the Burnham Institute, Reed is the scientific co-founder of Idun Pharmaceuticals, Inc., and GMP/Diagnostics.

Ronald A. Paulus, M.D. '88, M.B.A., has joined Geisinger Health System, an integrated, physician-led health-care services organization that serves more than two million residents throughout central and northeastern Pennsylvania, and its venture capital group, Geisinger Ventures. Paulus, who earned his M.B.A. degree from The Wharton School, will serve as chief health-care information technology venture officer and special assistant to Geisinger's president and CEO. Nationally recognized for his expertise in health-care services, health information technology, and quality improvement, Paulus co-founded CareScience Inc., a company that commercialized health-care technology developed at the University of Pennsylvania. Under his leadership as president and later as CEO, CareScience pioneered the nation's first company that provided Internet-based quality-management software to health-care organizations and also created one of the first regional clinical data-sharing networks, a precursor to the current interest in Regional Health Information Organizations (RHIOs). CareScience was acquired by Quovadx Inc. of Evergreen, Colo., in September 2003. Paulus was chief health-care officer at Quovadx before joining Geisinger. At Geisinger, he will help explore new and better ways to deliver health care to patients and identify Geisinger's innovative projects that can be marketed.

Darryl Landis, M.D. '89, M.B.A., Winston-Salem, N.C., recently left CorSolutions, a disease-management firm, where he was chief medical officer and senior vice president of health intelligence, to further his career as an independent consultant.

'90s

Lawrence F. Eichenfield, M.D., G.M.E. '91, is chief of pediatric and adolescent dermatology at Children's Hospital in San Diego. In April, he was elected to a four-year term jointly on the boards of the American Academy of Dermatology and the American Academy of Dermatology Association. He also serves as a trustee of the Dermatology Foundation. Eichenfield is a clinical professor of pediatrics and of medicine at the University of California at San Diego.

Andrew S. Baumel, M.D. '92, Newton, Mass., a partner in a Framingham pediatric practice, was profiled in *The Boston Globe* (July 10, 2005) for having learned Portuguese to improve his care for patients. As *The Globe* notes, nearly one-third of Framingham's foreign-born residents hail from Brazil and Portuguese is often their children's first language. Baumel told *The Globe* that "Not all diseases are right in front of you medically. There are a lot of psychological issues involved when immigrating from another country; you have some people who didn't want to come here, some who did, or some who came and the dad wants to stay and the mom wants to go back. . . . This can affect the care of the children."

Chris Feudtner, M.D. '95, Ph.D., M.P.H., assistant professor of pediatrics, was featured in the annual *Philadelphia Magazine* survey of "Top Doctors" (May 2005) in his role as research director of the Pediatric Advanced Care Team (PACT), a team of health professionals at The Children's Hospital of Philadelphia that works with terminally ill children.

'00s

Jonathan Prenner, M.D., G.M.E. '02, a retinal specialist at Robert Wood Johnson Medical School in New Brunswick, and his wife, Becky, announce the birth of their daughter, Sofia, on March 15.

Obituaries

Clarence C. Briscoe, M.D. '35, Hilton Head Island, S.C., a retired obstetrician and gynecologist; May 28, 2005. He had been on the medical staff of Pennsylvania Hospital for 35 years and had been an associate professor at Penn's School of Medicine. The Clarence Briscoe Award is given every year to an attending physician at Pennsylvania Hospital for excellence in teaching obstetrics and gynecology. Among his publications was an informational book for expectant mothers, *Pregnancy Is Not a Disease*, and *Abortion, The Emotional Issue*. In 2001, he published a novel, *The Roar of the Lion*, about a couple trying to have a child. After retiring, Briscoe moved to Hilton Head, where he was a physician for Planned Parenthood and served on the board of Hospice Care of the Low Country. He was a former president of the Obstetrical Society of Philadelphia and of the Audubon Society of Hilton Head.

David L. Edwards, M.D., G.M. '36, Tulsa, Okla.; June 23, 2002.

John F. Barber, M.D. '40, Ashville, N.C., a retired physician; March 10, 2005.

William O. Hendrickson, M.D., G.M. '42, Woodruff, Wisc.; August 5, 2004. A graduate of the University of Wisconsin Medical School in 1938, he was eye, ear, nose, and throat physician.

E. Carleton Jameson Jr., M.D. '42, G.M.E '49, Manheim, Pa.; March 4, 2005.

Edward John Platz, M.D. '43, Wallingford, Conn.; January 25, 2005. He was a captain in the U.S. Army medical corps during World War II. In private practice in Manchester, Conn., for many years, he also founded the anesthesiology department at Manchester Memorial Hospital.

Herbert H. Rawnsley, M.D. '43, Washington, Pa., a retired obstetrician and gynecologist; February 2, 2004. Following an internship at the Philadelphia General Hospital, he served in the U.S. Army Medical Corps during World War II and was discharged in 1946 with the rank of captain. After additional study in the Graduate Program of the University of Pennsylvania School of Medicine, he completed residencies in obstetrics and gynecology at St. Luke's Hospital in Bethlehem, Pa., and Magee Women's Hospital in Pittsburgh. Joining the medical staff of Washington Hospital in 1953, he served as chief of the staff for two years. He also had a private practice for many years. A diplomat of the American College of Obstetrics and Gynecology, he served as a member of the Franklin and Marshall Board of Visitors. He was president of the local American Cancer Society and of the Washington Country Historical Society.

Philip F. D. Rubovits-Seitz, M.D. '44, G.M.E. '50, Washington, D.C., psychiatrist; May 31, 2004. A clinical professor of psychiatry at the George Washington University Medical Center for many years, he was a motorcycle enthusiast and self-described "hippie shrink" and had treated members of the Chicago counterculture in the 1960s. After training at Penn, Rubovits-Seitz took an internship at the St. Louis City Hospital. He then taught at Indiana University Medical Center, where he also served as director of psychiatric research. In 1955, he won the Hofheimer Award for Psychiatric Research, presented by the American Psychiatric Association, and also joined the staff of the Chicago Institute of Psychoanalysis. He taught there for 11 years and gave a course with Heinz Kohut, a major follower of Freud. Rubovits-Seitz also was senior psychiatric consultant to the Illinois Department of Mental Health and later published a book called *The Manpower Problem in Mental Hospitals*. After joining the staff at George Washington in the mid-1970s, he won the Clinical Faculty Teaching Award from the Department of Psychiatry and the Annual Research Award from the Washington Psychoanalytic Society. His books include *Depth-Psychological Understanding: The Methodologic Grounding of Clinical Interpretations* (1998); *Kohut's Freudian Vision* (1999); and *A Primer of Clinical Interpretation* (2002).

Thomas M. McMillan III, M.D. '46, G.M.E. '50, Medford, N.J., a retired cardiologist; April 7, 2005. During World War II, he served as a consulting cardiologist at the Pentagon. After his discharge, he completed his residency at Pennsylvania Hospital in Philadelphia. He was credited with introducing new medical technology and treatments that transformed cardiac care in Burlington County. McMillan had joined Memorial Hospital of Burlington County (now Virtua-Memorial Hospital) as its first cardiologist and spearheaded the creation of the cardiac-care unit. He became head of cardiology in 1963 and added the title of chief of internal medicine five years later. He was inspired to become a physician by his father, Thomas M. McMillan Jr., a onetime professor of cardiology at Penn's School of Medicine. He retired in 1990. In 2003, Virtua's newly renovated cardiac-care department was named in his honor.

William M. Gandy, M.D., G.M. '47, Waco, Texas; December 3, 2002.

Joseph L. Whelan, M.D., G.M.E. '47, Mancelona, Mich., May 17, 2005.

Dr. Harvey E. Reitz, M.D., G.M. '48, San Leandro, Calif.; April 4, 2005.

Daniel S. Feldman, M.D.'49, Evans, Ga., emeritus professor of neurology at the Medical College of Georgia; June 7, 2005. After graduation, he served as a medical officer in the U.S. Naval Reserve, assigned to the U. S. Marine Corps. He completed a residency and fellowship in neurology at Mt. Sinai Hospital in New York City and served as a visiting professor at the University of Lund, Sweden, as a Robert Sterling Clarke Foundation Fellow. He also received a Career Investigator Award from the Health Research Council of the City of New York. Feldman held leadership positions in several professional societies, including the Myasthenia Gravis Foundation, the American Academy of Neurology, and the National Multiple Sclerosis Society. A senior associate examiner of the American Board of Psychiatry and Neurology, he had also served as president of the faculty organization at the State University of New York, Downtown Medical Center. During his 20-year tenure as a professor of neurology at the Medical College of Georgia, he was particularly proud of his service as director of the residency program. An amateur photographer and sailor with a passion for digital cameras and Macintosh computers, Feldman was very active in the Augusta cultural community as an enthusiastic patron of the Augusta Symphony and Augusta Opera.

John M. Rehberger, M.D., G.M. '49, Baltimore; February 22, 2000.

Thomas Wright, M.D., G.M. '49, Abington, Pa., a retired psychiatrist; May 29, 2005. After earning his medical degree from Temple Uni-

versity, he interned at St. Luke's Hospital in Bethlehem, Pa., and was a psychiatric resident at Penn. He served on the staff of Abington Memorial Hospital for 40 years and was cofounder of the hospital's first mental-health clinic.

John S. Lewis, M.D., G.M.E. '50, an otolaryngologist and head and neck surgeon, Pelham, N.Y.; June 4, 2005. He invented surgical resection of temporal bone, an operation to treat a previously inoperable cancer, while at Memorial Sloan-Kettering Cancer Center. He was an attending surgeon on the head and neck service there for many years. In addition, he had served as director of otolaryngology at Roosevelt Hospital (later, Roosevelt-St. Luke's Hospital) for 18 years. Lewis was a governor of the American College of Surgeons and had served as president of several professional societies, including the American Society of Head and Neck Surgery and the American Otolaryngological Society. Among his honors were the Newburn Medal for Surgery from the University of Alberta, from which he earned his medical degree; the Newcomb Award of the American Laryngological Society; and the Presidential Citation, from the Triological Society.

George C. Risman, M.D. '50, Ph.D., Birmingham, Ala., June 22, 2005. Risman also received his Ph.D. from the University of Pennsylvania and practiced internal medicine in Homewood for 35 years.

M. Princeton Nadler, M.D. '51, Sewickley, Pa.; 2000. A retired ophthalmologist, he was an editor of *Glare and Contrast Sensitivity for Clinicians.*

Donald Rohland, M.D., G.M. '52, Mechanicsburg, Pa.; April 16, 2000.

Oliver Thresher, M.D. '52, Chatham, Pa., a retired obstetrician and gynecologist; May 14, 2005. He maintained an office at Frankford Hospital in Philadelphia for 45 years until he retired in 1996. He had also been affiliated with Frankford, Rolling Hills, Jeanes, and Northeastern hospitals and St. Mary Medical Center. A highlight of his career occurred in 1965 when he and his partner, G. Herbert Moffses, and the team of doctors and nurses they had assembled delivered quadruplets at Frankford Hospital, years before fertility drugs made multiple births more common. During World War II, Thresher served in the U.S. Merchant Marine in the Middle East and the Mediterranean. After earning his medical degree, he interned at Philadelphia General Hospital and was a resident in obstetrics and gynecology at Huntington Memorial Hospital in Pasadena, Calif.

Guy T. Holcombe Jr., M.D. '54, Oxford, Pa.; July 15, 2004.

Jess Stevens Hull, M.D. '55, Phoenix, Ariz.; November 12, 2004.

Ronald P. Kaufman, M.D. '55, Lutz, Fla.; June 10, 2003.

Miguel G. Nieto, M.D., G.M.E. '55, Dayton, Ohio; May 7, 2005. Born in Oaxaca, Mexico, he received his medical degree from the University of Mexico, Mexico City, and completed his internship at Deaconess Hospital in Boston and Mary Fletcher Hospital, Burlington, Vt., before taking his residency in anesthesiology at Penn. Before retiring in 1984, he was chief of anesthesiology at the V.A. Center in Dayton and the Miami Valley Hospital.

Evans Diamond, M.D. '60, Pleasant Hill, Calif.; April 26, 2005. Following graduation, he completed an internship at Baltimore City Hospital and a residency in neurology at Mt. Sinai Hospital in New York. He was a staff neurologist at the National Naval Medical Center in Bethesda, Md., where he was instrumental in forming a residency training program in neurology. He left Bethesda to become chief of neurology at Naval Medical Center, San Diego. While there he was an active member of the San Diego Neurology Society and served on the adjunct faculty of the School of Medicine at the University of California at San Diego. After retiring from the Navy, he became chief of neurology for Cigna Health Plans of California in Los Angeles. Developing two debilitating neurological conditions himself, he retired from Cigna in 1994. He was known to his colleagues as an exceptional diagnostician, to his patients as an engaged and humane physician, and to his students as an extraordinary teacher and mentor.

Nick B. Maltas, M.D., G.M. '61, New York, N.Y.; April 4, 2004.

Ira Harold Rex Jr., INT '65, Fall River, Mass.; June 21, 2004.

FACULTY DEATHS

Jean A. Cortner, M.D., Bryn Mawr, Pa., former chair of Penn's Department of Pediatrics and former physician-in-chief of The Children's Hospital of Philadelphia; May 31, 2005. He earned his M.D. degree from Vanderbilt University and trained in pediatrics at Columbia University. After a stint as chair of pediatrics at the State University of New York at Buffalo, he arrived at Penn as the William Bennett Professor and Chair of Pediatrics (he also had an appointment in the Department of Genetics). He served as chair from 1974 to 1986. According to Alan R. Cohen, M.D., current chair of the Department of Pediatrics and physician-in-chief at Children's Hospital, "Dr. Cortner brought to a beautiful new hospital the intellectual resources that propelled Children's Hospital into new position of leadership. He foresaw the importance of developments in healthcare that became customary during the ensuing years, such as academic general pediatrics, hospitalists, who were virtually unknown 30 years ago, pediatric pharmacology, and the necessity of integrating research with clinical care." In 1986, Cortner stepped down as physician-in-chief and spent the next years in his laboratory at the hospital until he retired in 1999. He was chief of genetics, director of the Children's Hospital Nutrition Center, and director of the Lipid-Heart Center. In his honor, the Department of Pediatrics established the Jean Cortner Endowed Chair in Pediatric Gastroenterology. Cortner was president of the National Board of Pediatrics in 1979 and served as an oral examiner for the Board from 1973 to 1989. He led the Association of Medical School Pediatric Chairs for several years and was a fellow of the College of Physicians of Philadelphia.

Harold H. Morris Jr., a former professor of psychiatry; November 13, 2004. In the 1950s and 1960s, he developed outpatient programs for the mentally ill at the Psychiatric Institute of Pennsylvania Hospital, HUP, the former Mercy Douglas, and other hospitals in the region. Morris joined the Penn faculty in 1954, was promoted to assistant professor of psychiatry in 1956, and advanced to associate professor of psychiatry in 1961. He changed to a partial affiliation with Penn in 1968, formally retiring in 1986. Morris had also been a psychiatric consultant to the Peace Corps, the Veterans Affairs Hospital in Coatesville, and the Episcopal Diocese of Philadelphia. He retired in 1985 as director of clinical psychiatry at Misericordia and Mercy Fitzgerald hospitals.

Radhika Srinivasan, M.D., assistant professor of medicine in the Division of Gastroenterology; April 11, 2005. She received her medical degree from Kilauk Medical College in India and did her initial residency training in India. She then embarked upon an internal medicine residency at the University of Illinois at Chicago, followed by a gastroenterology fellowship at Michigan State University. Srinivasan then joined the faculty at Texas Tech University Health Sciences, was recruited to Temple University as assistant professor in 1997, and joined Penn in 2001. Based primarily at Penn Presbyterian Medical Center, she was an expert on colon cancer and inflammatory bowel disease, and she was known as a mentor, patient advocate, and inspiring teacher. She chaired the women's committee at the American College of Gastroenterology. She had received teaching awards from the Department of Medicine, which has established the Radhika Srinivasan Award in Professionalism and Humanism.

Like Being Johnny Appleseed

Annie and Jeff Seltzer, W '78, are committed to the growth and future of PENN Medicine. Both have deep roots here. Jeff, executive vice president of Adirondack Trading Partners LLC, graduated from Wharton 27 years ago and remains an active alumnus — an overseer of the University Libraries, a member of the Huntsman Advisory Board, and a leader of his class reunion committee. Annie's connection isn't academic, but familial: her father and grandfather studied at the School of Medicine.

"Through Jeff's involvement at Penn, I have witnessed the amazing initiatives that are happening there," says Annie. "I felt very strongly about giving in a way that would perpetuate these exciting initiatives far into the future."

The couple recently decided to make a bequest to the School of Medicine. They left a portion of their estate to the School, just one of the many planned giving options available to support PENN Medicine.

"We chose to leave this bequest because what Penn does is aligned with our vision of the world," says Jeff. "It will be a better place if you can educate people and promote excellence in medicine and science. Giving to Penn is like being Johnny Appleseed – you plant seeds and they will grow."

A bequest, he feels, was a perfect way to ensure their legacy and to cement a bond with Penn that goes back decades. Annie's grandfather, Ramon Sifre, came to the United States from Puerto Rico and was a contemporary of Henry Bockus, M.D., a pioneer in gastroenterology at Penn. Following his graduation in 1917, Ramon returned to his homeland and became the first gastroenterology specialist in Puerto Rico. A generation later, Annie's father, Ramon Jr., studied at Penn, and Dr. Bockus took him under his wing.

A recent campus tour made a great impact on Annie. "To walk around the old medical school building was wonderful," she says. "These were the very steps where my grandfather and father walked. It was very emotional for me."

For his part, Jeff also hopes their philanthropy will foster more integration among the 12 schools of the University.

"In the business world and the real world, it is very hard to put things in distinct boxes – everything blends together," he says. "Penn is so unique and special because there is successful collaboration between the schools. I think this is key to the success of future generations."

The Seltzers' ties to Penn will strengthen this fall, when their son, Ian, becomes a freshman in School of Arts and Sciences.

The Seltzers' bequest is just one of a multitude of creative gift opportunities that benefit both the School of Medicine and its donors. As you chart your financial future, the Planned Giving Office is ready to assist in developing an appropriate strategy. ***Contact Marcie Merz, J.D., Director of Planned Giving, PENN Medicine, 3535 Market Street, Suite 750, Philadelphia, PA 19104-3309; 215-898-9486; or mmerz@ben.dev.upenn.edu.***

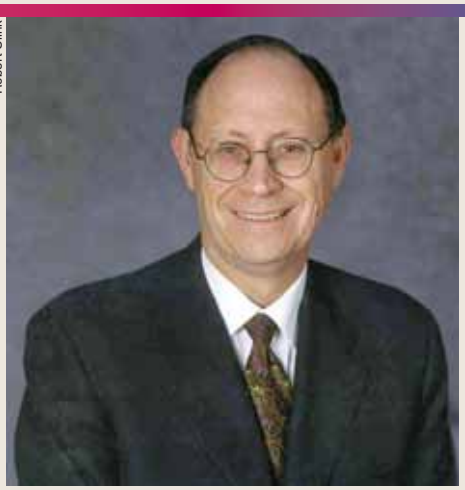
HOST Our Students as they Travel

PENN Medicine's HOST program (Host Our Students As They Travel) matches alumni across the country with fourth-year medical students seeking accommodation and information as they travel for their residency interviews. For our students, it's an opportunity to build a professional network and learn first-hand about the host city, while defraying travel costs. For alumni, this is a great way to support PENN Medicine students, share experiences, and stay connected.

- The program operates in Boston, Chicago, New York, Raleigh/Durham, San Francisco/Palo Alto, Seattle, Washington D.C., and Los Angeles/San Diego.
- Visits are usually one or two nights, during the months of September through January.
- Meals, transportation, and tours are not required – but are appreciated!

Students and alumni interested in participating can register online by visiting our home page at www.med.upenn.edu/alumni and clicking on HOST, or by contacting PENN Medicine Alumni Development and Alumni Relations at 215-898-5164.

In the Wake of Katrina


Robert Clink

For physicians, nurses, and other health-care professionals, the terrible repercussions of Hurricane Katrina forced us to consider again the nature of our profession. Why do we do what we do? Sometimes the answer is simple. Katrina's havoc reminded us forcefully that the fundamental reason we enter medicine and health care is to help people.

Although PENN Medicine is hundreds of miles from the site of the devastation, we did not lack for highly skilled volunteers eager to help on the scene. In the first week of September, a team of more than 70 health-care professionals from our Health System went to Philadelphia International Airport to provide triage services to the expected 600 evacuees from New Orleans. The plane carrying the evacuees ultimately was diverted elsewhere, but a second team was at the airport the next day to evaluate, triage, and treat the evacuees who did arrive.

That same week, six doctors and nurses from our Pulmonary & Critical Care Division flew aboard a privately chartered plane to Baton Rouge, La., to help relieve over-worked colleagues in the hard-hit areas. Planning for the two-week trip began informally when Vivek Ahya, M.D., medical director of our lung transplantation program, was in contact with his counterpart at Ochsner Clinic Foundation in Baton Rouge. That's where some of the Penn volunteers went to work. The others began by helping out at a walk-in clinic. Reports were that the clinic usually sees 25 patients a day. During the time immediately following Katrina, the clinic was seeing up to 400 a day.

The kind of help provided by the Penn team and those from many other hospitals was essential in the effort to recover from this disaster. What it also shows is that health-care professionals can live up to their calling even without the high-tech equipment we have grown used to in our modern medical centers.

As P. J. Brennan, M.D., chief medical officer for our Health System, put it, "We're fortunate to have doctors, nurses, and staff who are ready to pick up and offer their assistance wherever it's needed." He also acknowledged how important it is to have people to provide coverage so that their colleagues can serve during such emergencies.

Another of our notable volunteers is Kathryn Gallagher, R.N., a surgical critical-care nurse at HUP. After some additional training with Red Cross, she flew to Baton Rouge. Once assigned to a Red Cross shelter, she expected to be providing wound care to diabetics, making sure that patients have their prescription medicine, "and providing lots of TLC," as she put it before departing. "After all," she explained, "you can't be a good nurse if you don't want to help people." That, in a nutshell, is the motivation that drives all of us in health care, no matter how varied our day-to-day duties.

Sometimes, the help provided is less about personal health and safety than about home and life's work. For example, Valerie M. Weaver, Ph.D., assistant professor of pathology and laboratory medicine, heard grim news from Suresh Alahari, Ph.D., a colleague based in New Orleans: he had lost everything to Katrina's fury – his house, his car, his laboratory. Weaver consulted with Mark Tykocinski, M.D., chair of the Department of Pathology and Laboratory Medicine, and Glen Gaulton, Ph.D., vice dean for research and research training in the School of Medicine. Both enthusiastically endorsed her proposal to bring Alahari to Penn as a visiting scientist in her lab.

Weaver and her lab team – including students, postdoctoral fellows, and technicians – set about finding housing for Alahari and for his technician, Yuemin Ding. Next, they purchased or donated their own household supplies to their new guests and made room in their lab for Alahari's studies. In mid September Alahari, a specialist in tumor invasion and growth, took up residence in the Weaver lab. The arrangement may even bring some unexpected benefits through cross-fertilization. According to Weaver, "We're already quite excited about some of the ideas we've been exploring."

On the educational side, our School of Medicine was ready to welcome medical students displaced from their Louisiana schools. None enrolled in the M.D. program, but two Ph.D. candidates displaced from Tulane University did enroll in our Biomedical Graduate Studies program as visiting students.

In addition to the Penn people directly involved in providing care, shelter, and various forms of support for victims of Katrina, there are countless more who have made donations through various organizations. As we know, too, it is not just the inhabitants of New Orleans and neighboring areas that were affected. Many institutions were hurt as well – including hospitals and medical schools. Our care and our support will be needed for a long time to come.

Although disasters can bring out the worst in people, it is just as true that they can bring out the best as well. I'm proud of the contributions the people of PENN Medicine made at this time. They demonstrated once again that helping those in need is the essence of our profession. ▪

Arthur H. Rubenstein, M.B., B.Ch.
Executive Vice President of the University of Pennsylvania for the Health System
Dean, School of Medicine

Throughout the nation, hospitals are implementing specialized computer information systems to reduce costs, reduce medical errors, and improve the quality of care. So far, they have had both failures and successes, but some experts believe it's only the beginning of a major transformation. Dr. David J. Brailer, who did his training at Penn, has been charged by the federal government with developing and implementing a strategic plan for health information technology.

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