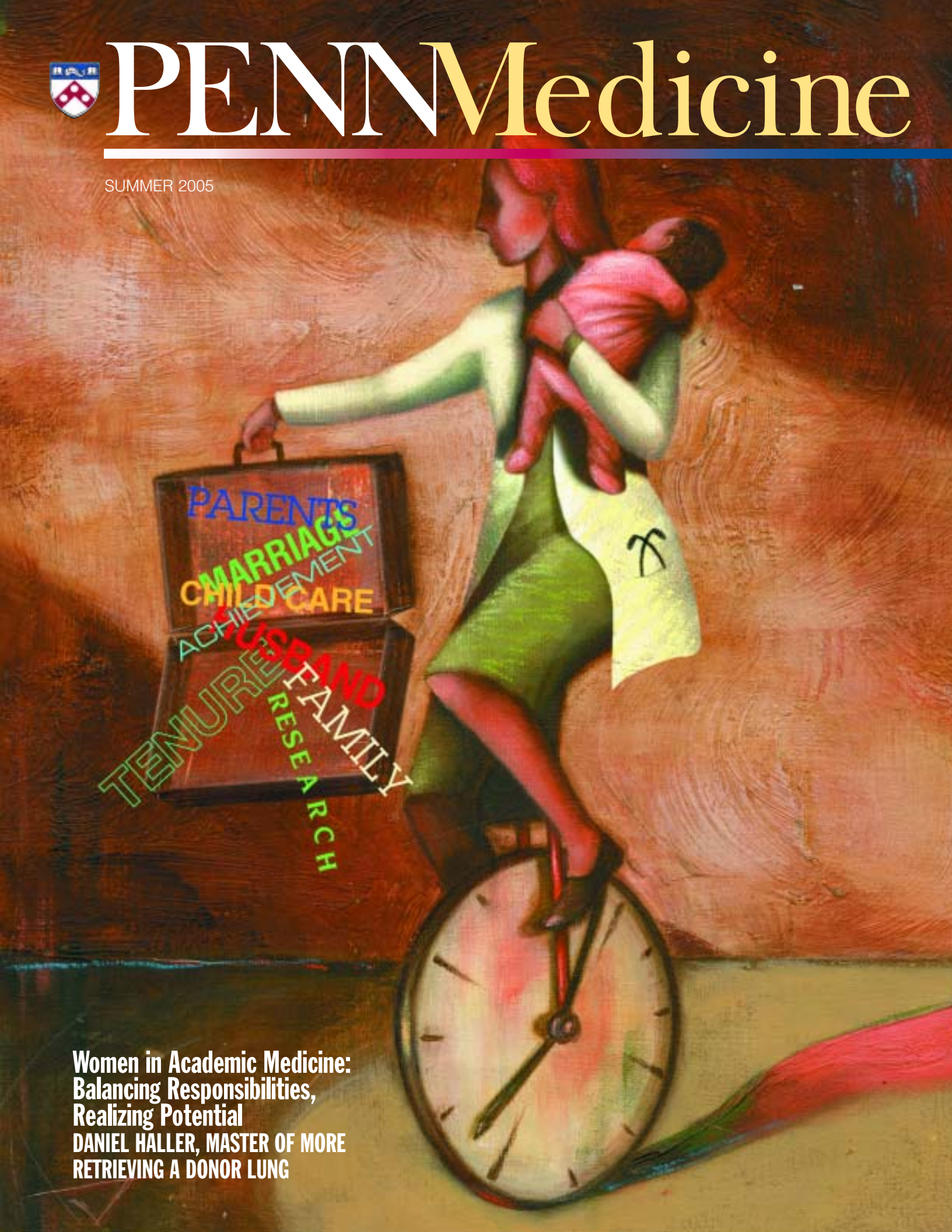
PENN Medicine

SUMMER 2005



Women in Academic Medicine: Balancing Responsibilities, Realizing Potential

DANIEL HALLER, MASTER OF MORE

RETRIEVING A DONOR LUNG

Research, Policy, and Practice

For 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, it was the death of a 20-day-old child in 1995 that set things in motion. The child had been in a rear-facing car seat. Given Winston's engineering background (as a Penn undergraduate), she recognized that the case was the first death of a child from an air bag. "I wanted to understand the mechanisms of injury."

Not only did Winston eventually understand the mechanisms, she went on to found TraumaLink: The Interdisciplinary Pediatric Injury Control Research Center. And with the compelling data she had from TraumaLink and other sources, Winston has been able to influence policy: 32 states have upgraded their laws on child safety in cars; the use of booster seats has increased 16 percent; and Seat Belt Syndrome, characterized by bruising of the abdomen and squeezing of internal organs, has been virtually eliminated. For Winston, putting her research to practical use was essential. "I don't stop when my papers get into *JAMA*."

Winston's account was part of "Linking Health-Services Research, Policy, and Practice," one of the many alumni-faculty exchanges offered by the University of Pennsylvania at this spring's Alumni Weekend. This session was hosted by Penn's interdisciplinary Leonard Davis Institute of Health Economics. Panelists included faculty from the schools of Nursing, Dental Medicine, Medicine, and Arts and Sciences. Moderating was J. Sanford Schwartz, M.D., professor of medicine and professor of health-care systems and economics in the Wharton School.

What Winston does, she said, is "evidence-based advocacy." A good deal of her evidence is data resulting from a "wonderful partnership" with State Farm, the insurance giant. When claims related to automobile accidents come in, State Farm personnel perform in-depth interviews. In addition, they have done close to 1,000 on-site investigations, and they now have information on about 450,000 children who were in crashes. In Winston's words, "The science is really crucial."

In their own ways, the rest of the panelists made the same point. Francis Johnston, Ph.D., emeritus professor of anthropology and Distinguished Senior Fellow at Penn's Center for Community Partnerships, spoke about a project in community-based research: how to reduce the impact of nutrition-related diseases? Johnston cited some now-familiar statistics about the sharp rise in obesity, overweight, diabetes, and hypertension. At this point, he said, the fight against obesity and its related problems "is likely to be the greatest public-health failure of the 20th century" – and that failure is likely to continue into the next. According to Johnston, the only solution is to engage the community in what is called action research or participatory research. Through the Urban Nutrition Initiative, the schoolchildren of West Philadelphia are brought in not as subjects but as fellow investigators. The initiative involves creating school-based gardens, through which children can learn about nutrition; setting up school produce stands and dealing with the related issues of selling food and keeping it sanitary; offering cooking classes, etc.

The Urban Nutrition Initiative will be doing a comprehensive survey of what it has accomplished over its 15 years. On a smaller scale, Johnston sees some beneficial changes, as students become more involved in planning and implementing projects.

Behavior is less aggressive. The consumption of healthy foods has gone up significantly. As Schwartz observed, the children could serve as "vectors" bringing a different consciousness about healthy eating into their homes. Johnston agreed, noting that some parents come to the schools to pick their children up, see the fruit and vegetable stands, and buy some to bring it home.

The nutrition initiative has expanded beyond its first three schools, and there are plans to duplicate the program in Vermont, New Mexico, and some foreign nations.

An assistant professor of nursing, Sean Clarke, Ph.D., R.N., C.R.N.P., serves as associate director for the School of Nursing's Center for Health Outcomes and Policy Research. Much of his own research has focused on such topics as the effect of nursing shortages on hospitals and the relation between levels of nursing education and patient mortality. According to Clarke, the best ratio of nurses to patients that would keep patients safest has not yet been determined. On the other hand, he noted that, although New Jersey has not imposed mandatory staffing ratios, it does require each hospital to list those ratios.

The last panelist, Marjorie K. Jeffcoat, D.M.D., dean of Penn's School of Dental Medicine, described how a "crazy idea" she had in 1978 eventually led her to find a correlation between gum disease and premature birth. She reminded the audience that preterm delivery is a major cause of death, and every year more than $5 billion is spent to get babies out of the neonatal ICUs. But when study groups of pregnant women went through scaling and root planning as a prophylaxis, the incidence of premature birth dropped significantly. Now the challenge is to encourage more dentists to make sure their pregnant patients don't have periodontal disease.

"If you have the correct data," said Jeffcoat, "you can do the intervention." ●

Cover Illustration: Jon Krause

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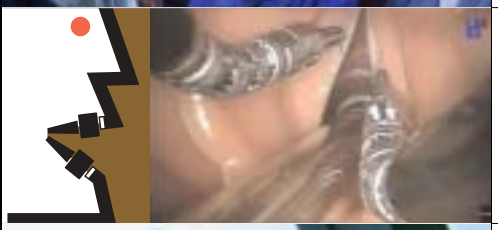
A MATTER OF POTENTIAL

By Linda Bird Randolph

An AAMC study pointed out that only 12 percent of full professors at academic medical centers were women. At Penn, FOCUS on Health & Leadership for Women has broadened its mandate to include initiatives in leadership mentoring and professional development for women faculty. It is also helping women to balance the many varied responsibilities they bear.



REDUCING SURGICAL TRAUMA THE ROBOTIC WAY

By Olivia Fermano

For patients with cancer of the mouth and throat, surgical treatment often leads to speech and swallowing dysfunction and significant external scarring. A Penn research team recently completed two studies demonstrating that the effective use of the da Vinci Surgical Robotic System to perform trans-oral robotic surgery greatly reduces surgical trauma for patients.

WHEN MORE IS BETTER

By Martha Ledger

A colleague refers to Daniel G. Haller, M.D., as "*the* national expert in colorectal cancer." As editor of the *Journal of Clinical Oncology*, Haller has an extremely valuable overview of all the important new studies in the field. In addition, he is a master of adjuvant therapy, known for his dedication to his patients.

A NEW LEASE ON LIFE

By Sally Sapega

When a call comes in to Penn's Lung Transplant program, some members of the team spring into action to retrieve the donor lung. But well before that crucial call, other members – including social workers and physical therapists – have prepared the patients for the experience and the physical and emotional repercussions they can expect.

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DEPARTMENTS

High Marks for the School of Medicine

Each year, *U.S. News & World Report* publishes its survey of professional and graduate schools. This spring, for the 8th year in a row, Penn's School of Medicine was listed among the top five research-oriented medical schools in the country. After performing a comprehensive review and analysis of the nation's 125 accredited medical schools, the magazine ranked Penn fourth. In addition, Penn's was the only medical school in the Greater Philadelphia area to be listed among the top 50 medical schools in the nation.

Penn's School of Medicine also had four specialty programs ranked in the top 10 in the country: pediatrics (2nd), women's health (3rd), internal medicine (5th), and drug/alcohol abuse (7th). *U.S. News* also ranked several Ph.D. programs, including neurosciences; Penn's program tied with Duke and Washington University for 10th place.

"While it is important to remind ourselves that such reputational surveys must be kept in their proper perspective, it is, however, gratifying to be recognized so publicly for our work," said 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.

According to the magazine's survey results, the top five medical schools, in rank order, are: Harvard University, Johns Hopkins University, Washington University in St. Louis, University of Pennsylvania, and the University of California at San Francisco.

The School of Medicine also fared very well in the annual accounting of funding from the National Institutes of Health. For Fiscal Year 2004, Penn was ranked second (up one spot from last year) with a total of nearly $394 million received from the N.I.H. in research grants, training grants, fellowships, and other grants. The total represents an increase of 9.4 percent from the previous year. (The overall increase in N.I.H. awards to all medical schools was about 3.9 percent.) The N.I.H. is the single largest source of funding for biomedical research and training in the nation, and its annual rankings are considered an important barometer of research strength.

According to Rubenstein, "These invaluable N.I.H. awards help us to achieve and maintain our extremely high standards for faculty research and medical education – which ultimately benefit our patients."

Justice Unity Dow of Botswana and Dr. Afaf Meleis, dean of Penn's School of Nursing, field questions from the audience.

A Global Summit at Penn

In late April, the University of Pennsylvania was the site of The Penn Summit on Global Issues in Women's Health, an initiative to generate new solutions to improve the plight of women around the world. Its theme was "Safe Womanhood in an Unsafe World." Sponsored by the School of Nursing and the School of Medicine, the summit brought together world leaders in health, human rights, law, and education. More than 30 countries were represented. Among those who attended were Esohe Aghatise, executive director of Associazione Iroko Onlus, which works to fight the trafficking of women; Unity Dow, author, advocate for women's rights, and high court judge in Botswana; Mary Robinson, the former president of Ireland and former high commissioner of human rights for the United Nations, who is currently executive director of The Ethical Globalization Initiative; and Stephen Lewis, the United Nations special envoy for HIV/AIDS in Africa.

"From wars to disease, from natural disasters to political unrest and poverty, women are expected to care for others and to provide food, clean water, medical care, and education for their families no matter how dire the circumstances," said Dr. Afaf Meleis, dean of the Penn's School of Nursing. Yet, as she pointed out, most women have limited access to those very things. "The purpose of this summit is to draw the best thinkers from around the world to put their knowledge and experience to the task of framing the solutions that will improve the lives of women."

The summit also gave many members of the University's faculty an opportunity to show their relevant expertise. For example, one of the sessions, "Innovative Strategies in the Health-Care Sector," featured three faculty members from three different schools among the five presenters. In addition, the session was introduced by Dr. Arthur H. Rubenstein, executive vice president of the University of Pennsylvania for the Health System and dean of the School of Medicine. One of the contexts for the session was translational medicine. As Rubenstein put it, "For several years, one of the major initiatives at academic medical centers in the United States has been translational research and translational medicine." That means a conscious process of moving a discovery in the basic-science labs to the patient as

Summit photos: Stuart Watson/School of Nursing

safely and swiftly as possible – from the laboratory bench to the bedside. "Traditionally, many of our basic scientists have worked without a specific agenda. But now they are increasingly aware of the potential for practical and clinical applications of their research. In the context of global health, the same translational impetus is involved but on a grander scale, with even more challenges." The session frankly acknowledged a truth in health care – that what works in one environment may not work in another. In Rubenstein's words, "As we have learned, despite their common humanity, all patients are not the same, and their different surroundings and customs can have an enormous effect."

A panel considers "Who Decides: Women's Rights, Society's Rules": from left to right, Aurora Del Rio Zolezzi, M.D., Deputy General Director of Equity and Health, Ministry of Health, Mexico; Geeta Rao Gupta, Ph.D., President of the International Center for Research on Women; Susan Watkins, Ph.D., Professor of Sociology at Penn; and Shiriki Kumanyika, M.D., M.P.H., Associate Dean for Health Promotion and Disease Prevention at Penn.

The summit's final day featured a "Penn Faculty Symposium on HIV/AIDS." The reason for focusing on HIV/AIDS was compelling. As Dr. Judith Rodin, former president of the University of Pennsylvania and chair of the Penn Summit, put it, "Every minute, five more women become infected with HIV." Moreover, women comprise 60 percent of all those between the ages of 15 and 24 who are living with HIV/AIDS, marking what Rodin called "the feminization of the AIDS pandemic." Among the many experts to speak at the faculty symposium were Harvey Friedman, M.D., chief of the infectious disease division, and his colleagues involved in the Penn-Botswana Program. That initiative, as Dean Rubenstein pointed out, combines research, clinical care, and education.

At the summit's beginning, Dr. Amy Gutmann, president of the University of Pennsylvania, underscored that the threats to women's health, like many other serious problems around the globe, "cannot be addressed by one discipline or profession." She called upon academic institutions "to harness the rich knowledge at our disposal to develop integrated knowledge and comprehensive practical approaches to address this crisis."

In his concluding remarks, Dean Rubenstein said, "This week's summit is not an end but a beginning." The University, he stated, hoped to hold additional discussions focused on specific issues in the future.

Advancing Therapies for Breast Cancer

The School of Medicine has been selected to become a member of the National Cancer Institute's Mouse Models of Human Cancers Consortium. The consortium was established to design and characterize mouse models that more accurately reflect the way that human cancers develop and respond to therapy. The research groups that make up the consortium at 24 lead sites connect more than 50 institutions in the U.S. and abroad. Lewis A. Chodosh, M.D., Ph.D., vice chair of Penn's Department of Cancer Biology and program leader of the Breast Cancer Program at the Abramson Cancer Center, heads one of four consortium sites at which breast-cancer models are being developed and studied. He will oversee a five-year, $2.5 million program based at Penn that encompasses multidisciplinary research from six institutions in three countries. Chodosh's co-principal investigator at Penn is Mitchell D. Schnall, M.D., Ph.D., associate chair of the Department of Radiology.

Chodosh

The Penn group will use a comprehensive array of sophisticated non-invasive imaging approaches to visualize and follow tumor cells in living animals from their origins to their eventual progression to distant metastasis and recurrence. The technology will also be used to assess tumor response to therapy and to predict clinical outcomes. The investigators are bringing imaging, genetics, and cancer biology to bear on these end-stages of breast cancer. According to Chodosh, "Understanding cancer biology and response to therapy is so complex a challenge that it requires changing the paradigm in which biomedical research is performed." He cites the collaborative, interdependent approach at Penn and throughout the consortium. "It's a truly multidisciplinary team effort,

bringing together biologists with radiologists, nuclear chemists, physicists, pathologists, and computational biologists."

Advanced stages of tumor progression, which are characterized by resistance to therapeutic agents, metastasis, and the recurrence of tumors, are responsible for the majority of cancer deaths. Yet although tumor progression is a significant clinical problem, the underlying mechanisms remain largely unknown. One of the priorities of the N.C.I. initiative is to shed light on the molecular and physiological events that contribute to this process.

HONORS & AWARDS

Katrina Armstrong, M.D., M.S.C.E., has received the 2005 Alice S. Hersh New Investigator Award from AcademyHealth. Armstrong, an assistant professor of medicine and of clinical epidemiology, serves as director of research programs for Penn's FOCUS on Health & Leadership for Women program. She is also director of research at the Leonard Davis Institute of Health Economics. AcademyHealth describes itself as "the professional home for health-services researchers, policy analysts, and practitioners, and a leading, non-partisan resource for the best in health research and policy."

P. J. Brennan, M.D., was appointed chief medical officer and senior vice president of the University of Pennsylvania Health System. A professor of medicine, he has served as chief of health-care quality and patient safety for the last four years. He has led the Health System's Clinical Excellence and Quality Initiative program, considered an innovator among academic medical centers.

As chief medical officer, Brennan is responsible for monitoring and overseeing the quality of care within the Health System, including its three hospitals; the Clinical Practices of the University of Pennsylvania; Clinical Care Associates, the primary-care network; and Home Care. He will work with Penn's medical, nursing, and other professional staff to monitor UPHS care and systems to ensure that appropriate mechanisms that promote patient safety are in place.

Alan R. Cohen, M.D. '72, G.M.E. '76, chair of the Department of Pediatrics and pediatrician-in-chief at the Children's Hospital of Pennsylvania, was honored as the Pediatrician of the Year by the Pennsylvania Chapter of the American Academy of Pediatrics. Cohen is an expert in hematology and thalassemia.

Maria Delivoria-Papadopoulos, M.D., emeritus professor of pediatrics and physiology, is the recipient of the Distinguished Scientist Award from the Society of Gynecologic Investigation. The award is given annually to a senior member who has made significant and lasting contributions to the Society and to scientific research in reproductive medicine.

Richard L. Doty, Ph.D., a professor in the Department of Otorhinolaryngology – Head and Neck Surgery and director of the University of Pennsylvania Smell and Taste Center since its founding in 1980, was presented the 2005 Max Mozell Award for Outstanding Achievement in the Chemical Senses. It is the highest honor bestowed by the Association for Chemoreception Sciences, in recognition of scientific accomplishments that have a major impact on research in the chemical senses. Doty's 1971 doctoral dissertation focused on how olfaction is used in mate selection, sexual isolation, and speciation in rodents. He is widely known for developing the University of Pennsylvania Smell Identification Test, which standardized the field of human olfactory psychophysics. Among his current research interests are factors that alter olfaction in neurodegenerative diseases.

Seeking Nominations

The **Distinguished Graduate Award** is the highest honor that the School of Medicine bestows upon an alumnus. Established in 1982, the Awards recognize 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. The accomplishments must have resulted in national or international recognition. Each year, the Award is presented during the Medical Alumni Weekend festivities to two alumni.

You are invited to submit nominations for recipients of the 2006 Distinguished Graduate Awards. All graduates of the School of Medicine and its residency training programs are eligible to receive this honor. If you would like to nominate graduates, please forward their names and supporting documentation to Melissa Fikioris in the Office of Alumni Development and Alumni Relations, 3535 Market Street, Suite 750, Philadelphia, Pa 19104-3309, or fax to 215-573-2992. Nominations must be received no later than September 1, 2005.

Gideon Dreyfuss, Ph.D., the Issac Norris Professor of Biochemistry and Biophysics, was elected to the American Academy of Arts and Sciences. Members are chosen for their scientific leadership and contributions to society. Dreyfuss's research focuses on three interrelated topics: RNA-binding proteins; the trans-

port of RNAs and proteins between the nucleus and the cytoplasm; and the molecular functions of SMN, the protein responsible for the neurodegenerative disease spinal muscular atrophy. Dreyfus is also a Howard Hughes Medical Institute Investigator.

Eli Glatstein, M.D., the Morton M. Kligerman Professor of Radiation Oncology, was appointed interim chair of the Department of Radiation Oncology. He will serve in this role during the search for a replacement for Dr. Gillies McKenna. A faculty member at Penn since 1996, Glatstein serves as vice chair of the department and chair of the department's Committee on Appointments and Promotions. His primary academic interests include treatment of lymphomas, sarcomas, lung cancer, complications of treatment, and photodynamic therapy.

A Change of Name

Effective July 1, 2005, the name of the Department of Anesthesia changed to the Department of Anesthesiology and Critical Care. This change, recommended by Lee Fleisher, M.D., chair of the department, and by the department faculty, was made for two main reasons. First, *anesthesiology*, which is used by most modern departments, better reflects the study of this area of medicine. Adding *critical care* acknowledges a major area of clinical practice and academic study for the faculty of the department.

Sean Hennessy, Pharm.D., M.S.C.E. '96, Ph.D. '02, assistant professor of biostatistics and epidemiology, received the Young Alumnus Award for 2005 from the University of the Sciences in Philadelphia. The award is bestowed annually upon an alumnus who has received his degree within the last 15 years and who has contributed in an outstanding fashion to the professions, to science, and/or to mankind. Focusing on pharmacoepidemiology, Hennessey has performed many studies of adverse and beneficial drug effects, such as sudden cardiac death because of drugs and venous thromboembolism caused by oral contraceptives. Hennessy received his B.S. and PharmD. degrees from Philadelphia College of Pharmacy and Science (now the University of the Sciences) before earning his later degrees from Penn's School of Medicine.

Prashanth Jayaram, who has completed his first year as a medical student at Penn, is among the 30 recipients of the Paul & Daisy Soros Fellowships for New Americans in 2005. Fellows receive up to a $20,000 stipend as well as half-tuition for as many as two years of graduate study at any institution of higher learning in the United States. This year, there were almost 1,000 applicants, who are naturalized citizens, resident aliens, or the children of naturalized citizens.

Jayaram was born in South Carolina to parents who had emigrated from South India. He completed his secondary education in Bangalore, India, then entered the University of Pennsylvania. He earned a B.S. degree in economics from the Wharton School and a B.S. degree in bioengineering from the School of Engineering and Applied Sciences, as part of the Jerome Fisher Management and Technology Program. Graduating magna cum laude, he received the Sol Feinstone Award and an Albert Berg Scholarship for his nonprofit and community-service work. Currently, he is co-chair of the Medical Student Government and serves as a representative on the Academic Curriculum Committee. He has worked as a summer analyst for Salomon Smith Barney. Jayaram plans to pursue an M.B.A. degree at the Wharton School in health-care management.

Two other recipients of the Soros Fellowships have announced plans to enter Penn's School of Medicine in the fall: Dave Chokshi and Kathleen Tran.

William N. Kelley, M.D., professor of medicine and professor of biochemistry and biophysics, has received the 2005 George M. Kober Medal from the Association of American Physicians. The association's highest honor, it is given to a member of the Association for a lifetime of accomplishment in academic medicine. Kelley is the former executive vice president of the University of Pennsylvania, dean of the School of Medicine, and CEO of the Health System.

Early in his career, Kelley played a role in the discovery of the genetic cause of the Lesch-Hyhan Syndrome. Later, with his co-workers, he began to explore the possibility of gene transfer using cells in culture and experimental animal models. They submitted a patent application reflecting that work, "Viral-Mediated Gene Transfer System," in 1987, and the patent was issued in 1997.

While Kelley served as chair of the Department of Internal Medicine at the University of Michigan, the department rose from 42nd place to 4th place in N.I.H. research funding. At Penn, under his direction, the School of Medicine rose from 10th to 2nd in N.I.H. funding, and its ranking in the annual survey by *U.S.*

News & World Report rose from 10th in 1990 to third in 1999.

Kelley was the co-founder and senior editor of *The Textbook of Rheumatology* for five editions; the book, in its seventh edition, is now entitled *Kelley's Textbook of Rheumatology*.

Michael T. Mennuti, M.D., professor of obstetrics and gynecology, expects to step down soon as chair of the department. He has become president of the American College of Obstetricians and Gynecologists (ACOG). He has been the College's secretary since 2001. In his acceptance speech at the College's annual clinical meeting, he made note of the pressures on the profession, stating that "We need new tools and creative solutions in both training and practice."

At Penn, he continues as director of reproductive genetics as well as director of the Prenatal Genetic Diagnosis Program. He also is chairman of the executive committee of the Clinical Practices of the University of Pennsylvania.

Mennuti joined Penn's medical faculty in 1975 and was appointed chair of the department in 1987. Research funding to the department has grown from $4.0 million in 1992 to $17.8 million in 2004, and the department's clinical side has expanded significantly.

Jon B. Morris, M.D., professor of surgery, was appointed associate dean for student affairs, a position he had held on an interim basis. In his role as associate dean, he works closely with the Office of Student Affairs to develop policies and procedures for the School of Medicine, manages student crises, and takes part in major School events such as Orientation, the White Coat Ceremony, Match Day, and Graduation. Morris has received numerous awards for his teaching, including the Medical Students' Award for Excellence in Teaching, the Penn Pearls Award for Outstanding Clinical Teaching, and the University's Lindback Award for Outstanding Teaching.

The School of Medicine will receive a 2005 Templeton Research Lecture grant. The award, totaling $270,000, will be given over a three-year period to promote "the constructive engagement of science and religion" through interdisciplinary study groups and an annual distinguished lectureship. **Andrew B. Newberg, M.D. '92**, assistant professor of radiology and of psychiatry, will direct the initiative. He is the author of *Why God Won't Go Away: Brain Science and the Biology of Belief*. The Templeton project, "Mind, Religion, and Ethics in Dialogue," will explore the relationship between the mind and spirituality.

Daniel Rader, M.D., the associate professor of medicine who serves as director of the Preventive Cardiovascular Medicine & Lipid Center, was appointed program director of the General Clinical Research Center. According to Arthur H. Rubenstein, M.B., B.Ch., dean of the School of Medicine and executive vice president of the University of Pennsylvania for the Health System, "The GCRC has served as the heart of translational research activities at Penn since it was established in 1962."

Rader is internationally known for his work on dyslipidemias, a condition associated with abnormal levels of lipids or lipoproteins in the blood. He is particularly interested in the cardio-protective effects of high-density lipoprotein. Rader recently received the Hoeg Award from the American Heart Association.

Because the organizational base of the GCRC is moving to the newly created Institute for Translational Medicine and Therapeutics, Rader has also been appointed associate director of the institute. He will report directly to Garret FitzGerald, M.D., director of the institute, who led the GCRC for 11 years.

Craig B. Thompson, M.D. '77, chair of the Department of Cancer Biology and scientific director of the Abramson Family Cancer Research Institute, was elected a member of the National Academy of Sciences. Established in 1863, this society of distinguished scholars is dedicated to furthering science and technology for the general welfare and includes more than 200 recipients of the Nobel Prize.

Thompson's laboratory has pioneered the study of the Bcl-2 family of oncogenes and their role in regulating cell survival and apoptosis. A better understanding of how apoptosis is regulated may lead to preventive treatments for individuals predisposed to cancer. It might also lead to treatments that could block the ability of cancer cells to survive, which would limit the size of tumors and prevent the cancer from spreading.

Thompson is also a member of the Institute of Medicine as well as the American Academy of Arts and Sciences. He received the 2003 Clinical Investigator Award from the American Society for Clinical Investigation for his pioneering work on the critical role of receptors on the surfaces of T-cells in regulating complicated functions of immune cells.

John Q. Trojanowski, M.D., Ph.D., G.M.E. '80, the William Maul Measey-Truman G. Schnabel Jr., M.D., Professor of Geriatric Medicine and Gerontology in the Department of Pathology and Laboratory Medicine, has received the 2005 Rous-Whipple Award from the American Society for Investigative Pathology. The award is given to a pathologist 50 years

old or older who has had a distinguished career in research and continued productivity. Trojanowski, who is co-director of the Center for Neurodegenerative Disease Research, has conducted research at Penn for more than 15 years and made contributions of fundamental importance to the understanding of neurodegenerative diseases, such as Parkinson's and Alzheimer's diseases. He has combined neuropathology with biochemistry and molecular techniques to understand the basis of neurodegenerative diseases. Trojanowski also serves as director of Penn's Institute on Aging.

Frederick B. Vivino, M.D., chief of rheumatology at Penn Presbyterian Medical Center, recently received the Physicians Leadership Excellence Award from the Sjögren's Syndrome Foundation in San Francisco. The foundation provides patients with practical information and coping strategies that minimize the effects of Sjögren's Syndrome – an autoimmune disease in which the body's immune system mistakenly attacks its own moisture-producing glands. A clinical associate professor of medicine, Vivino became involved with the Philadelphia Regional Chapter of the foundation in 1991. Since that time, he has become its medical advisor. He recruits speakers for meetings, helps to organize the annual luncheon, and promotes the chapter to all of his patients. In addition, he was influential in creating and designing the chapter's *Moisture Lovers Cookbook*.

Burning Up the Lecture Circuit

Britton Chance, Ph.D., Sc.D., the Eldridge Reeves Johnson University Emeritus Professor of Biophysics, Physical Chemistry, and Radiologic Physics in the School of Medicine, has recently completed a series of invited lectureships. In April, he was the featured speaker at the 46th Experimental Nuclear Magnetic Resonance Conference at Providence, Rhode Island. Also in April, he gave the James Gibb Johnson Distinguished Visiting Lecture at the University of Tennessee in Memphis, providing a retrospective of his 75 years in science. In May, Chance gave the Lauterbur Lecture at the 13th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, speaking about "Photons, Protons, Electrons, and Radar." It was a retrospective that focused on his development of magnetic resonance spectroscopy and imaging and near infrared spectroscopy and imaging. Later in May, he gave the Digitimer Endowed Lecture at the annual meeting of the American Society of Neurophysiological Monitoring on "The Transferability of NIR Optical Spectroscopy and Imaging to Brain, Breast, and Muscle, Surface or Deep."

In addition to these lectureships, Chance gave a platform presentation in March at the Oxygen Retreat at Thomas Jefferson University ("Oxygen transport, imaging, and simulation in human muscle, brain, and heart"). Following that event was a symposium on NADH and flavoprotein components of mitochondria at the end of May.

Most recently, Dr. Chance drew great interest at the 2005 Era of Hope Meeting for the Breast Cancer Research Program of the Department of Defense, held in Philadelphia in June. He presented a prototype of a hand-held detector that may one day allow women to screen themselves at home for breast cancer. Tentatively named the "iFind," the device is about the size of a pack of cards. According to Chance, the device monitors the differences in blood oxygen ratios in growing cancers and normal tissues. If it picks up potential early signs of breast cancer, the device alerts the user with either a light or a vibration.

As Chance emphasized, iFind "would be part of a breast exam, not a full diagnostic device."

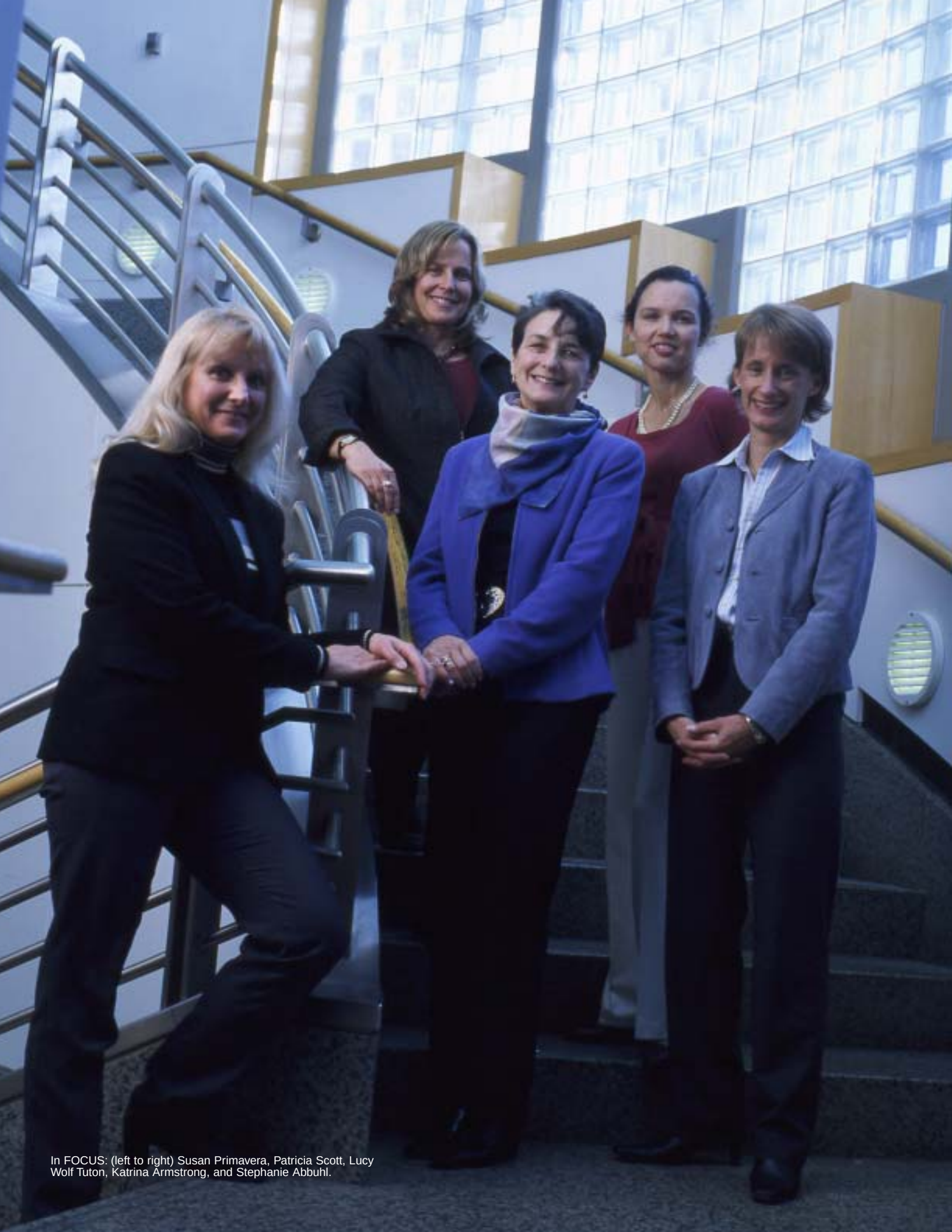
Moving On . . . and Up

Jerome F. Strauss III, M.D. '74, Ph.D., the Luigi Mastroianni Professor of Obstetrics and Gynecology and associate chair of the Department of Obstetrics and Gynecology, has been named dean of the Virginia Commonwealth University School of Medicine. Strauss, who also serves as director of Penn's Center for Research on Reproduction and Women's Health, will assume his new position on September 15.

A member of Penn's medical faculty since 1977, Strauss earned his Ph.D. degree in molecular biology. His laboratory has been exploring the regulation of steroid hormone synthesis in ovary and placenta; polycystic ovary syndrome; and the biology of fetal membranes. He is a member of the Institute of Medicine of the National Academy of Sciences.

As dean, he will serve as chief administrator of V.C.U.'s medical school and as executive vice president for medical affairs for the V.C.U. Health System, overseeing a group practice of 600 faculty physicians.

Jay L. Hess, M.D., Ph.D., professor of pathology and laboratory medicine, has joined the University of Michigan Medical School as chair of pathology and the Carl V. Weller Professor of Pathology. Hess, who came to Penn in 1999, is an expert on the genetic and molecular changes that lead to cancer. He had been director of hematopathology for UPHS and co-director of the program in hematologic malignancies in the Abramson Cancer Center.



In FOCUS: (left to right) Susan Primavera, Patricia Scott, Lucy Wolf Tuton, Katrina Armstrong, and Stephanie Abbuhl.

The School of Medicine is working to attract and retain talented women, yet at Penn and other academic medical centers, women continue to be underrepresented, especially in the senior ranks of the faculty. What can be done?

A MATTER OF FOCUS POTENTIAL

By Linda Bird Randolph / Photographs by Addison Geary

Imagine yourself at one of the "white coat" ceremonies of recent years, observing the young people entering medical school. About half – sometimes more – of these first-year students are female. Yet move ahead 10 to 15 years and take a group shot of these same peers. Many of the women are working hard to advance their careers but barely surviving, pulled between their obligations to their careers, their young children, and their aging parents. That's the reason many women drop out of academe for a time, which raises implications for tenure and long-term success. All in all, the women represented in this imaginary picture do not advance as steadily as the men, and things only get worse as time goes on.

Across the country, medical institutions are working to correct inequities and attract and retain talented women in academic medicine – but it remains to be seen if these efforts will work.

In 1996, a task force at the Johns Hopkins University School of Medicine published "Career Development for Women in Academic Medicine: Multiple Interventions in a Department of Medicine" in the *Journal of the American Medical Association*. At the time, only 11 percent of full professors in the Hopkins Department of Medicine were women. The study's investigators found that by promoting deserving women faculty, guaranteeing salary equity, providing mentors, and decreasing isolation, institutions were able to retain and promote women faculty much more successfully.

Although it would seem the situation is improving, especially in schools that have launched concentrated efforts, the Association of American Medical Colleges considered the matter serious enough to create the Increasing Women Leadership Project Implementation Committee. The committee issued a report in 2002. According to the executive summary, "With women comprising only 14 percent of tenured faculty and 12 percent of full professors, the Committee concludes that the progress achieved within academic medicine over the last 25 years is incomplete and inadequate. Few schools, hospitals, or professional societies have what might be considered a 'critical mass' of women leaders, and the pool of women from which to recruit academic leaders remains small. Scientific and medical careers involve considerable personal and public investment, but the potential of most women is being wasted."

Indeed, despite the interventions in the mid-1990s, by 2002 the situation at Hopkins looked much the same as before: only 11 percent of the full professors in the Department of Medicine were women (*Hopkins Medicine News*, Spring/Summer 2002). Nationally, the percentage of all women faculty who are full professors has risen less than 2 percent in more than 20 years.

The Background at Penn

At Penn, the problem of the lost potential of women faculty has been formally recognized for more than ten years through the FOCUS on Health & Leadership for Women program. FOCUS began as an initiative to promote women's health care through enhanced and directed clinical research. Led back then by Jeane Ann Grisso, M.D., M.Sc., then associate professor of medicine, the program urged the inclusion of more women subjects in research projects. It has continued to encourage junior faculty to devise innovative studies on women's health issues and has also worked to promote attention to women's health issues in medical curricula.

Bolstered by extramural funds and office space provided by Penn's Center for Clinical Epidemiology and Biostatistics, FOCUS grew over the years – and its mission has broadened. "The FOCUS program is a very different animal than it was in its

beginning phases, when its sole mission was women's health research at Penn," says Patricia Scott, director of operations for FOCUS.

In 1997, with generous funding from the dean of the medical school, FOCUS expanded its mission to include initiatives in leadership mentoring and professional development. To that end, the program now supports efforts to retain, support, and advance women in academic medicine. Through conferences for professional development, seminars, and workshops centered on building skills and networking, FOCUS works toward achieving greater gender equity in academic medicine and helping women to successfully integrate work and family responsibilities. One example is a collaboration with the Wharton School through which FOCUS runs intensive workshops to teach presentation skills. During these seminars, women are videotaped while delivering talks and are then critiqued by communications experts.

In addition to Scott, the leaders of FOCUS include Stephanie Abbuhl, M.D., executive director (she is vice chair of emergency medicine and medical director and associate professor of emergency medicine); Katrina Armstrong, M.D., M.S.C.E., director of research programs (she is an assistant professor of medicine and clinical epidemiology as well as director of research at the Leonard Davis Institute of Health Economics); and Lucy Wolf Tuton, Ph.D., director of professional development (she is an adjunct associate professor of medicine and prevention and population health in the Center for Clinical Epidemiology and Biostatistics as well as executive director of Bridging the Gaps). Susan Primavera is the administrative coordinator for FOCUS.

An obvious obstacle that women in academic medicine face is that, because they are outnumbered in the upper echelons of academic medicine, they are not represented the way they deserve to be.

Keeping tabs: (left to right) Lucy Wolf Tuton, Stephanie Abbuhl, and Patricia Scott

The Buyske Method

Many seasoned women in academic medicine have developed systems for successfully combining their careers and their families. In 2004, Jo Buyske, M.D., chief of surgery at Presbyterian Hospital of the University of Pennsylvania Health System, spoke at a FOCUS presentation and shared some of her insights.

Because she and her husband, Joseph S. Friedberg, M.D., are both Penn surgeons, the demands on their time are great. Buyske outlined some differences between what she perceives as the "male approach" to family/career management and the "female approach."

"The general assignment and organization of our house falls on me," she said. "I feel it's more important to be there – for example, to go to the parent-teacher conferences – than my husband. It has just happened that way. I was not forced into the role. So I spend a little less time at work than my colleagues."

In her presentation, Buyske mentioned the typical stress factors that medical faculty generally identify in their lives. Women tended to pick conflict of family time and career time, whereas men identified patient interactions, malpractice, and promotion stresses as most significant.

Buyske offered some tips, such as "never be committed to be at two places at the same time." As she exclaimed, "It's my biggest nightmare – the fear that I'll have a patient with an emergency and a sick kid who must be picked up, and I'll be the only one to do it. I go to great extremes to make sure that this never happens." So Buyske and Friedberg have

arranged their schedules so that they are never in surgery on the same days. She tries hard to be open with her children about her limitations as a busy parent, and they realize she can't attend every event. To help fill the gaps at home, Buyske has hired people – mostly Penn undergraduates. At one point, she had two full-time and one half-time employees in her house.

One trick Buyske uses, which she learned from Marjorie Bowman. M.D., M.P.A., is to keep her circles "close": she lives near work, the children's school is close by, and so are other daily functions, all of which helps her lose less time in transit.

Said Buyske, "People ask, 'How do you do it all? Can you have it all?' and I say, 'Yes – but not at the same time.'"

The most recent data (from January 2005) show that, of 1,472 faculty members at Penn's School of Medicine, 378 (26 percent) are women. On the other hand, of the 718 medical students, 342 (48 percent) are women. There is only one woman chair of an academic department in the School of Medicine, out of 28 positions. Since 1999, Abbuhl points out, there have been 15 searches to fill positions of department chairs, and no woman was appointed. At present, some additional searches for chairs are under way.*

"If we do not address these issues," Abbuhl adds, "we will waste half the talent that the next generation could offer."

But the problem for these under-represented women usually goes further. According to Abbuhl's statistics, 95 percent of female assistant professors at Penn have a full-time working spouse, whereas only 51 percent of male assistant professors have a full-time working spouse. "In our culture," she says, "women usually spend more time and energy on home and caregiving matters. Dual career couples are often the most stressed by lack of time. This is where both men and women faculty have equal concerns about the 65-hour work week so prevalent in academic medicine."

As Tuton puts it, "A professional woman in academia can have a very different career experience depending on the management style of her department chair and on the nature of the combined demands of her personal and professional life." Medical schools need more female and minority leaders to promote an institutional culture more conducive to the success of all faculty members.

At present, both men and women at Penn can request to go "part time" when competing demands become overwhelming. It is no surprise that women choose this option significantly more often than men. Yet this change is technically called a "reduction in duties," which sounds – and may feel – like a step down to those who take it. On the other hand, many academic institutions are launching flexible part-time options for faculty who have care-giving responsibilities. The goal is to attract the best young faculty, both men and women.

To increase the numbers of women in academic medicine, the AAMC committee recommended several significant steps. One is to evaluate department chairs in part on how well they develop women faculty in their departments. Another is to target the "professional development needs of women within the context of helping all faculty make the most of their faculty appointment." Part of this process would include counseling men to become more effective mentors of women. The AAMC also advised institutions to assess practices that tend to favor the professional development of men more than women.

One of the staunchest supporters of FOCUS is the dean of the School of Medicine, Arthur H. Rubenstein, M.B., B.Ch. Rubenstein, who is also executive vice president of the University of Pennsylvania for the Health System, served on the AAMC committee that issued the report on increasing the leadership of women in academic medicine. In remarks last fall, he asserted that FOCUS "has become an essential part of our institution." Like almost all of its peers, he said, "PENN Medicine has a way to go to live up to its ideals. But with the help of FOCUS and many interested individuals, we are indeed making progress."

As Dean Rubenstein has also pointed out, the goals of FOCUS have officially become part of the larger institution's goals as well. One of the first steps artic-

*As of July, there are two interim chairs and two chairs who had previously announced their intention to step down.

Lucy Wolf Tuton leads one of the many FOCUS seminars.

ulated in the strategic plan for PENN Medicine is to recruit, retain, and promote women and under-represented minority faculty and house staff "so that our mix reflects the diversity of our nation and our world." Part of that effort, explained Rubenstein, involves having all department chairs "develop and submit a diversity plan for their departments, indicating strategies and targets for recruitment and retention, as well as development and promotion of women and under-represented minorities."

Tackling the Problem

Still, there are matters to contend with in the present. At a recent seminar sponsored by FOCUS, some of the people attending – mostly women – described their frustrations. "As a senior member of the faculty here," said one, "I'd like to know how to teach younger faculty members about integrating personal and professional goals. Younger faculty, particularly women who also have a working spouse and are here on campus doing an important job, say to me: 'How do I do this?' I don't know what to tell them. Here at Penn, it doesn't seem possible to 'have it all.'"

"You want to have a balanced life," said another participant. "You've been working your buns off in medical school, you've done a demanding fellowship, and then you realize, 'Oh, it's time to have my first baby and I have to figure out which month I can do that this year.'"

Another attendee noted that many young people are choosing their specialties based on which will allow for a decent home life. Some may yearn to be surgeons, for example, but are scared away by "horror stories" about endless hours on the job.

Marcia S. Brose, M.D., Ph.D., an assistant professor in the Department of Otorhinolaryngology – Head and Neck Surgery and in the Department of Medicine, has faced similar challenges in trying to combine a standing faculty position on the tenure track with a full family life.

During the years she was an intern/resident and a clinical fellow, she says, "one

Some Tips from a

Marjorie A. Bowman, M.D., M.P.A., heads Penn's Department of Family Practice and Community Medicine – the only woman chair of a department in the School of Medicine. Over the years, she has studied and written about the role of women in academic medicine. In 2002, the third edition of a book she edited, *Women in Medicine: Career and Life Management*, was published. Sharing the editing duties were Erica Frank, M.D.,

1. Have professional short- and long-term goals so that you can design your path accordingly. Write them down. Regularly review them, at least annually.

2. Choose your job well, one that fits you and your long-term desires.

3. Know rank and tenure systems, particularly that of your institution, both what is written in the policy manual and what is not written but important.

4. Seek out mentors early; nurture the relationships, and ask questions, seek advice, and suggest ways that mentors can help you. For example, ask them to submit your name as a possible speaker for a meeting, or as a co-author, or as a co-investigator, or as a committee member. Ask for honest feedback. Mentors do not all need to be at your home institution. Remember, mentors are often honored that you see them as expert.

5. Network inside and outside the institution. It will be easier to find someone to help with a portion of the grant, to write your letters for promotion, or to have someone invite you for a visiting professorship if you already know them and they know you.

Department Chair

M.P.H., from Emory University's Department of Family and Preventive Medicine, and Deborah I. Allen, M.D., from Indiana University's Bowen Research Center. The book includes a handy checklist called "What Can A Woman Academic Physician Do?"

Advancement of a woman's academic career is not just the responsibility of the institution. There is much personal responsibility the woman physician can take:

6. Mentor others. You learn from doing.

7. Find other individuals with similar rank to discuss how they are managing. Share specific information, such as salaries.

8. Attend seminars designed for women, or about managing career/family, or about rank and tenure systems.

9. Once or twice a year, meet with your supervisor (such as division director or department chair) to review progress, set goals, and get evaluation of your past performance. Know your strengths and admit your weaknesses. Show how you will overcome your weaknesses.

10. Seek out pertinent additional training often.

11. Be assertive, but not negatively aggressive. Good interpersonal skills are important to long-term success.

12. Maintain a realistic perspective about how you are doing professionally compared to other physicians at your experience level.

of my major concerns was that when the training ended, there wasn't very good help on where to go and what to do. A friend of mine and I decided to get together and create a series of dinner talks and networking sessions for residents and fellows in the Department of Medicine. We called it the Women's Medical Alliance. The Alliance was a big success, but a tremendous amount of work."

Around the same time, Brose heard of FOCUS's efforts and attended her first annual FOCUS retreat – an event, she says, that changed her career by exposing her to the resources she needed. Soon after that, Brose began attending all FOCUS events, even if the topic was something that did not necessarily apply to her present situation.

Brose mentions the crucial role that FOCUS played in helping her achieve a faculty position: "As women in academics, we need information on what is ahead in our career, what our choices are, what the pitfalls are, and what to watch out for." In Brose's view, Penn has not been good at offering mentoring for women – or men – and many of her female peers felt bogged down in their early careers with little knowledge about how to manage professionally and personally.

"I learned amazing things about the details of getting [faculty] appointments," Brose says. "No one tells you this stuff! When the time came around for me, I was incredibly ready. I had great mentors who told me all their stories. I also learned whom I could call when things go wrong."

For example, says Brose, one mentor told her that it was not uncommon for someone who accepts an appointment to expect a certain workload or set of responsibilities, only to end up in a different situation. "Your offer letter must specify that, if you plan to spend one day a week in research, you get one day a week in research – and if you don't know what your letter should say, it is helpful to talk to people who can help you plan what you need."

Abbuhl makes a similar point. "It's important for women in medicine to remember to ask for what they need," she says. "Women often feel they have to 'make do' with what they are offered. But there is often room for negotiation."

According to the editors of *Taking Root in a Forest Clearing: A Resource Guide for Medical Faculty* (W. K. Kellogg Foundation, 2003), negotiation requires "effective communication of goals, needs, and preferences. Effective negotiation had been considered critical to the success of individuals' careers in the professions and business. Negotiating the conditions for success at work covers a broad range of critical issues. In academic medicine, these may include, but are not limited to, salary and benefits, assignments and rotations, support for research, protected time for personal life, performance evaluation, and career development. Flexibility of job structure can also be achieved through active negotiation."

That's why the seminars FOCUS offers on negotiation skills are very popular. "It is true that, in general, women don't have the same negotiation skill set that men do," says Abbuhl. "The cultural norm is that men are more aggressive and women are more passive. Men often thrive on competition, whereas women are more collaborative and accommodating."

FOCUS seminars also address such issues as day care, dealing with guilt, and avoiding burnout. One seminar series, nicknamed the "Milk Series," was set in motion when a woman requested that a future seminar address her frustration. "All I want to know is how to keep milk in the fridge and still get a promotion," she had written, and her suggestion led to a workshop series that helps women who are juggling many life responsibilities. Visiting speakers have come from Jefferson, Hershey, and Temple.

Katrina Armstrong, director of FOCUS research programs, meets with research coordinators and students: from the left, Alex Quistberg, Tonya Walker, Armstrong, Elizabeth Moye, and Lorraine Dean.

Sylvia Rosas, M.D., assistant professor in the renal electrolyte and hypertension division of the Department of Medicine, serves as an example that negotiation can work. While Rosas was waiting to become a member of the standing faculty after completing her nephrology and epidemiology training at Penn, she became pregnant. Her baby was born ahead of schedule, however, and Rosas was unable to apply for an extension of her probationary period because she was not yet standing faculty. Although she would have been eligible in July of that year, the baby came in April.

Around this time, through FOCUS, Rosas teamed up with an experienced faculty member who had similar research interests – just the right mentor to give Rosas advice. With that encouragement, Rosas fought for what she needed. As she explains, because of her activism and with help from FOCUS, the rule has been changed now so that the probationary period can be extended in certain circumstances.

Continuing the Research

Despite its dramatically expanded advocacy efforts, FOCUS has not abandoned its original objectives to increase the quantity, quality, and visibility of research pertaining to women's health. As director of the FOCUS research programs, Katrina Armstrong oversees its critical, albeit smaller, role of supporting research that is innovative and – according to Armstrong – somewhat high-risk.

The grants FOCUS awards are small. Yet, Armstrong points out, "$5,000 over three years is seed money that can lead to better things." For example, in 2003-2004, the FOCUS Junior Faculty Investigator Award recipients included Marna S. Barrett, Ph.D., assistant professor of psychology in psychiatry. She was awarded a grant for her study proposal designed to assess and document why women drop out of their care at mental health services clinics. Recently, FOCUS received extramural funds that will support two $5,000 Junior Faculty Investigator Awards for research related to the cardiovascular health of women – an area of increasing concern.

Armstrong also oversees an extramurally funded research fellowship that offers Penn medical students funded opportunities to work full time, for six months or one year. Faculty serve as mentors. Students have the option either to study with an academic physician actively engaged in women's health research or to work in a community-based agency providing services related to women's health. The purpose is to enable medical students to learn "hands-on" research and collaborative skills; to gain knowledge of a particular area of women's health; and potentially to work on an article or publication generated from the research.

As FOCUS enters its second decade, the staff plans to broaden its reach. In Tuton's words, "Our goal is to make FOCUS a central infrastructure, a 'hub' for Penn women in medicine." The staff also sees a possible role in assisting women and other minority groups in medicine at other institutions. In that context, the FOCUS team has been invited to speak at the University of Virginia, the Oregon Health Sciences University, the AAMC annual conference, Duke University, and Brown University.

Last fall, the leaders of FOCUS were excited to learn that the program had won the 2004 AAMC Women in Medicine Leadership Development Award. The award honors individuals or groups for outstanding contributions in the development of women leaders in academic medicine. Although nobody believes problems will be resolved overnight, the AAMC award makes clear that an outside organization recognizes the substantial efforts – and progress – FOCUS has made.

REDUCING SURGICAL TRAUMA THE Robotic WAY

The da Vinci system makes endolaryngeal suturing and knot tying easier.

For patients with cancer of the mouth and throat, surgery is a frequent course of treatment. But that treatment often leads to speech and swallowing dysfunction and significant external scarring. A Penn research team recently completed two studies – the most comprehensive and largest to date – demonstrating that the effective use of the da Vinci Surgical Robotic System to perform Trans-Oral Robotic Surgery (TORS) greatly reduces surgical trauma for patients. They presented their initial findings in May at the annual meeting of the Triologic Society, which brings together experts in ear, nose, and throat.

As Neil G. Hockstein, M.D., a clinical assistant professor in Penn's Department of Otorhinolaryngology – Head and Neck Surgery, points out, the da Vinci Robot has been approved by the Food and Drug Administration and successfully integrated into cardiac and urologic surgery. "Patients are reaping the benefits with decreased bleeding, less pain, and are able to return to work sooner," says Hockstein, who served as lead investigator for both Penn studies. "I saw the potential to apply the attributes of surgical robotics to the treatment of head and neck cancer."

For head and neck tumors, treatments often involve a combination of surgery, radiation therapy, and chemotherapy. In many cases, surgery offers the greatest chance of cure. In conventional cancer surgery, surgeons may make an incision almost ear to ear across the throat or split the jaw in half. "The research we've done to date suggests that TORS has great potential to improve the way we treat head and neck cancer patients," says Bert O'Malley Jr., M.D., chair of Penn's Department of Otorhinolaryngology – Head and Neck Surgery. "We believe this technology will have a dramatic impact on the ability to completely remove tumors while preserving speech, swallowing, and other key quality-of-life issues."

In the first study, researchers used the da Vinci Robot and "operated" on a mannequin. They found that, by applying simple instruments and retractors commonly used for tonsillectomy, they could insert the robotically controlled camera and instruments through the mouth into the throat and voice box. The surgeons were able to manipulate different elements in the voice box with a high degree of dexterity that would be extremely difficult using conventional instruments. Similarly, they were also able to suture and tie knots deep in the mannequin's throat with relative ease.

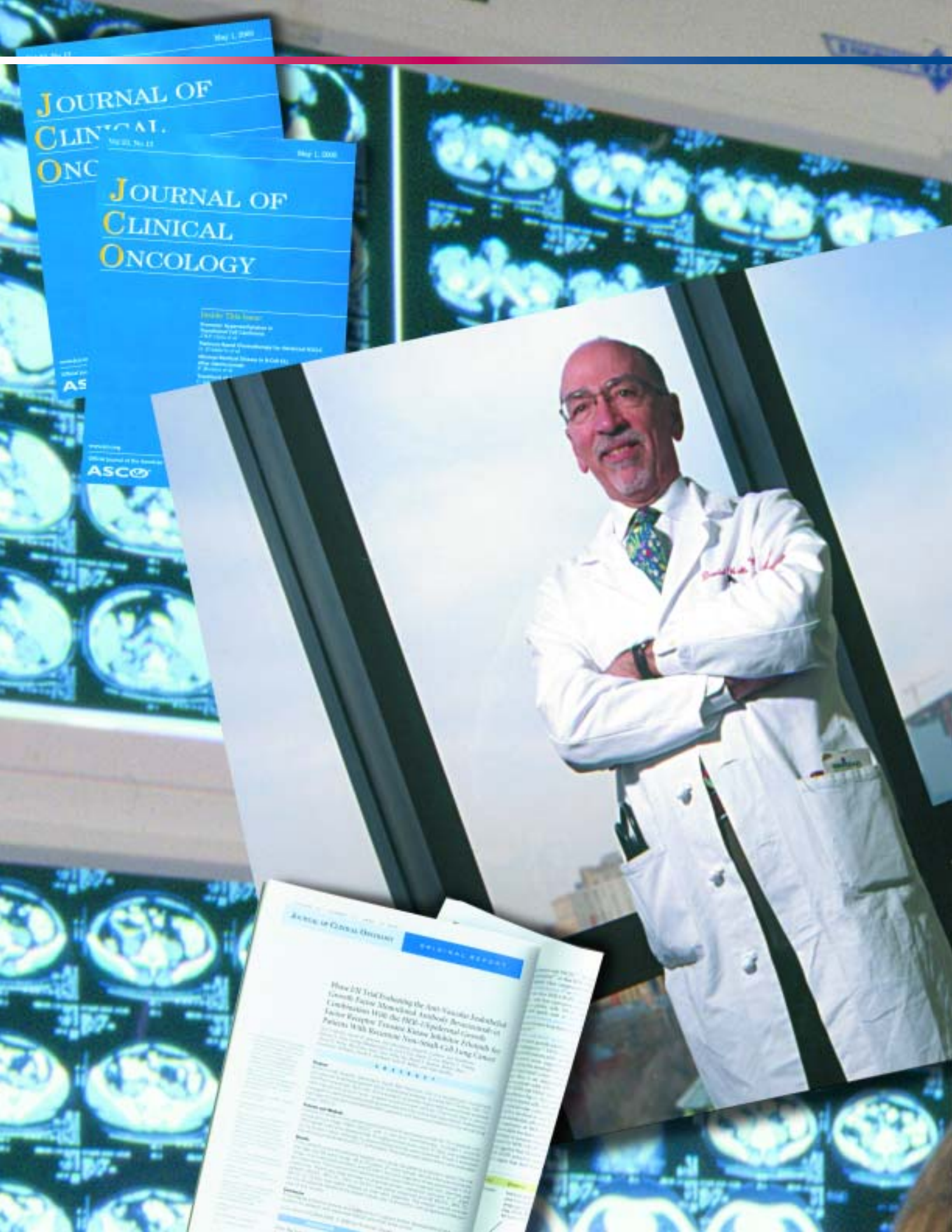
In the second study, the surgeons performed a variety of surgical procedures on a human cadaver. They concluded that robotic surgery may shorten operating time and allow for minimally invasive treatment of more cancer patients.

The self-contained da Vinci robotic system has three main components: a mechanical robot with three multi-jointed arms; a computer command center several feet from the patient, where the doctor sits; and a 3-D computer monitor similar to a "viewfinder" that affords a magnified view of the surgical site inside the patient. Equipped with a special, double-telescopic endoscope, the viewfinder allows surgeons to see the surgical site more closely than human vision allows and to work at a smaller scale of detail than conventional surgery permits. Unlike other endoscopic systems now in use, the da Vinci technology allows surgeons to exercise the direct, "intuitive" control they have in traditional open surgical procedures, seamlessly translating their natural hand, wrist, and finger movements at the console into corresponding micro-movements of laparoscopic surgical instruments inside the patient's body.

In addition, the robot is controlled by the computer, which eliminates any tremors and allows for steady, precise movements. "When operating with the da Vinci System, the optics and fluidity of instrument movement are just amazing," says Hockstein. "It has the potential to add great precision to our surgical treatment of a variety of diseases of the head and neck."

In Penn's Department of Otorhinolaryngology, Gregory S. Weinstein, M.D., who heads the division of head and neck surgery and is co-director of the Center for Head and Neck Cancer, is expected to be the chief user of the da Vinci system. ■

– Olivia Fermano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When More is Better

By Martha Ledger / Photographs by Addison Geary

An expert in gastrointestinal oncology and editor in chief of the most important journal in his field, Daniel Haller has become a master of adjuvant therapy.

The patient who came to see Daniel G. Haller, M.D., recently for a consult wasn't looking for hope. He wanted to know if the chemotherapy he was getting elsewhere was the right course of treatment for colon cancer that had metastasized to his liver and, if this treatment wasn't effective, what else he might try. He had come to the right doctor.

Haller, professor of medicine at Penn, is a specialist in colorectal cancer. According to Stephen G. Emerson, M.D., Ph.D., Penn's chief of hematology/oncology, Haller is "*the* national expert in colorectal cancer."

The man wanted to prolong the time he had left. Cancer that has metastasized to the liver has almost always been a terminal disease. Chemotherapy drugs can keep it under control for longer and longer periods, but patients generally die of it eventually.

His CT scan confirmed disease in his liver, but his tumor was solid and limited to one area. To the man's great surprise, Haller told him, "I think your disease is potentially curable."

New chemotherapy drugs, better imaging, surgical advances, and new techniques in interventional radiology have just recently combined to provide cures where once there were none. As Haller puts it, "We've gone from a nihilistic mode to a positive mode."

He is in a unique position to see the whole picture.

Last year, Daniel Haller received the School of Medicine's Louis Duhring Outstanding Clinical Specialist Award.

Haller, 58, is editor-in-chief of the *Journal of Clinical Oncology*, the most important journal in the field, where all significant research advances are announced and reviewed. He serves as co-chair of the National Cancer Institute's Gastrointestinal Intergroup, which coordinates the work of clinical research cooperatives that are performing clinical research in G.I. oncology funded by the institute. In that way, he has an extremely valuable overview of all major clinical studies in the field. Haller enjoys a similar perspective at PENN Medicine, where he is co-leader of the Clinical Investigations Program of the Abramson Cancer Center. He has designed and implemented countless clinical trials. As associate chief for clinical affairs in the Division of Hematology/Oncology, he oversees the delivery of patient care in G.I. oncology. His practice is huge: His referrals alone fill the practices of two additional oncologists.

The depth and breadth of Haller's expertise was acknowledged last fall when he received the School of Medicine's Louis Duhring Outstanding Clinical Specialist Award. Earlier this year, he was honored once more when he was invited to serve on the advisory board of a new national cancer institute in France.

To hear him tell it, Haller got into medicine almost accidentally. Tired of the advanced-placement physics, algebra, and calculus he'd been forced to take in high school ("because the Russians were technologically ahead of us"), he arrived at Syracuse University on a full-tuition scholarship and began to major in political science. But he didn't do well in his first semester, and he decided it was because he was bored. His solution was to get a full-time job — 3:00 to 11:00 p.m., five days a week — as an orderly at a local hospital, while continuing as a full-time student.

With such a schedule, he learned to focus. "When I had to study," Haller says, "I studied. When I had to work, I worked." He fell in love with medicine and soon added pre-med courses to his pre-law program. The result was he was accepted into both law schools and medical schools. He realized that "more" — a word he uses often — is both possible and desirable.

After medical school at the University of Pittsburgh, he did a residency at Georgetown University Hospital. There, he was drawn to oncology because the three doctors that interested him most — Philip Schein, John Macdonald, and Paul Wooley — had just come from the National Cancer Institute (N.C.I.) and were setting up an oncology program. The field was in its infancy. The first board was given in 1973, the year Haller graduated from medical school.

The few cancer centers then in existence had research grants in breast cancer, leukemia, and lymphoma. The Georgetown group decided to study what other people were not. That was gastrointestinal cancers, which represent 25 percent of all human cancers. In those days, treatment was mostly limited to pain control.

Haller completed a two-year fellowship in medical oncology at Georgetown, spent one year at the Clinical Investigations Branch of the N.C.I., and in 1980 was recruited to Penn by John H. Glick, M.D., now director of the Abramson Cancer Center and director and president of the Abramson Family Cancer Research Institute. His appointment — Glick's first — doubled the medical oncology staff.

"It was clear even then," says Glick, "that he had the potential to be one of the outstanding medical oncologists in the field of G.I. cancer. He had the right training, drive, dedication, intellectual curiosity, and an extraordinarily wonderful way of dealing with patients."

At first, Haller treated all types of cancer. (He still sees patients he treated 20 and more years ago for breast and prostate cancers.) But as Glick began to create what would become, in the N.C.I.'s terms, a comprehensive cancer center, Haller's practice increasingly became specialized in G.I., and then even more specialized in colorectal cancer. At the same time, Haller in turn was able to recruit other G.I. oncologists and related specialists.

Known for his "wonderful way of dealing with patients," Daniel

The man with the solid metastatic cancer in his liver, who came to Haller with questions about chemotherapy, is going to benefit from all of these other specialists. At 7:00 a.m., the Friday after his visit, Haller will show his films and records to an audience that includes liver transplant surgeons, interventional radiologists, gastroenterologists, nurse practitioners, and others. Together, they will determine if what they do can help. A surgeon might say he can take out the tumor. Or an interventional radiologist might recommend techniques to shrink the tumor before the liver is resected. As Haller puts it, the patient is getting six consults, not just one.

There are other multi-modal settings

Haller evaluates Theophilo Constantinidis.

in G.I. oncology. On Wednesday mornings, new patients come to an evaluation clinic where they meet with both G.I. and radiation oncologists. If the patient needs surgery, the doctors contact the surgeon directly. After the clinic, the oncologists, their residents and fellows, research nurses, a nutritionist, and a coordinator of patient services sit down together to discuss each patient and each treatment plan. On the wall is a flow chart of all the open G.I. clinical trials — PENN Medicine is currently participating in more than 20 — and they determine which patients might be appropriate for any particular one.

There's also a Pancreatic Research Working Group that brings together medical, surgical, and radiation oncologists with investigators from the Abramson Family Cancer Research Institute, so that there's a flow of information between the research labs and the clinical practices.

On a smaller scale, G.I. oncologists also have weekly meetings with colorectal surgeons to discuss shared cases.

These conferences and clinics have all developed under Haller's leadership. While they obviously help the patient, they also demonstrate how complex the specialty has become.

Despite his talent for creating systems, Haller remains dedicated to his patients. He sees everyone who asks for an appointment – and quickly. Often there aren't enough chairs in the waiting room.

New patients entering through the G.I. evaluation clinic circumvent the crowds. When they see Haller, he might sit on a stool or even on the floor in order to be right at eye level. "They love him" for that, says Trish Gambino, R.N., M.S.N., the patient-services coordinator.

"I have to understand them right then," Haller says. "I can't get to know them over six months. I have to know them that day, when I'm making my recommendations."

His initial questions help him gauge the patient's mental and emotional state: "Tell me what you know about your disease." "What do you want to know?" "What are your expectations?"

Answers range from the starkly obvious to the meticulously detailed — from "Doctor, I have cancer" to "I had surgery for colon cancer and it was stage 3 disease and I had three positive nodes, and I understand there could be microscopic cells left behind, and I've been told you're the best person to advise me." Other patients want to hear that the original diagnosis is a big mistake, the other doctor wrong, the disease curable.

Haller pays close attention, looking for clues about the person's attitude toward life. "I can't turn around someone who is completely negative," he says, "but I try to get people to develop optimism within themselves. I think most people, most of the time, want to live, and want to do the best they can. I have to identify what it is that will bring this out in them."

He recalls a grandmother who came in saying that she was only there because her daughters made her come and that she wasn't interested in any treatment. Haller asked if there was anything important to her, and when she said her grandchildren, he asked if it wouldn't be worth having two more years for them to know her. By the time she left Haller's office, she was enrolled in a clinical trial and ready to take three different drugs.

Once treatment is under way, Haller adjusts his personality to each patient's needs. Some like joking. "You're back!" he'll quip with feigned surprise, desensitizing everything from the patients' limited options to death itself. Some enjoy his quirky unpretentiousness. Once, while talking about nutrition with my husband (who became his patient in 1989), he made an ugly grimace at the mention of brown rice. Not that he thought it was unhealthy, but he, personally, doesn't like brown rice. My husband still chuckles about this.

For some patients, it's the closest they come to having fun. They tell Haller that the only time they laugh is when they're in his office.

For Haller, laughter shows up cancer for the absurdity that it is. "Basically, you have two choices," he says. "You can give up and cry. Or you can just laugh at it and move along. It's far better to move on and try to make your life as long and as good as you possibly can."

Connecting with people constitutes the good in life for him. If he's treating a policeman, he'll ask what it's like to wear a gun all day. He wants to know where people went on cruises and what new restaurants they know about. "I try to have fun — if you can call it that."

"I'm friendly," Haller adds, "but not their friend. Some docs want to be friends with their patients, which means they give in to things because they want their

patients to like them. We all want that, but you can't absolve yourself of the reason someone comes to see you."

As Haller sees it, the goal is to collaborate with the patient to develop a plan that is acceptable to both patient and doctor. The patient has to like the plan enough to carry through with it. Meanwhile, Haller has his own concerns. He has to define the treatment goal (will he cure the patient? prolong life? mitigate pain?), coordinate with other specialists, choose appropriate drugs, and determine when and how they'll be given.

The individualized plans that emerge reflect just how medically different each patient is. "When you generalize from a study," Haller explains, "you have to recognize that the participants are different from the majority of your patients. A typical patient in a colon cancer study is a 60-year-old male with normal liver and cardiac function. One patient in 10 comes along like that. What do you do with the 78-year-old with kidney dysfunction? You start with the results of a study, but then you have to apply them in the most logical way to the patient sitting in front of you."

In the words of Stephen Emerson, the division chief: "Every patient's cancer is unique in the way it presents, and what Haller does brilliantly is fit each case into a matrix of historical and evolving information. He'll have 150 research studies in his head that bear on this one patient, and he'll distill it down. And then he'll explain everything to the patient about their problem, but in a way they can understand, so they can deal with their disease better."

Some patients, fresh off the Internet, think they already know about their problem and want to go toe-to-toe with Haller on data. "He'll look at their papers," says Gambino, "and say 'O my god, where did you get that?' and explain why it won't work. Patients like that he knows the studies they're talking about."

He's also very gentle, she says, when someone brings him something completely irrelevant. Haller himself says one of his biggest nightmares is when patients with pancreatic cancer walk in with Lance Armstrong's book on his bout with testicular cancer, and he's got to tell them, "It's just not going to work, it's not the same disease, it's not the same treatment."

Even though many people live with it for years, a vast majority of cases involving metastatic disease are ultimately terminal, and accepting it is part of an oncologist's job. Gambino recalls a particularly difficult loss of a young mother whose three children were still babies. "It was really, really hard for Dr. Haller because she was very special. I remember him being by her bedside and just grabbing her hand and being very personal and sincere, telling her it was time to go on to hospice, supporting her through the end of her treatment."

"I think many of us go into medicine because we want to fix things," Haller says, "and when we're not able to fix someone, we feel guilty about it. Most of us are guilt-ridden. I think most physicians are intensely guilt-ridden sort of people."

Post-surgical treatments for colorectal cancer did not change from the early 1960s, when the cytotoxic drug 5-fluorouracil, or 5-FU, came into use, to the late '90s. For the first 30 years, however, 5-FU wasn't used routinely. Early studies suggested that it didn't work, but they were small and poorly controlled. Then in 1989, the National Cancer Institute announced the results of Intergroup 0035, a well-performed adjuvant therapy trial showing that 5-FU given after surgery reduced the chance of death by one-third in patients with node-positive disease. According to the N.C.I, 107,000 people would be diagnosed that year with colon cancer, one-fifth of them node-positive. In other words, 5-FU adjuvant therapy could save more than 2,500 lives in that year alone.

In 1998, a second colorectal chemotherapy drug — irinotecan (Camptosar) — was approved. At that point, new drugs started appearing very quickly. Oxaliplatin (Eloxatin) was approved in 2002. Like 5-FU and irinotecan, it is a cytotoxic drug that kills both healthy and tumorous cells. In 2004, two "biologics" came on the market. The end-products of molecular research, these monoclonal antibodies work locally to deactivate tumors. Bevacizumab (Avastin) neutralizes vascular endothelial growth factor in tumors and thus functions as an anti-angiogenesis agent. Cetuximab (Erbitux) targets a protein called the epidermal growth factor receptor, which is found on the surface of cells and has a role in regulating cell growth.

Daniel Haller consults with Carolyn Grande, M.S.N., C.R.N.P., an

"The antibodies are add-ons," Haller explains. "Many people thought they would replace chemotherapy, but they haven't." Yet they have made treatment

regimens more complex. "The general standard of care for the first treatment of a patient with metastatic disease is a combination of 5-FU and leucovorin [the vitamin folate that mitigates 5-FU's side effects], with either oxaliplatin or irinotecan, plus bevacizumab."

Other drug combinations plus radiation are used before surgery to minimize a tumor so that surgery can be less extensive.

advance practice nurse in the hematology-oncology division.

For example, when chemotherapy is given first, says Haller, "30 to 40 percent of patients with rectal cancers have no visible tumor left when they go to surgery – which means a whole lot more patients will be spared a colostomy."

Haller enthusiastically welcomes the "more." Yet having so many options creates a new urgency. "Clinicians are looking for guidelines," he says. "We must determine the optimal combination and sequence of treatments."

The possible permutations are many. At a day-long symposium he hosted in February, 2005, called "Current Concepts of Colorectal Cancer," he told the audience, "Way back I used to think one symposium a decade would be enough. Then, every two years seemed about right. And now, I think we could use one weekly." He titled a recent talk he gave at The Scripps Research Institute, "Colorectal Cancer 2005: Are you confused yet? If you're not confused, you didn't listen."

From his unique vantage point as editor-in-chief of the *Journal of Clinical Oncology*, Haller can see how much new information there is and the growing percentage that reflects the cutting edge of molecular research. Beginning this year, *JCO* is annually publishing 12 special issues in addition to its twice-monthly run. Six are thematic or specific to a disease (for example, cancer prevention or hematologic malignancies). The rest are on molecular oncology, in issues individually dedicated to angiogenesis, receptor-based therapy, epigenetics, signal transduction, genomics/proteomics, and immunotherapy. When Haller announced the expansion in 2004, he whimsically challenged the "less is more" dictum of architect Mies van der Rohe in an editorial he titled "*JCO*'s Special Series: More is Better."

Haller wants *JCO* to bridge the two major societies of cancer professionals: the American Association of Cancer Research, whose members are basic scientists, and the American Society of Clinical Oncologists, which is for physicians who treat patients. "There's a need for people who understand both," he says, "who can translate basic science into a clinical setting. We'll be putting more basic science into *JCO*, but only what's going to be useful to our average reader." *JCO* will contain glossaries and detailed illustrations to bring its readers along, and its web site will provide additional help.

As editor, Haller has set his sights on making *JCO* the only journal an oncologist has to read. It seems that oncologists are already thinking along this line. In addition to 26,000 paid subscriptions, *JCO*'s web site recorded 3.5 million hits last year, and the journal currently has the highest "impact factor" for a peer-reviewed oncology journal except for the N.C.I.'s own journal – on which, Haller says, his journal is steadily gaining.

The gains in cure rates, however, are what really light him up. As he points out, if there are 60,000 patients a year with metastatic colon cancer, raising the cure rate from 1 percent to 7 percent — which he thinks is now possible — would mean 3,600 lives saved each year. Patients with treatable secondary liver tumors, like the man who consulted with Haller about his chemotherapy regimen, will account for most of the increase.

And that's on top of the increases in survival time that have already been achieved. "It used to be six months without treatment," Haller points out. "And when we only had 5-FU, the average person would live 12 months. Now the average is up over 20 to 24 months. It's four times better than without treatment and twice as good as with older treatments, and with a pretty good quality of life."

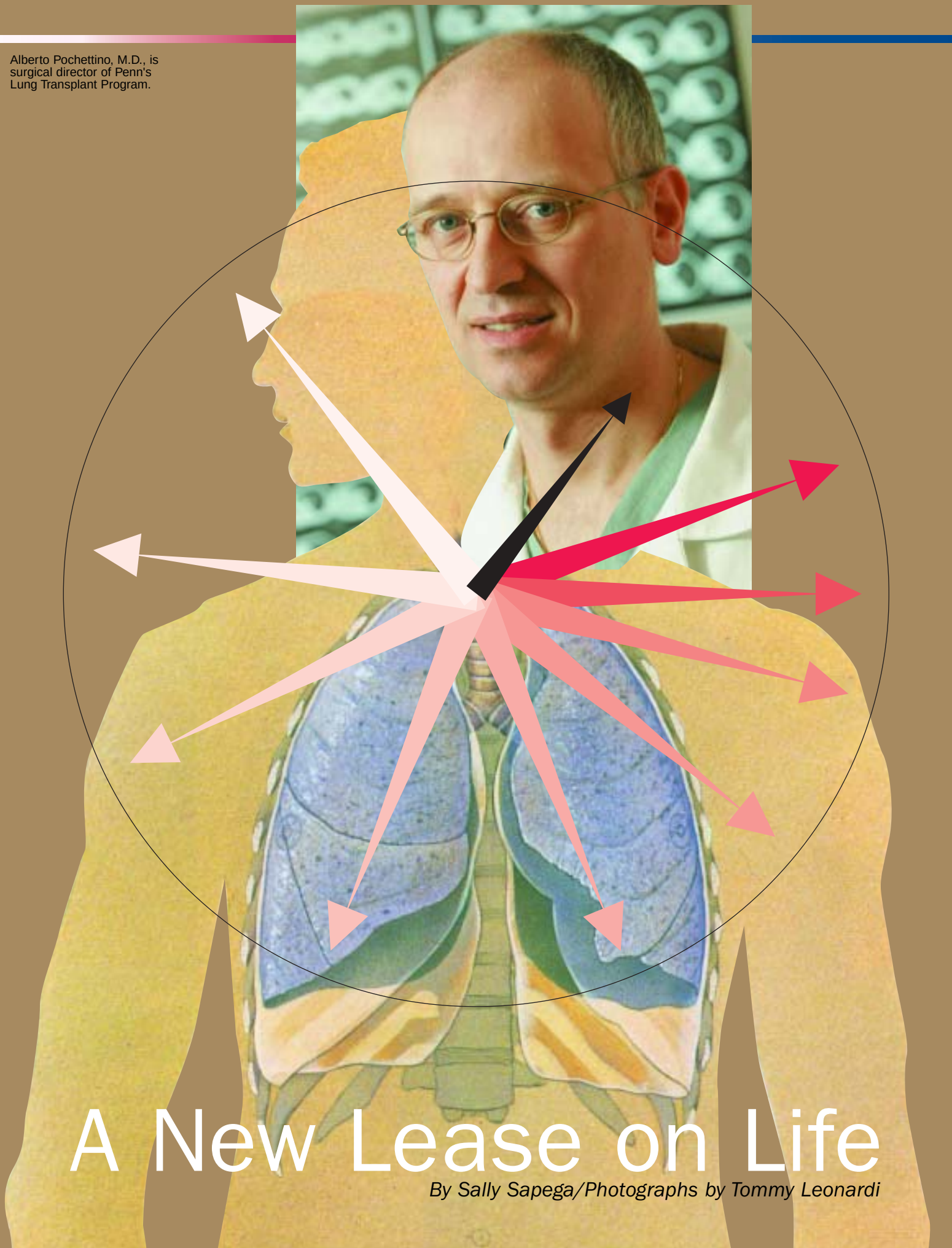
Taking the broader view, Haller says, "The death rate from cancer is dropping in the U.S. People are living healthier and a lot of credit goes to early diagnosis, but more people are being cured.

"If you [realize] that 2,000 to 3,000 patients a year are cured by adjuvant therapy in colon cancer, then in the 15 or 16 years since the Consensus Conference recommended routine use of 5-FU, 45,000 people have been cured by a relatively simple technique that would not otherwise have been used. I think that's pretty miraculous. Many of those people who would not have been around are now parents or grandparents."

Like my husband. ●

Martha Ledger, a Philadelphia writer, is former managing editor of Inside, *published by the Jewish Federation of Greater Philadelphia.*

Alberto Pochettino, M.D., is surgical director of Penn's Lung Transplant Program.



A New Lease on Life

By Sally Sapega/Photographs by Tommy Leonardi

For the health-care professionals in Penn's Lung Transplant program and the patients they serve, time is of the essence.

It's 2:45 a.m. and Nancy Blumenthal, C.R.N.P., senior nurse practitioner in Penn's Lung Transplant program in the Department of Surgery, receives a call from Gift of Life, the organ procurement organization designated to serve the region that includes Eastern Pennsylvania, Delaware, and Southern New Jersey. A donor lung is available at Christiana Hospital, in Newark, Delaware, for Jerry Smith, a patient at the Hospital of the University of Pennsylvania. Smith is at the top of the waiting list for HUP's region, as maintained by UNOS (United Network for Organ Sharing). Will Blumenthal's team accept the lung?

It's a call she has received many, many times before. If she and the transplant team members on call decide the lung is a good match for Smith, the "transplant clock" begins to tick, and her team embarks on a process that they hope will result in a successful transplantation.

For patients, the road to transplant begins long before Blumenthal receives such a call. First, the patient is evaluated by one of HUP's pulmonologists specializing in advanced lung disease as well as by a nurse practitioner. They make the initial determination of whether transplantation has a role in the patient's care. "We always ask ourselves, 'Is there something short of transplant that we can do for them?'" says Blumenthal. "Our prime directive is not to transplant as many people as possible but to give each individual the best quality of life for as long as possible."

If transplant is found to be the best option, the patient then undergoes a second – and very thorough – evaluation by members of the transplant team, which include a cardiothoracic surgeon, nurse, pulmonary and critical-care physician, respiratory therapist, physical therapist, social worker, dietician, and finance specialist. Part of the process involves educating the patient about the realities of lung transplantation.

As Blumenthal emphasizes, "The concept of informed consent is a top priority for us. We have a phenomenal sense of responsibility to make sure the patient understands what he or she is getting into." After all, she continues, the procedure "poses a very high risk. The violation on the immune system has the most lasting influence on their well-being. Patients need to understand that it's a permanent decision; we can't undo it."

As part of the evaluation process, Joseph Adler, M.S., P.T., a senior physical therapist, measures a patient's strength, range of motion, and endurance. "We need to determine if a patient is fit enough to withstand the demands of surgery and of post-surgical rehabilitation," he explains.

The social workers on the transplant team, Tina Rhee, M.S.W., and Regina Miller, M.S.W., make sure that patients have an adequate support system. For example, is there someone to bring them to appointments and to help with day-to-day activities? They will also discuss transportation to the hospital if and when an organ becomes available, and the associated costs. There have even been occasions when getting to HUP in time required the use of a helicopter. Some patients have taken the even more extreme step of relocating to the area, to be ready for the call.

Jennifer Stone-Wynne, M.S.W., who until recently worked on the transplant team, emphasizes the value of the monthly meetings of a support group for patients both before and after they have received transplants. "The patients really support and learn from each other," she says.

Says Nancy Blumenthal, C.R.N.P., the program's directive is "to give each individual the best quality of life for as long as possible."

When the Call Comes In

As soon as a donor lung becomes available, the Gift of Life – which facilitates the organ matching and placement process – runs the UNOS list to search for patients who best match the lung based on several objective criteria. These include blood type, tissue type, size of the organ, medical urgency, time on the waiting list, and distance between donor and recipient.

No one can predict when the call for a donor lung will come in. "We've had weeks when we've had no transplants, and then suddenly, we'll do four over one weekend," says Blumenthal. "Lungs are the hardest organs to come by. Only 15 percent of people able to donate kidneys can donate lungs because of the mechanism of injury."

Each call targets a specific patient, not a specific hospital. "That first patient on the list might be the right blood type and have the highest rank on the list, but, if the lung size isn't a match, they go to the next person on the list," she explains. "Let's say Penn has patients one and three on the list. Although patient three might be a good match, Gift of Life will offer it to patient two first, who is at another hospital."

Although a lung may appear to be a good match, the surgeon and nursing coordinator – who jointly make the decision – may choose not to accept it because it's not a good "fit." "If every donor were a young, nonsmoking athlete, the decision to accept it would be easy," says Blumenthal. "But let's say it's a 42-year-old woman who smoked a pack a day for 20 years, has reasonable lung function, and died from a stroke. That donor might be a great trade-up for a 58-year-old woman who's dying from emphysema because she smoked two packs a day for 40 years. But would we use the lung for a 20-year-old with cystic fibrosis? Probably not.

"It can be a very difficult decision."

Retrieving the Lung

By 3:00 a.m., Blumenthal has told Gift of Life that they'll accept the lung for Smith. Based on the medical information she received, it seems like a good match. Organ procurement at Christiana is scheduled to begin at 6 a.m., but that is only an estimate. As Blumenthal puts it, "It could start earlier or later, depending on what happens in Christiana's OR schedule. If an emergency case comes in, our surgery will be pushed back."

During the next couple hours, Gift of Life keeps Blumenthal updated on the donor's condition and finally confirms that the donor will be in the OR by 6:00 a.m. HUP's surgical team, which usually consists of a surgeon and perfusionist, makes the 45-minute trip to Christiana, arriving around 6:30 a.m. To keep the lung's total ischemic time – when the lung is without a fresh blood supply – under six hours, travel time to the donor hospital and back has to be under three hours, whether by car, the PENNStar helicopter, or the jet that Gift of Life offers to transport surgical teams and donor organs.

HUP has accepted the lung based on initial information about the donor (including medical history, age, cause of death, and critical events of the hospitalization). The final decision, however, rests with the team sent to remove the organ. According to Alberto Pochettino, M.D., the program's surgical director, examining the lung is an essential part of the process. "We can't do pulmonary function tests to assess the lung so we make a judgment based on color and the way it feels," he says. "If it's pink, the decision is obvious, but borderline cases are more common."

Multiple surgical teams work together to harvest approved organs from a single donor, but they must remove them in a specific order. The surgeon procuring the liver always starts surgery first, Blumenthal explains, because it takes so long to sever its connections to nearby organs,

Vivek Ahya, M.D., with tie, is at the center of things as the

but the liver is not the first to be removed. As soon as the heart surgeon clamps the aorta to stop outgoing blood, the heart is removed, followed by the lung, then the liver and kidney, and, finally, any other organs that are being donated.

In Smith's case, the HUP team has deemed the donor lung acceptable and, by 7:30 a.m., is beginning the harvesting process. Thirty minutes later, they walk out of Christiana's operating room and head back to HUP.

Once again, timing is crucial in the transplantation process. Blumenthal notes that, ideally, by the time the team arrives back at HUP with the lung, the recipient will have been opened up. "But we never remove a patient's lung until the surgical team walks in the door with the donor lung."

As Stone-Wynne has pointed out, patients come to Penn from up and down the East Coast, but they only have two hours to get here as soon as they get the call. "The patient always has to be ready to go at the call, with bags packed."

It's now 9:00 a.m. The procurement team has arrived back at HUP and is heading to the OR. Smith has been in

program's medical director.

there for nearly two hours, being prepared for surgery. The team begins the transplant procedure. By noon, Smith's surgery has been completed.

It has been just over eight hours since the initial call came from Gift of Life and just under five hours since the lung was removed from its blood supply.

Post-Surgical Obstacles

One of the biggest problems facing all transplant patients in the first year is the increased risk of infection, the result of having a compromised immune system.

Diana Isaia, M.S., C.R.N.P.

Yet lung transplant patients are especially vulnerable because lungs are exposed to the outside world and have a large surface area.

These patients are also more susceptible to rejection. "Unlike other organs, lungs receive 100 percent of the blood flow," says Pochettino, "so recipient blood is constantly presented with high levels of the foreign antigen." The antigen triggers the production of antibodies. "This requires a higher level of suppression."

At the same time, the lungs comprise a major part of the body's "immunologic surveillance" that filters out infections before they can enter the body. Too much immunosuppression will render that defense mechanism useless. As Pochettino puts it, "In trying to understand the nuance of chronic rejection in lung transplant, we're dealing with both ends of the spectrum."

Indeed, after the first year, chronic rejection remains the most serious problem, complicated by the side effects of the drugs post-transplant patients must take for the rest of their lives. Smith will need to take three drugs to prevent rejection and another eight to deal with the side effects of the other three.

Penn's survival rates – 80 percent for one year and 60 percent for five years – exceed the national average, but the hospital is striving to improve those numbers through continuing research.

"In the early days, surgical mortality – the patients who died in the first 90 days after surgery – was 30-40 percent. We changed surgical management in the ICU, and now it's 10 percent or less," says Pochettino. "When I started doing transplants in 1994, the one-year survival rate was 60 percent and now it's 80 percent. Our long-term limitation is chronic rejection."

According to Robert Kotloff, M.D., chief of advanced lung disease and lung transplantation in the Pulmonary Division, "We need to find a way to fool the host immune system into accepting a graft as its own and not foreign. Right now, our active projects are examining the best strategy for using immunosuppression medications."

A Strong Bond

Post-transplant patients remain connected with their transplant team members for life. As a result, they often develop close ties to team members. "Every patient bonds with someone on our team," says Blumenthal. "There is a phenomenal spirit of caring among our colleagues."

"Our program has tremendous continuity," says Kotloff, who served as medical director of the Lung Transplant Program until his recent promotion. (Vivek Ahya, M.D., is the current medical director.) "From day one," Kotloff explains, "all the way through transplant and post-transplant care, patients have the same team for all their outpatient visits. And we have a dedicated inpatient service with one attending. It helps to have health-care providers who know you and can guide you, early on and later with complications."

"We get very close to patients," says Adler, the physical therapist. "It's a unique, and sometimes painful, experience. And the level of solidarity among post-transplant patients is amazing. I have two patients who received lungs from the same donor, and these guys are like blood brothers now."

What surprised Blumenthal when she first became part of the team was how grateful patients were to be able to do simple, everyday activities. "I expected, with a new lease on life, they'd want to do something great, but that's not what they told me. 'I did my family's laundry last night'" or 'I was able to talk to my spouse when we ate dinner.'"

In Blumenthal's words, "This disease robs people of fulfilling a role within their family lives, and to be able to reclaim those most basic of functions – things we take for granted – is awe-inspiring."

The Center for Advanced Medicine:

Takes Penn's Patient Care into the 21st Century

In the last few years, as PENN Medicine's leaders contemplated the pressing need for new clinical care facilities, they considered several converging trends: a decade of focused investment in cancer and cardiovascular faculty, demographics that dictate increasing demand for these specialties (which already account for 50 percent of HUP's patients), and rapid growth in outpatient care and surgery. It became clear that a new building should be dedicated to outpatient care, housing the Abramson Cancer Center and radiation oncology, cardiovascular practices, and outpatient surgery.

Now, PENN Medicine has embarked on the largest capital project in our history, the 300,000-square-foot, $225 million Center for Advanced Medicine. But it won't just be more clinical care capacity. The challenge that UPHS has set itself is to create this building as the setting for a new paradigm for patient care at Penn, matching the standards set by its physicians and researchers.

"The Center for Advanced Medicine will enable us to take patient care to a new level of excellence, with every aspect of the building designed with our patients' comfort, convenience, and quality of care in mind," says 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.

The U-shaped building, scheduled to open in 2008, will accommodate the Abramson Cancer Center in its right wing, the Department of Radiation Oncology on its lower level, and the Cardiovascular Center and Outpatient Surgical Pavilion in its left wing and middle. At its center, a glass atrium will bring sunlight into all corners. Doctors and nurses have participated in each step of the planning process, meeting early in the morning, long after 5 p.m., and on weekends, to ensure that every element of the patient's experience is considered.

Architectural rendering of CAM's exterior and (inset) interior.

In creating an environment that will take PENN Medicine to a new level of excellence in health care for our patients, the Center will also advance medicine for our faculty, for Penn, and for Philadelphia:

For Our Patients. The Abramson Cancer Center, the largest occupant of the new building, has become well known for placing a high priority on patient comfort, despite the fact that its facilities have been dispersed throughout HUP and Penn Tower. Every aspect of the Center for Advanced Medicine is being held to ACC's standard, and designed to make each and every patient's experience within it smooth, seamless, and reassuring:

- subspecialties grouped together, so that patients can schedule multiple appointments in one visit
- waiting areas, food services, and patient library and education rooms planned to 'patients to participate in their own care

"The Center for Advanced Medicine will be a spectacular statement of where Penn Medicine is going in the 21st century," says Ralph W. Muller, chief executive officer of UPHS.

- an underground parking facility that offers direct access to the practice visited
- abundant natural light throughout the building.

For Our Physicians. The Center will provide ideal working conditions for clinicians as well as clinical researchers. The adjacency of subspecialties will foster collaboration and joint consultations at each step in the patient's care. And locating researchers near clinical care will both improve patients' access to the very latest experimental therapies and accelerate the flow of information among scientists, and from bench to bedside.

For Penn and Philadelphia. One of University president Amy Gutmann's top priorities for Penn is to "share the fruits of our integrated knowledge" with our communities. The Center's provision of more accessible, convenient outpatient care certainly supports that vision, and Gutmann has identified it as Penn's most important building project. She chose internationally renowned architect Rafael Vi_oly, known locally for the Kimmel Center, to design it as an architectural gem for Penn's campus.

It will also be good medicine for the City's economic health, supporting new jobs and wages on a permanent basis.

Beyond contributing to the region's economy, and improving its citizens' access to world-class medical care, the Center will also renew Philadelphia's claim to preeminence in medicine. That claim was first staked in the mid-18th century, when the nation's first hospital and first medical school opened here.

Recognizing the Center's far-reaching impact, federal, state and local governments are providing more than $25 million in support for the project. Individual donors have already contributed $25 million of the $50 million that philanthropy is expected to provide.

"The Center for Advanced Medicine will be a spectacular statement of where Penn Medicine is going in the 21st century," says Ralph Muller, CEO of the University of Pennsylvania Health System. "It will provide a place where our excellent health care professionals will be able to practice the most advanced medicine available, treating patients in a setting that is as patient-oriented as it can possibly be." ●

Rena Rowan Damone Takes Bold Steps to Fight Cancer

Rena Rowan Damone accepts a check from representatives of Penn's Panhellenic Council, which coordinates the annual Ribbon Run to help support the Rowan Breast Center.

When Rena Rowan Damone was a little girl, her father told her to take "bold steps" in life and to always have dreams. Now, after a lifetime of dreaming big and living boldly – in business, in her personal life, and in her philanthropy – Damone has turned her focus to helping PENN Medicine fight breast cancer as a vital partner in fundraising and advocacy for Penn's Rena Rowan Breast Center. Her major gift in 1998 established the Rowan Center. With another extraordinary contribution in 2004, she and her husband Vic have funded its relocation into the new Center for Advanced Medicine, scheduled to open in 2008.

"This is the most important and rewarding thing I've ever done in my life," she says simply.

Damone's own early life was punctuated by hardship. Born in Lida, Poland, she was exiled to Siberia for three years during World War II along with her mother and sister. Her father was deported elsewhere, and he died in an accident in 1944. Her marriage to an American officer brought her to the United States, where her four children were born. After a divorce, she began making clothes for friends and neighbors to support her family – a humble beginning to a design career that would scale the heights of the American fashion industry.

Damone began studying design at the Philadelphia Museum School of Art in the early 1950s and held a series of design positions with clothing manufacturers in the region. In 1970, Sidney Kimmel joined her to start Jones Apparel Group and its flagship label, Jones New York, legendary for its sophisticated, high-style women's wear at affordable prices. Headquartered in Bristol, Pa., with showrooms in New York and manufacturing plants worldwide, Jones New York continues to prosper. Damone retired as the company's executive vice president in 2000.

Much of Rena Rowan Damone's considerable philanthropy has been dedicated to helping people – particularly women – overcome oppression and other obstacles.

Much of Damone's considerable philanthropy has been dedicated to helping people – particularly women – overcome oppression and other obstacles. In 1980, when Russia imposed martial law on her native Poland, she organized a drive throughout the apparel industry to collect warm clothing for Catholic Relief Services. In 1993, she created the Rena Rowan Foundation for the Homeless, to help women and their children become self-sufficient. She has served on the boards of many non-profit organizations and has been publicly honored by the Red Cross, the Philadelphia Chamber of Commerce, the Juvenile Diabetes Foundation, the Freedom Valley Girl Scouts, and Steven Spielberg's Shoah Foundation. Damone also sits on the Board of Overseers for Penn's School of Social Work.

"My childhood and early years made me stronger," says Damone, "and I'm happy that I had some suffering, so I can appreciate what I have now and what I can do for others."

It was her own experience in the 1990s – and the "amazing" care she received from Dr. John H. Glick and other Penn staff – that inspired Damone to become a partner with PENN Medicine in the fight against breast cancer. Her involvement extends

far beyond the purely monetary. She was integrally involved in the Rowan Center's planning and interior design, creating a soothing, comforting palette of pale green and neutral tones, and she plans to contribute her design acumen to the relocated facility as well.

Damone has also helped organize and has contributed substantially to many cancer research fundraising events for Penn's Abramson Cancer Center:

- annual Rena Rowan Ribbon Run, hosted by Penn's Panhellenic Council;
- Confronting Cancer Through Art exhibition, 1999;
- Life After Breast Cancer program, 2000;
- Saks Fifth Avenue's "Fashion Targets Breast Cancer" event in 2002, for which she was honorary chair;
- QVC Presents: FFANY Shoes on Sale" event in 2002, 2003, and 2004;
- Saks Fifth Avenue's "KEY TO THE CURE" in 2003 and 2004.

Most recently, Damone has agreed to serve on the Director's Leadership Council of the Abramson Cancer Center. In addition, as a member of the advisory board of the Breast Cancer Research Foundation, she has been instrumental in securing that organization's multi-million dollar support for Penn's breast cancer programs.

In 2002, Penn's president, Judith Rodin, nominated Rena Rowan Damone to become a Distinguished Daughter of Pennsylvania; Governor Schweiker awarded her this honor in October of that year.

When Dr. John H. Glick (center) was honored by Roman Catholic High School last fall, Rena Rowan Damone and Vic Damone were among the guests.

As Damone puts it, "I feel I'm lucky that when I came to the U.S., I settled in Philadelphia – and very lucky to be involved with Penn."

On October 28, Penn and Philadelphia will celebrate Damone's luck, and their own, at a multi-faceted celebration at 30th Street Station. That evening, Damone and her guests will mark the fifth anniversary of the Rena Rowan Breast Center, the 10th anniversary of her creation of the Rowan Foundation for the Homeless, and the 60th anniversary of her arrival in the U.S.

Another milestone Damone hopes to celebrate in her lifetime is a cure for breast cancer. Her husband, retired singer and performer Vic Damone, supports and encourages his wife's focus on this cause. "Vic has three daughters – none of whom has the disease, thank goodness – but I think he feels strongly about this from concern for them as well as for me," she says.

"Breast cancer touches everyone," Damone says. "It's just so important to find a cure."

RECENT GIFTS

PENN Medicine trustee **Raymond Perelman, WEv '40, and his wife, Ruth Caplan Perelman**, have contributed $2 million to establish the Ruth C. and Raymond G. Perelman Professorship in Internal Medicine. Dr. Gary W. Crooks has been named the first holder of the new chair.

A $1 million gift from the pharmaceutical company of **Sanofi-Synthelabo** will help establish a professorship in the Abramson Cancer Center to support scientific research in gastrointestinal oncology.

The Annenberg Foundation has donated $2 million to create the Paul R. Gross, M.D., Professorship for the director of dermatological education. The gift is intended to support residency education in dermatology, while honoring Dr. Gross, a member of the Class of 1962, who has served as an inspiration and role model to dermatology residents throughout his more than 40 years at the University of Pennsylvania Health System.

John C. and Eve Bogle have contributed $500,000 to establish an Arrhythmogenic Right Ventricular Dysplasia Research (ARVD) Fund, in honor of Susan Brozena, M.D., director of Penn's Ambulatory Cardiac Heart Failure and Transplantation Program. A rare congenital disorder, ARVD is one of the leading causes of sudden death in young athletes.

An **anonymous grateful patient** of John H. Glick, M.D., has generously pledged $1 million to help fund the construction of the Center for Advanced Medicine, which will be the Abramson Cancer Center's new home.

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

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

E. Ralph Heinz, M.D. '55, professor of radiology at Duke University, was awarded the Gold Medal of the American Society of Neuroradiology at the Society's recent meeting. The medal was the 17th to be awarded in the history of the organization.

Harold J. Robinson, M.D. '57, a retired cardiologist, graduated from the Pennsylvania Academy of the Fine Arts in May 2005.

'60s

Murray H. Seltzer, M.D. '65, was elected president of the New York Metropolitan Breast Cancer Group, composed of physicians from New York, Connecticut, and New Jersey in different specialties who treat breast cancer. He is the first New Jersey surgeon to serve in this post in the organization's history of more than thirty years. Seltzer was the first medical director of the Breast Center at the St. Barnabas Ambulatory Care Center. He published an article in April 2004 issue of *The Breast Journal* describing the results of 10,000 consecutive new patient breast consultations and the correlation between complaints, age, and the presence of breast cancer. This is the largest series of such patients ever reported in the medical literature.

'80s

Eric Surrey, M.D. '81, was elected president of the Society for Assisted Reproductive Technology for 2004-2005. A former president of the Society of Reproductive Surgeons, he is a medical director for the Colorado Center for Reproductive Medicine in Engelwood, Colorado.

'90s

Melissa Hunter-Ensor, Ph.D. '97, who earned her doctorate in neuroscience from Penn, has joined the Boston office of Edwards & Angell, a national law firm with approximately 350 attorneys, as a patent agent. Recipient of a postdoctoral research fellowship from the Massachusetts Institute of Technology, she is currently a candidate for her J.D. degree at Suffolk University. Hunter-Ensor was formerly with the technology and venture capital law firm of Testa, Hurwitz & Thibeault.

'00s

Naoyuki G. Saito, Ph. D. '98, M. D. '00, a chief resident in radiation oncology at the University of Michigan Hospitals, recently accepted a position as assistant professor in radiation medicine at Roswell Park Cancer Institute, Buffalo, N.Y., effective July 1, 2005.

Steven Y. Wei, M.D., G.M.E. '00, whose practice is Seacoast Orthopedic Surgery & Sports Medicine in Groton, Conn., was named a "Top Doc" in the April 2005 issue of *Connecticut Magazine*.

Obituaries

O. Norris Smith, M.D. '33, Greensboro, N.C., a retired internist; October 25, 2004. After earning his medical degree, he completed a two-year rotating internship at Pennsylvania Hospital; a two-year residency at the Hospital of the University of Pennsylvania; and an assistant residency at Duke Hospital. He practiced in Greensboro before World War II. He then served in the Duke 65th General Hospital Unit at Fort Bragg for a year before being sent to East Anglia, England. After the war, he became a founder and president of the Greensboro Academy of Medicine, later the Guilford County Medical Society, and served as chief of the medical service at Moses H. Cone Memorial Hospital. For many years, he also served on the Blue Cross and Blue Shield Insurance Committee of the North Carolina Medical Society. A deacon and elder at the First Presbyterian Church, he spent time after his retirement uncovering church history. He and his wife, Rebecca, also helped form the Guilford County Genealogical Society.

Harold O. Jirsa, M.D., G.M.E. '37, Oakdale, Minn.; November 2, 2004.

Thomas W. Clark, M.D. '38, Gwynedd, Pa; March 10, 2005. After interning at Columbia Presbyterian Hospital in New York, Clark took his residency in internal medicine at Pennsylvania Hospital. During World War II, he volunteered for the army field hospital formed by physicians of the Pennsylvania Hospital under the leadership of Dr. Joseph Vandervere. After the war, Clark served the Chestnut Hill community as a family practitioner until he took a clinical position at the Hospital of the University of Pennsylvania in 1960, where he ran the Diagnostic Clinic. He finished his medical career as a medical director of All Saints Hospital in Chestnut Hill. He was actively involved in developing policies for the state of Pennsylvania through the Center for Advocacy for the Rights and Interests of the Elderly (CARIE).

Richard H. Driscoll, M.D.'40, Pocono Lake, Pa.; January 12, 2005. He was commissioned in the Navy during World War II and served as a surgeon in the South Pacific. After retiring from the Navy as a lieutenant commander, he entered private practice as a surgeon. He was a staff surgeon at Presbyterian Hospital and Jeanes Hospital in Philadelphia, where he practiced surgery for 30 years. He was also an associate professor of surgery at Penn's medical school. After moving to Pocono Lake Preserve Pa., he joined the staff of Palmerton Hospital.

William Fraimow, M.D. '42, G.M.E. '54, Merion, Pa.; October 26, 2004. He was the longest-standing actively practicing physician at Thomas Jefferson University Hospital. As associate professor of medicine, he was mentor to hundreds of medical students and residents, but his passion was treating patients, some of whom he saw for more than 40 years. He was stationed in Italy at the end of World War II and participated in the postwar reconstruction effort from 1945 to 1947, achieving the rank of master sergeant. Upon returning, Fraimow enrolled in the medical school. He completed his residency at Jefferson and went on to practice internal and pulmonary medicine.

Richard L. Chasse, M.D. '43, Waterville, Maine; December 4, 2004. He practiced medicine and surgery in Waterville for the last 40 years. Chasse served as a medical lieutenant in the Pacific Theater during World War II.

John H. Moyer III, M.D. '43, G.M.E. '47, Palmyra, Pa; October 5, 2004. He retired as director of professional and educational affairs at Memorial Hospital in Johnstown. He had held academic appointments at the Temple University School of Medicine and at the Milton Hershey Medical Center at the Pennsylvania State University.

Nathan P. Salner, M.D. '43, G.M. '54, Philadelphia, a retired radiologist; February 8, 2005. After training in radiology with Dr. Eugene P. Pendergrass, Salner subsequently became chief of radiology at Jeanes Hospital in Fox Chase, Pa. He was an assistant clinical professor of radiology at Penn and a fellow of the American College of Radiology.

Robert W. Tilney Jr., M.D.'43, Far Hills, N.J.; January 6, 2005.

Benjamin H. Sullivan, G.M.E.'46, Sarasota, Fla., November 22, 2004. He was among the first neurosurgeons to practice in Southwest Florida. A graduate of Emory University School of Medicine, he was a member of the Congress of Neurological Surgeons and Penn's Hawthorne Surgical Society. He was an Army veteran of WWII and received the Bronze Star, the Purple Heart, and the Oak Leaf Cluster.

Domingo M. Aviado Sr., M.D. '48, Palm Beach, Fla., formerly of Short Hills; December 7, 2004. A native of the Philippines, he was a professor of pharmacology at Penn for 29 years, retiring in 1977. He wrote eight medical books and more than 300 articles in professional journals on toxicology and pharmacology. A recipient of the Guggenheim Fellowship Award as well as the Lindback Teaching Award and the Oliver Memorial Award from the University of Pennsylvania, Aviado was listed in *Who's Who in America*. He served as treasurer of the International Union of Pharmacologists. In 1976, he received the first President's

Trophy for the Most Outstanding Filipino Abroad from then-President Marcos.

Roy R. Greening, G.M.E '48, Juneau, Alaska; February 5, 2005.

George M. Knoll, M.D. '49, Slatington, Pa; April 24, 2004.

James B. Bain, M.D., G.M.E. '49, Chesapeake, Va.; April 12, 2004.

Peter V. Van Schoonhoven, M.D. '49, Dallas, Texas; February 4, 2005. In 1943 he enlisted in the United States Navy and served in World War II. After completing his first tour, he earned his medical degree from Penn and took his internship at St. Luke's Hospital in New York. He then returned to the U.S. Armed Forces during the Korean War as a naval officer. In 1952 he began his residency back at St. Luke's Hospital. His medical practice included surgery, clinical pathology, and hematology. In the 1960s he was medical director of the Lovelace Clinic in Albuquerque, N.M. During that time, he served on the selection committee for the first astronauts that would land on the moon. Dr. Van Schoonhoven also served as executive vice president for medical Affairs at Blood Systems Inc., Scottsdale, Ariz. Before retiring as a member of the Joint Commission on Accreditation of Hospitals, he was responsible for writing many of the administrative standards that hospitals must comply with today.

James Phillip Calkins, M.D., G.M.E. '50, Tucson, Ariz.; October 27, 2004.

Aureliano Rivas Flores Jr., M.D. '50, Newtown Square, Pa.; June 22, 2004.

Richard L. Meadows, M.D. '50, Clearwater, Fla.; October 30, 2004.

Peter T. Kuo, M.D., G.M.E. '51, Houston, Texas; August 10, 2004.

Eleanor M. Aurand, M.D. '51, Lewistown, Pa., a retired pediatrician; September 15, 2004. She had been a life member of the advisory board of the Salvation Army.

Julio J. Amadio, G.M. '51, Haverford, Pa.; January 4, 2005.

Richard Granville Starr, M.D. '52, G.M.E. '56, Beckley, W.Va.; August 25, 2004. He served with the U.S. Navy 1944-1946. After having a private practice at Raleigh General Hospital from 1953 to 1955, he returned to the University of Pennsylvania to serve his residency in general medicine. Through the Robinette Foundation, he became a fellow in cardiology, 1957-1958. A Diplomat of the America Board of Medicine, he served as chief of medicine at Raleigh General Hospital for several years and was chairman of the utilization and review committee. A former president of the Raleigh County Medical Society, he was also a member of the board of trustees of the West Virginia Medical Institute for 26 years. In honor of his dedication to health-care quality and for service to the Institute, the board named him emeritus trustee in 2004. Beginning in 1970, he served as a medical expert for the Bureau of Hearings and Appeals of the Social Security Administration. He had been a clinical professor of medicine at Marshall University and an examiner for the Consolidated Public Retirement Board of West Virginia.

Theodore R. Lammot III, M.D. '54, Ventura, Calif.; December 17, 2004. He retired from orthopaedic surgery in 2001 and was working with Pharmanex to promote good health in 35 countries. He held many faculty positions, including chairman of orthopaedics at St. Christopher's Hospital and associate surgeon at Shriners Hospital in Philadelphia. He has also worked as a consultant for the National Polio Foundation,

Jessica S. Hull, M.D. '55, Phoenix, Ariz.; November 12, 2004.

John B. Longenhagen, M.D. '55, G.M.E. '59, Allentown, Pa., August 20, 2004.

Victor Kremens, M.D., G.M.E. '55, Wyncote, Pa., a retired radiologist; December 2, 2004. He earned his medical degree from Temple University. During World War II, he served stateside in the Army Medical Corps. After his discharge, he earned a master's degree in medicine from the University of Pennsylvania, then completed a residency in radiology at Mount Sinai Hospital in New York. During the 1950s, he assisted Jacob Gershon-Cohen, head of radiology at Albert Einstein Medical Center, in pioneering mammography. In the 1960s, Kremens established the radiology department at Rolling Hill Hospital in Cheltenham. He was a volunteer consultant with the Montgomery County Department of Children and Youth Services.

Thomas H. Pettit, M.D. '55, Provo, Utah; March 10, 2005. From 1949 to 1951, he was a missionary in southern France for The Church of Jesus Christ of Latter-day Saints. When he graduated from Penn's medical school, he received the Spencer Morris Prize for excellence. He served as a U.S. Navy Medical Officer, stationed with the Marine Corps at Camp Pendleton, Calif., from 1956 to 1958. After his service, he trained as a resident in ophthalmology at Barnes Hospital in St Louis and was an ophthalmology fellow in San Francisco. He joined the faculty of UCLA in 1963. Pettit retired from the UCLA faculty at the Jules Stein Eye Institute in 1991. A former chairman of the American Board of Ophthalmology, he served on the boards of several ophthalmology journals. He served twice as a Mormon bishop in West Los Angeles.

Lloyd W. Benson, M.D. '56, Sonoma, Calif.; December 28, 2002.

Thomas F. Toomey, M.D.'63, Collegeville, Pa.; January 28, 2005.

David M. Kozart, M.D. '64, G.M.E. '70, Philadelphia; March 16, 2005. He was affiliated for 35 years with the University of Pennsylvania, where he taught residents, treated patients, and held several top appointments. After earning his medical degree from Penn, he took an internship at Philadelphia General Hospital. He completed a postdoctoral fellowship at the Institute of Ophthalmology at Columbia Presbyterian Medical Center, followed by a residency in ophthalmology at Penn. He joined the Penn faculty as assistant professor of ophthalmology in 1970. He served as vice chairman of the department and director of general ophthalmology services from 1995 to the present. Kozart's emphasis was primary care, and he was considered the rare physician who married modern medical advancements with old-fashioned care. Among his several administrative positions, he was acting chairman of the Department of Ophthalmology in 1990, chairman of the medical faculty senate from 1995 to 1996, and president of the medical staff at Presbyterian-University of Pennsylvania Medical Center from 1996 to 1998. Kozart was clinically trained by the legendary ophthalmologist Harold Scheie, for whom the University of Pennsylvania's eye center is named.

Byron Hurwitz, M.D.'66, Chevy Chase, Md.; November 11, 2004.

Arthur M. Rogers, M.D., G.M.E. '68; August 24, 2004.

Robert John Kelley Jr., M.D., G.M.E. '74, Camarillo, Calif.; July 23, 2004.

David E. Nutter, M.D., G.M.E. '80; September 20, 2004.

Harold B. Goldman, M.D. '82, Cambridge, Mass.; December 3, 2004. At Penn, he was elected to AOA, the Medical Honor Society, and was valedictorian of his class. A neurology resident at Brigham and Women's Hospital in Boston, he was also chief resident at the Boston Children's Hospital. He became a clinical neurologist at Harvard Community Healthcare Program and held staff privileges at the Brigham. He developed clinical interests in sleep disorders and neurological manifestations of AIDS. While at HCHP, he was distinguished as a clinician educator at Harvard Medical School. More recently, Goldman worked as a neurologist for an under-served rural population, seeing patients at Heywood Hospital in Gardner, Mass., and at Athol Memorial Hospital, where the sleep laboratory was named in his honor. He also supported the Mount Grace Land Conservation Trust and helped its successful effort to protect Tully Mountain. The Dr. Harold B. Goldman Memorial Fund is being established at the University of Pennsylvania School of Medicine in his memory.

FACULTY DEATHS

Domingo M. Aviado, M.D. See the Class of 1948.

Thomas W. Clark, M.D. See the Class of 1938.

Richard H. Driscoll, M.D. See the Class of 1940.

Maurice R. Hilleman, Ph.D., Erdenheim, Pa., adjunct professor of pediatrics; April 11, 2005. After receiving his Ph.D. degree in microbiology from the University of Chicago in 1944, he joined E. R. Squibb & Sons, where he developed a vaccine against Japanese B encephalitis to protect American troops in the World War II Pacific offensive. In 1948, he accepted a position as chief of the department of respiratory diseases at the Walter Reed Army Institute of Research in Washington, D.C., which he held for nine years. While there, he discovered how the influenza virus undergoes genetic changes that can cause deadly flu pandemics. In 1957, Hilleman joined the pharmaceutical firm of Merck & Co., where he pioneered the development of numerous vaccines for diseases including measles, mumps, rubella, varicella, Marek's disease, hepatitis A, hepatitis B, and adenoviruses. In 1968, he became an adjunct professorship of virology and pediatrics at Penn's School of Medicine, a post he held until his death. Last month, Penn and The Children's Hospital of Philadelphia, with the Merck Co. Foundation, announced the creation of an endowed chair in vaccinology in his honor. A recipient of the National Medal of Science, Hilleman was a member of the National Academy of Sciences, the Institute of Medicine, and the American Academy of Arts and Sciences. Paul A. Offit, M.D. professor of pediatrics at Penn and chief of infectious diseases at CHOP, said of Dr. Hilleman, "It's safe to say that his vaccines save in the order of eight million lives a year. . . . I think it can be said without hyperbole that he was a scientist who saved more lives than any other modern scientist."

David M. Kozart, M.D. See the Class of 1964.

Harold H. Morris Jr., Ph.D., a retired 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, Misericordia in Philadelphia, and Mercy Fitzgerald. Morris, who grew up in Shanghai, China, joined the Penn faculty in 1954, was promoted to assistant professor of psychiatry in 1956 and to associate professor in 1961. He changed to a partial affiliation with Penn in 1968, formally retiring in 1986. Morris was also a psychiatric consultant to the Peace Corps, the Veterans Affairs Hospital in Coatesville, and the Episcopal Diocese of Philadelphia.

Freddy Stark, Ph.D., an instructor in gross anatomy, histology, and neuro-anatomy in the Department of Cell and Developmental Biology; March 7, 2005. Stark came to Penn as a research fellow in anatomy, working in the laboratory of Dr. Vivianne T. Nachmias. An expert in electron microscopy analysis, he became a teaching assistant in 1984. He earned a Ph.D. degree in anatomy in 1989 and was appointed instructor in 1992. He was well known for the Sunday review meetings of gross anatomy that he had started with medical students several years ago. He developed a book, *Start Exploring "Gray's Anatomy": A Fact-Filled Coloring Book* (Running Press, 1991), geared toward children of all ages to help them understand the concepts of the human body. An accomplished practitioner of martial arts, Stark held black belts in judo, karate, and ju jitsu from the U.S. Martial Arts Association. The Association inducted him into the U.S. Martial Arts Hall of Fame in 2003. Beginning in 1986, he was the head instructor of Penn's Martial Arts Club, Chu Do Kwan, and South Central Tae Kwan Do Association.

Two prizes have been established in his name: the Dr. Freddy Stark Award for Gross Anatomy, established in 2005 by friends and colleagues, to be awarded at graduation, and the Dr. Freddy Stark Award for Teaching Excellence, awarded annually to the best teaching assistant selected by medical students.

Caring for Patients, and Penn

Physicians in Penn's Department of Family Practice and Community Medicine really get to know their patients, perhaps more than in any other field of medicine. This special intimacy isn't just a hallmark; it's a prized value. In her philanthropic activities, Marjorie A. Bowman, M.D., M.P.A., the department chair, has extended that principle – determining needs, and meeting them – to support Penn.

Since 2001, she has created four charitable gift annuities benefiting her department.

"I believe in giving back," says Bowman. "I feel privileged to have my job with this department. The planned gift not only satisfies my desire to give, but it also fits well in my overall financial planning."

She has also advocated for planned giving among her colleagues, raising the subject at department meetings. Just as with her patients, she takes time to explain – and listen. "The subject can seem daunting, because some people equate it with talking about death and they're not at the age when they're thinking in those terms." She finds it helps to share one's own story.

Bowman's story includes growing up on her family's farm in western Pennsylvania. "Growing up poor has influenced me to sympathize with the less fortunate," she says. She graduated summa cum laude *from Pennsylvania State University and earned her M.D. degree from Thomas Jefferson Medical College.*

In 1996, she came to Penn to establish the Department of Family and Community Medicine, having made a national name in the field at Bowman Gray School of Medicine at Wake Forest University. (She made gifts there too: "I always give to the institution where I work.") As the first female clinical chair at Penn, Bowman has elevated the recognition of family medicine at Penn and throughout the country. "I am proud of what I have done these past nine years and I am even more proud that I can give back," she says. "Penn is a good place to work, and I feel fortunate to be here."

Bowman's planned gift, with its current tax deduction and partially tax-free payments during retirement, helped her find a way to make a significant gift as well as benefit her own financial future. Her deferred charitable gift annuity is just one of many 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 or e-mail: mmerz@ben.dev.upenn.edu.***

The Scorecard and the Roadmap


Robert Clink

As we conclude another academic year, it's appropriate to take a brief look at how PENN Medicine has fared in that time. Our institution will always be committed to pursuing excellence in all three parts of our mission: education, clinical care, and research. For the present, I would like to focus on our research enterprise. We can gauge some of our achievements through external barometers. In other cases, we are keeping a "Progress and Implementation Scorecard" to track our progress in meeting the research goals articulated in our strategic plan.

You can read a fuller report in the "Vital Signs" section of this issue, but I will mention the School of Medicine's showing in the annual *U.S. News & World Report* survey of professional and graduate schools. This spring, for the 8th year in a row, our school was listed among the top five research-oriented medical schools in the country. Penn had four specialty programs ranked in the magazine's top 10: pediatrics, women's health, internal medicine, and drug and alcohol abuse.

Once again, our school ranked very high among those that received research and other grants from the National Institutes of Health. We were ranked second, with a total of almost $394 million, a 9.4 percent increase over the previous year. The school's consistency in garnering N.I.H. support is a welcome sign of the respect in which our research enterprise is held. When we did our six-month scorecard for the fiscal year, we originally projected a growth in overall sponsored research of 4.5-5.0 percent. Our N.I.H. support, therefore, is very gratifying.

As we developed our strategic plan, we also considered ways to strengthen our research activities. We wanted to concentrate less on the number of studies published and more on studies that have a greater impact. We are also striving to bring our research enterprise more in line with the direction laid out in the N.I.H. "Roadmap," announced in September 2003. The Roadmap encourages teamwork and collaborative research across disciplines. It also seeks to support translational research, through which the investigators can look closely at the clinical effects of the basic science.

We've made some noteworthy advances. For example, last fall, Stephen Kimmel, M.D., associate professor of medicine and of epidemiology, received a three-year award of $595,000 from the N.I.H. to develop a center to study the interactions between genes and drugs. We expect the multidisciplinary center to have an impact in the rapidly burgeoning field of human pharmacogenomic epidemiology.

One of our most significant accomplishments of the past year was the creation of three institutes that will greatly enhance our efforts in some of the most important biomedical fields. We place this at the top of our strategic plan scorecard, under the goal of "Developing World-Leading Programs in Selected Areas of Research." In the spirit of the Roadmap, the Penn Cardiovascular Institute, the Institute for Diabetes, Obesity, and Metabolism, and the Institute for Translational Medicine and Therapeutics will emphasize cooperation and partnership. The three share the impulse to bring the fruits of research from the laboratory bench to the patient's bedside as swiftly and safely as possible. All three institutions cut across departmental, disciplinary, and even school lines.

In June, the University of Pennsylvania received a grant of $9.5 million from the N.I.H. to be part of a national screening network to discover how molecules react to specific targets. The funds will be used to establish the Penn Center for Molecular Discovery. Scientists there will create highly tailored molecules useful in biological research, imaging, and pharmacological research. The center will be housed at the Institute for Medicine and Engineering, a valuable site of multidisciplinary research since the School of Medicine and the School of Engineering and Applied Science established it in 1996. The plan is to involve engineers with skills in robotics, chemists from Penn's School of Arts and Sciences, and biomedical researchers from the medical school.

The N.I.H. is our most important source of external funding, but not our only one. For instance, as part of the national settlement with the tobacco industry, about $5 million will go to Penn and three other institutions to create a Center of Excellence for Research in Neurodegenerative Disease. According to Dr. Christopher Clark, director of Penn's Memory Disorders Clinic and co-director of the Alzheimer's Disease Center, the target is to discover early causes and indicators of Alzheimer's and Parkinson's diseases. Early detection and treatment would slow the deterioration of quality of life for some patients.

Another $1.6 million from the tobacco settlement has been allotted to Penn's Transdisciplinary Tobacco Use Research Center, which is seeking to understand the role of genetics and bio-behavioral mechanisms in tobacco addiction. Four other Pennsylvania institutions are participating in the project, headed by Dr. Caryn Lerman, a professor in our Department of Psychiatry and in the Annenberg School for Communication.

We are behind target on a few of our scorecard items, but we will continue striving to meet those goals. As the examples above indicate, our research component is very strong, the envy of many other institutions – but we will not stand pat. ▪

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

The School of Medicine seeks to attract and retain talented women, yet at Penn and other academic medical centers, women are under-represented, especially in the faculty's senior ranks. That's where the FOCUS on Health & Leadership for Women program comes in. Through conferences for professional development, seminars, and workshops on building skills and networking, FOCUS works toward achieving greater gender equity in academic medicine and helping women to better integrate work and family responsibilities.

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