PENN Medicine

WINTER 2010/2011

A TRIAL SEEKS TO HELP WOMEN ADVANCE IN ACADEMIC MEDICINE

What Can the Class of 1960 Tell Us?

A Deeper View of Psoriasis

Dr. Rook Collaborates with Dr. Rook

Pheromone: Fact or Figment?

I suspect I am one of many, many people who go through their days without giving a thought to pheromones. But I've discovered there's a whole community that revolves around pheromones, commonly defined as secreted or excreted chemical factors that trigger a social response in members of the same species. That definition draws from Wikipedia, the first of some 2.5 million hits when I Googled *pheromone*.

The very next site had a different tone: "Pheromones for Men & Women By Dr. Amend. Get The Pheromone Advantage! Pheromones can help with sexual attraction."

There are at least two on-line forums: "PHEROTRUTH.COM," which calls itself the only uncensored pheromone Internet forum, and PheroTalk, which claims to be "The world's largest pheromone community." The person behind the "Do Pheromones Work?" site spent three pages reviewing The Scent of Eros for Men, a fragrance apparently laced with pheromones. After conducting 10 "field tests," he provides details for one of them. During a one-on-one sales meeting with a "quite attractive" young woman, he becomes aware that his scent is having the desired effect. The other party "became noticeably more relaxed, at ease, and friendly with me" and spent part of the time "intensely staring at me."

On the other hand, the reading public is left in no doubt as to how Richard Doty, Ph.D., professor in Penn's Department of Otolaryngology: Head and Neck Surgery, feels about the pheromone phenomenon. The title of his recent book is *The Great Pheromone Myth* (Johns Hopkins Press, 2010). As he notes in Chapter 8, "pheromone-laden products are now a substantial element of the multibillion-dollar personal care products industry." In discussing studies purporting to show the effectiveness of products containing "proprietary synthesized human sex pheromones," he does not mince words: "In light of the discrepant findings among these studies, their funding source, the unidentified nature of the agents involved, the questionable marginal statistical effects, the relatively small number of subjects tested, and the numerous logistic and experimental design problems, one must question whether these putative pheromones have any meaningful influences on human sociosexual behavior."

Mammals Are Much More Complex

But it is not only the more obviously commercial uses or misuses of pheromones that Doty, who is also director of the Smell and Taste Center, attempts to discredit. According to Doty, it's a momentous leap from the insect world to the world of mammals, and people have made untenable connections between them. In the 1930s, entomologists sought to describe the many chemicals involved in how insects communicate and reproduce. *Pheromone* eventually became the preferred term. But over the last 50 years, the term was increasingly used in studying mammals as well. As Doty explained this fall in a talk at Penn's book store, the basic tenet of pheromones "is generally fallacious when applied to mammals." Even more strongly: "I'm basically saying there are no such things as pheromones."

In his book, Doty painstakingly examines many previous studies on "pheromones" and their supposed effects. Indeed, almost one-fourth of the book is notes and references. Even the more publicized studies, according to Doty, have major design flaws. In essence, Doty's thesis is that "it is erroneous to infer that a plurality of mammalian behaviors and endocrine responses is uniquely determined in an invariant way by single or small sets of chemical stimuli. . . ." While acknowledging the influence of biological secretions, he asserted in his talk that "mammals are not automatons." He also has an argument with the semantics involved – *pheromone* seems to be much too loosely used. When asked what to replace it with, he replied, "My feeling is you don't need the term," which is loaded with inherent beliefs. Operationally – to describe the actual science involved in the complex nervous systems of mammals – it is unnecessary.

Showing some humor, Doty invited the listeners to "stand up and tell me I'm full of it" after his talk. Nobody did.

That is not the case universally. When Doty wrote an essay based on his book for *New Scientist* (27 February 2010), an Oxford zoologist dissented in a letter to the editor. Most of the writers commenting on coverage of *The Great Pheromone Myth* in England's *Daily Mail* also disagreed. James V. Kohl, an independent laboratory scientist who has published widely on pheromones, has mounted a kind of online campaign against Doty's book. In one site, he writes that Doty "missed something that continues to be of huge significance to us all." According to an Internet product review, Kohl is one of the developers of the aforementioned Scent of Eros, which sells, the review notes, for about $50 a bottle.

I suspect Doty will not back down. ●

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THE GOAL IS TRANSFORMATION

By Lynn Selhat

Even today, women in academic medicine are severely underrepresented in the ranks of tenured professors and in leadership positions. Achieving equity is a not-so-simple matter of changing the culture of medical schools. A recent grant will help Penn investigators explore strategies for doing exactly that.

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By Jennifer Baldino Bonett

Psoriasis can make life miserable for millions of Americans, and Joel M. Gelfand, M.D., seeks to relieve his patients who have this chronic inflammatory disease. He was also the first to demonstrate a direct connection between psoriasis and cardiovascular disease.

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A 50-YEAR PERSPECTIVE

By Susan Worley

When members of the Class of 1960 gathered on campus in May to celebrate their 50th year reunion, the time seemed right for listening to their experiences since graduation. They recounted a variety of paths taken and commented on the enormous changes in medicine and health care. And they looked ahead, sometimes with wariness.

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Dr. Katie Rook, a graduate of Penn's School of Veterinary Medicine and now a dermatology resident, took advantage of an opportunity to do collaborative research with one of the most distinguished professors of dermatology in the School of Medicine – Dr. Alain Rook, her father.

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By Mark Gaige

For health practitioners and researchers, tracking down and sorting data can be an immense challenge. That's where the Penn Data Store, a virtual warehouse, comes in.

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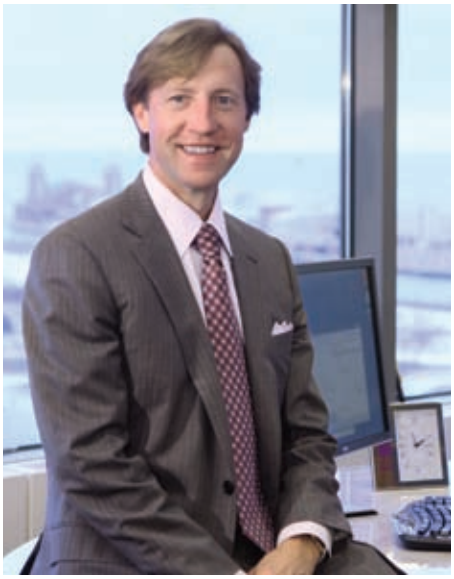
Visit Penn Medicine's web site: http://www.uphs.upenn.edu/news/publications/PENNMedicine/

New Leader of Penn Medicine Announced

J. Larry Jameson, M.D., Ph.D., was named the next executive vice president of the University of Pennsylvania for the Health System and dean of Penn's School of Medicine. He will take office on July 1, 2011, succeeding Arthur H. Rubenstein, M.B.,B.Ch.

Jameson will join Penn from Northwestern University, where he has served since 2007 as vice president for medical affairs and as the Lewis Landsberg Dean of the Feinberg School of Medicine.



J. Larry Jameson, M.D., Ph.D.

In making the announcement, Amy Gutmann, Ph.D., Penn's president, said, "Larry Jameson is an eminent researcher, educator, and clinician with a sterling track record of inspired leadership, a deep appreciation for Penn Medicine's exceptional faculty, students, and clinical programs, an unwavering ethical compass, and a desire to broadly engage with the entire Penn community."

Jameson will be responsible for the oversight and management of all of Penn Medicine's academic programs, research activities, and clinical services. Ralph Muller, the CEO of the Health System, will report to Jameson.

As Jameson put it in a message to the Penn Medicine faculty two months after his appointment was announced, "I am a strong advocate of connecting the medical center to the rest of the University. I was also attracted by the quality of the faculty. . . . It is apparent to me that the Penn culture values its history but looks to the future; values collaboration as a catalyst for innovation; and values teamwork as a means to bring diverse people and talents to education, clinical care, and research. These cultural values are reflected in the organization of Penn Medicine, which is arguably the most highly integrated and successful academic medical center in the U.S."

As vice president and dean at Northwestern, Jameson focused on interdisciplinary research and clinical programs. Before becoming vice president and dean, he was the Irving S. Cutter Professor of Medicine and chair of the Department of Medicine at Northwestern for seven years. Before that, he was chief of the Division of Endocrinology, Metabolism, and Molecular Medicine. Earlier in his career, he had been associate professor of medicine at Harvard Medical School and chief of the Thyroid Unit at Massachusetts General Hospital.

Jameson's pioneering work in molecular endocrinology has greatly improved understanding of the transcription of endocrine genes and the genetic basis of reproductive and metabolic disorders. His work has helped bridge laboratory studies with clinical endocrinology, a vitally important experience as Penn Medicine prepares to open a new Translational Research Center adjacent to the Perelman Center for Advanced Medicine and Roberts Proton Therapy Center.

Jameson is the author of more than 300 scientific articles and chapters, including studies in leading journals. An editor of the widely used *Harrison's Principles of Internal Medicine*, Jameson is coauthor of *DeGroot and Jameson's Endocrinology*, the most comprehensive text in its field. He is also author of the award-winning *Jameson's Principles of Molecular Medicine*, a major text that fosters the bedside clinical application of basic scientific research.

Jameson was elected to the Institute of Medicine, the American Academy of Arts and Sciences, the American Society of Clinical Investigation, and the Association of American Physicians. He has served as president of the Endocrine Society, as a member of the medical advisory board of the Howard Hughes Medical Institute, and as a director of the American Board of Internal Medicine. Among his honors are the Van Meter Award from the American Thyroid Association and the Thomas G. Sheen Award from the American College of Surgeons.

Jameson received his doctor of medicine degree with honors and a Ph.D. degree in biochemistry from the University of North Carolina in 1981. He did his clinical training in internal medicine at Massachusetts General Hospital.

Abramson Cancer Center Receives High Praise

This fall, the National Cancer Institute, during a competitive research funding review, rated the University of Pennsylvania's Abramson Cancer Center as "exceptional." The Abramson Cancer Center is one of only 40 centers designated "comprehensive cancer centers" by the N.C.I. Abramson received the honor following scientific review and evaluation of essential features of a cancer center. These include the high quality of cancer research, state-of-the art research and patient care facilities, experienced scientific leaders, and a

high level of collaboration and translation of science to innovative cancer care.

"This impressive result is an important validation of the Center's excellence and devotion to patients," said Arthur Rubenstein, M.B.,B.Ch., executive vice president of the University of Pennsylvania for the Health System and dean of the School of Medicine.

Among indicators of the Abramson Cancer Center's leadership in cancer research: Since the last competitive renewal process in 2004, faculty physicians and researchers have written more than 4,000 cancer-related publications. Over the past five years, the Cancer Center's research initiatives have been buoyed by a 41 percent increase in peer-reviewed funding. This intense research focus has supported a 44 percent increase in new patients as well. At the same time, doctors have significantly increased the number of women and minorities involved in research, which is a national priority for creating more effective treatments for a diverse group of patients.

Current research priorities at the Abramson Cancer Center include molecular profiling and personalized medicine, tumor biology and tumor stem cells, and cancer prevention and early detection.

Simulating a Mission to Mars

David Dinges, Ph.D., professor of Psychology in Psychiatry and chief of the division of chronobiology, is leading a U.S. scientific team as part of a simulated 520-day mission to Mars. The American component is sponsored by the National Space Biomedical Research Institute. The international project is being conducted by the State Scientific Center of the Russian Federation – Institute for Biomedical Problems of the Russian Academy of Sciences. Dinges's group of researchers will monitor the six crew members' rest-activity cycles, performance, and psychological responses to determine the extent to which sleep loss, fatigue, stress, mood changes, and conflicts occur during the mission. The mission, which began on June 3, is broken into 250 days for the trip to Mars, 30 days on the surface, and 240 days for the return to Earth.

During the simulation, Dinges and his colleagues are using miniaturized wristwatch-like devices to measure crew members' sleep-wake patterns and speech.

White Coats Galore

The 163 members of the Class of 2014 marked the start of their medical education by donning their symbolic white coats. In her role as vice dean for education, Gail Morrison, M.D. '71, G.M.E. '76, helped the students into their coats, and 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, congratulated them. Just over half of the new class is made up of women, and a quarter of the students come from minorities underrepresented in the field of medicine.

Stephen J. Gluckman, M.D., professor of medicine and director of HUP's Infectious Disease Clinical Services, was the keynote speaker. "You are at a great medical school, and you have picked a great career," he said. "We have a job that combines detective work by using our intellectual skills and observational skills with the true privilege of being somebody's doctor."

Later in the ceremony, the entire class recited the Hippocratic Oath.

Daniel Burke

Dean Rubenstein congratulates Julia Beamesderfer as Dr. Gluckman looks on.


David Dinges, Ph.D.

cially programmed computers with brief assessment tests to gather information throughout the mission on crew members' performance and emotions.

According to Dinges, the tests and interventions have an impact beyond the space program. "The things we are learning about how to objectively and unobtrusively measure changes in performance and psychological status will be useful in many environments, such as power-plant control rooms, railroad systems, emergency operations, hospitals, and police, fire, and rescue situations."

An Institute to Study Immunology

The Penn Institute for Immunology is a new multidisciplinary center administered by the School of Medicine that will serve as a locus to foster and integrate collaboration of faculty members across disciplines, schools, and departments at Penn. The institute seeks to promote the discovery, development, and delivery of novel immunologic approaches for preventing and treating infectious and immune-mediated diseases. One of the primary goals is to establish new interactions and collaborations to help accelerate innovative discoveries and to translate those findings to clinical settings. The institute will promote educational activities and training opportunities for students, fellows, and house staff and will foster educational outreach activities to patients and to the community.

Steven L. Reiner, M.D., professor in the Department of Medicine's infectious disease division, is director of the Penn Institute for Immunology. He is also a senior investigator of the Abramson Family Cancer Research Institute and has led the Immunology Graduate Group within the Biomedical Graduate Studies program.

Two New Outpatient Facilities

With the opening of two new centers for ambulatory care, Penn Medicine has made it easier and more convenient for patients seeking its high-quality care and highly regarded physicians. According to Ralph Muller, CEO of Penn Health System, "We are now better able to serve more of our patients close to where they live."

The first of the two new centers to open was Penn Medicine at Woodbury Heights, in Gloucester County, N.J. The facility, with 37,500 square feet, houses primary-care and specialty-care physicians, on-site phlebotomy services, and physical therapy.

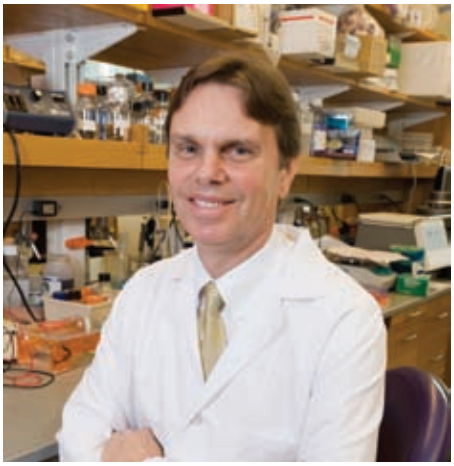
Penn Medicine at Valley Forge, a $30 million facility in Chester County, Pa., is larger, with 90,000 square feet. It houses 60 primary-care and specialty-care physicians, as well as radiology and laboratory services. The facility includes the Henry P. Erdman Educational Center, which will serve as a training site for hundreds of medical students from Penn's School of Medicine. There, they will become involved in community and patient education. Part of the building's construction cost was funded by the Henry P. Erdman Trust.

The new ambulatory-care centers, says Kevin Mahoney, senior vice president and chief administrative officer of UPHS, "represent how medicine will be provided – very integrated, very convenient, and very efficient."

N.I.H. Renews Funding for Muscular Dystrophy

The National Institutes of Health has renewed its funding to the Paul D. Wellstone Muscular Dystrophy Cooperative Research Center at Penn's School of Medicine. The new grant totals more than $8 million for the next five years. Of the six Wellstone Centers in the United States, the Penn Center was one of three to be renewed.

"This award continues to be the nucleus of a larger translational-research initiative for muscular dystrophies at Penn," says H. Lee Sweeney, Ph.D., chair of Penn's Department of Physiology and director of the center.


H. Lee Sweeney, Ph.D.

Researchers at the Wellstone Centers study various forms of MD, including Duchenne/Becker Muscular Dystrophy, Myotonic Dystrophy, Facioscapulohumeral Dystrophy, and Limb-Girdle Muscular Dystrophy. At Penn, the focus is on the molecular questions behind the deterioration of muscle and its cellular scaffolding seen in MD. As Sweeney puts

it, "What are the factors that lead to the failure of muscle to regenerate after repeated rounds of injury and repair? Why, eventually, is muscle replaced with fat and scar tissue instead of being repaired?"

An important component of the center is a collaborative project based at the University of Florida to develop better MRI-based methodologies for imaging fat and fibrosis in a variety of human muscular dystrophies. Improved imaging is important for evaluating future therapeutic interventions in the muscular dystrophies.

With the new funds, the Penn Center will also start a training core focused on educating the next generation of scientists and physicians. This core is co-directed by E. Michael Ostap, Ph.D., professor of physiology and director of the Pennsylvania Muscle Institute.

Penn Researchers Seek to Develop Personalized Approach to Smoking Cessation

A variety of smoking cessation treatments are currently available for the more than 18 million adult Americans who try to quit smoking each year, but success rates vary widely. A major new personalized medicine clinical trial, led by addiction researchers at Penn Medicine, will study how the genetic make-up of smokers influences their success in quitting.

A team of researchers led by Caryn Lerman, Ph.D., professor of psychiatry at Penn's School of Medicine and Annenberg Public Policy Center, received a five-year grant of $12 million from the National Institutes of Health to study the pharmacogenetics of nicotine addiction treatment. "Smoking is the greatest preventable cause of morbidity and mortality," says Lerman, who also serves as scientific director of Penn's Abramson Cancer Center and is currently its interim director.

Earlier Penn research identified a genetically informed biomarker that reflects individual differences in the rate of nicotine metabolism – that is, how quickly nicotine breaks down in the body. This biomarker, referred to as the nicotine metabolite ratio (NMR), reflects genetic variation in the CYP2A6 gene, as well as environmental influences on nicotine metabolism. Work by Lerman, Robert Schnoll, Ph.D., associate professor of psychiatry, and other collaborators has shown that the NMR can be used to predict the success of different smoking treatments for individual smokers. The new clinical trial will provide the next definitive step in their efforts to translate the use of this biomarker to clinical practice.

In this study, 1,350 adult smokers will have their NMR assessed to determine whether they metabolize nicotine slowly or quickly. They will then be sorted into two groups – slow metabolizers and normal metabolizers – and randomized to treatment with a placebo, a nicotine patch, or Pfizer's Chantix (varenicline). Each participant will also provide genetic material (DNA) that will be used to identify additional gene variants that may also contribute to the response to treatment for nicotine addiction. The prospective, double-blind, placebo-controlled trial will be completed within the next four years.

In addition, the cost-effectiveness of the personalized medicine approach will be analyzed by Daniel Polsky, Ph.D., and Henry Glick, Ph.D., both from Penn's Leonard Davis Institute of Health Economics, and Daniel Heitjan, Ph.D., professor of biostatistics and statistics at Penn.

Rachel Tyndale, Ph.D., at the University of Toronto, is co-leader of the trial, which includes the University of California at San Francisco, M. D. Anderson Cancer Center, SRI International, the University of Southern California, and the State University of New York at Buffalo.

Honors & Awards

Steven M. Albelda, M.D. '79, G.M.E. '85, professor of medicine and vice chief of the pulmonary, allergy, and critical-care division, has received the Wagner Medal for Excellence in Mesothelioma Research.

Steven M. Albelda, M.D.

The award is presented every two years by the International Mesothelioma Interest Group. Albelda is director of lung research and co-director of the Thoracic Oncology Laboratories. His research interests include molecular mechanisms of inflammation and cell adhesion.

Clyde F. Barker, M.D., G.M.E. '59, emeritus professor of surgery and former chair of the Department of Surgery, is the recipient of the 2010 Medawar Prize. Presented by the Transplantation Society, the award is named in honor of Sir Peter Medawar, the society's first president and winner of the Nobel Prize in 1960. The prize recognizes an individual who has made a significant scientific discovery or contribution to the field or who has a lifetime body of work in immunology, experimental transplantation, or clinical transplantation. Barker carried out the first kidney transplant at Penn in 1966 and later initiated a multi-organ program

that he built into one of the largest and most academically productive in the world. Barker is a member of the Institute of Medicine of the National Academy of Sciences and of many other professional and honorary societies.

Alexander J. Brucker, M.D., professor of ophthalmology, was awarded the 2010 J. Donald M. Gass Medal, presented by the Macula Society. The Society cited his role in training residents, his strong involvement in randomized clinical trials, and his innovation in developing surgical instruments and procedures such as scleral buckles, scleral needles, a retinal cryoprobe, the vitreous air infusion pump, and a technique for draining subretinal fluid. A founding member of the Macula Society and one of its former presidents, Brucker is the recipient of the Life Achievement Award from the American Academy of Ophthalmology.

Susan M. Domchek, M.D., associate professor of medicine and director of the Cancer Risk Evaluation Program at Penn's Abramson Cancer Center, was named to a new scientific advisory council of Susan G. Komen for the Cure. She joins more than 60 top-ranking scientists, clinicians, and advocates who will guide the research program of the world's largest organization devoted to research and treatment of breast cancer. Domchek and the other inaugural members of the council will provide scientific peer review for the grants and programs that Komen for the Cure funds annually.

Susan M. Domchek, M.D.

The I.O.M. Welcomes Four New Penn Members

Four professors from the School of Medicine were recently elected members of the Institute of Medicine. As 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, put it, "Having Penn Medicine colleagues elected to this esteemed body is an extraordinarily significant honor."

The Institute was established in 1970 by the National Academy of Sciences to honor professional achievement in the health sciences and to serve as a national resource for independent analysis and recommendations on issues related to medicine, biomedical sciences, and health.

The new Penn I.O.M. members:


Deborah A. Driscoll, M.D., G.M.E.


Caryn Lerman, Ph.D.

Deborah A. Driscoll, M.D., G.M.E. '87, is the Luigi Mastroianni Jr. Professor and chair of the Department of Obstetrics and Gynecology. She also serves as interim director of the Center for Research on Reproduction and Women's Health. A graduate of New York University School of Medicine, she completed a residency in obstetrics and gynecology at HUP and a fellowship in clinical and molecular genetics at Penn's School of Medicine. She is internationally recognized for her research on DiGeorge/velocardiofacial syndrome and the 22q11.2 deletion syndrome. Dr. Driscoll also served as a project leader on a grant from the National Heart, Lung, and Blood Institute to study congenital heart defects. Currently chair of HUP's Medical Board, she is a member of the board of directors of the American Board of Obstetrics and Gynecology.

Caryn Lerman, Ph.D., is the Mary W. Calkins Professor in the Department of Psychiatry and the Annenberg Public Policy Center. As director of the Tobacco Use Research Center, she studies the genetic and neural basis of nicotine addiction, with a focus on smoking cessation and therapeutic response. She is also in-

Every year since 2004, FOCUS on Health & Leadership for Women, a program designed to improve the recruitment, retention, advancement, and leadership of women faculty and to promote women's health research, presents the FOCUS Award for the Advancement of Women in Medicine. This year, for the first time, the award went to a man, **J. Richard Landis, Ph.D.**, professor in the Department of Biostatistics and Epidemiology. He is director of the department's Division of Biostatistics as well as director of the Biostatistics Unit of the Center for Clinical Epidemiology and Biostatistics

This year, too, FOCUS presented another award for the first time – the FOCUS Visionary Leadership Award. The recipient was **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 award was created to honor his sustained commitment to promoting the success of women in academic medicine. FOCUS is funded by the Office of the Dean, and Rubenstein has consistently championed its causes.

Keith Kasper, senior vice president of finance and chief financial officer of the University of Pennsylvania Health System, was named CFO of the Year by *Philadelphia Business Journal* in the category of large nonprofit corporations. According to the *Journal*, during three of the most trying years in Penn's financial history, the Health System did not downsize the way many other large employers have done. Instead, last year's revenue was $3 billion, up from $2.6 billion in 2007, and the work force grew as well.

Marcelo G. Kazanietz, Ph.D., professor of pharmacology, has been appointed to the Board of Scientific Counselors of the National Cancer Institute, the Federal government's principal agency for cancer research. The board advises the director of the Institute on matters concerning scientific program policy, funding, and progress, as well as the future direction of basic cancer research programs. The appointment will run through July 31,

John R. Stanley, M.D.

Margaret Stineman, M.D.

terim director of Penn's Abramson Cancer Center. Lerman has received the American Psychological Association Award for Outstanding Contributions to Health Psychology and the American Cancer Society Cancer Control Award. She is president of the Society for Research on Nicotine and Tobacco. Lerman received her Ph.D. degree from the University of Southern California.

John R. Stanley, M.D., the Milton B. Hartzell Professor, recently stepped down as chair of the Department of Dermatology. His clinical specialties are autoimmune blistering skin diseases, and his chief areas of research include immunodermatology; cell and molecular biology of keratinocyte adhesion; and impetigo. He has received an N.I.H. grant to study the pathogenesis of pemphigus, an autoimmune disease in which auto-antibodies cause loss of keratinocyte cell adhesion and blister formation. An elected member of the American Society for Clinical Investigation, the American Dermatological Association, and the Association of American Physicians, Stanley earned his medical degree from Harvard Medical School.

Margaret Stineman, M.D., G.M.E. '87, is a professor in the Department of Physical Medicine and Rehabilitation and a professor of epidemiology in the Center for Clinical Epidemiology and Biostatistics. Her expertise is in statistical modeling, measurement, and the development of systems to classify patients. She and her colleagues developed a patient classification approach that forms the basis for Medicare's national payment system for inpatient rehabilitation. Currently, Stineman and her colleagues are developing therapeutic tools for enhancing patients' understanding of and involvement in the recovery process and for studying the effects of comprehensive rehabilitation services on patient outcomes following the amputation of lower extremities. Stineman received her M.D. degree from Hahnemann University.


Marcelo G. Kazanietz, Ph.D.

2015. Kazanietz is also a member of Penn's Institute for Translational Medicine and Therapeutics. The main research interest of his laboratory is signal transduction in carcinogenesis, in particular the intracellular pathways that contribute to malignant transformation and metastatic dissemination of cancer cells in various models, including breast, prostate, and lung cancer.

Max Kelz, M.D., Ph.D., G.M.E. '01, assistant professor of anesthesiology and critical care, is this year's recipient of the Presidential Scholar Award presented by the American Society of Anesthesiologists. The award recognizes colleagues who dedicate their formative careers to research while also spending at least two days per week in clinical practice. Kelz has explored the overreaching hypothesis that the hypnotic component of general anesthesia arises when anesthetic drugs "hijack" the endogenous neural circuitry that governs sleep-wake cycles. He was recently awarded an R01 grant by the National Institute of General Medical Sciences, which will support his research on the interface between natural sleep and anesthesia. According to Lee Fleisher, M.D., chair of Penn's department, Kelz "is a great example of a young physician-scientist/anesthesiologist and is a true triple threat."


Max Kelz, M.D.

New Innovators Are Recognized

Patrick Seale, Ph.D., assistant professor of cell and developmental biology, and Ritesh Agarwal, Ph.D., assistant professor in the School of Engineering and Applied Science, have received the New Innovator Award from the National Institutes of Health. The awards provide each with $1.5 million to support their research over five years.

The N.I.H. makes the awards to stimulate highly innovative research that has the potential for significant impact and to support promising investigators in the early stages of their careers who propose bold new approaches.

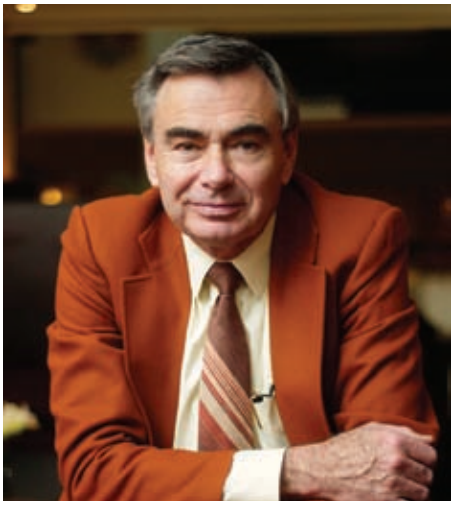
Seale's project focuses on obesity and being overweight, a major risk factor for a multitude of health problems, including: type 2 diabetes, heart disease, stroke, hypertension, and certain cancers. Obesity is caused by a defect in energy balance when energy from food intake chronically exceeds energy expenditure. Brown fat tissue is highly adapted to expend chemical energy as heat and can therefore counteract obesity. Seale seeks to uncover mechanisms that control the fate of brown adipose cells and to suggest new therapeutic targets for obesity and metabolic disease.

Agarwal's project seeks to assemble nanowire devices with optical and electrical functions to probe cell and intracellular dynamics with unprecedented resolution. His team hopes to create a new generation of biological imaging: probes that can target subcellular regions and, in real time, measure chemical reactions, cellular signaling, and cellular reactions that are due to complex phenomena such as a locally delivered drug.

Richard D. Lackman, M.D. '77, G.M.E. '82, professor of orthopaedic surgery, received the Edward C. Bradley, S.J., M.D., Award from Saint Joseph's University. The award honors an alumnus or alumna for loyalty and dedication to the mission of Saint Joseph's University through outstanding service to others, scholarship, or research. Lackman, associate director of patient and family services for Penn's Abramson Cancer Center and director of its Sarcoma Center of Excellence, is a former chair of the Department of Orthopaedic Surgery. He has been named to *Philadelphia* Magazine's "Top Docs" list in every issue since its inception. His numerous teaching awards include the 2008 Parker J. Palmer "Courage to Teach" Award, from the Accreditation Council for Graduate Medical Education, presented annually to ten residency program directors in the nation.

Charles P. O'Brien, M.D., Ph.D., G.M.E. '69, was honored with the 2010 Gold Medal Research Award from the Society of Biological Psychiatry in recognition of

pioneering contributions in the field. He also received the 2010 Mentorship Award from the College on Problems of Drug Dependence. O'Brien's other recent honors include the 2009 Paul Hoch Distinguished Service Award from the American College of Neuropsychopharmacology for unusually significant contributions to


Charles P. O'Brien, M.D., Ph.D.

the College and the John P. McGovern Award from the Association for Medical Education and Research in Substance Abuse. O'Brien, the Kenneth Appel Professor at the University of Pennsylvania/VA Medical Center, serves as vice chair of the Department of Psychiatry, vice director of the Institute of Neurological Science, and director of the Center for Studies in Addiction.

John E. Tomaszewski, M.D. '77, G.M.E. '83, professor of pathology and laboratory medicine and interim chair of the department, will take office as president of the American Society for Clinical Pathology. With approximately 120,000 members, the society is the largest representing pathology and laboratory medicine. Its mission is to provide excellence in education, certification, and advocacy on behalf of patients, pathologists, and laboratory professionals.

Transitions

H. Branch Coslett, M.D. '77, was named interim chair of the Department of Neurology. As interim chair, he succeeds Francisco Gonzalez-Scarano, M.D., G.M.E. '81, who joined the University of Texas Health Sciences Center at San Antonio as the dean and vice president of health affairs. An expert in behavioral neurology, Coslett serves as section chief of cognitive neurology and as vice chair of research for the Department of Neurology. He is also a member of the department's executive committee. In addition, Coslett is one of the core faculty members of the University's Center for Cognitive Neurology, a multidisciplinary community dedicated to understanding the neural bases of human thought. In particular, his research focuses on the architecture and neural bases for human cognition, such as human spatial cognition, reading, and semantic memory. Among Coslett's honors is election to the American Neurological Association. He continues as a consulting editor for *Cognitive Neuropsychology*.

George Cotsarelis, M.D. '87, G.M.E. '92, has been appointed chair of the Department of Dermatology. Cotsarelis, who had been the Albert M. Kligman Professor of Dermatology, succeeds John Stanley, M.D., under


George Cotsarelis, M.D.

whose outstanding leadership over the past 15 years the department has flourished.

Cotsarelis was the first to identify stem cells in the corneal and hair follicle epithelium. His findings in the cornea changed the way ophthalmologists perform certain types of corneal transplants. His work on regenerating hair follicles, published in *Nature*, documents the first successful regeneration of a mammalian organ and has been widely recognized in the scientific community and the lay press. He has also conducted research on cutaneous gene therapy, epithelial carcinogenesis, ageing, and wound healing.

An internationally recognized expert in hair and scalp disorders, Cotsarelis is former president of the North American Hair Research Society and a fellow of the American Academy of Dermatology. Within the Department of Dermatology, Cotsarelis developed and headed the combined clinical/research track for residents and has been director of Penn's Hair and Scalp Clinic since 1992. He is a member of the executive committee of the Institute for Regenerative Medicine and serves as assistant director of the Edwin and Fannie Gray Hall Center for Human Appearance.

Marc Dichter, M.D., professor of neurology, is serving as interim director of the Mahoney Institute of Neurological Sciences. A leading epilepsy researcher and clinician, Dichter served as director of the Institute from 1996 to 2002. Among his numerous honors is the Javits Award from the National Institute of Neurological Disorders and Stroke.

Dwight L. Evans, M.D., has been appointed co-director of the Penn Comprehensive Neuroscience Center, which integrates Penn's clinical care, research, and education programs related to the neurosciences. He joins **Amita Sehgal, Ph.D.**, the Center's other co-director. Evans is the Ruth Meltzer Professor and Chair of the

Department of Psychiatry and professor of psychiatry, medicine, and neuroscience. He studies the neurobiology of stress and depression, and his translational research focuses on neuroimmune function in mood disorders and medical illness.

Sehgal, the John Herr Musser Professor of Neuroscience, is also an Investigator of the Howard Hughes Medical Institute. She studies the molecular and genetic components of sleep and circadian rhythms, using a Drosophila model. She and her colleagues have characterized molecular clocks, which are integral to understanding the regulation of sleep and other physiological processes.

Yale E. Goldman, M.D., Ph.D. '75, professor of physiology, has stepped down as director of the Pennsylvania Muscle Institute. **E. Michael Ostap, Ph.D.**, professor of physiology, has succeeded him as director. The institute's mission is to discover the mechanisms of muscle function, muscle disease, and motile biological systems; to develop technologies for the study of muscle and motile systems; and to provide education and training in muscle biology and motility to scientists, physicians, and students.

Goldman served as its director since 1988. A fellow of the American Association for the Advancement of Science, he is a former president of the Biophysical Society. He has won the University's Lindback Award for Outstanding Teaching as well as the School of Medicine's Stanley N. Cohen Biomedical Research Award.

Ostap is an internationally recognized biochemist and biophysicist whose research focuses on the molecular and cellular properties of molecular motors. He has served on the Board of Scientific Counselors for the National Heart, Lung, and Blood Institute and on study sections for the N.I.H. and the American Heart Association. In 2006, he received the Dean's Award for Excellence in Graduate Student Training.

Kate Kinslow, C.R.N.A., Ed.D., M.B.A., who had served as executive director of Pennsylvania Hospital since 2006, has become president and CEO of Aria Health System. She originally joined Pennsylvania Hospital in 1992 to focus on the training of nurse anesthetists. Succeeding her as executive director is **R. Michael Buckley, M.D., G.M.E. '77**, the hospital's chief medical officer and chair of internal medicine.

Buckley received his medical degree from Yale University, took his internal medicine residency at the University of

R. Michael Buckley, M.D.

North Carolina in Chapel Hill, and was a fellow in infectious disease at Penn. He has been practicing at Pennsylvania Hospital for more than 30 years. A Fellow of the Infectious Disease Society of America, he recently completed his tenure as chair of its Quality Improvement Task Force.

Rosemary Mazanet, M.D. '86, Ph.D., has been appointed the new chair of the Penn Medicine Campaign and co-chair of the University's *Making History* Campaign. Mazanet is a general partner of Apelles Investment Management in New York as well as CEO of DiabetesAmerica, a network of diabetes care and management centers. She assumes the roles previously held by the late Henry A. Jordan, M.D. '62, G.M.E. '67.

Mazanet trained as a hematologist/oncologist, having received her M.D. and Ph.D. degrees from the School of Medicine. She continued her training at the Brigham and Women's Hospital and Dana Farber Cancer Institute. During the 1990s, she directed clinical research in oncology for Amgen, Inc. Mazanet was cofounder and CEO of Breakthrough Therapeutics, a private cancer therapeutic vaccine company. A member of the Penn Medicine board of trustees, Mazanet serves on its executive committee and also sits on the Medical Alumni Advisory Council.

Yvonne Paterson, Ph.D., professor of microbiology, has stepped down after five years as associate dean for postdoctoral research training and director of Biomedical Postdoctoral Programs. **Susan R. Weiss, Ph.D.**, professor of microbiology, was named to succeed her.

Glen N. Gaulton, Ph.D., professor of pathology and laboratory medicine, executive vice dean, and chief scientific officer, praised Paterson's "13 remarkable years of service to the University of Pennsylvania's biomedical postdoctoral community."

While retaining her primary appointment in the School of Medicine, Paterson has been appointed a professor of nursing and associate dean for research in Penn's School of Nursing. She is known for her pioneering work in immunotherapy and was named a fellow of the American Association for the Advancement of Science last year.

Weiss, who earned her Ph.D. degree in microbiology and molecular genetics from Harvard Medical School, joined Penn as an assistant professor of microbiology in 1980. She is the author of more than 140 peer-reviewed publications. Weiss was also named a fellow of the American Association for the Advancement of Science last year, recognized for distinguished contributions to the understanding of viral patho-

genesis, specifically for elucidating the determinants of mouse coronavirus tropism and virulence in the central nervous system and liver.

Effective January 1, 2011, **Richard Salcido, M.D.**, has stepped down as chair of the Department of Physical Medicine and Rehabilitation. **David A. Lenrow, M.D., G.M.E. '93, J.D.**, is serving as interim chair.

During his 12 years as chair, Salcido oversaw an expansion of research (including outcomes research) and clinical services; increased the visibility and quality of the residency training program by expanding the number of residents; and played a central role in conceiving, developing, and implementing Good Shepherd Penn Partners, a joint venture with the Good Shepherd Rehabilitation Network. Salcido is currently a Petersdorf Scholar in Residence at the Association of American Medical Colleges.

Lenrow completed his medical training at the Hospital of the University of Pennsylvania and has been a member of Penn's faculty since 1994. A former vice chair for the department's clinical affairs, he is also medical director of the Erdman Outpatient Center and director of the Amputee Program. For five years, he was associate director of residency training, and he has also served as the department's director of undergraduate education. He is a member of the American Academy of Physical Medicine and Rehabilitation.

After earning his B.A. degree from Penn, Lenrow went on to receive his M.D. degree from S.U.N.Y. Downstate at Brooklyn. He took his residency in surgery at the University of Illinois Hospital in Chicago. Returning to Penn, he was a postdoctoral fellow in transplantation research, a senior resident in general surgery, and a resident in physical medicine and rehabilitation. In 2003, he was promoted to associate professor.

Phillip R. Bryant, D.O., the vice chair for external programs within the department and chief medical officer of Good Shepherd Rehabilitation Network, will take a more direct role in the oversight of clinical programs at Good Shepherd Penn Partners. He is board certified in physical medicine and rehabilitation, pain management, and electrodiagnostic medicine.

Craig Thompson, M.D. '77, has joined Memorial Sloan Kettering Cancer Center as president and CEO. Since 2006, he had been director of Penn's Abramson Cancer Center. He is credited with integrating Penn Medicine's broad range of clinical services for cancer patients and in pioneering innovative cancer research. By bringing together a team of internationally recognized scientists, he helped set new national standards for interdisciplinary cancer research and treatment. Thompson began his tenure at Penn in 1999 as director of the Abramson Family Cancer Research Institute; shortly after that, he became the founding chair of the Department of Cancer Biology, where he was instrumental in deepening basic science research. In his new position, Thompson succeeds Harold Varmus, M.D., now director of the National Cancer Institute.

Thompson is a former investigator for the Howard Hughes Medical Institute and currently serves as chair of its Medical Advisory Board. In 2003, he was elected to the Institute of Medicine and in 2005 to the National Academy of Sciences.

Letters

Coming Changes, Courtesy of Big Brother?

The article "Awaiting the Impact" (Summer 2010) scared the hell out of me.

Predictably and frighteningly, the panel of three consisted of two individuals who do not directly care for patients or have responsibility for their care. There was a Wharton School professor and the managing director of an information technology firm. The sole physician on the panel was one who practices shielded by the ivy-covered walls of academe and is not out in the trenches of private practice.

Sadly, but predictably, lacking was a physician in private practice to represent the majority of physicians who deliver the majority of patient care and who will be most affected by the coming changes.

It is obvious from the article that these "providers" – a.k.a. "doctors" – will be told the choice and mode of treatment they should employ by a geek-based bureaucracy whose decisions will be based on *hopefully* valid data. Failure to follow any CER directive from the bureaucracy will presumably result in disciplinary action by Big Brother Government. Fees of course will be set by Big Brother.

Nowhere is mentioned a ray of hope concerning tort reform. But the panelists don't pay for their malpractice insurance – which most of them don't even have.

Thank God I'm retired!

Concernedly yours,
John S. Carson, M.D. '50, G.M.E. '55
Bryn Mawr, Pa.

The editor (and author of the piece) responds:

The session during May's Medical Alumni Weekend focused on the changes the panelists expected to see, not on whether they approved or disapproved of the predicted changes. In this issue, some members of the Class of 1960 comment on how private practice has changed over the years. See "Changes in Practice," p. 21.

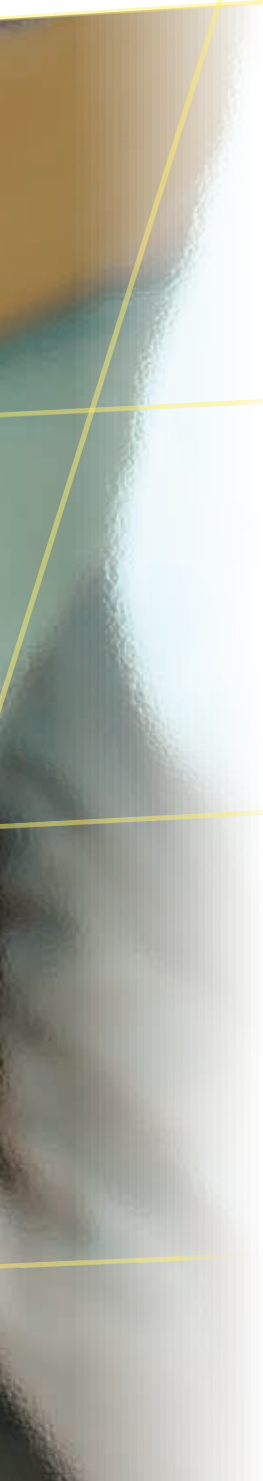
The Goal is Trans

By Lynn Selhat

Photographs by Candace diCarlo

Even today, women in academic medicine are severely underrepresented in the ranks of tenured professors and in leadership positions. Achieving equity is a not-so-simple matter of changing the culture of medical schools. A recent grant will help Penn investigators explore strategies for doing exactly that.

formation



Walking through the hallways of Penn's medical school, a visitor would find that much has changed in the past 30 years or so. The hospital has expanded significantly, the once-omnipresent beeper has been replaced by the cell phone, and computers are just about everywhere. But perhaps the most striking change is the make-up of the student body. Back then, nearly 70 percent of the young folks walking around in starched white coats were men. Today, it's evenly divided. In 30 short years, women have made tremendous gains in medicine, not just at Penn but across the nation.

That makes it even more perplexing that women who pursue a career in academic medicine seem to be hitting a glass ceiling (or "sticky floor," as some have characterized it). Indeed, national data indicate that women in academic medicine are less likely to attain promotion and tenure than their male colleagues; are significantly underrepresented in leadership positions; and are overrepresented in junior faculty ranks.[1] Studies that have compared men and women in academic medicine have also confirmed that women are not advancing at the same pace as their male colleagues.[2] One study found that after roughly 11 years on a medical school faculty, 59 percent of women had achieved the rank of associate or full professor rank. For men, it was 83 percent. Only 5 percent of women, compared with 23 percent of men, had achieved full professor.[3]

For years, most observers believed that the problem was in the pipeline and that as more women entered academic medicine, there would be just as many women senior professors and academic leaders as men. That prediction was not borne out. Instead, during the same period (1985-2005) that women's representation in American medical schools jumped from 34 percent to 50 percent, the percentage of all women faculty at the full professor rank increased by a mere 1.6 percent, from 9.9 percent to 11.5 percent. Now that the pipeline theory has been debunked, the problem appears deeper and more entrenched than was originally thought.

Although the statistics clearly show that women lag in academic medicine, the reasons are not so evident. Some schools of thought identify conscious and unconscious biases. Other research has shown that women have fewer opportunities to be mentored than men, whose career trajectories in academic medicine occur more naturally from the start within a diverse and easily accessible network of professional alliances. Still other observers point to family responsibilities, which traditionally weigh more heavily on women than on men.

Stephanie Abbuhl, M.D., vice chair and associate professor in the Department of Emergency Medicine at Penn, uses the metaphor of "a thousand pounds of feathers." There is no single problem that is holding women back, says Abbuhl, who also has served as executive director of FOCUS on Health & Leadership for Women since 2001. Instead, it appears to be an accumulation of seemingly small barriers over time. Just as important as understanding why the

problem persists, she says, is understanding what can be done about it. More specifically, she wonders whether it is possible to create an environment where women can succeed fully in their careers, thus making the most of their contributions to academic medicine and improving the workplace for all faculty, both men and women.

This puzzle is the reason for a $1.3 million grant the National Institutes of Health awarded last year to Abbuhl and Jeane Ann Grisso, M.D., M.Sc., professor of public health in the Department of Family Medicine and Community Health and joint principal investigator. The N.I.H.-T.A.C. Trial ("Transforming Academic Culture") is a first of its kind in terms of scope and magnitude. With enthusiastic support from Arthur H. Rubenstein, M.B.,B.Ch., dean of the School of Medicine and senior vice president of the University of Pennsylvania for the Health System, all eligible departments and divisions in the school, as well as the junior women faculty, have been randomly assigned to intervention groups or control groups. The intervention, involving 13 different departments and divisions, operates at three levels: junior women faculty, senior leaders, and groups of men and women faculty working in task forces to make recommendations and implement institutional change.

"It is time for us to apply our best scientific rigor to interventions that can deepen our understanding of the factors that influence women's careers in science while making a difference through action-based research," Abbuhl and Grisso wrote in their N.I.H. proposal. Additional financial support has been provided by Dean Rubenstein and Ralph Muller, CEO of Penn's Health System, as well as by Steven M. Altschuler, M.D., president of the Children's Hospital of Philadelphia, and Alan R. Cohen, M.D. '72, G.M.E. '76, chair of the Department of Pediatrics. These funds will strengthen and deepen specific aspects of the trial in what is the first large-scale study of interventions aimed at women in academic medicine.

Why Penn?

Penn took the lead on this topic in the late 1990s with FOCUS on Health & Leadership for Women, founded in 1994 by Grisso, then associate professor of medicine. Originally set up to help fill the large gaps in knowledge about women's

Without Change, Who Loses Out?

Why does it matter that women in academic medicine are not advancing at the same rate as their male colleagues? In other words, who loses out? This is a question that Stephanie Abbuhl, M.D., welcomes because the answer is quite stunning. The answer, in short, is "everybody." In the first place, says Abbuhl, talent is lost. There is a strong business case for dealing with gender inequality in any workplace. After hearing an interview with Barry Salzberg, the CEO of Deloitte LLP, Abbuhl realized the win-win potential for advancing women in medicine. The firm, ranked as a worldwide leader in the consulting marketplace, is perennially a "top employer," consistently landing on *Fortune's* annual 100 Best Companies to Work For and on *Working Mother's* 100 Best companies. On numerous occasions, Salzberg has stated that Deloitte's commitment to women and minorities is "non-negotiable," even during these tough economic times. "If you don't create the environment that allows and encourages women and minorities to join you and stay with you, you'll lose the war for talent."[4]

Donna Shalala, Ph.D., who served as Secretary of Health and Human Services under President Clinton, says that the problem affects our national competitiveness. In a 2006 report on how to maximize the potential of women in academic science and engineering, Shalala urged an end to "the needless waste of the nation's scientific talent." She emphasized that the United States now faces increased competition from other nations in the fields of science and engineering. "We urgently need to make full use of all of our talent to maintain our nation's leadership. Affording women scientists and engineers the academic career opportunities merited by their educational and professional achievements must be given a high priority by our nation."[5]

These sentiments are shared by Arthur Rubenstein, M.B.,B.Ch., dean of the School of Medicine. In 2002, Rubenstein served on a committee of the Association of American Medical Colleges that examined the status of women's leadership in academic medicine. In the pages of this magazine, he asserted, "Medicine and science have not realized and are not currently realizing the full value of their investment in women." He went on to say that "the leadership potential of most women [in academic medicine] continues to be wasted," a situation he characterized as a "collective loss" that we can ill afford in the face of dwindling resources. [6]

Heading the T.A.C. trial are Jeane Ann Grisso, M.D., M.Sc., left, and Stephanie Abbuhl, M.D.

health, FOCUS broadened its mission in 1997 to deal with the persistent "glass ceiling / sticky floor" problem for women in academic medicine. With its stated goal of recruiting, retaining, and promoting women faculty at the medical school, FOCUS has been the conduit for tackling the "thousand pounds of feathers" that have prevented women at Penn Medicine and at other American medical schools from realizing their full potential.

The program's many initiatives over the past 16 years include mentoring programs; faculty development sessions; writing programs for junior faculty; an annual leadership mentoring conference; an extramurally funded program that allows FOCUS to offer medical student research fellowships and junior faculty investigator grants in women's health. For benchmarking purposes, it has also collected and organized data on gender distributions of medical faculty by rank, academic track, and department across the medical school, and compared them to the national statistical averages published annually by the Association of American Medical Colleges.

According to Abbuhl, the results have been promising. For example, FOCUS has sponsored a manuscript-writing course for junior faculty, developed by two senior faculty members, Karin McGowan, Ph.D., and Seema Sonnad, Ph.D. Abbuhl notes that the course has been enormously helpful. Not only is scientific writing not taught in medical school, but there has been little guidance on how to get a manuscript published despite the fact that publications are critical for promotion at Penn. The course covers such topics as picking the right journal, writing an abstract, and resubmitting manuscripts. Publications by the participants have increased dramatically, and they report that the course stimulates collaboration with other faculty members and provides support. For these reasons, Abbuhl and Grisso have included this training as a central component in the multifaceted controlled trial. Indeed, there is a strong overlap between FOCUS and the N.I.H. trial, and Patricia Scott, the FOCUS director of operations, serves as project manager for the trial.

There is no single problem holding women back. Instead, it appears to be an accumulation of seemingly small barriers over time, akin to "a thousand pounds of feathers."

The Intervention

Typically, randomized trials in medicine compare two groups: a treatment group that receives a specific treatment (e.g., a drug, a surgical intervention, a new treatment protocol) and a control group that receives no intervention. Because Abbuhl and Grisso wanted to measure institutional change as well as how the interventions affect a particular group of individuals (women faculty), they chose to conduct a cluster randomized trial in which the eligible departments or divisions in the School of Medicine were randomly assigned to intervention or control status. Data are collected from both groups throughout the four-year trial.

The N.I.H.-T.A.C. trial interventions are multi-level, meaning that interventions target different levels in order to achieve lasting changes in institutional culture and practices. The different levels include junior women faculty, faculty and administrative members of intervention department/divisions, and senior leaders.

Junior women faculty in the intervention group take part in two major programs: the Manuscript Writing

Grisso, Abbuhl, and their team will gather facts and apply "our best scientific rigor" to the T.A.C. interventions.

Group (mentioned above) and the Total Leadership program, developed and run by Stewart D. Friedman, Ph.D., of the Wharton School. His program is geared to help professionals improve their performance in all parts of their lives (see "Leadership in All Parts of Life"). At the end of four years, Abbuhl, Grisso, and their team will evaluate the trial. That will involve comparing the intervention group and the control group of junior women faculty on many outcomes, including their intention to stay in academic medicine, their job satisfaction, and their perceptions of how supportive their department or division environment is. In addition, the investigators hope that the junior women faculty in the intervention group will demonstrate greater academic productivity, as measured by grants received and articles published.

In each intervention department or division, senior leaders have appointed task forces (13 of them in all). They are charged with developing recommendations for change at all levels, from the local environment of the department/division to the School and University. Each task force was scheduled to meet five times. After a kickoff orientation session in mid-September, there were three department- or division-specific meetings during the fall\ semester. A joint dissemination session will take place on January 31. In the remaining 2 1/2 years of the trial, more meetings will be scheduled to monitor progress.

The goal of the task forces is to think as creatively as possible about experiments, both large and small, that have the potential to improve the environment. Each task force meeting will be facilitated by Josef Reum, Ph.D., associate professor and interim dean at the George Washington University School of Public Health and Health Services. Susmita Pati, M.D., and Emily Conant, M.D., of Penn Medicine are overseeing the task force initiative and have worked closely with Reum to plan the process of generating ideas for change. Outcomes will measure how productive the particular department or division has been and how the recommendations are implemented over the three-year follow-up period.

Senior leaders – department chairs and division chiefs – will oversee the implementing of the task forces' recommendations and work together to achieve high-priority institutional changes throughout the school. Over the four years, Abbuhl, Grisso, and other members of the study team will be holding intervention group meetings with senior leaders to discuss their goals, the barriers to change, and potential solutions. The investigators will interview the senior leaders to track which goals were met.

Over the next three years, Abbuhl and Grisso will keep a national advisory committee involved in the process through updates and progress reports. Dean Rubenstein will chair the committee, which comprises leaders in academic medicine and experts in institutional change. Amy Gutmann, Ph.D., president of the University of Pennsylvania, is a member of the committee. As needed, members may be asked to advise on specific areas of the study.

Abbuhl and Grisso are convinced that, by the end of the trial, they will have strong evidence of effective strategies to influence the institutional culture and to take steps toward closing the gender gap in academic medicine. What's more, if the model proves effective, the results will be shared with medical schools across the nation. Women will not be the only beneficiaries. According to Abbuhl and Grisso, interventions that help women advance and achieve their full potential in academic medicine are likely to help men as well. Increasingly, men are facing the same kind of family pressures that have traditionally affected women. And any changes that help women do better will likely bring positive changes to entire institutions. The ultimate beneficiaries of such a transformation will be professors, students – and patients. ●

Leadership in All Parts of Life

Stewart D. Friedman, Ph.D., is often referred to as "the work/life balance guy." But for the founding director of The Wharton School's Leadership Program and its Work/Life Integration Project, this moniker doesn't sit so well. The problem with "balance," says Friedman, is that it implies tradeoffs or sacrifice.

Instead, Friedman's approach is one of *integrating* what he considers the four key aspects of one's life: work, home, community, and self (mind, body, and spirit). His research has shown that integration is possible if people begin to think differently about how the four might fit together and then act on this knowledge. His Total Leadership course, which is based on his best-selling book, *Total Leadership: Be a Better Leader, Have a Richer Life* (Harvard Business School Publishing, 2008), is one of the major interventions for junior faculty women at Penn Medicine during the "Transforming Academic Culture" trial.

The program offers participants a structured way to identify what and who are most important to them, to find out what the people in their lives expect of them, and to recognize where their time and energy are spent.

Armed with this knowledge, participants then run experiments to try to find ways to improve all four aspects of their lives. An experiment might involve working from home one half-day per week and monitoring how this change affects outcomes at work, at home, in the community, and for the private self. Another experiment might be delegating more and observing its effect on one's productivity and life beyond work.

Friedman has used the process for more than 10 years with groups from all over the world and in various industries. Participants of Total Leadership often attribute quantifiable dollar results to the program (e.g., savings through greater efficiencies) as well as more qualitative results like improved relationships with customers and colleagues, greater satisfaction with one's job, and less stress. Perhaps most important, participants gain confidence and competence as leaders of sustainable change – sustainable, that is, because it works not just for one's work but for all those who matter.

Friedman became involved with Penn Medicine two years ago when leaders of FOCUS approached him to discuss the possibility of using Total Leadership within the context of academic medicine. Lucy Wolf Tuton, Ph.D., director of professional development for FOCUS, notes that it was looking for an innovative approach to address the issues of gender equity in academic medicine.

"We were so fortunate that Richard Shannon, M.D., chair of the Department of Medicine, agreed to pilot the program in his department," says Tuton. In all, 14 faculty members (10 women and 4 men) took part. According to Tuton, the siloed nature of academic medicine can leave faculty feeling disconnected. "Total Leadership gave this group of junior faculty a unique opportunity to step back and reflect on what they're doing and why they're doing it," she explains. As a result of this "mini pilot," FOCUS felt confident that the program would be a strong intervention to test on a larger scale as part of the N.I.H. Trial.

Up to 60 junior women faculty will complete Total Leadership training, while roughly the same number, not in the course, will serve as the control group. Both groups will complete questionnaires to test two main hypotheses. The first is that, compared to the control group, junior women faculty in the intervention departments and divisions will report greater increases in job satisfaction, commitment to the job, and job self-efficacy, as well as a lessening of work-family conflict. The second hypothesis is that women in the Total Leadership program will report greater increases in performance and quality of life and will be more committed to staying than those in the control group.

Friedman believes medical faculty are particularly receptive to the program because of its "trial and error" approach, which is similar to the scientific method. "It works because the process compels participants to find solutions for themselves," he says. "I don't come in with the answers."

Notes

1 *Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering*, National Academy of Sciences, National Academy of Engineers, Institute of Medicine. Washington, D.C.: National Academies Press, 2006.

2 "Women Physicians in Academic Medicine: New Insights from Cohort Studies," by L. Nonnemaker. *New England Journal of Medicine*, 2000; 342: 399-405.

3 "Promotion of Women Physicians in Academic Medicine: Glass Ceiling or Sticky Floor?" by B. J. Tesch, H. M. Wood, A. L. Helwig, and A. B. Nattinger. *Journal of the American Medical Association*, 1995; 273: 1022-5.

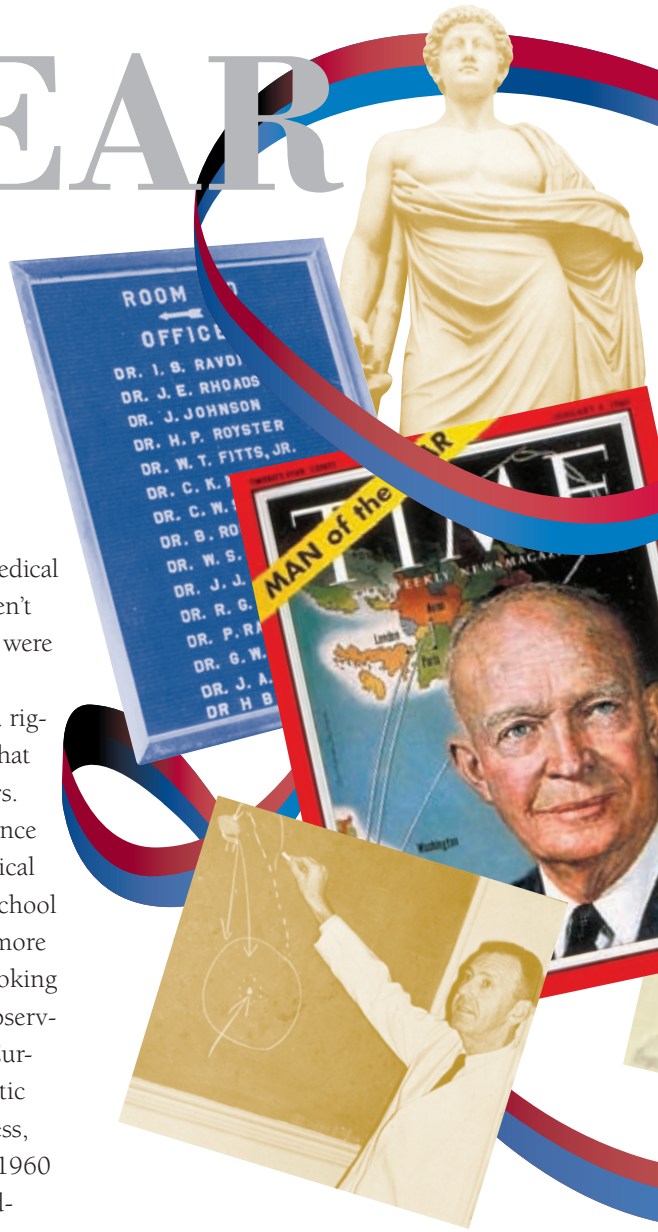
4 Barry Salzberg, interview with *Leaders Magazine*. 2010, Volume 33, Number 1.

5 *Beyond Bias and Barriers*, p. 13.

6 "Needed: More Women as Leaders in Medicine," *Penn Medicine*, Winter 2003.

A 50 YEAR

The Class of 1960 Looks Back – and Ahead



When fifty members from the School of Medicine's Class of 1960 gathered in Philadelphia this past May to celebrate their 50th reunion, many were surprised by dramatic changes in the look of Penn's campus. "At first I felt a little disoriented," said Bob Ruppenthal, M.D. '60, echoing comments from many of his classmates. "But once I walked over to the area near the old medical school and the Quadrangle, I started to feel that I was getting my bearings again."


Ruppenthal

Indeed, there are still a few spots on campus that time seems to have left untouched since the Class of 1960 first entered the country's oldest medical school. Back in the fall of 1956, the campus itself existed in a different world. Dwight D. Eisenhower was president and the country was in the midst of the Cold War. Many significant medical discoveries were still decades away. At the same time, several recent developments had given physicians and scientists cause for great optimism. Salk's vaccine had triumphed over polio, researchers were beginning to unravel the mysteries of DNA, and surgeons were pioneering bold new procedures. The Class of 1960 would embark on their journey toward becoming physicians during an era of great expectations – one that some historians would later characterize as the nation's "golden age of medicine."

THE STUDENT YEARS

When the 130 students started medical school in 1956, many say they weren't sure what to expect. One thing they were prepared for was four years of hard work. The Class of 1960 followed a rigorous and rather rigid curriculum that had been in place for about 40 years. It comprised two years of basic science study, followed by two years of clinical experience. In the late 1990s, the School of Medicine instituted a more flexible, more forward-looking curriculum, and many observers today would regard Curriculum 2000 as a dramatic improvement. Nevertheless, members of the Class of 1960 were grateful to be attending a school that, even then, rewarded independent thinking. "Penn was notable for encouraging and inspiring in students a real thirst for knowledge and a desire to question standard paradigms," said Aron Fisher, M.D. '60, G.M.E. '66. "Penn also had a curriculum that encouraged setting aside time for research." Indeed, even students who did not pursue careers in research, as Fisher eventually did, were given plenty of opportunities to explore such avenues in summer programs and projects conducted during the school year. Many former professors helped mold the aspirations of this class, but one who was frequently cited is C. Everett Koop, M.D., G.M.E. '47. Years later, Koop became the U.S. Surgeon General, but at Penn he was best known for revolutionizing pediatric surgery.


Fisher

Most class members marvel at how young and naive they had been as students. For some, personal trials and even tragedies marked their four years of training. Lewis Gumerman, M.D. '60, courageously persevered in his studies despite suffering from the effects of polio. He frequently visited patients in his wheelchair and ultimately earned enor-

PERSPECTIVE

By Susan Worley

Anne Lewis, project manager and editorial assistant

mous respect from his classmates. Some students who were married with children wonder in retrospect whether they had taken on more responsibility than they were ready for at that time. Others recall that juggling one or more jobs in addition to their school work frequently left them exhausted, although no one remembers being saddled with the kind of debt that burdens young graduates today.


Gumerman

Despite personal struggles, most members of the Class of 1960 reflect fondly on the four years that turned them into young physicians and young adults. And for their personal transformations, they give credit not only to their professors but also to one another. Harte Crow, M.D. '60, G.M.E. '64, wrote of his years in medical school: "I learned medicine, but equally important, with guidance from friends, I began to grow up."


Crow

THE 1960S

In 1960, the members of the class took part in the long-awaited ritual of reciting the Hippocratic Oath and moved into the next phase of their careers. A significant number remained in or near Philadelphia and entered into a standard rotating internship, a prerequisite at the time for licensure in Pennsylvania. Others returned to their hometowns or took off for states that didn't require a rotating internship. Almost uniformly, the classmates characterized their residency years as a period of great personal exploration. For many, too, that time was interrupted by military service (a considerable number were drafted), the Peace Corps, or other work abroad. Twenty years later, Ed Viner, M.D. '60, G.M.E. '64, evoked the essence of this period of "shifting gears" in a moving commencement address to the graduating Class of 1981. While conveying the privilege and excitement associated with becoming a physician, he also advised the graduates to continue to develop their self-confidence and self-reliance. "Increasingly," he said, "you will be unable to find the answer in a book."


Viner

While the Class of 1960 was encountering medicine in the real world and developing their interests and specialties, the United States was undergoing enormous social changes. On the one hand, the 1960s represented an era of affluence and optimism; consumers with sudden access to new pharmaceutical products and medical procedures celebrated the wonders of "modern medicine." On the other hand, people were also growing more aware of inequalities among U.S. citizens based on race, sex, class, and age. This growing awareness led in part to one of the most significant events of the decade: the establishment, in 1965, of Medicare and Medicaid. The elderly and indigent, who previously could not afford adequate health care, generally embraced these programs. So did the physicians who treated them. Less well known, perhaps, is that Medicare legislation contained provisions for supplementing the education and supervision of medical residents.

Another important event from this decade took place one year earlier, when the public received the first warning from the Surgeon General about the dangers of smoking. Aron Fisher, then training to be a pulmonologist, thinks it might be difficult for younger generations to appreciate the shocking nature of the warning. Like many of his classmates, Fisher smoked

THE POWER OF EMPATHY

His stints as physician to the Philadelphia Orchestra and to the Philadelphia Flyers, his national recognition as Best Doctor, and a string of honors during his fifty years as a physician and teacher might encourage some to regard the medical career of Ed Viner, M.D. '60, as somewhat charmed. In fact, last year, Cooper University Hospital dedicated its ICU to him in honor of his 20 years as chief of medicine.

But Viner is well acquainted with some of medicine's most wrenching realities. At the age of 34, he ended up spending time in an intensive care unit. The suspicion that he might have a malignant hepatic tumor led to 120 days of travail, during which Viner spent 31 days on a respirator, underwent a tracheotomy and 13 thoracenteses, and experienced episodes of psychosis. Viner endured (he had a huge benign hemangioma) and realized he had been given an opportunity to view treatment from a patient's perspective.

Viner's excruciating personal experience has informed his relationships with his own patients and his role as teacher. Yet he has committed himself not only to patients who are struggling to survive but to those who must cope with dying. As a patient in the ICU, Viner also observed the agony of an older fellow patient with a glioblastoma. "We suffered together," said Viner, "but the difference was that I knew I had a chance of surviving. I remember thinking that if I were in his situation I would not have wanted to endure the extreme measures taken to keep him alive."

Inspired, Viner started to dream of "a hospice without rules." He was able, with the help of local leaders and some wealthy Philadelphians, to organize a group that ultimately supported Philadelphia's first hospice program, at Pennsylvania Hospital. There, a dying patient's needs were communicated to people who had the money and power to do something about them, with no red tape.

Today hospice programs are largely funded by Medicare, and they have plenty of rules. Viner might find fault with some of the restrictions, but he acknowledges that hospice does good work. And he believes that for those very few patients who desperately seek an end to their suffering, there will one day be lawful physician-assisted suicide. Once again, it is the patient within who would support such legislation. S.W.

throughout medical school and was still smoking when he learned of the 1964 warning. "Not only would you see people smoking in all of the movies of that era, but physicians were actually promoting cigarettes," he said. Although Fisher, who quit smoking in 1966, is still mystified by the prevailing ignorance of smoking's dangers in the 1960s, he notes that studies of the lung during that era focused on basic organ physiology. Cell-based studies of the lung, which would more strongly establish a link between smoking and lung disease, did not begin in earnest until the 1970s. (Today, Fisher is director of Penn's Institute for Environmental Medicine.)

When reflecting on the state of medicine during the 1960s (with hindsight, of course), some class members have used terms such as "mind-boggling" to describe the almost "primitive" stage of progress in several areas. Dialysis and ventilation had barely begun to evolve. Hospital recovery times for many procedures were surprisingly long. In addition, intensive care units were still in the earliest stages of development. When asked to identify areas that were undergoing the most progress at the time, classmates most frequently mentioned cardiology (particularly cardiac surgery and resuscitation) and oncology, which was just emerging as a subspecialty.

Yet class members invariably point out that "sudden medical breakthroughs" are usually the result of years of research, and many were aware of activities in the 1960s that would help lay the foundations for the highly publicized discoveries of the future. Classmates followed the discovery by Peter C. Nowell, M.D. '52, G.M.E. '56, of the Philadelphia chromosome, which would one day lead to the discovery of the gene that causes chronic myelogenous leukemia. Long before patients regularly reaped the benefits of imaging techniques such as computed tomography, classmates knew of the groundbreaking work in this area by David A. Kuhl, MD, '55, G.M.E. '59, then a Penn resident in radiology.

THE "MIRACLE" YEARS

During the decade in which a U.S. president resigned and an end to the war in Vietnam was officially declared, years of medical and scientific research began to result in revolutionary and far-reaching changes in medicine. Crucial discoveries surrounding genes, some made by two members of the Class of 1960, led to the birth of a new science known as biotechnology. During the 1970s, large numbers of physicians also gained access to sharper and more useful images of organs and tissues that enabled them to deal with

disease and physical anomalies at earlier and more treatable stages.

Ted Friedmann and Stanley Cohen, both members of the Class of 1960, played critical roles in helping to establish the field of genetic engineering. In 1972, Friedmann published a paper that contained what is now referred to as a "founding statement" in the field of gene therapy. At the time, he was literally posing a question; indeed, the title of his paper was "Gene Therapy for Genetic Dis-

CHANGES IN PRACTICE

Members of the Class of 1960 who went into private or group practice can attest that, despite enormous advances, not all changes in medicine during the past 50 years have been positive. The few still practicing today have survived battles with third-party bureaucracy, huge increases in office expenses (including the cost of malpractice insurance), a significant loss of autonomy, and, worst of all, a loss of contact with patients.

"I'm a dinosaur," declares Philip D'Arrigo, M.D. '60, who at age 75 still runs a solo ob/gyn practice. "Most physicians can't afford to run a private practice any more, and that's especially true for those in my specialty." He now runs what he calls a "boutique" practice, delivering only about 5 to 10 babies a month. He knows younger physicians in his field burn out quickly because they are compelled to see many more patients to keep pace with costs. Consequently, he says, they don't have the opportunity to develop relationships with their patients.

Like young physicians today, D'Arrrigo's generation had to juggle work and family life – as well as their heartfelt concern for their patients with the need to run a business. Unlike their younger colleagues, however, the older generation spent decades watching practitioners slowly lose their autonomy. Physicians today often start their careers in salaried positions and/or in large group practices, and they no longer aspire to the same degree of autonomy.

"Being a solo practitioner gives you a lot of flexibility," says Bernie Grimes, M.D. '60, a retired endocrinologist who ran a solo practice. "I never had to give my family short shrift." But now, to survive, "you need at least two or three like-minded physicians who can split the overhead." Grimes credits his excellent office staff with allowing him to focus on patients. When he retired, he was deeply touched by the many letters of thanks he received. "Maybe I survived because I was motivated more by a sense of satisfaction than by money," says Grimes.

Bob Ruppenthal, M.D. '60, a retired hematologist/oncologist, observes that what ultimately determines how successful a practice will be isn't necessarily a physician's value to his or her patients but whether the physician can charge for certain procedures. "The more 'surgical' the procedure is, the better the reimbursement."

Ruppenthal watched the financial fates of numerous practices rise and fall with seemingly arbitrary changes in reimbursement policies, usually dictated by insurance companies. In the 1970s he joined a multispecialty practice, which to this day he thinks is the ideal way to practice medicine. But in the 1980s, economic changes forced his colleagues to focus more on business considerations. They hired more administrators, and for a couple of years Ruppenthal served as president of his clinic. Briefly in the late 1980s, his clinic partnered with a national managed-care company, but in the next decade, changes in reimbursement policies gradually created significant discrepancies in income among members of the clinic. Nephrologists, gastroenterologists, and other specialists who began to command higher incomes bought their way out of the practice. When the clinic folded in 2000, Ruppenthal greatly missed seeing patients but was grateful to leave behind the administrative aspects of running a practice.

Bill Calvert, M.D. '60, a radiologist who retired in 2000, also experienced interference with caring for his patients in the manner he thought best. Early in his career, Calvert requested permission from primary-care physicians to take his own patient medical histories and perform his own physical examinations. Although this was an unusual practice for a radiologist, Calvert was usually granted permission; he found that his personal interactions with patients improved the accuracy of his diagnoses and helped him expand his practice. By the 1990s, however, pressures to review an ever-increasing number of films forced him to end up reading them without ever seeing patients. Calvert regretted the loss of contact with patients and believes this change greatly increased his exposure to malpractice suits.

Calvert, Ruppenthal, Grimes, and D'Arrigo agree on two important prerequisites for solving some of the problems that face practicing physicians today. First, they believe that physicians must reestablish close ties with patients. Closer ties would give physicians more time to listen to their patients, which in turn would lead to more accurate diagnoses, better treatment, fewer mistakes, more satisfied patients (with less inclination to launch malpractice suits), lower rates for malpractice insurance, and greater emotional satisfaction for physicians. Second, they offer this advice to their younger colleagues: whenever possible, try not to make career choices based on remuneration. Follow your passion. S.W.

MAKING HER MARK IN A MAN'S WORLD

Long before the women's liberation movement gained momentum in the United States during the 1970s, Shirley Heeter Fraser was one of just three women among some 130 students in the Class of 1960. Did the unenlightened times detract from her educational experience?

"No, I loved medical school!" she exclaims. Heeter admits, however, "I do know that less was expected of the women students then." She recalls an occasion on which Dean Kennedy minced no words on this subject. "Miss Heeter," he said , "you do realize that you're taking the place of a man here?" Then he asked, "So, are you going to get married? Or are you going to work?"

"Well," says Heeter, with a laugh, "I'm *still* working."

Being surrounded by male peers never bothered Heeter during her school years. "They treated me better than just one of the guys – they treated me like their kid sister." Someone once left her a note in anatomy class that made reference to an advertising campaign then current: "I dreamt I was dissecting in my Maidenform bra." "I thought that was so funny," says Heeter. "It wasn't meant to be mean." What remains with Heeter are memories of camaraderie.

Undeterred by the potential difficulties of being a woman in a man's world, Heeter focused on becoming a doctor. During her residency (she was the first woman resident in internal medicine at Pennsylvania Hospital) she found her calling. Inspired by her mentor, Dr. Frank Eliot, and a love of neuroanatomy, she decided to become a neurologist. After moving to Alaska in the mid-1960s, she became the first neurologist in that state and went on to establish the state's first EEG lab and sleep lab.

What is the next breakthrough Heeter hopes to see?

"There are so many hereditary disorders in neurology," she says. "We need genetic treatments for these." She acknowledges that these treatments will likely be developed by the next generation. "I tell my grandchildren that practicing medicine is the best job of all. You meet all kinds of people, and you give something valuable to the world." A. L. and S.W.

ease?" (*Science*, 1972). The paper, which he wrote with Richard Roblin, Ph.D., was visionary, describing in detail issues and problems surrounding a field that didn't yet exist. According to Friedmann, it took the work of Cohen to bring that field into existence. In a brief note to the Class of 1960 before the 50th reunion, Friedmann wrote, "Without a doubt, we all owe a great deal to our classmate Stan Cohen, who gave the world recombinant technology – certainly one of the great achievements of the 20th century." Friedmann and Cohen both helped to make possible a series of breakthroughs that continues to this day, among them the development of synthetic products, such as insulin, that dramatically improve the treatment of disease. But both Friedmann and Cohen are acutely aware that their findings have led to technology that has the potential to be misused. [See "Scientific Soul-Searching"]

Alongside advances in genetics were astounding developments in the field of noninvasive imaging, which began with the earliest commercial uses of ultrasound and computed tomography. Ultrasound, which uses principles of sonar developed in the Second World War, was first used in the 1960s. "But it was primitive back then," said Harte Crow, who still works as a radiologist and a professor of radiology at Dartmouth Medical School. He remembers the thrill of watching ultrasound develop during the early 1970s and how grateful he was to be able to participate, with partner Royal Bartrum, M.D., in encouraging that development; they were among the first physicians in the country to study its use to image gallbladders. They went on to conduct studies comparing ultrasound to cholecystography and published their findings in *JAMA* and other peer-reviewed journals.

The development of CT imaging roughly paralleled that of ultrasound. Throughout the 1970s, both techniques became increasingly sophisticated and resulted in enormous advances in nearly every therapeutic area. "The art of physical diagnosis nearly became obsolete," said Philip D'Arrigo, M.D. '60, who, like all of his classmates, had been trained in medical school to

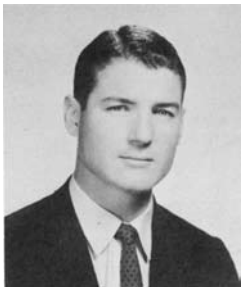
D'Arrigo

depend on "digital vision" or techniques of manual percussion and palpation to detect a mass or other abnormality inside the body.

By the mid-1970s, the pace of technological progress was having a profound impact on the Class of 1960. "Back when we graduated," recalls Ed Stemmler, M.D. '60, G.M.E. '64, a former dean of the School of Medicine, "once you were certified, you were certified for life." [See "The Education Dean"] But in the late 1960s and continuing through the 1970s, the public began to demand proof of the continuing competence of physicians. The Class of 1960 was among the first generations to participate in the formalized process of relicensing physicians at intervals, based on their completion of continuing education credits. In addition, members of the class coped with exponential increases in medical and scientific data.


Stemmler

Despite the use of computerized technology in the 1980s, it was not until the arrival of the Internet in the 1990s that this generation would begin to feel some relief. "Google was one of the best advances in medicine in the 1990s," says Bill Calvert, M.D. '60, who once toted medical reference books in a car trunk so that he would always have them available.


Calvert

LESSONS LEARNED

In the early 1980s, physicians and lay people alike learned that, even in an age of startling progress, a disease or health-care crisis can still come along and, at least temporarily, baffle the world's best minds. Speaking about the AIDS crisis, many from the Class of 1960 reported that they were impressed by the speed with which bizarre and seemingly unrelated symptoms were attributed to a single syndrome, and they noted the swiftness with which the AIDS virus was identified and, to a considerable extent, subdued. But the initial shock surrounding the crisis stayed with this generation. From this ordeal, they learned the importance of large-scale coordination of effort and

THE EDUCATION DEAN

Former classmates of Ed Stemmler, M.D. '60, enjoy telling anecdotes about his legendary academic ability during medical school – and his willingness to assist his fellow students. So classmates weren't surprised that Stemmler made a career out of nurturing academic excellence in others. Yet Stemmler says that his career in education was unplanned.

"I think an interest in teaching was always a part of my nature," says the man who went on to hold many titles at Penn, including dean of the School of Medicine (from 1975 to 1988). After completing his internship and residency at HUP, he continued as a fellow in cardiology at the hospital and then served as chief medical resident in 1964. "I became interested in how people organized things and got things done," he says. He came to recognize that great physicians possessed more than the ability to perform well on exams: the best exhibited a sincere concern for others and an ability to extract important lessons from their own experiences and those of colleagues. Stemmler's observations were reinforced by lessons he learned from Francis C. Wood, M.D. '26, his former professor and mentor.

Among many valuable lectures Wood gave was one on the "tricks of the trade," not learned in the classroom but collected from physicians who dealt with patients. At the root of many of these discoveries was genuine empathy for the patient. More recently, each year Penn's students honor their teachers for comparable "Penn Pearls."

Stemmler has always acknowledged the importance of having a scientific aptitude, but he also believes that "doctors ought to be curious and interested people." To encourage an interest in real world problems, he invited members from outside groups, such as Women Organized Against Rape and drug addiction programs, to give presentations at the medical school. "It was fascinating to watch the students. Some seemed very empathetic and others clearly were not." Stemmler added that he often thought it might be useful to find a way to weed out the less empathetic.

Stemmler believes that students would likely benefit from taking time off between college and medical school. "I've always been attracted to students with life experience." He also suggests that it would be a mistake "to try to cram too much in the curriculum. Medical education should extend far beyond medical school. It's a long-term – a lifetime – experience." S.W.

information. Some leaders from the AIDS era, including C. Everett Koop, remain uncertain as to whether Americans have learned enough from the crisis. Just a few years ago, in the *American Journal of Public Health* (December 2006), Koop wrote, "we are not adequately prepared for potential influenza pandemics, bioterrorism, or the next global epidemic that, like HIV/AIDS, is unexpected, incurable, and unusual in many aspects of its transmission." That same concern lies behind the University of Pennsylvania's creation, in 2002, of ISTAR: Institute for Strategic Threat Analysis and Response, directed by Harvey Rubin, M.D., Ph.D., professor of medicine.

Some members of the Class of 1960 learned another important lesson: sometimes political and economic interests can interfere with the delivery of appropriate health care. Many recall watching the painful and public manner in which their former professor Koop was forced to learn this lesson repeatedly during his tenure as U.S. Surgeon General. Most notably, twenty years after the Surgeon General's first warning about cigarette smoking, and armed with indisputable evidence of smoking's dangers, Koop nevertheless had to battle government protection of, as he put it in the article cited above, "corporations that put greed and profit above health, ethics, and decency."

As they look to the future, members of the Class of 1960 have some thoughts and recommendations to share with future generations of physicians.

While they may have mixed reviews regarding recent efforts toward solving the health-care crisis, all believe that significant changes must be made. "We must experiment," says Ed Viner. "Health care is broken." Class members who were interviewed agree with Viner that health care should be considered a right and not a luxury. They also agree that in order to extend accessible and affordable health care to all, the nation must tackle the enormous waste that exists in the present system. Eliminating waste, according to classmates, will require developing information systems that lower costs and error rates by accurately coordinating health-care information and preventing the duplication of tests and procedures. As was suggested at one of this spring's Medical Alumni Weekend presentations, their alma mater is working toward that goal. Katrina Armstrong, M.D., M.S.C.E. '98, professor of general internal medicine, reported that Penn is "dramatically changing the paradigm," building on developments like improved information technology, comparative effectiveness research, and personalized medicine.

Several classmates believe that an important factor in the current health-care crisis is a shortage of physicians – and particularly in primary care. Bill Calvert suggests it may be time to reconsider the role of primary-care physicians, and perhaps boost their image and widen their influence. His suggestions are in line with recent recommendations by a number of health-care leaders, including David B. Nash, M.D., who earned his M.B.A. degree from the Wharton School and did his medical training at Penn. Nash recently outlined a proposal for increasing payments to primary-care physicians in exchange for their leading the coordination of prevention, disease-management, and care activities. According to Nash, a new system is necessary because, despite steadily increasing demands on their time, "many primary-care providers are no longer able to make a living from office visits."

Approaching the problem from another angle, Penn's School of Medicine has made extensive efforts toward offsetting educational costs for medical students through more financial aid. Like his classmates, Bob Ruppenthal hopes that by decreasing educational debt, Penn may encourage its medical-school graduates to consider rewarding but potentially lower-paying positions for which there is currently a great demand.

Another concern shared by many in the Class of 1960 is that our powerful medical technology must be used with caution. Not only is the overuse of technology associated with skyrocketing health-care costs, but relying too heavily on computers and other technology could serve to widen the existing gulf between physicians and patients. [See "Changes in Practice"] All of the classmates who were interviewed would very much like to see a return to the close ties that physicians once had with their patients. Several even suggested a return to an old custom.

"House calls," says Ed Viner, "are tremendously rewarding and enriching experiences." According to Viner, house calls can provide unique and valuable information that can be factored into a physician's clinical judgment. In many cases, a visit to a patient's home can also be cost efficient. Moreover, house calls offer both patient and physician a priceless low-tech benefit. In Viner's words, "They're good for the soul." ■

SCIENTIFIC SOUL-SEARCHING

Stanley N. Cohen, M.D. '60, and Ted Friedmann, M.D. '60, founding figures and leaders in their respective fields of genetic engineering and gene therapy, have committed themselves to much more than exemplary work in the laboratory. Both have participated in dialogues about important biosafety and ethical issues, and both have helped to set guidelines for continuing research.

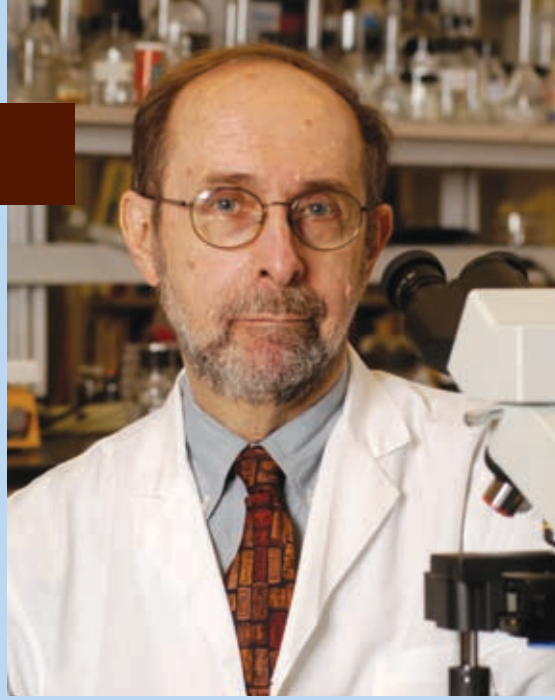
An early issue emerged after Cohen and his partner Herbert Boyer discovered a method for transplanting genes from

Stanley N. Cohen, M.D.

one living organism to another. The implications of that discovery were soon publicized, and Cohen was approached about patenting the new invention. Although he initially resisted the idea, he subsequently gave a considerable portion of his share of patent royalties to support postdoctoral fellows and general research at Stanford University, where he has long been a professor. He has also established the Bernard Cohen Lectureship in Genetics at Penn, in memory of his father.

As recombinant DNA research got under way, the public and members of the scientific community began to express fears that genetic manipulations might result in the production of dangerous mutant organisms. Cohen openly responded to these concerns in several significant ways. When other researchers asked him to supply them with the pSC101 plasmid he had used for his initial discovery, he complied only after they promised to use it responsibly and observe certain restrictions. Cohen also played a leading role at the famous Asilomar conference on recombinant DNA held in 1975. This international gathering of scientists, politicians, ethicists, and journalists resulted in the development of guidelines, partly based on the practices Cohen had earlier established, that allowed recombinant DNA research to continue.

There was a long lag between the development of this technology and its clinical applications. In fact, human studies did not begin until the 1990s. After the first clinical successes with gene therapy – the effective treatment of a group of children with severe combined immunodeficiency (SCID) disease – serious questions were raised when some of these children later developed leukemia. Although they were effectively treated for a fatal disease, the gene transfer was also responsible for the development of the cancer. Ted Friedmann, a professor at the University of California at San Diego, has stated unequivocally that gene therapy should be used only with great caution – and only for "dire diseases." Friedmann has committed himself not only to finding better methods for safely delivering therapeutic genes, but also to serving on



Ted Friedmann, M.D.

numerous committees to help oversee and evaluate clinical research in his field. His stints include serving as chair of the Recombinant DNA Advisory Committee of the National Institutes of Health and as chair of the ethics committee of the American Society of Gene Therapy.

More recently, Friedmann has focused on issues raised by the potential for gene doping – the use of genetic manipulations to improve athletic performance. Friedmann, who is chairman of the genetics advisory panel of the World Anti-Doping Agency (WADA), says that because there are few technical barriers to gene doping, it is impossible to know whether it is already occurring. However, WADA is making great strides toward developing detection methods based on "molecular signatures" that indicate exposure to genetic doping agents.

"We humans have long sought to enhance ourselves beyond what is normal," says Friedman, citing cosmetic surgery and mood enhancement with drugs as examples. But there should be limits. "To apply this very immature technology to athletes or to any young healthy people for the purpose of increasing some already-normal function, in my mind, is unethical and constitutes professional malpractice." S.W.

More Than Sk

"This skin is me, I can't get out." – John Updike

Matt Stine, a construction worker, finds the red patches and white lesions on his skin not only painful, but misunderstood, especially by the guys on the job.

Maria Marinari started hiding her hands, covered with blistering red scales. "I didn't want anybody to think they were going to catch it," she says. "It's embarrassing that people might think you are dirty. I think that is the worst feeling. And, oh my God, the itching. It was unbearable."

Ernie Bickford says he "couldn't go by a doorjamb without backing up to it and scratching my back." He wore long sleeves and long pants year-round. "You can't sleep and you don't like to go anywhere," he says. "It is awful."

This is what the television ads of the Sixties used to call, with some justification, the heartbreak of psoriasis. A chronic inflammatory disease that appears on the skin, psoriasis can emerge on any part of the body. The immune system sends faulty signals that speed the growth cycle of skin cells, causing raised red patches or thick, doughy-looking lesions that are chronically itchy and often painful. Psoriasis affects more than 7 million American adults, and more than 1 million have a severe form of the disease. Although it is not contagious, the evident nature of psoriasis causes social concern.

In ground-breaking research at Penn Medicine, Joel M. Gelfand, M.D., M.S.C.E. '03, assistant professor of dermatology and epidemiology, discovered that the effects of psoriasis also go much deeper. Gelfand was the first to demonstrate a direct connection between psoriasis and cardiovascular disease.

Not "Just a Skin Disease"

"Our knowledge of psoriasis has advanced dramatically in the last two decades," says Gelfand. "It was always thought to be 'just a skin disease,' characterized by skin cells turning over way too fast. Today, it's well-established that psoriasis is a disease of the immune system and that patients with psoriasis have higher

Dr. Joel Gelfand checks the scalp of Eugene J. Dickson.

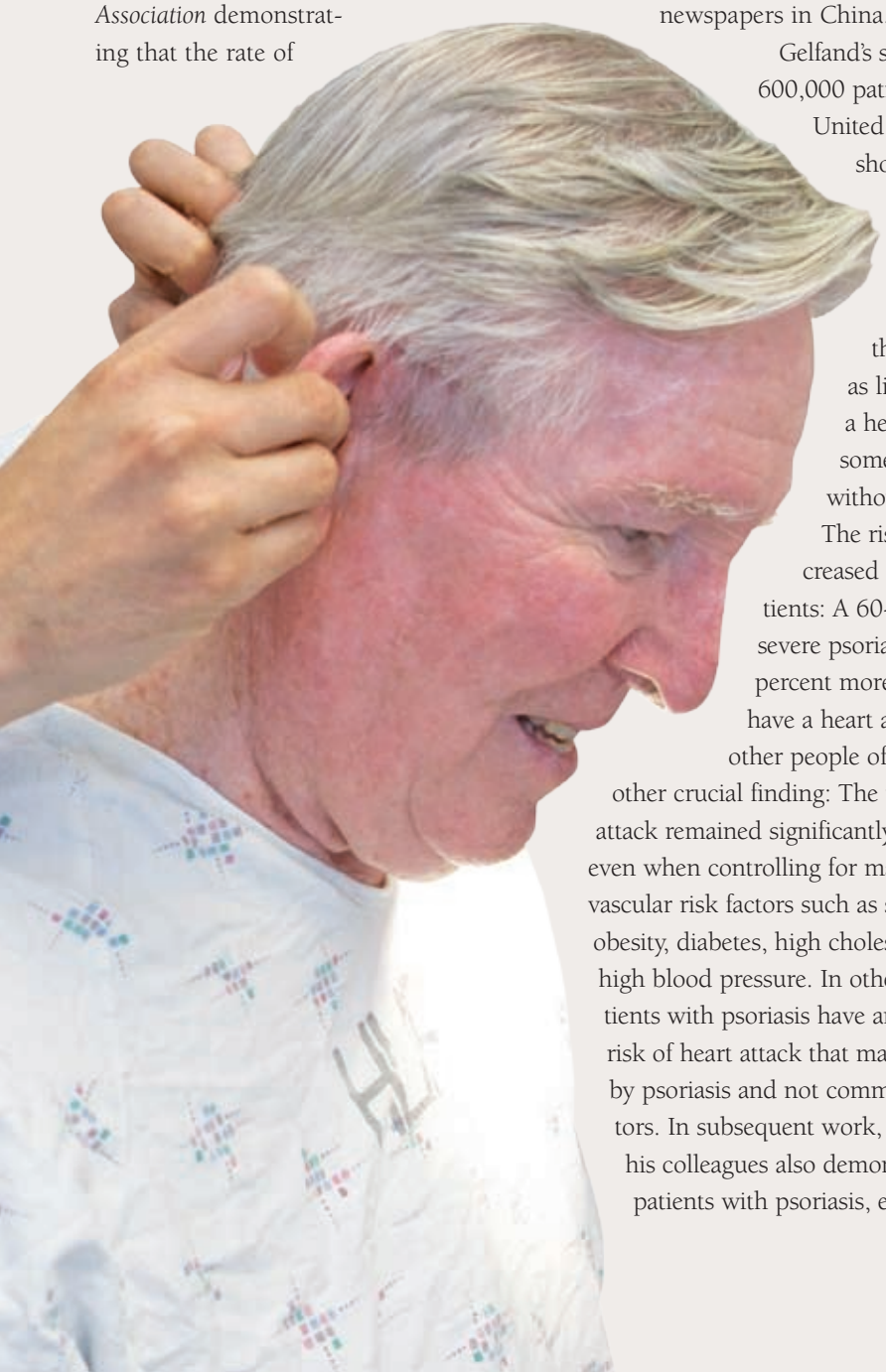
in Deep

Nurse Shannon Holloway listens to Eleanor Gerson.

By Jennifer Baldino Bonett
Photographs by Addison Geary

rates of other conditions that share similar immunologic abnormalities."

Much of that understanding is due to Gelfand. In 2006, he published a study in the *Journal of the American Medical Association* demonstrating that the rate of heart attack was higher for patients with psoriasis than for those without. The finding piqued interest around the world, leaping from the front page of *The Wall Street Journal* to national television to newspapers in China.



Gelfand's study of 600,000 patients in the United Kingdom showed that a 40-year-old with severe psoriasis was greater than two times as likely to have a heart attack as someone that age without psoriasis. The risk also increased for older patients: A 60-year-old with severe psoriasis was 36 percent more likely to have a heart attack than other people of that age. Another crucial finding: The risk of heart attack remained significantly elevated even when controlling for major cardiovascular risk factors such as smoking, obesity, diabetes, high cholesterol, and high blood pressure. In other words, patients with psoriasis have an increased risk of heart attack that may be caused by psoriasis and not common risk factors. In subsequent work, Gelfand and his colleagues also demonstrated that patients with psoriasis, especially if the disease is severe, have higher risks of stroke and cardiovascular death.

What do psoriasis and cardiovascular disease have in common? Inflammation. The hypothesis, explains Gelfand, is that monocytes and lymphocytes – the same white blood cells that transport cholesterol and cause atherosclerosis – also can inflame the blood vessels to the skin, creating the plaques of psoriasis.

Genetic indicators also factor in. Long known to run in families, says Gelfand, psoriasis originates with a complex genetic trait. Research shows that some of the same genetic indicators of psoriasis are linked to cardiac disease and diabetes. "We're just barely starting to understand the genetics of these diseases," says Gelfand, "and it may be that diseases that seem completely unrelated may have many more genetic and biological similarities than we ever realized."

Risky Business

What does it mean to have a 1 in 300 risk of a heart attack related to psoriasis? Patients may say: "It seems low. Why should I worry about this?" Although a single risk factor rarely will produce such an extreme outcome, Gelfand emphasizes that multiple risk factors increase the importance and threat of each one.

"The risk of having a heart attack related to severe psoriasis is about the same as or greater than other cardiovascular risk factors like hypertension, diabetes, or high cholesterol," he explains. Previ-

ously thought to be a "benign" disease, psoriasis is associated with a shortened life span of about five years in patients with more severe disease. This decreased life expectancy is explained mainly by increases in CV risk.

That's why Gelfand refers his patient Matt Stine to Penn Medicine's new Inflammatory Risk Clinic.

At his May appointment, Stine shows Gelfand some relief in the thick, scaly patches of skin on his hands, elbows, and feet. "I feel great, especially since I last saw you," he says proudly. They review Stine's medications: oral methotrexate and injections of adalimumab, a powerful combination designed to treat his psoriasis and his psoriatic arthritis, as well as a topical steroid to reduce the painful cracking of psoriasis on his fingers. Stine reports that he has cut down on smoking, lost some weight, and been vaccinated against seasonal flu and H1N1.

All good news, says Gelfand. But he wants Stine to take additional steps. Most psoriasis medications are immune suppressors, so it's important for Stine to get a pneumonia vaccine. And Gelfand wants Stine to reduce his risk of cardiovascular problems. It's about more than losing a few pounds, explains Gelfand. The combination of psoriasis and other cardiovascular risk factors looms large for Stine.

Preliminary data from Gelfand's current studies show that the 10-year risk of having a major cardiac event associated with psoriasis is about 6 percent. "That may not sound like a big deal," notes Gelfand, "but it turns out that high blood pressure puts patients at a lower risk – 3 percent."

These statistics give patients reason to protect their heart health, Gelfand says, but a key question remains: Does treating psoriasis reduce cardiovascular risk?

To find the answer to that question, Gelfand works closely with Nehal N. Metha, M.D., M.S.C.E. '09, a preventive cardiologist and epidemiologist who established the Inflammatory Risk Clinic at Penn Medicine. Unique in the nation, the clinic provides refined cardiovascular risk assessment in diseases caused by inflammation, such as psoriasis. It also investigates how and why psoriasis is associated with increased atherosclerosis. One such study funded by the National Psoriasis Foundation is pioneering the use of PET scans to assess the health of the blood vessels before and after treatment for psoriasis. Preliminary findings reveal that the psoriasis affects not only the blood vessels but joints, muscles, and the liver. Says Mehta, "This work should contribute to understanding the interplay between psoriasis and atherosclerosis and may help determine if there are benefits to treating psoriasis beyond just the skin."

The researchers also plan to investigate whether different treatments of psoriasis lessen vascular inflammation and cardiovascular hyperactivity. Finally, with these data in place, the researchers hope to determine whether treating psoriasis lessens the risk of cardiovascular disease.

"We're showing patients that we are thinking about them holistically," says Gelfand. "Patients come in not only because their skin problem bothers them, but because they think it means something else for them. Hearing that 'it's not cancer'

Searching for Effective Treatments

Psoriasis is easy to diagnose, but difficult to treat, says Joel M. Gelfand, M.D., M.S.C.E. '03, a pioneer in treating and studying the disorder. "Drugs and therapies vary in effectiveness," he explains. "Patients seem to develop resistance to drugs or they stop working over time."

Gelfand is leading a federally supported effort to address the matter. He is principal investigator for the Dermatology Clinical Effectiveness Research Network (DCERN), a novel, multi-center study. The network has received $1 million in funding from the National Institute of Arthritis and Musculoskeletal and Skin Diseases, awarded through President Obama's American Recovery and Reinvestment Act.

With the network, Gelfand and colleagues at Penn Medicine, the University of Utah, the National Psoriasis Foundation, and community practices in Buffalo, NY, Lancaster, Pa., Hazelton, Pa., and Atlanta, are conducting studies on treatments for moderate-to-severe psoriasis in clinical practice. The network is collecting data on more than 2,000 people with psoriasis at these centers and continues to grow. The results should help guide treatment decisions and improve patient outcomes.

"Penn is one of the first institutions bridging the fields of epidemiology and dermatology," says Brian L. Strom, M.D., M.P.H., the George S. Pepper Professor of Public Health and Preventive Medicine and chair of the Department of Biostatistics and Epidemiology. "DCERN is creating a network of practitioners who can study and treat the systemic effects of dermatologic diseases that affect populations world-wide."

The network also provides the foundation for a randomized, controlled trial on whether treating psoriasis can lower cardiovascular disease. "This is a giant step forward," says Gelfand. "We are building an infrastructure to develop a collaborative network, involving patients so they can contribute their own opinions as well as getting input from the physician community."

Here examining Barry J. Lackro, Gelfand hopes to revolutionize the treatment of psoriasis.

and that it is not contagious holds an enormous amount of relief. Understanding their disease is very important for patients."

Unraveling Psoriasis

Gelfand's interest in psoriasis grew stronger in the 1990s, and he found himself drawn to multidisciplinary areas in medicine. As a resident, Gelfand worked at Penn Medicine with Craig S. Wynne, M.D., assistant professor of clinical medicine, to treat Kaposi's sarcoma in H.I.V. patients. A fast-growing cancer, Kaposi's sarcoma causes often painful patches of abnormal tissue to grow under the skin, in the lining of the mouth, nose, throat, or other organs. The AIDS treatment AZT, an anti-retroviral drug, completely cleared the sarcoma *and* the psoriasis. The question evolved: Can improving immune function (as AZT did for the patient with H.I.V.) clear psoriasis? It was a turning point for Gelfand.

Interested in studying skin disease across populations, he earned his master's degree in epidemiology and is now a senior scholar at Penn Medicine's Center for Clinical Epidemiology and Biostatistics and medical director of Dermatology's Clinical Studies Unit. As Gelfand puts it, "The intersection of diseases that are on the edge of two or more different specialties often pose opportunities for discovery that truly benefit patients with an unmet or even unknown medical need."

In clinic, Gelfand sees a stream of patients in various stages of itching, scaling, and discomfort. Ms. S has just finished phototherapy, one of the more effective therapies for psoriasis. Phototherapy uses ultraviolet light and lasers so that UVB can penetrate the skin and slow the growth of affected skin cells. Ms. S also takes Humira injections, which are effective on her scalp and nails, but not on other areas of skin that, she reports, are "worse and worse." The dovonex cream has not been effective. Ms. S rates her physical and emotional symptoms at 6 out of 10. Gelfand sees small red patches of psoriasis emerging on Ms. S's legs.

Ms. S's experience typifies that of many psoriasis patients. "What you really have is a disease that's largely uncontrolled over the life span of a patient," says Gelfand. "We don't have great long-term effective therapies. Some patients start to give up." The treatments he offers "run from A to U – acitretin to ustekinumab. Every drug in our guidelines is a first-line therapy because we don't have definitive data on which approach is better."

Gelfand is working to change that with a grant from the National Institute of Arthritis and Musculoskeletal and Skin Diseases, awarded as part of President Obama's American Recovery and Reinvestment Act. Gelfand and colleagues at centers across the nation have formed the Dermatology Clinical Effectiveness Research Network to conduct comparative clinical effectiveness research on psoriasis treatments. (See sidebar.)

"The dermatology patient is unique in medicine in that the disease is apparent to the world," says Gelfand. "They are inspiring, courageous. There is a unique relationship between the patient and the doctor, who need to work together to improve the condition."

John Updike, the Pulitzer Prize-winning writer, was one of many famous figures to battle psoriasis. He wrote openly of his disease in the essay "At War with My Skin." As he put it, "Because of my skin, I counted myself out of any of those jobs – salesman, teacher, financier, movie star – that demand being presentable. What did that leave? Becoming a craftsman of some kind, closeted and unseen – perhaps a cartoonist or a writer, a worker in ink who can hide himself and send out a surrogate presence, a signature that multiplies even while it conceals."

As important as clinical care is research. Gelfand meets with, from left to right, Daniel Shin, research coordinator and Ph.D. student in biostatistics; Jennifer Goldfarb, nurse manager; Joy Wan, predoctoral research fellow; and Sinead Langan, M.D., visiting scholar.

Ernie Bickford, former mayor of Pilesgrove Township, N.J., developed psoriasis at age 65. "I didn't really care about it until it got bad enough," recalls Bickford. "I'd go to people's houses, and there'd be my dry skin lying on the floor. Not a pretty sight. It looks like hell and it feels like hell." His family physician suggested Penn Medicine. After a series of drug therapies and phototherapy, Gelfand prescribed Enbrel, an anti-inflammation drug, which finally started to clear Bickford's psoriasis.

Bickford appreciates Gelfand's dedication and bedside manner. "He's quite a character," says Bickford. "He's all business, but he can have some fun too. He's a Yankees fan and I'm a Red Sox fan, so I have a good time with him."

Although Maria Marinari, age 58, still fights scales and discomfort, "it's nothing I can't deal with." At her first appointment with Gelfand, "my hands looked like balloons. I had gone through cream after cream elsewhere." She credits Gelfand and Penn Medicine with her improvement. After phototherapy and a round-robin of regimens until one worked, "I'm doing great now," says Marinari. "The people over there, they have a heart. And Dr. Gelfand is just absolutely fantastic. When you say something, he hears you."

Psoriasis continues to receive a laissez-faire treatment in the medical community. Gelfand likens it to the 1960s approach to hypertension, which rarely received medical treatment back then. It amounted to saying "You're a Type A personality – relax and you'll be fine."

Today's multidisciplinary approach to psoriasis, pioneered by Gelfand and colleagues at Penn Medicine, takes a broader view. These dermatologists and epidemiologists are working to revolutionize the research and treatment of psoriasis. "We have established one of the first programs in dermatoepidemiology in the country," says John R. Stanley, M.D., the Milton B. Hartzell Professor and former chair of Dermatology. "The cardiovascular link is probably going to change the standard of care for our patients. It is a fantastic example of why a cross-disciplinary approach to dermatology and epidemiology is important." ●

A Different Kind of Risk

Patients with psoriasis are at increased risk for developing depression and anxiety and have an increased risk of suicidal thoughts and actions. Those were the conclusions of a population-based cohort study by a Penn team that examined patients' electronic medical records in the United Kingdom's General Practice Research Database. According to the recently published study, for which Joel M. Gelfand, M.D., M.S.C.E. '03, was senior author, "On the basis of these data and the prevalence of psoriasis in the U,K., we estimate that in the U.K. there are over 10,4000 diagnoses of depression, 7,100 diagnoses of anxiety, and 350 diagnoses of suicidality attributable to psoriasis each year" (*Archives of Dermatology*, August 2010). The study also noted that the "hazard ratio" is higher among younger patients with psoriasis. The hope is that identifying these psychiatric disorders will provide opportunities to improve them with a variety of pharmacological and other approaches.

As he told Reuters Health, Gelfand emphasizes that psoriasis "has a profound impact on patients' well being. . . . When I counsel my patients, I tell them they need to be aware of their whole health, not just their skin."

Other authors of the study are Shanu Kohli Kurd, M.D., M.S.C.E., M.H.S., and Andrea B. Troxel, Sc.D., of Penn's Center for Clinical Epidemiology and Biostatistics; and Paul F. Crits-Christoph, Ph.D., of the Department of Psychiatry.

ART, SCIÉNCE, AND GREG DUNN

A Ph.D. candidate in neuroscience has used his artistic talents to create stylized images of such disparate things as ganglion cells and neurons on one hand . . . and autumn branches and summer grasses on the other.

By John Shea

Purkinje Neurons (2008)

Greg Dunn, aspiring neuroscientist. Enrolled in Penn's Biomedical Graduate Studies. Excited to study the brain in the continuing effort, as he puts it, "to unravel the mysteries of literally the most complicated object in the known universe." One of the authors of a 2009 article in *The Journal of Neuroscience*, "The Epigenetics of Sex Differences in the Brain."

"LOOKING AT LOTS OF MICROGRAPHS OF NEURONS CLUED ME IN ON AN INTERESTING FACT – NATURE HAS AN UNCANNY WAY OF PRESERVING CERTAIN TYPES OF FORMS ACROSS WILDLY DIFFERENT SCALES."

Greg Dunn, aspiring artist. Admirer of sumi-e, a kind of classical ink and wash painting developed in East Asia that seeks to convey the essence of an object or scene simply, in a minimum of elegant, evocative strokes. Worker in enamel, gold and copper leaf, and ink.

Well, which is the real Greg Dunn?

Both, in fact – and for Dunn, a fourth-year graduate student in the Neuroscience Graduate Group, these two aspects are working together very nicely. A recent example of their inventive interplay was his show this summer at the Burrison Gallery, in Penn's Faculty Club. "Neurons and Nature," an exhibition of 12 artworks, displayed several striking images. Some fall clearly into the category of "Nature," such as *Queen Anne's Lace*, which captures the tall, delicate stems on a vertical golden-pale background that grows paler as the eye scans toward the top. Others are less immediately pegged. One piece at the Burrison Gallery could depict two squabbling sets of tree roots – or two slender octopi, one black, one blood red, their more-than-eight arms intertwined. But it is, instead, an image of the stomatogastric ganglion of a crab.

Autumn Branches (2009)

October (2006)

Dunn came to Penn for three reasons. "It had the happiest graduates students of all the places I visited; the program is very well run; and because there are quite a few professors here that study epigenetics." Ever since Mendel, Dunn explains, "almost every shred of effort expended to study inheritance and evolution has been on the role of genes. This made sense because it was such a fundamental discovery, but in the meantime the question of how those genes are programmed was largely ignored. In the nature vs. nurture debate, the nature side has received thorough inquiry, and now it's time for the nurture side, epigenetics, to get its due."

What Dunn likes best and least about neuroscience turn out to be the same: "It is very exciting to be on this frontier" – studying the brain – "and there are great rewards to learning new things about how

it works. At the same time, sometimes this complexity becomes impossibly overwhelming. Studying the brain is an exercise in humility."

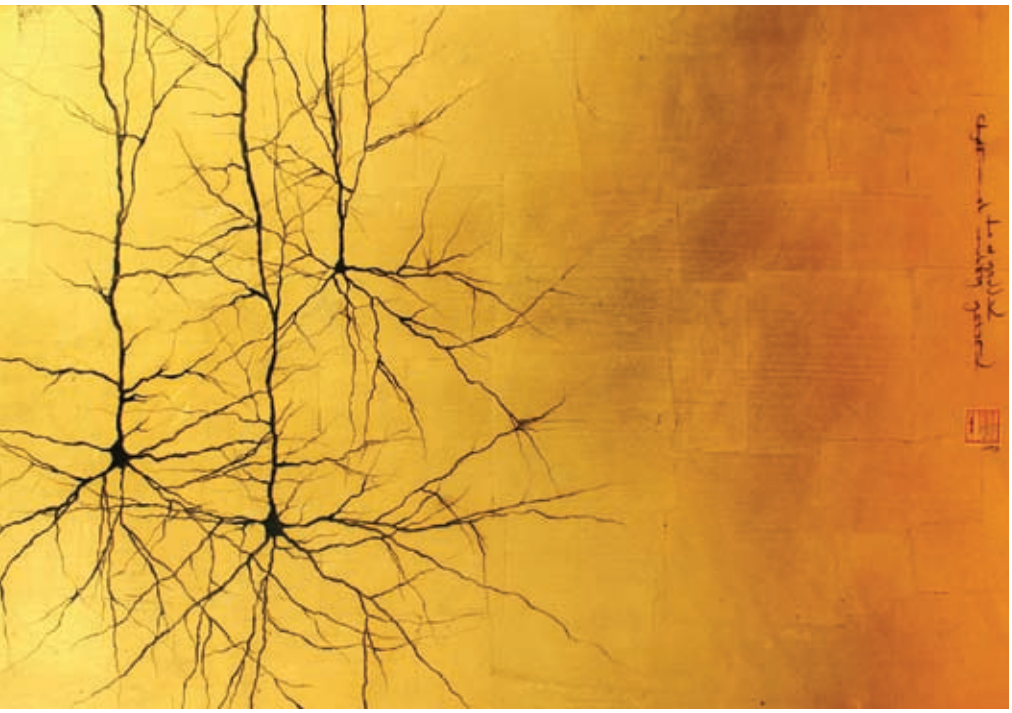
On the other hand, Dunn explains, "When I paint, I can put all of this aside. Perhaps in part because of my frustrations with the complexity of this world, I really value simplicity in art." And in painting, he consciously tries to retain clarity of vision and avoid unnecessary strokes or colors. "You have to be ruthless when it comes to editing your own work."

Dunn has been painting "more seriously" for about three years. With no formal training, he has gravitated toward Asian art "because of its emphasis on simplicity." In particular, he admires the minimalist scroll and screen painting from the Muromachi (1333-1573) and Edo (1603-1573) periods in Japan. As one discovers when looking at Dunn's artworks, he is also partial to gold leaf and copper leaf. Metal leaf, he points out, "is a complicated medium to master," but, at the same time, "it brings the painting to life," and the effects of light on metal leaf can change the painting in interesting ways.

Two Pyramidals (2009)

But how did Dunn's two interests – neurons and nature, so different on the surface – come together? "Looking at lots of micrographs of neurons in graduate school clued me in on an interesting fact," he says. "Nature has an uncanny way of preserving certain types of forms across wildly different scales. For example, the dendrite of a neuron looks similar to a tree branch, a crack in the pavement, or a lightning bolt." In essence, he continues, "a neuron is a perfectly logical extension of the themes that are traditionally painted in Asian art – trees, plants, etc. – but is just from a different size scale than we are used to." ●

SOMETIMES STUDYING THE BRAIN'S COMPLEXITY "BECOMES OVERWHELMING. WHEN I PAINT, I CAN PUT ALL OF THIS ASIDE."



Three Pyramidals (2009)

The Two Dr.

A DERMATOLOGY RESIDENT AT PENN'S RYAN VETERINARY HOSPITAL HAS AN OPPORTUNITY TO COLLABORATE WITH ONE OF THE MOST DISTINGUISHED PROFESSORS OF DERMATOLOGY IN PENN'S SCHOOL OF MEDICINE – HER FATHER.

Friday morning rounds in the Department of Dermatology at Penn Medicine's Perelman Center for Advanced Medicine. Dr. Alain Rook's first patient is a 56-year-old man with a rare form of cutaneous lymphoma called mycosis fungoides. In fact, the patient has Sézary Syndrome, a particularly severe subtype of the disease. The National Cancer Institute notes that the skin of a person with this syndrome typically is reddened, itchy, peeling, and painful – and may have patches, plaques, or tumors. In this case, the patient is receiving what Rook calls the "Penn Cocktail," a treatment that combines as many as five different components that are designed to combat the disease by modulating the immune system.

Only a few blocks away, another Dr. Rook also sees patients with cutaneous lymphoma. Dr. Kathryn (Katie) Rook is Alain's daughter. In comparison to her father's patients, Katie's have fewer treatment options. They also have four feet and fur. Katie Rook is a dermatology resident at the Matthew J. Ryan Veterinary Hospital. She earned her V.M.D. degree in 2008 from Penn's School of Veterinary Medicine.

While their patients have little in common other than their diagnoses, the Doctors Rook share an interest in comparative medicine. That's why they planned a collaborative project where Katie works in her father's laboratory, trying to learn more about the pathogenesis of the disease in dogs. Her father thinks that the insights she gains could one day lead to clinical trials for humans with this particularly insidious type of lymphoma. And as physicians caring for patients, the two doctors share other traits: calm, reassuring bedside manners (or "patient-side" as veterinarians sometimes call it, because their patients are not usually seen in bed), and inquisitive minds focused on finding better treatment options for their patients.

HIS "FOURTH CAREER"

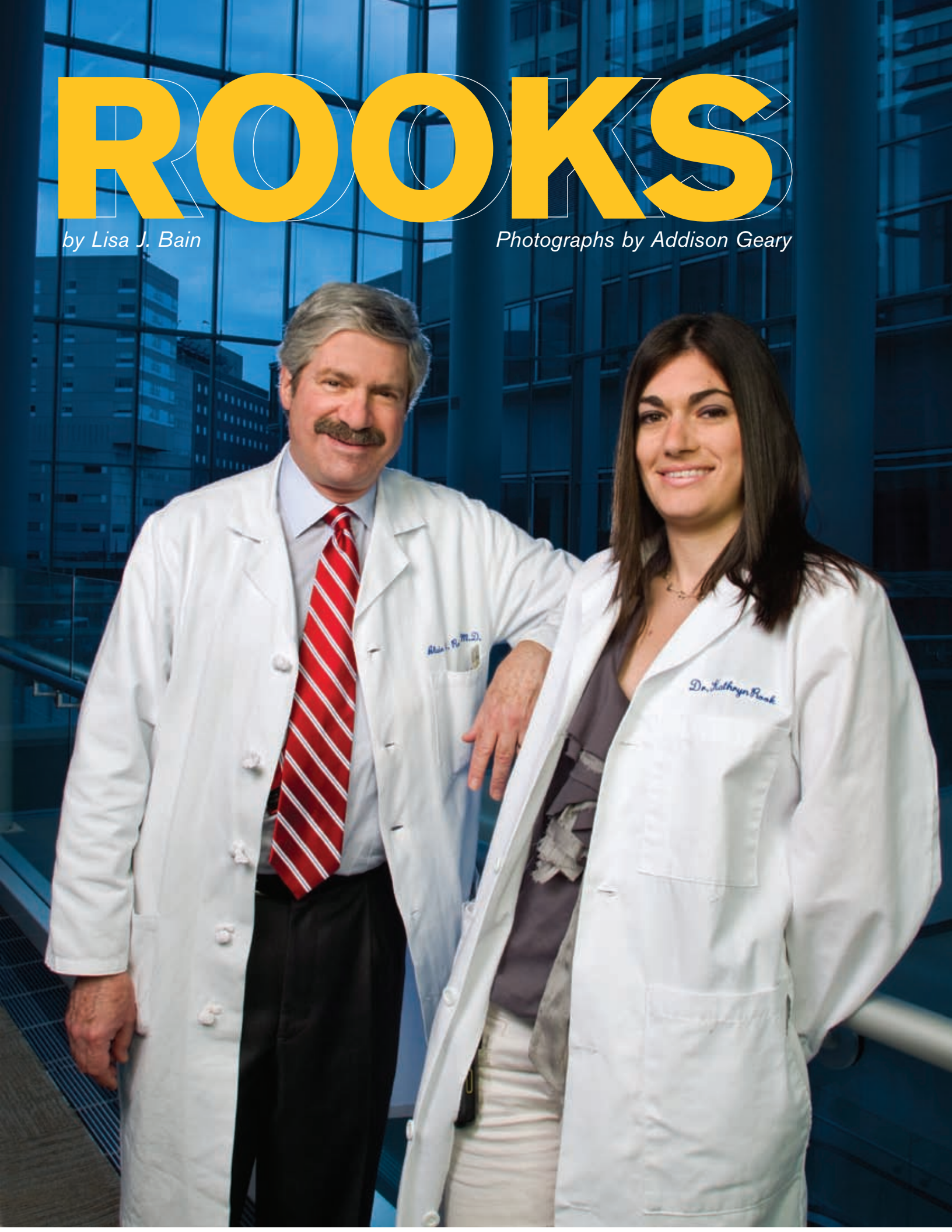
Alain Rook took a somewhat circuitous path to his current position as professor of dermatology. "Dermatology is really my fourth career in medicine," he says. After training in internal medicine, he did a fellowship in nephrology, then followed that with a second fellowship in immunology at the National Institutes of Health. During seven years at the N.I.H., he focused on viral complications that led to the failure of kidney transplants. He was particularly interested in a certain type of Herpes virus called cytomegalovirus (CMV).

"I was at N.I.H. before the AIDS era, and patients with advanced AIDS started arriving at the clinical center," he relates. "This was before it was even called AIDS, before it had even been reported in the journals. Because I was studying cytomegalovirus, I was asked to do viral

ROOKS

by Lisa J. Bain

Photographs by Addison Geary



cultures on these patients to try to establish why they were immunodeficient, and why they were having certain complications."

In those early days of the AIDS epidemic, nearly every patient who showed up in the clinic had advanced CMV infection, manifesting as infections of the eye (retinitis) and lung (pneumonitis). So Rook switched labs and began studying viral immunology and AIDS full time. That led him to become interested in skin lesions, another very common manifestation of the disease.

"We'd be on rounds in the clinical center and the director of the program would say, 'Get a dermatologist up here to tell us what's going on," recalls Rook. "I was very impressed with some of the dermatologists who were able to piece together what was going on in terms of systemic diseases, based upon findings in the skin. That intrigued me enormously."

So in 1986 Rook altered his path again. He came to Penn to undertake another residency, this time in dermatology. Early on during his residency, Gerald Lazarus, M.D., then the department chair, encouraged Rook to study skin lymphomas and to direct Penn's nascent Photopheresis Program. Extracorporeal photopheresis (ECP) is a technique in which a patient's blood is passed through a machine that separates out the white blood cells while returning the red blood cells and plasma to the patient; treats the white blood cells with a drug that is activated by ultraviolet light; exposes those cells to ultraviolet light, which damages them; and then returns the cells to the patient. ECP is effective for treating not only cutaneous T-cell lymphoma but also other immune-mediated diseases such as graft vs. host disease (a complication of transplantation) and scleroderma. Exactly how it works is not known. In addition to killing the diseased white blood cells, the process is believed to lead the damaged cells to stimulate other immune mechanisms that suppress the disease.

Dr. Alain Rook and Mia Perry, a photopheresis nurse, check on Dr. Edward McDonough.

Penn was one of the few hospitals to offer ECP therapy when Rook started his residency, and Lazarus was eager to find someone to direct the program who was comfortable taking care of sick patients with lymphoma. "Three times I said no to him," recalls Rook. "I told him that I just wanted to continue my training and eventually do research on AIDS. Finally he came to my house. Katie was about three or four years old at the time. He sat there with my wife and me and said, 'You've got to do this. You have to run this program.' I was a first-year resident in dermatology and felt very awkward, so finally I said yes. And I'm so glad I said yes because it's turned out to be such an interesting series of conditions and a very interesting career. And now I get to watch Katie do research in the same area in dogs!"

ANOTHER ROOK CHOOSES DERMATOLOGY

Katie's path has obviously been much shorter than her father's. At 27 years old, and only two years after earning her V.M.D. degree, she is at the beginning of a journey that could go in many directions. "I'm doing my veterinary dermatology residency right now," she says. "I'm not going to say this is my final specialty or my final area. We'll see what happens."

Katie says she always wanted to be a veterinarian. Her father's career as a dermatologist undoubtedly influenced her to choose that specialty. When she was in college at Penn, he introduced her to Daniel Morris, D.V.M., associate professor of dermatology at Penn's School of Veterinary Medicine and chief of dermatology and allergy. Today, Morris is her mentor. Katie also worked summers in the clinic at the Vet School. Still, there were other reasons as well. For one thing, about 70 percent of acute-care visits involving dogs and cats are related to skin problems, and most of these are caused by allergies or other immune-mediated diseases. "These are chronic, life-long diseases, so it's one of the few areas in veterinary medicine where we treat our patients for quite a long period of time and we get to build a special relationship with our patients and their owners. And the other thing that I really like about dermatology is that there's a lot of immunology." A third

reason, she says, is that dermatology is a very visual discipline.

TWO SPECIES, ONE DISEASE

Red skin and scaly patches – these are the first signs of cutaneous lymphoma, as well as countless other skin conditions in both humans and dogs. It's when the patches progress to nodular masses or flat raised lesions that a biopsy may be ordered and a diagnosis of lymphoma may be made. In humans there are probably close to 50,000 cases in the United States, and roughly 2,000 new cases each year. About 400 of these are referred to Penn's clinic. "It's one of the largest, if not the largest, referral programs in the country for cutaneous lymphoma," says Alain. For the vast majority of these cases, although they start in the skin, they have the capacity to become systemic lymphomas involving lymph nodes, blood, and organs. When caught early, however, the prognosis for about two-thirds of these patients is good. For the other third, the prognosis is less so. "We do get some of them into durable remissions," reports Katie, "but the prognosis is poor for those who present with extensive skin and lymph node involvement."

In dogs, cutaneous lymphoma is very rare. Indeed, Penn Vet sees only a few cases each year, although the dermatopathologists there see about 60 cases each year through the biopsy service. Dogs rarely have lymph node involvement or circulating tumor cells, Katie points out, but even with treatment they have a very poor prognosis, usually surviving only a few months. This poor outlook for her canine patients is what motivated Katie to propose the study she is undertaking in her father's lab.

"There isn't a lot known about canine cutaneous lymphoma," says Katie, who is starting a pilot study soon, funded by the American College of Veterinary Dermatology. "I am hoping to work with just a small number of dogs with the disease and figure out more about the immunopathogenesis." Because immune signaling molecules play an important role in human cutaneous lymphoma, Katie hopes to investigate these molecules in dogs.

FOR THE VAST MAJORITY OF THE CASES OF CUTANEOUS LYMPHOMA, ALTHOUGH THEY START IN THE SKIN, THEY HAVE THE CAPACITY TO BECOME SYSTEMIC LYMPHOMAS INVOLVING LYMPH NODES, BLOOD, AND ORGANS. WHEN CAUGHT EARLY, THE PROGNOSIS FOR ABOUT TWO-THIRDS OF THESE PATIENTS IS GOOD. FOR THE OTHER THIRD, THE PROGNOSIS IS LESS SO.

"One thing that is known about the difference in the lymphoma between dogs and man is that it's a different lymphocyte subset that seems to be associated with the most frequent forms of the diseases in dog and man," says Alain. "So one of the things Katie is going to focus on is defining precisely what the cell types are and what they make in terms of immunologic factors, which we've done in man." In humans, a better understanding of the immunopathogenesis of the disease led to the development of improved treatments. Now Katie hopes her study will help do the same for dogs.

LEARNING FROM EACH OTHER

The fact that this severe form of cutaneous lymphoma occurs naturally in dogs makes it an excellent model for studying a rare but severe form of the disease in people, according to Daniel Morris. "It could be a real opportunity to help animals with the disease and move veterinary medicine forward, but at the same time provide some groundwork for better understanding why it's so rapidly progressive in people," he says. And that, he continues, is the strength of comparative medicine, a research discipline that is particularly strong in veterinary medicine. "Veterinarians and veterinary students in general are more attuned to comparative medicine because we constantly compare our diseases to human disease," says Morris, who also has an M.S. degree in public health from Penn. "Often what's known about homologous diseases in people is further along in human medicine." But while human medicine may be more highly developed, Morris claims that there is a lot that physicians can learn from veterinarians. "We have a lot of diseases that are exact homologs, and some others that are analogous. And naturally occurring diseases in animals can be very informative to human medicine because animals live shorter life-spans, so everything is accelerated."

According to Morris, Katie Rook has the basic qualities that make her a wonderful resident – inquisitive, easy to teach, and very oriented to her clients. She also has the background, through her father, of a curiosity in comparative medicine and an understanding of what it takes to be a clinician-scientist. And while Katie has not yet decided if indeed she will continue to pursue a career in academic medicine – "We'll see what happens in the next few years, but it's a strong possibility," she says – Alain's next career move could be in the direction of veterinary medicine.

"I have a short sabbatical coming up at the end of this year, and I think I'm going to go spend a little bit of time at the vet school," he says. "I think it would be nice if closer ties could be forged between our department and what they're doing there. It's a very academic program, and they're doing things that are very relevant. And I also think we can learn from them in terms of the way they interact with their clients – the owners and the patients. The veterinarians appear to be very good listeners and are very attentive to detail." ●

A NEW Approach to Practicing Medicine

A Penn professor sees **REDUCING RISK** as a primary goal

By Kim Menard

In the past, doctors knew how to help their patients. Face-to-face with the individual patient – or at his bedside – the doctor would diagnose the illness and treat the symptoms. But that approach, according to Jason Karlawish, M.D., associate professor of medicine and of medical ethics at the School of Medicine, may not be the best in this day and age. Instead, the time seems appropriate for a new model, which he terms "desktop medicine."

In a recent issue of *The Journal of the American Medical Association* (November 10, 2010), Karlawish commented on this emerging model. As he sees it, the emphasis in desktop medicine shifts from diagnosing diseases and treating symptoms to identifying risk factors for medical conditions such as hypertension and osteoporosis, then intervening before they develop. Clinicians continuously gather information on risk factors – from a patient's medical history, electronic medical records, or recent office visit – and combine it with clinical studies about disease risk. Once the patient's risk has been assessed, the physician can provide the appropriate treatment or intervention that seeks to prevent the onset of disease, rather than treat the disease once it is fully developed.

In general, desktop medicine begins, in Karlawish's words, with "running the numbers first," even before soliciting the patient's chief concern. The reason, according to advocates of the new approach, is that when physicians begin with the chief concern, they may neglect the care of the diseases to which the patient is more susceptible.

"Desktop medicine has substantial implications for how we ought to educate, train, and practice medicine," says Karlawish. "For example, medical training should teach how to help patients appreciate their relevant risks and manage these risks, as many patients fail to adhere to a long-term intervention intended to prevent disease." As he states in his commentary, he believes that incoming medical students should have skills in probabilistic reasoning and decision making.

This new model of care may also suggest why primary care is suffering. Karlawish asserts that physicians need to learn how to incorporate both bedside and desktop medicine into an office visit. In that way, they would not overlook long-term disease prevention because they are concentrating on treating a short-term symptom, and vice versa.

Medical and pre-medical education that is focused on epidemiology, genomics, and information sciences is increasingly important. (All three of those areas have been part of Penn's Curriculum 2000.) New technologies such as electronic medical records are essential as well, because physicians will need to use statistical models that require large sample sizes to detect risk. Physicians and patients, who have increasing access to their own medical information, must learn how to collaborate in making decisions. In addition, new techniques are being developed to change the behaviors of patients – for example, paying patients to adhere to medications – and physicians will need to learn how to talk with patients about these financial incentives.

Jason Karlawish, M.D.

Summing up, Karlawish writes, "Desktop medicine does not so much change medicine as explain the way it is." ■

The emphasis in desktop medicine shifts from diagnosing diseases and treating symptoms to identifying risk factors for medical conditions such as hypertension and osteoporosis, then intervening before they develop.

A WAREHOUSE FOR STORING AND ORGANIZING INFORMATION

BY MARK GAIGE

Every day, the University of Pennsylvania Health System generates an enormous amount of statistics, clinical findings, lab results, demographic information, and medication histories. But for Penn's clinicians and researchers, tracking down and sorting what they need in these mountains of information can be a real challenge.

That's where the Penn Data Store comes in. The PDS is a virtual warehouse containing years of highly detailed patient data from six major information systems throughout UPHS, including the outpatient electronic medical record and a number of inpatient databases. It currently contains more than a billion rows of information. About 400,000 rows are added every day.

"Our goal was to create a single storehouse with all patient data in one spot," says Brian Wells, chief technology officer for Information Services at UPHS. "Having critical information organized, accessible, and ready to use makes everyone's life easier."

The Penn Data Store is fully automated. Every night, it receives and classifies preprogrammed data extracted from the six systems that feed it information. Researchers can retrieve data quickly, either by directly accessing it themselves or by submitting specific requests to the PDS staff.

Mark Weiner, M.D. '92, associate professor of medicine, credits the Data Store with helping him and his colleagues carry out important research. "We were interested in comparing four major strategies for managing patients who came to the Emergency Department with chest pain. Through the PDS, we identified nearly 600 patients who met our research criteria. Going through each of their charts . . . would have been an enormously time-consuming exercise. But with the PDS, we were able to efficiently extract the information we needed as well as study a large sample size to give us a more comprehensive picture of the treatment approaches we were interested in."

The PDS is also used for managing patient care. It does so by providing clinical dashboards, which, like their automobile namesakes, are visual displays for providing information. To simplify its interpretation, the information is supplied graphically. PDS dashboards are designed in-house with the input of Penn physicians, nurses, and information services employees. "We can configure the dashboards in a variety of ways: graphs, tables, bar charts, and more," says Maggie Massary, who oversees the PDS. "Dashboards really make the information come alive."

THE PENN DATA STORE CONTAINS MORE THAN ONE BILLION ROWS OF HIGHLY DETAILED PATIENT INFORMATION. ABOUT 400,000 ROWS ARE ADDED EACH DAY.

Dashboards are now available for cardiovascular surgery, heart attacks, breast cancer, anticoagulation efforts, and inpatient alerts. They can also be used to reconcile outpatient medications.

Peter Gabriel, M.D., assistant professor of radiation oncology and medical director for the Health System's Clinical Information Systems, helped design a number of the dashboards. He has an undergraduate degree in computer science and is currently pursuing a master's degree in technology management. According to Gabriel, "Dashboards open up a population-based way of treating patients. Customarily, and quite appropriately, physicians think about our patients as individuals when we are seeing them for an office visit. But dashboards allow us to think about their care at different times and in the context of larger groups."

For instance, by reviewing the Penn dashboard on diabetes management, Mrs. Smith's doctor may notice that she is lagging behind similar patients in getting her blood sugars under control or that she is among a group of patients who have not had a recommended eye exam. These findings may prompt the physician to raise these issues outside of a regularly scheduled visit.

The Anticoagulation Management Center in HUP is one example of the units that rely on PDS dashboards. Too little anticoagulation medication leaves a patient vulnerable to potentially fatal blood clots. Too much increases the risk of internal bleeding. Calibrating and maintaining the right medication dosage requires frequent blood tests for patients. The anticoagulation dashboard maintains data on clinical visits and critical blood values on more than 1,000 patients. It alerts physicians and nurses when patients miss appointments for blood tests and ensures that they are contacted to re-schedule their visit. And by providing immediate access to blood test results for patients – either as individuals or as part of a group – the dashboard helps physicians deliver accurate, potentially lifesaving care.

New dashboards are being developed to manage allergies and diabetes and to help control infections. The potential for additional dashboards is essentially limitless. ●

Development Matters

THANK YOU, ALUMNI, FOR A

This has been a very good year for Penn Medicine: the School of Medicine is ranked second in the nation, the Hospital of the University of Pennsylvania is again in the top 10, and we top all of our medical school peers in alumni giving. Alumni pride in the School of Medicine remains strong, as more than 2,400 individuals from classes spanning more than 80 years supported our important work this year.

Annual gifts make it possible for the School of Medicine to meet our most urgent priorities: providing scholarships, enhancing facilities, and developing new academic programs. These gifts also help Penn Medicine remain a leader in research and patient care. You can make an even greater impact by becoming a member of the Penn Medicine **Thistle Society**. Just make a gift for at least three consecutive years, and you can receive Society benefits including special recognition as a Partner in Giving.

Once again, we would like to thank the Penn Medicine members of the **Benjamin Franklin Society**, the University's prestigious giving society. These medical school and graduate medical alumni have supported the School of Medicine with gifts of $2,500 or more. Names marked with a T are also members of the **Thistle Society**. View a full list of alumni donors, our Partners in Giving, at www.med.upenn.edu/alumni.

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Pioneering Donors Who Are Making a Better Campus a Reality

A top priority of Penn Medicine's "Making History" campaign is the renovation and revitalization of the School of Medicine's physical campus. These new spaces are needed to better support Penn's renowned curriculum and ensure that Penn can continue to attract the brightest new minds in medicine.

Penn Medicine is grateful for the wonderful support of alumni and donors who have recently made gifts to name these spaces within the new Medical Education Center:

- Samuel P. Mandell Foundation Medical Student Information Commons
- Anderson Kozloff Thompson Classroom
- John J. Mikuta, C '48, M '48, INT '49, RES '54 Classroom
- Orel Family Classroom
- Kathy and Jack Donnelly Seminar Room
- Class of 1975 Study Area
- Class of 1980 Study Area
- Class of 2007 Study Area (supported by an anonymous gift)
- Hutchinson-Ernest Study Area
- Janet Orttung-Morrow, M.D. '62, Study Area
- Rose & Hershel Kanovsky Study Area
- Stanley N. Cohen, M.D., Study Area

We still need your support! Financing for this project will rely largely on philanthropy – take this special opportunity to make a meaningful impact on the future of the School of Medicine.

To learn more about the new School of Medicine Education Center, contact Vanessa Marinari White at (215) 898-5164 or vanwhite@upenn.edu, or visit www.makinghistory.upenn.edu/penn_medicine/newfrontdoor.

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It's About the Act of Giving Back


Dr. Caitlin Carr Lopez

Caitlin Carr Lopez, M.D. '06, grew up in a household where education was a top priority. Her parents, she says, "wanted my sisters and me to go to the best schools, get the best education, and then go do something good in the world." Caitlin's parents also instilled in her the belief that giving back to each school she attended was necessary: "I can't give much but even a little is important to show support and appreciation in some way. My $50 isn't critical, but it's about the act of giving back. Schools don't survive without support."

For the native of Toledo, Ohio, Penn Medicine was the best choice because of its outstanding curriculum. Today Catlin is set to complete her residency in radiology in 2012 at Washington University in St. Louis. She chose radiology because she enjoyed all aspects of the discipline in clinical rotation at Penn. She appreciates the variety it offers, with its connections to so many medical specialties, and believes it will support a balance of work with family life. Caitlin chose a path toward breast imaging because early detection for breast cancer makes such a big impact on women's lives.

Caitlin has given to the School of Medicine every year since she graduated. "It costs schools more to educate us than the price of tuition, and I wanted to acknowledge that," she says. "I think it's something many people overlook. I am very fortunate, and I feel it's important to contribute to student education. Many of my close friends took on a large debt burden. I want to make it possible for more students to matriculate."

To learn more about supporting your medical alma mater, visit http://www.med.upenn.edu/alumni/aboutgiving.html.

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Save the Date

Medical Alumni Weekend
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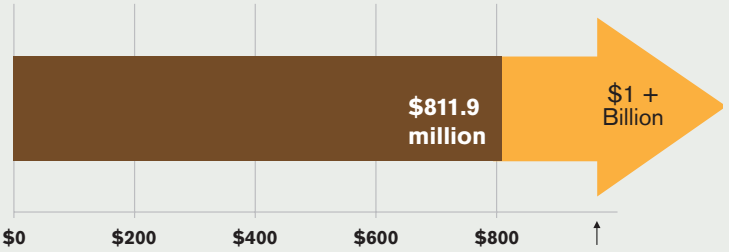

- Gifts & Pledges - $811,866,755.44
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Recent Gifts

The Berwind Corporation recently donated $1 million to the Berwind Family Neuro-Oncology Fund at the Abramson Cancer Center in the name of Joanne M. and C. Graham Berwind Jr. and their family.

Two gifts totaling $2,142,773 have been made by the Robert Wood Johnson Foundation in support of the Robert Wood Johnson Foundation Clinical Scholars Program.

*To make a gift to Penn Medicine, or for more information, please contact the **Office of Development and Alumni Relations**, 3535 Market Street, Suite 750, Philadelphia, PA 19104-3309, call 215-898-0578, or make your gift online at www.med.upenn.edu/alumni/gifts.*

Progress Notes

Send your progress notes to:
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'50s

Robert B. Bergmann, M.D., G.M. '50, is the 2010 recipient of the Sidney Mishkin, M.D., Lifetime Distinguished Service Award from the Nassau County Medical Society. A Diplomate of the American Board of Ophthalmology, he is a Life Fellow of both the American College of Surgeons and the American Academy of Ophthalmology. His hospital affiliations included New Island and Syosset hospitals, and Brunswick Hall, where he is president of the executive medical board and the hospital medical staff. He is a former president of the Long Island Ophthalmology Society and received the Hobie Award for Lifetime Service from the New York State Ophthalmology Society in 2004.

'70s

Robert I. Grossman, M.D. '73, the Saul J. Farber Dean and CEO of N.Y.U. Lagone Medical Center, received the gold medal of the International Society for Magnetic Resonance in Medicine for "pioneering scientific contributions to magnetic resonance in medicine and biology," considered the highest honor in the field. Grossman is well known for his work as a neuroradiologist in developing imaging techniques that have led to insights into multiple sclerosis, for which he received the Javits Neuroscience Investigator Award from the National Institutes of Health. Before becoming dean and CEO, he was chairman of the N.Y.U. Lagone's Department of Radiology. At Penn, where he took a neurosurgery and radiology residency, he had served as professor of radiology, neurosurgery, and neurology. He had also been associate chairman of radiology. During this year's Medical Alumni Weekend, Grossman received the Distinguished Graduate Award, the highest honor Penn's School of Medicine gives to alumni and former trainees. In June, he received an honorary doctorate from the University of Bordeaux in France.

Robert J. Spiegel, M.D. '75, was appointed to the board of directors of Capstone Therapeutics Corporation. Until his retirement last year, he was chief medical officer at Schering-Plough Corporation, the global pharmaceutical company, and was a member of its Pharmaceutical Leadership Board and Corporate Licensing Review Board; he was also chairman of its Safety Review Board and Preparedness Response Committee. During that time, he was involved in developing, licensing, and commercializing products.

Edward M. Connor Jr., M.D. '78, was appointed chief medical officer of 3-V Biosciences. Connor has extensive experience in infectious diseases, immunology, and oncology from his role as executive vice president and chief medical officer at MedImmune, where he spent 14 years. At 3-V, he will be responsible for directing all medical activities and will work to help select and develop targets. Connor remains director of the Office of Investigational Therapeutics at Children's National Medical Center and as a professor of pediatrics at the George Washington School of Medicine and Health Sciences.

Marc S. Micozzi, M.D. '78, Ph.D. '84, former director of the Center for Integrative Medicine at Thomas Jefferson University, reports that the 4th edition of his medical textbook, *Fundamentals of Complementary and Alternative Medicine* (Saunders / Elsevier) appeared this year. It is widely used in medical schools and nursing schools. Micozzi is also author, with Donald McCown and Diane C. Reibel, of *Teaching Mindfulness: A Practical Guide for Clinicians and Educators* (Springer, 2010). Micozzi, an adjunct professor of medicine at Georgetown University School of Medicine, was medical editor for *The Spiritual Anatomy of Emotion* (Park Street Press, 2009), written with Michael Jawer, an environmental engineer. The authors contend that our feelings underlie our conscious selves and determine what we think and how we conduct our lives. Micozzi lives in Bethesda,Md., and Rockport, Mass.

Joseph H. Piatt Jr., M.D. '79, a pediatric neurosurgeon, has joined the Division of Neurosurgery at the Alfred I. duPont Hospital for Children in Wilmington, Del. He had been chief of neurosurgery at St. Christopher's Hospital for Children in Philadelphia. Earlier, after a tour of active duty in the U.S. Army Medical Corps, Piatt joined the faculty of the Department of Neurological Surgery at Oregon Health Sciences University, where he served as the pediatric neurosurgeon at Doernbecher Children's Hospital. He has been active in the American Academy of Pediatrics, recently finishing four years as chair of the Section on Neurological Surgery. He has begun a year-long term as chair of the editorial board of the *Journal of Neurosurgery: Pediatrics*.

'80s

Howard Frumkin, M.D. '81, who had been special assistant to the director for climate change and health at the U.S. Centers for Disease Control and Prevention, was named dean of the University of Washington's School of Public Health. An internist, epidemiologist, and specialist in environmental and occupational medicine, he started working at the CDC in 2005. There he also served as director of the National Center for Environmental Health / Agency for Toxic Substances and Disease Registry. Frumkin was also a professor and chairman of the Department of Environmental and Occupational Health at Emory University's Rollins School of Public Health.

Mark S. Bauer, M.D. '82, professor of psychiatry at Harvard Medical School and director of the Harvard South Shore Psychiatry Residency Training Program, is the author of *A Mind Apart: Poems of Melancholy, Madness, and Addiction* (Oxford University Press, 2008). In addition to his introduction, Bauer has selected some 200 poems from across seven centuries that reflect how poetry and madness are deeply intertwined. Among the poets represented are George Herbert, Samuel Taylor Coleridge, Emily Dickinson, Sylvia Plath, Robert Lowell, and Allen Ginsberg. According to Bauer, "To put it briefly: Melancholy, madness, and the like, insofar as they allow the poet to perceive otherwise unnoticed facets of their world, enhance creativity; insofar as they disorganize or paralyze the poet, they impede creativity." In addition to four other books and numerous scientific articles, Bauer has published poems and is the author of two poetry chapbooks.

Stephen T. Bartlett, M.D., G.M.E '85, was appointed surgeon in chief of the University of Maryland Medical System, which includes Shore Health System's Dorchester General Hospital and the Memorial Hospital at Easton. A transplant surgeon, Bartlett is the Barbara Baur Dunlop Professor of Surgery, chairman of the Department of Surgery at the University of Maryland School of Medicine, and chief of surgery at the University of Maryland Medical Center. He was honored as the 2009 Distinguished Graduate by Penn's Department of Surgery, commended for developing Maryland's kidney and pancreas transplant program into one of the largest and most successful programs in the United States. Recognized as a "Top Doctor" in *Baltimore* magazine's 2008 survey, he has published more than 200 scientific papers on a variety of basic and clinical research projects.

Alan Kadish, M.D., G.M.E. '86, was appointed president and chief executive officer of Touro College and Touro University. It is the largest Jewish-sponsored educational institution in the United States, now with two colleges of pharmacy, three colleges of osteopathic medicine, and graduate schools and colleges in health sciences in several states. Kadish, who is board-certified in internal medicine, cardiovascular disease, and cardiac electrophysiology, joined Touro in 2009 as senior provost and chief operating officer. Previously, he had been a cardiologist and administrator at Northwestern University for 19 years.

'90s

Robert H. Glassman, M.D., G.M.E. '90, has rejoined Bank of America Merrill Lynch as managing director of global health-care corporate and investment banking. Previously, he spent a year as a private equity partner at Orbimed Advisors, the world's largest investment firm dedicated to health care. Glassman is a board-certified hematologist-oncologist and clinical assistant professor at Weill-Cornell University Medical College and New York Presbyterian Hospital. He has been a frequent speaker at industry and academic forums on drug commercialization, biotechnology innovation, oncology clinical development, biomarker utility, and pharmaceutical research and development.

Sam Kim, M.D. '98, G.M.E. '02, has joined Summit Medical Group's Dermatology Department in both Berkeley Heights and Short Hills, N.J. A former chief resident in dermatology at Penn, he is coauthor of articles in *Archives of Dermatology* and *Journal of the American Academy of Dermatology* as well as chapters in dermatology textbooks. His special interests are acne and skin cancer.

'00s

Andrew C. Dennison, M.D. '04, was appointed to the Brain and Spinal Injury Trust Fund Commission by Georgia's governor, Sonny Perdue. Dennison is the medical director of brain injury rehabilitation at Walton Rehabilitation Health System. He is a member of the American Congress of Rehabilitation Medicine and the Brain Injury Special Interest Group of the American Academy of Physical Medicine and Rehabilitation.

OBITUARIES

Charles P. Wofford, M.D. '36, Johnson City, Tenn.; January 29, 2010. Wofford practiced medicine in Johnson City until the bombing of Pearl Harbor in 1941. He volunteered for the Army Medical Corps and served in the North African, Sicilian, and Italian Campaigns. His unit followed the vanguard of the allied invasion force, treating the wounded in mobile surgical hospitals. Following the capture of Rome, Wofford served at the city's main hospital until his tour of duty was up. He left the corps at the rank of major. After WW II, he founded a private practice, from which he retired from 1985.

Theodore K. Long, M.D. '39, Lebanon, Pa., a former ophthalmologist; March 6, 2010. After taking a surgical internship at Lankenau Hospital in Philadelphia, he was a resident surgeon at Wills Eye Hospital. He was part of the ophthalmology department at Philadelphia Naval Hospital and then served as an ophthalmologist to the U.S.S. *Refuge* naval hospital ship on a tour for 22 months in both the Atlantic and Pacific Theaters of Operation. He then opened an office as the first board-certified ophthalmologist at Lebanon's Good Samaritan Hospital. He was also a consultant to the Lebanon Veteran's Administration Hospital. A fellow of the American College of Surgeons, he had been president of the Good Samaritan Hospital medical staff and of the Lebanon County Medical Society.

Richard B. Singer, M.D.'39, G.M.E.'43, Newtown Square, Pa.; February 19, 2010. During World War II, he served as a medical officer in the United States and in the Pacific theater. Upon returning from the war, he taught at Penn's School of Medicine until 1952. He then began a career in life insurance underwriting with The New England Mutual Life Insurance Co. in Boston, eventually becoming vice president of research. This position sparked his interest in actuarial science, and he published extensively in reference books and medical journals. The American Academy of Insurance Medicine presented him with the Distinguished Physician Award in 1996 and the W. John Elder Award in 2000.

Raymond P. Hughes, M.D., G.M. '40, Texarkana, Tex., a retired dermatologist; February 22, 2010.

Joseph S. Fager, M.D. '42, Indiana Township, Pa.; April 10, 2010. He practiced medicine in Harrisburg, Pa. A W.W. II veteran with the Medical Corps in the U.S. Army, he received a Bronze Star.

William J. Atkinson Jr., M.D. '43, Spanish Fort, Ala.; March 28, 2010. Following his internship at Philadelphia General Hospital, he served two years in the U.S. Army during World War II as a captain in command of a front-line medical detachment in General George C. Patton's Army. He received several medals, including the Bronze Star in the Battle of the Bulge. After the war, he completed his residency in internal medicine and a fellowship in cardiology. Practicing in Mobile, he was awarded fellowships by the American College of Physicians, the American College of Cardiology, and the American College of Chest Physicians. In 1950, he established the Heart Clinic at the old Mobile City Hospital. Atkinson was one of the founding members of the Diagnostic & Medical Clinic, where he practiced for 43 years until his retirement in 1992. An early worker in the Alabama Chapter of the American Heart Association, he served as president in 1955 and chairman of the board of the Mobile Chapter in 1956. He was awarded the American Heart Association Medal "for distinguished service and leadership in advancing the heart program." In 2002, he was the honoree at the 4th Annual American Heart Association Gala. He was a clinical associate professor of medicine at the University of Alabama School of Medicine and, later, at the University of South Alabama School of Medicine.

Elizabeth Linson Ford, M.D. '43, Greensboro, N.C., a retired pediatrician; February 24, 2010. She completed her internship at Queens General Hospital in Jamaica, N.Y., and her residency at Children's Hospital in Washington, D.C. She established her private practice initially in Hagerstown, Md. In 1950, she moved to Greensboro, where she set up her private practice in her home. She joined the Guilford County Health Department in the early 1970s and served as director of the Children and Youth Clinics.

George Campbell Lewis Jr., M.D. '44, G.M.E '53, Wynnewood, Pa.; April 3, 2010. A leader in the research and treatment of women's reproductive cancers, he was a founder and first president of the Society of Gynecologic Oncologists. He taught in Penn's School of Medicine from 1947 to 1963. He later served as chairman of the Department of Obstetrics and Gynecology at Hahnemann University Hospital for 11 years. Then, for 17 years until 2000, he was a professor at Thomas Jefferson University. From 1988 to 2008, he was a member of Jefferson's performance-improvement panel. A former president of the Philadelphia Chapter of the American Cancer Society, he received its Outstanding Service Award. He had also been a president of the American Radium Society and was awarded the society's Gold Medal in 1982.

Robert M. Lockwood III, M.D. '45, Denton, Texas; May 19, 2010. He was co-founder of the Family Radiology Clinic.

Henry G. Storrs, M.D. '45, Fairbanks, Alaska, a retired surgeon; June 2, 2007.

Franklin H. West, M.D. '45, G.M.E. '51, Gwynedd, Pa.; March 11, 2010. He interned at a military hospital on Long Island, N.Y., while serving in the Navy. After completing his training in psychiatry at the Institute of the Pennsylvania Hospital, he remained on the staff there for more than 40 years, retiring in 1990. He was also affiliated with Hahnemann University Hospital.

Robert Louis Alexander, M.D., G.M. '46, Sacramento, Calif.; February 8, 2010. After interning at Cleveland Hospital, he became a staff ophthalmologist and surgeon at the Cleveland Clinic. In 1951 he joined the Army Air Corps and served at the hospital at Samson Air Base in upstate New York. After leaving the Air Force, he joined a private practice.

Clyde F. Newman Jr., M.D. '46, G.M. '52, Newtown Square, Pa., a retired obstetrician and gynecologist; March 3, 2010. He served in the Navy and was a flight surgeon aboard the aircraft carrier *Antietam* on the West Coast. After his discharge, he completed a residency in obstetrics and gynecology at

Germantown Hospital. In 1955, Newman joined an ob/gyn practice in Wayne, Pa. He later had his own practice in Wayne and in Broomall and was on the staff of Bryn Mawr Hospital. He was a pioneer in the use of microsurgery and introduced laser surgery to Bryn Mawr Hospital.

John Allen Dyer, M.D.'47, Morganton, N.C., a retired ophthalmologist; April 6, 2010. He completed an internship at Reading Hospital, Reading, Pa. and a general practice residency at Memorial Hospital in Cumberland, Md. From 1951 to 1953 he served as a flight surgeon in the Medical Corps of the U.S. Air Force, after which he became a fellow in ophthalmology at the Mayo Clinic in Rochester, Minn., for three years. During this time he received an M.S. degree in ophthalmology from the University of Minnesota. He joined the staff at Mayo in 1956 as a consultant in ophthalmology and rose to the rank of professor in the Mayo Medical School. He was the author of a textbook, *Atlas of Extraocular Muscle Surgery* and co-author of *The Eye and Orbit in Thyroid Disease* and *Oculomotor Imbalance in Binocular Vision and Fixation Disparity*. Dyer served as president of the Minnesota Academy of Ophthalmology and president of the Contact Lens Association of Ophthalmologists.

Leroy Homer, M.D. '48, Palm Beach, Fla.; February 8, 2010. He practiced internal medicine in Woodbridge, N.J., from 1954 until 1993. He introduced nephrology to Middlesex County when he started the region's first renal dialysis center in the early 1970s. He served several times as chief of the medical staff at Perth Amboy General Hospital, now Raritan Bay Medical Center, and at JFK Hospital in Edison.

Arthur L. Schneeberg, M.D., G.M. '49, Philadelphia; March 21, 2010. He practiced urology in Philadelphia for more than 40 years and was a member of the first kidney transplant program at Albert Einstein Medical Center.

John G. Rotchford, M.D., G.M. '50, Spokane, Wash.; March 25, 2010. In 1957, he was elected a fellow of the American College of Obstetricians and Gynecologists in 1957 and was board certified in 1958. He was also on the active staff at both Deaconess and Sacred Heart hospitals. In 1978 he was appointed president of the medical staff of Sacred Heart Hospital. He also served on its board of trustees and as a member of its executive committee. Rotchford was appointed associate professor of ob/gyn at the University of Washington to aid in the teaching program at Sacred Heart. For many years he volunteered as a medical staff member at the House of Charity Clinic. He was a founder of the Immaculate Heart Retreat House.

John J. Sprowls, M.D. '51, Rahway, N.J.; March 16, 2010. He retired in 1995 after practicing obstetrics and gynecology in Rahway. He served in the U.S. Navy during World War II and had been president of the medical staff at Rahway Hospital.

Harry R. Brashear, M.D., G.M.E. '52, Chapel Hill, N.C.; March 28, 2010. He earned his M.D. degree from the University of California at San Francisco. After completing his residency and fellowship in orthopaedic surgery at Penn, he moved to Chapel Hill to join the medical faculty at the University of North Carolina. He eventually advanced to professor of orthopaedic surgery. During his career there, he received numerous teaching and service awards. In 2005 his colleagues created an alumni teaching professorship in his honor.

Grace I. (Chen) Yuan, M.D. '52, Newtown, Mass.; June 18, 2010. Born in China, she was the only female graduate of her medical school class, Yuan conducted medical research at Harvard School of Public Health, at the former Department of Nutrition and Food Science at M.I.T., and at Dana Farber Cancer Institute. She published one of the first scientific papers on the Chinese herbal medicine ginseng.

Perry Albert, M.D., G.M. '53, Ewing, N.J.; April 22, 2010. He became chief school physician of Hamilton Township in 1971 and retired as township and chief school physician in 1982. He was on the staff of St. Francis Hospital for 45 years and an attending physician at the Greenwood House for 35 years. He officially retired in 1997.

George N. Ewing, M.D. '53, Sacramento; April 8, 2010. After general practice in Gettysburg, Pa., he became an orthopaedic surgeon and moved to Sacramento in 1964, where he was in private practice for more than 30 years. He then served at the Sacramento VA Medical Center until his retirement in 2003. He was on the clinical faculty at the U.C. Davis Medical School for many years.

Eleanor N. Snyder, M.D., G.M.E. '53, Seattle, Wash., a pediatrician and former health officer for Chelan-Douglas County; April 28, 2010. In 1962, she advocated for fluoridation for the water system and fought diligently for increased wages and benefits for health department employees. She retired in 1974 and remained in Wenatchee as a medical consultant for the Washington State Department of Vocational Rehabilitation.

Robert E. Pence, M.D. '54, G.M.E. '58, Warren, Ohio; April 23, 2010. He was a physician at Trumbull Memorial Hospital 29 years and had served as chief of pathology.

Claire E. Cotton, M.D., G.M. '55, Cleveland; April 6, 2010, a retired internist for the City of Cleveland's Division of Health.

Henry M. Eisner, M.D. '55, G.M.E. '59, Philadelphia, a psychiatrist and psychoanalyst who lectured on the problems of characters in the fiction of James Joyce; July 4, 2009. Originally a pediatrician, he wrote an article for the *American Journal of the Medical Sciences* in 1959 that stimulated his career change. Eisner identified psychological factors that contribute to the croup in some patients. From 1965 until he retired in 1999, he maintained a practice in Center City. He also was supervising analyst for the former Institute of the Philadelphia Association for Psychoanalysis. From 1970 to 1999, Eisner was an associate professor of pediatrics and child psychiatry at what is now Hahnemann School of Medicine and had also been a senior attending physician at the Belmont Center for Comprehensive Treatment in Philadelphia.

George S. Toporoff, M.D. '55, Bluffton, S.C.; May 9, 2010. A pediatrician in Poughkeepsie for 30 years, he was on staff at Vassar Brothers Medical Center and St. Francis Hospital, and he regularly cared for children at the St. Cabrini Home. After his retirement, he moved to Hilton Head, S.C., where he continued to care for patients at the Volunteers in Medicine Clinic.

Earl E. Feldmann, D.D.S., G.M.E. '56, San Antonio, emeritus professor and former chair of prosthodontics at the University of Texas Health Science Center; October 9, 2008. He served in the U.S. Air Force for 27 years, retiring as a colonel.

Morton J. Adels, M.D., G.M.E. '57, Houston, Tex.; March 21, 2010. He completed a residency in obstetrics and gynecology at Baylor College of Medicine. His training was interrupted by two years as he served as captain in the U.S. Air Force, stationed at Shaw Air Force base in Sumter, S.C. In 1962, he entered private practice in Houston. Adels served on the staff of The Methodist Hospital and The Women's Hospital of Texas. He had been president of the Houston Gynecological and Obstetric Society.

Miriam Kaiser Elmaleh, M.D. '57, Elkins Park, Pa.; March 12, 2010. A fellow of the American Academy of Family Practice, she was a member of the Maimonides Society chapter at Albert Einstein Medical Center. For several years, she was the associate medical director of John F. Kennedy Memorial Hospital in Philadelphia.

William L. Hingston, M.D., G.M. '57, Williamstown, N.J.; May 5, 2010. He practiced family medicine in Williamstown in an office attached to his residence for 63 years. He retired in November of 2009. He was committed to making house calls throughout his entire career.

Christian M. Hansen Jr., M.D. '58, Trenton, N.J.; February 3, 2010. He was a pediatric child advocate for the Division of Youth and Family Services for 20 years.

His work also took him on a number of medical missions to places such as Nigeria, Vietnam, Iraq, Armenia, Rwanda, Kosovo, and Haiti. Hansen completed his residency at The Children's Hospital of Philadelphia. In 1961, he moved to the White Mountain Apache Reservation in Arizona, where he worked for the U.S. Public Health Service, providing care for Native American children. He next entered the Peace Corps for two years in Ankara, Turkey, and then rejoined the health service, first in South Dakota and then in the Mississippi Delta. He helped open the Tufts Delta Health Center in 1965. In 1969, after moving to New Hope, he helped found the health center in Trenton, joined the faculty of Rutgers Medical School, and later worked for the state, taking frequent breaks to travel to war zones around the world. He helped establish the Henry J. Austin Health Center in 1969.

William W. Miller, M.D. '58, G.M.E. '62, Oberlin, Ohio; November 20, 2009. A pediatric cardiologist, he was a faculty member at Virginia Commonwealth University and later went on to private practice in Richmond. In 1987 he established the journal *Progress in Pediatric Cardiology*.

William C. Segmiller, M.D. '58, Mesa, Ariz.; March 17, 2010. He interned at Polyclinic Hospital in Harrisburg, Pa., and served in the U.S. Air Force as a flight surgeon at Andrews Air Force Base in Washington, D.C. After completing his residency at the Ohio State University, he practiced psychiatry at the Bluffton Indiana Clinic. He continued that practice in Upper Arlington.

Col. James T. Shallow, M.D. '58, Colorado Springs, Colo.; March 26, 2010. He completed his residency in urology at the University of Kansas Medical Center. A career Air Force officer, he served as a flight surgeon, a medical adviser for aircraft and missile accident boards, and commander of the Aeromedical Evacuation Unit in Cam Ranh Bay, South Vietnam. He had also been director of surgical services at Maxwell Air Force Base, in Alabama. He received numerous decorations, including the Legion of Merit, the Bronze Star, and the Republic of Vietnam Gallantry Cross. After retiring from the Air Force in 1980, he was in medical private practice in Colorado Springs for 13 years.

Hassan S. Dajani, M.D., G.M. '59, Miami; December 11, 2009.

Norman Cardoso, M.D., G.M. '62, Farmington, Conn.; April 15, 2010. He served in Vietnam and was stationed at the Naval Support Activity Hospital in Da Nang 1966-67. After completing his residency in otolaryngology in San Diego Naval Hospital, he opened a practice in Jacksonville, Fla. Later he left private practice and joined the emergency medical team at Memorial Hospital in Jacksonville. Subsequently he worked for the United States Department of Labor until retiring in 1992.

Michael D. Goldman, M.D. '62, Los Angeles, professor of medicine at U.C.L.A.; March 18, 2010. He was involved in assessing the respiratory health of ironworkers at the World Trade Center disaster site and published his findings in 2004. At the time of his death he was working on a new method for diagnosing pediatric asthma.

Robert A. Partridge, M.D. '62, Drexel Hill, Pa., psychiatrist; May 22, 2010.

Herbert J. Quigley, M.D. '62, Minneapolis; June 7, 2010. He did his postgraduate training in pathology at Columbia-Presbyterian Medical Center in New York City, where he was an N.I.H. Academic Pathology Career Development Trainee. He served as chief of laboratory service at the U.S. Naval Hospital in Key West 1966-68. For 20 years, he was the chief of laboratory service at the V.A. Hospital in Omaha, then served 15 years as a staff pathologist until his retirement in 2003. At the same time, he was an assistant professor of pathology at Creighton University, where he gained tenure in 1973. Twice selected as the Golden Apple Outstanding Teacher at Creighton's medical school, he also received the 2003 Outstanding Teaching Award from the Department of Pathology. In 1990, he was presented with Creighton University's Distinguished Teacher Award. He became emeritus in 2003. The author or co-author of 40 research publications, he was a Fellow of the College of American Pathologists.

Ronald M. Lamm, M.D., G.M.E. '66, Spartanburg, S.C., a retired ophthalmologist; October 9, 2008. He had served in the U.S. Air Force.

Andranik Ovassapian, M.D., G.M.E.'66, Highland Park, Ill.; June 17, 2010. An anesthesiologist, he was renowned for creating a new way of using fiber optics to insert breathing tubes. He attached a camera to the breathing tube to safely guide it to the lungs. He began experimenting in the 1970s, and by the '80s he was teaching his techniques to medical residents. As professor of anesthesia and critical care at the University of Chicago and as a professor at Northwestern University, Ovassapian taught the procedure to thousands of doctors, and it is commonly used around the world today. In 1995, he founded the Society for Airway Management.

Martin A. Cohen, M.D., G.M.E. '78, Elkins Park, Pa., April 5, 2010. He had been a member of the orthopaedic surgical group at St. Luke's Hospital in Bethlehem since 2001. Before that, he maintained an office in Southampton and had been on the staff of St. Mary's Hospital in Langhorne, Abington Memorial Hospital, and Warminster Hospital. He played the trumpet with a local klezmer group and with the orchestra for shows at Beth Sholom Congregation.

Elizabeth Genovese, M.D. '82, M.B.A., Chestnut Hill, Pa.; April 9, 2010. In 1995, she was a founding partner of IMX, which specializes in independent medical evaluations and occupational health services. She also maintained a private practice at IMX, primarily for women. An adjunct assistant professor of emergency medicine at Penn's School of Medicine, she was a frequent lecturer and the author or co-author of more than 30 medical articles and book chapters and three books. These included *Guide to the Evaluation of Functional Ability* (with Jill S. Galper), published in 2009 by the American Medical Association. Earlier, she was medical director of Quality Health Services and Centramed Inc. She trained in internal medicine at St. Luke's-Roosevelt Hospital Center in New York and was certified in internal and preventive medicine, with a subspecialty in occupational medicine. She was a member of the American Academy of Disability Evaluating Physicians, for which she edited a newsletter.

V. Paul Addonzio Jr., M.D., G.M.E. '84, Chesapeake City, Md., a heart surgeon; May 5, 2010. In 1985, he was appointed assistant professor of surgery at Penn and was promoted to associate professor in 1987. He was the 1986 recipient of the surgery residents' Faculty Teaching Award. Addonizio then joined Temple University, where he served on its hospital staff until 1998 and on the faculty in its medical school until 2005. Most recently, he was the surgical director of the Porter Institute for Valvular Heart Disease at Abington Memorial Hospital and had also served as the hospital's chief of cardiac surgery.

Nathan Hellman, M.D., Ph.D., G.M.E. '06, Indianapolis, Ind.; February 13, 2010. Following his residency, he received a Fulbright Scholarship to study the molecular biology of cystic kidney disease at the Hôpital Necker in Paris. He completed a renal fellowship at Harvard University, where he was on staff as a scientist physician and was board certified in nephrology. He was the author of numerous scientific publications and creator of the Renal Fellows Blog.

FACULTY DEATHS

Lillian E. Fredericks Abraham, Bellingham, Wash., a retired anesthesiologist; March 14, 2010. A native of Austria, she graduated from Woman's Medical College of Pennsylvania in 1943. Abraham joined the Albert Einstein Medical Center, where she worked until her retirement in 1984 after 30 years of service. She also taught for 10 years in Penn's School of Medicine. Her books included *Anesthesia for Open Heart Surgery* and *The Use of Hypnosis in Surgery and Anesthesiology: Psychological Preparation of the Surgical Patient*.

V. Paul Addonzio Jr., M.D. See Class of 1984.

George Campbell Lewis Jr., M.D. See Class of 1944.

Elizabeth Genovese, M.D. See Class of 1982.

Lester Luborsky, Ph.D., emeritus professor of psychology in psychiatry in the Department of Psychiatry; October 22, 2009. Born in Philadelphia, he earned his Ph.D. degree from Duke University in 1945. After working as a senior psychologist from 1946 to 1959 at the Menninger Foundation in Topeka, he came to Penn as an assistant professor of psychology in psychiatry. He became a full professor in 1968. Luborsky was a pioneer in emphasizing the need for research on psychoanalytic or psychodynamic psychotherapy and for developing important measures to assess some of these psychoanalytic concepts. Among his books are *Who Will Benefit from Psychotherapy? Predicting Therapeutic Outcomes* (1988); and *Understanding Transference: The Core Conflictual Relationship Theme Method* (1990). The latter was written with Paul F. Crits-Christoph, Ph.D., professor of psychology in psychiatry and director of Penn's Center for Psychotherapy Research. Luborsky was the primary investigator of the University of Pennsylvania unit of the National Institute on Drug Abuse collaborative study of psychotherapy to treat cocaine abuse, which compared the effectiveness of cognitive therapy, supportive-expressive therapy, drug counseling, and group treatment. A former president of the Society for Psychotherapy Research, Luborsky was the recipient of numerous awards, including the Research Scientist Award of the National Institute of Mental Health and the National Institute on Drug Abuse; the Gold Medal Award for Lifetime Achievement in the Applications of Psychology, from the American Psychological Association; the Award for Distinguished Psychoanalytic Theory and Research, from the American Psychoanalytic Association; and the Excellence in Teaching Award from Penn's Department of Psychiatry.

Priscilla Schaffer, Ph.D., former professor and chair of the Department of Microbiology; November 18, 2009. She received her B.S. degree from Hobart and William Smith Colleges and her doctorate from Cornell University in 1969. After holding professorships at Baylor Medical College and Harvard, she was appointed to Penn's faculty in 1996. Returning to Harvard in 2001, she served as professor of medicine and chief of the Laboratory of Molecular Virology at the Beth Israel Deaconess Medical Center until 2007, when she joined the University of Arizona in Tucson. A recognized leader in herpesvirus research, Schaffer studied the virus's ability to establish lifelong latent infections and its relation to neurological diseases. Schaffer received many honors for her research, including a Merit Award from the National Institutes of Health and the Elizabeth Blackwell Award, given by Hobart and William Smith Colleges "to a woman whose life exemplifies outstanding service to humanity." Schaffer was author or co-author of more than 160 publications. From 1986 to 1994, she served on Cornell University's board of trustees.

Richard B. Singer, M.D. See Class of '39.

Elizabeth B. Weller, M.D., professor of psychiatry and pediatrics in the School of Medicine and the Children's Hospital of Philadelphia; November 29, 2009. She earned her medical degree from the American University of Beirut in Lebanon in 1975. Appointed to Penn's faculty in 1997, she had also served as the first chair of the Department of Child and Adolescent Psychiatry at CHOP. She was known for her scholarship in the diagnosis and treatment of mood disorders. Her honors included the Best Teacher Award from the 2007 graduating class of Child and Adolescent Psychiatry fellows at CHOP. The fellows established a lectureship in her name to be given to the best teacher in the field. She had also received the Distinguished Service Award from the American Board of Psychiatry and Neurology and the Klingenstein Third Generation Foundation Award for Research in Depression or Suicide.

LEGACY GIVING

Giving Their Hearts – and Home – to Penn

Walter and Anne Gamble with Dean Rubenstein at Medical Alumni Weekend, where they were honored for their recent gift.

When Walter Gamble, M.D. '57, and his wife, Anne, recently moved to a new home, their love for Penn Medicine students was not one of the things they downsized.

In fact, they decided to direct the assets from the sale of their home of nearly 60 years to Penn Medicine, creating twelve new full scholarships.

"For us, donating our home to Penn Medicine was an easy decision, and we hope other people realize they can do this too," said Dr. Gamble. "Scholarship giving has become an important part of our lives, and we are happy that this change in our lives included a way to provide more opportunities and help more students."

"The more the merrier!" added Anne.

Dr. Gamble, a retired pediatric cardiologist at Harvard Medical School, never forgot where he received his training. With his wife, he made it his mission to foster medical education and make a difference in the lives of Penn Medicine students. Over the past 20 years, their generosity has made them Penn Medicine's strongest scholarship supporters. Including the new gift, more than 50 Gamble scholarships are awarded each year.

The couple has a great affection for their "Gamble Scholars" and has developed close relationships with many of them. The Gambles have been the guests at many of their scholars' weddings and have quite a collection of engagement and birth announcements.

"We have been so fortunate to really know our wonderful students," said Anne.

Now that the Gambles are supporting even more students, they remain focused on the original promise they made two decades ago: to give students a stellar School of Medicine education without the burden of crushing debt.

A gift of real estate can be structured to meet your estate planning, retirement income, and lifestyle needs — and can be one of the most tax-wise ways to support the School of Medicine and Penn Medicine. The Gambles chose one of a multitude of creative gift opportunities that benefit both the School of Medicine and donors. As you plan your financial future, the Office of Planned Giving is ready to assist in developing an appropriate strategy to incorporate your charitable objectives. Contact Christine S. Ewan, J.D., Senior Director of Planned Giving, at 215-898-9486 or you can e-mail Christine at cewan@upenn.edu. For more information, please visit the web site at www.plannedgiving.med.upenn.edu.

An Epochal Report Turns 100

Abraham Flexner's historic *Medical Education in the United States and Canada*, published in 1910 by the Carnegie Foundation for the Advancement of Teaching, began with a positive look at our own institution. On the very first page, Flexner noted that, in 1750, "Philadelphia was then the chief center of medical interest." He recounted the experiences of William Shippen, who would become Penn's first professor of anatomy and surgery and share credit with John Morgan for founding our medical school.

Thomas Bond, who established Pennsylvania Hospital with Benjamin Franklin, was also Penn's first professor of clinical medicine. On the second page of his report, Flexner quoted Bond's recommendations, which are still highly pertinent today:

The medical student "must Join Examples with Study, before he can be sufficiently qualified to prescribe for the sick, for Language and Books alone can never give him Adequate Ideas of Diseases and the best Methods of Treating them."

Barely into his book-length report, Flexner noted: "Our first medical school was thus soundly conceived as organically part of an institution of learning and intimately connected with a large public hospital."

But as Flexner discovered in the course of visiting more than 150 medical schools, almost all of them had strayed from this ideal. The scientific basis of medicine was largely lost, especially among the so-called proprietary schools. Even the medical schools of Harvard, Yale, and the University of Pennsylvania, Flexner noted, had expanded and become "virtually independent of the institutions with which they were legally united, and have had in our own day to be painfully won back to their former status."

The good news is that Flexner's incisive report helped trigger a wide response. Requirements for enrolling in medical school became stricter (at the time Flexner checked, Penn required only one year of college work); the curriculum became more rigorous; and the training became more thorough. Much of what Flexner recommended has guided us to this day.

Less widely known is that Abraham Flexner, an educator who founded a private school, had close ties with someone who knew Penn's School of Medicine well. His older brother, Simon Flexner, served as our third chair of the Department of Pathology, from 1899 to 1903. An expert in bacteriology, the elder Flexner was recruited to become the first director of the Rockefeller Institute for Medical Research. One of his reasons for leaving Pennsylvania was concern about the quality of research in the basic sciences. Although Abraham Flexner in his report noted that Penn has "five separate well-equipped buildings" for laboratory use, Penn indeed was lagging behind institutions like Johns Hopkins. As George W. Corner put it in his history of Penn's medical school, *Two Centuries of Medicine* (1965), Penn "had to break its own path, through years of agitation and crisis, toward a productive alliance of the science and the art of medicine."

Today, we continue to reap the benefits of that productive alliance. In the popular press, our school's reputation has never been higher, as demonstrated by our No. 2 ranking in *U.S. News & World Report*'s annual survey of medical schools. We also continue to be a leading recipient of research support from the National Institutes of Health, and our attractiveness to excellent and diverse student applicants is at an all-time high.

The 100th anniversary of the Flexner Report generated much attention among medical associations and journals. In September, to coincide with the Flexner anniversary, the Association of American Medical Colleges held a major conference in Washington, D.C., on the future of medical education. *Academic Medicine*, the Association's journal, ran articles on the anniversary in February, September, and November. Its September issue was titled "A Snapshot of Medical Student Education in the United States and Canada." According to the Association's press release, some of the most important findings across institutions are an increased emphasis on interprofessional education and team-based learning; new curriculum topics like critical thinking, cultural diversity/cultural competence, and health-care disparities; more community-based learning; earlier introduction of students to patients; and growth in the use of simulation labs and standardized patients. As Gail Morrison, M.D. '71, G.M.E. '76, our vice dean for education, could testify, our school has led the way in these areas, thanks to our innovative Curriculum 2000, launched in 1997.

That does not in any way mean that we have perfected the educational system and can rest on our laurels. We are constantly striving to improve and innovate, and you can be sure that our remarkable students will keep us on our toes! In addition, the Flexner report still has much to say to us. Although best known for its emphasis on science, the report in the second chapter clearly affirmed the need for "insight and sympathy" on the part of the doctors being trained. Today, we continue to encourage that humanistic aspect of medicine. And Flexner seems uncannily prescient when he writes in his second chapter that "the physician's function is fast becoming social and preventive, rather than individual and curative." It's almost as if he had witnessed the recent debates on reforming health care.

To Abraham Flexner: well done, and thank you!

Arthur H. Rubenstein, M.B.,B.Ch.
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Studies show that, even today, women in academic medicine are severely underrepresented in the ranks of tenured professors and in leadership positions. Achieving equity is a not-so-simple matter of changing the culture of medical schools. A recent grant will help Penn investigators explore strategies for doing exactly that.