

PENN Medicine

FALL 2007



RAISING A TOWER FOR RESEARCH

**Can't We Be Friends? Furthering Alliances Between
Academic Medicine and the Corporate World**
Massachusetts General's Chief Navigator
On the Trail of an Alzheimer's "Vaccine"
What Was Happening in 1889?

Surveying the Survey

Here's the short version: Thank you.

As some readers will remember, we included a brief survey on a postcard in the Winter 2007 issue of *Penn Medicine* and asked our readers to fill it out and send it back at our expense. Thanks to the more than 150 people who did. And thanks to those who rated the magazine highly – after the computations were done by colleagues in Strategic Services, we were informed that *Penn Medicine* had earned a mark of 4.47 out of 5 in “overall quality.”

As someone more comfortable with words than numbers, I wondered what could be derived from a pool of 153 respondents. After all, *Penn Medicine* goes out to about 23,000 people, including those who received medical degrees from Penn; those who did training at HUP or other Penn-related sites; faculty, current residents, current students; administrators; and a few thousand people who receive copies from the Development office. As the returns trickled in, I reminded myself that doctors are extremely busy and it was practically a miracle that *anyone* had the time to respond. But according to Robin Ward and Juliana Szalwinski in Strategic Services, a total of 153 replies is statistically valid.

Another surprise for me is that almost all surveys were returned the old-fashioned way: by postcard. Although readers had the option of responding online, only about a dozen people chose that method. I had expected more online responses from recent graduates. But perhaps the recent alumni were a little more involved in establishing a practice, pursuing additional credentials, or following a research trail.

Still, it was encouraging to learn that 93 percent of the respondents read all three issues of *Penn Medicine* – and 48 percent read most or all of each issue.

The survey's third question was: “Is *Penn Medicine* effective in making you feel connected to and knowledgeable about Penn?” About 72 percent of respondents responded that the magazine was effective in that way. For a related question, almost 75 percent said that *Penn Medicine* has “enhanced [their] perception of Penn.”

Readers were also asked to rate the magazine's overall quality, as mentioned above; writing and readability (4.35 out of 5); contents/subject matter (4.08); and graphics and appearance (4.43). For overall quality, 55 percent of respondents rated *Penn Medicine* as “excellent.”

Thirty-seven people took the opportunity to comment when asked “Do you have suggestions for improving *Penn Medicine*?” Many of the brief comments related to subject matter. For example:

“Do more primary care articles. We have many distinguished primary care grads.”

“More on women in medicine.”

“Can you include more (short) articles on what the young(er) alumni (less than 20 yrs. out) are doing – research, practice, volunteerism, etc.”

“Historical articles.”

“More stories about Penn and the local Philadelphia community.”

“Need more provocative articles.”

“Perhaps more about students.”

“What's in it for me? What's in it for the 90% of Penn Med grads that aren't famous, haven't made fantastic discoveries, or received awards?”

We've touched on some of these topics over the years. The cover story of our Summer 2005 issue was on FOCUS on Health & Leadership for Women, and we've run features on faculty mem-

bers like Mary Ann Keenan, M.D., and alumnae like Patricia Gabow, M.D. '69, G.M.E. '73.

As for coverage of students, our Summer 2007 issue (which appeared after the survey) had a good deal about them, and we want to keep a close watch on educational matters. Sometimes we can combine themes, as when we looked at the medical students who were running free community health clinics in Philadelphia.

After consultation with Medical Development and Alumni Relations, we have suspended the annual update of the 50 Year Class, but each class is featured in its own reunion brochure.

I'm a fan of historical articles, and an institution like Penn has a wonderfully rich tradition. This issue includes a glimpse of the Class of 1889.

“More provocative” articles. We try to run articles that engage our readers and have something to say about contentious matters – testimony by faculty members on stem cell research; the place of complementary and alternative medicine in an academic medical center, etc. Some readers may find this issue's “In Good Company” – on the burgeoning relationship between academic medicine and the corporate world – somewhat provocative. One possible response: letters to the editor.

We've run out of space, and I haven't considered the last question quoted. For now, I'll suggest that many of our readers read *Penn Medicine* for a sense of continuity, for fresh looks at “their” school, for updates and developments. We're planning an article about alumni who are less than 20 years out of medical school. My guess is that none of them are famous or have made fantastic discoveries yet – but their story, I hope, will be interesting nonetheless.

In summary: thanks to all who responded to our survey and who gave us ideas to think about. ■





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IN GOOD COMPANY *By Martha Ledger*

Four years ago, Penn's School of Medicine established an office to foster alliances between academia and industry. Under the guidance of Terry Fadem, the office brings Penn scientists and clinicians together with scientists, marketing people, and managers from corporations. Going beyond some surface differences, they often find reasons – and ways – to collaborate.

RAISING A TOWER FOR RESEARCH

Ironically, Penn has been a victim of its remarkable success in attracting research funding: for several years, research space has been at capacity. Now the administration has announced plans to build a state-of-the-art research building that will house Penn's potent program in translational medicine.

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THE PHYSICIAN-IN-CHIEF *By Ken Wilan*

Since earning his medical degree at Penn, Dennis Ausiello has spent most of his professional life in the Boston area, where he hails from. He has the daily challenge of serving as physician-in-chief of one of the nation's most respected hospitals, Massachusetts General.

THE AMYLOID FACTOR *By Thomas W. Durso*

Will clearing away the clumps of amyloid-beta protein in the brain when a patient is only very mildly impaired keep Alzheimer's disease from worsening? That's what a Phase II clinical trial at Penn and five other sites seeks to answer.

CAN GUN VIOLENCE BE CONTROLLED? *By John Shea*

This summer, Penn held a seminar on gun violence for members of the media, bringing together faculty members and professionals from four different schools. They considered its causes, its terrible effects, ways to begin to deal with it – and some of the obstacles to doing so.

**A GLIMPSE INTO THE PAST:
THE MEDICAL CLASS OF 1889** *By John Shea*

The University of Pennsylvania Archives is currently presenting an on-line exhibition about the Medical Class of 1889, featuring many glass slides showing the members of the class in various roles and at different times. Not every class gets to serve as the background in a Thomas Eakins painting.

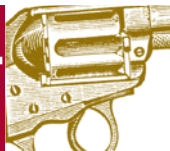
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“Honor Roll” for HUP

The Hospital of the University of Pennsylvania was selected for the “Honor Roll” of best hospitals in America by *U.S. News & World Report*. In its issue of July 25, the magazine ranked HUP as one of only 18 hospitals chosen for the Honor Roll from about 5,400 facilities surveyed.

The survey also breaks out the top 50 hospitals in the nation according to each specialty. HUP ranked in the top 20 in 10 specialty categories: Digestive Disorders (17); Ear, Nose, and Throat (10); Endocrinology (10); Gynecology (17); Heart (19); Kidney Disease (12); Psychiatry (18); Respiratory Disorders (11); Rheumatology (19); and Urology (18). In addition, HUP improved or retained its ranking in 7 of 16 specialty categories.

Since 1990, the annual *U.S. News & World Report* survey has evaluated hospitals around the country based on their reputation among a group of randomly selected, board-certified physicians. The survey also considers such factors as mortality rate and factors in measures specific to each of the specialties included in the survey. This year, only 173 hospitals scored high enough to rank in even a single specialty. To be on the “Honor Roll,” hospitals must be ranked very highly in at least six of the 16 specialties. HUP placed in eight specialties.

Pennsylvania Hospital, also part of the University of Pennsylvania Health System, was ranked in the specialty of Orthopaedics.

A New Chair of Medicine

Richard P. Shannon, M.D., professor of medicine, has been appointed chair of the Department of Medicine in the School of Medicine and physician in chief of HUP. He had been the department’s senior vice chair and interim chair. Shannon joined PENN Medicine last year after a successful



tenure as chair of medicine at Allegheny General Hospital. During that time, he helped the Pittsburgh hospital gain national recognition for its improved quality of patient care. By applying the Toyota Production System to the delivery of care in intensive-care units, he was able to reduce hospital-acquired infections substantially and improve hospital operations. Shannon was also the Claude R. Joyner Professor of Medicine at Drexel University College of Medicine.

A nationally recognized cardiologist with special expertise in the area of heart failure, Shannon has achieved in the areas of translational research, clinical cardiology, teaching, and administration. He has made substantial contributions to research in cardiomyopathy and heart failure and large animal physiology. Shannon is the principal investigator on three NIH R01’s and has published extensively in subspecialty journals such as *Circulation*, *American Journal of Cardiology*, and *Circulation Research*. He has also received numerous teaching awards.

Before his appointment at Allegheny, Shannon was associate professor of medicine at Harvard Medical School and associate chief of the Cardiovascular Division

at the Brigham and Women’s Hospital. Earlier, he had been assistant physician-in-chief and program director in internal medicine at the Beth Israel Hospital in Boston. He received his B.A. degree from Princeton University and his M.D. degree from the University of Connecticut. He completed his internship and residency at the Beth Israel Hospital, where he was also chief resident in medicine, and his fellowship in cardiology at the Massachusetts General Hospital.

A Center to Link Public-Health Initiatives

The University of Pennsylvania has formed the Center for Public Health Initiatives to expand and link public-health activities across the campus. Marjorie A. Bowman, M.D., M.P.A., professor and founding chair of the Department of Family Medicine and Community Health, will lead the center with the support of a steering committee drawn from the University’s schools, centers, and institutes that are most involved in public-health activities.

Penn’s burgeoning master’s program in public health will serve as an underpinning to the new center. That degree was initiated in 2002 under the direction of Shiriki Kumanyika, Ph.D., M.P.H., an expert on obesity and health disparities.

Penn’s M.P.H. program emphasizes interdisciplinary education in public health for professionals and engages faculty from the schools of Medicine, Nursing, Arts and Sciences, Social Policy and Practice, Veterinary Medicine, and Dental Medicine, as well as the Graduate School of Education and the Wharton School.

“In the United States and around the world, we have perceived an urgent need for thoughtful, well-trained public health professionals,” said Ronald Daniels, the University provost. “Penn’s sizable strengths in genomics, informatics, community-based research, communication, global



Left to right: Gary Koretzsky; Morris Birnbaum; Laurence A. Turka; Stephen G. Emerson; and Ushma S. Neill

A Changing of the Guard

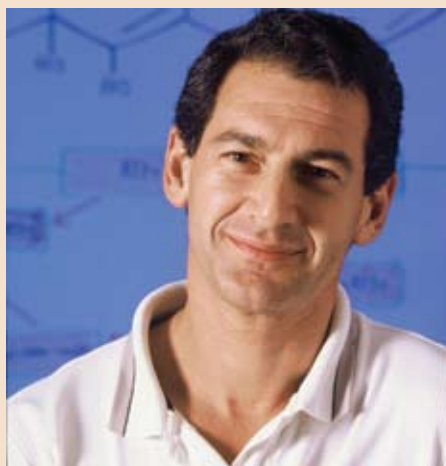
In March, the editorial board of *The Journal of Clinical Investigation* changed, and a new board was instituted with members of Penn's faculty. The *Journal*, which was founded in 1924, describes itself as "a premier venue for critical advances in biomedical research, authoritative reviews, and commentaries that place research articles in context." Laurence A. Turka, M.D., the C. Mahlon Kline Professor of Medicine and chief of the Renal-Electrolyte & Hypertension Division, is the new editor in chief. Serving as deputy editors are Gary Ko-

retzky, M.D., Ph.D., the Leonard Jarett Professor of Pathology and Laboratory Medicine and chief of the Division of Rheumatology; Morris J. Birnbaum, Ph.D., the Willard and Rhoda Ware Professor of Diabetes and Metabolic Diseases; and Stephen G. Emerson, M.D., Ph.D., at the time the Francis C. Wood Professor of Medicine (now president of Haverford College). Ushma S. Neill, Ph.D., formerly with *Nature Medicine*, is the executive editor. Several other members of the Penn faculty are also serving on the editorial board.

health, policy, and law will help shape the activities of this important new center."

For Cancer Biology, an Interim Chair

Lewis A. Chodosh, M.D., Ph.D., professor of cancer biology, has been named interim chair of the Department of Cancer Biology. Chodosh, who has served as vice chair of the department since 2002, assumed the interim post on July 1. He succeeds Craig Thompson, M.D., who



was named director of the Abramson Cancer Center.

Chodosh's chief research interest is breast cancer, which he investigates through such tools as mouse models, genomics and computational biology, and non-invasive imaging. Although his primary appointment is in Cancer Biology, he also has appointments in Cell & Developmental Biology and in Medicine (Endocrinology, Diabetes, and Metabolism). In addition, he is affiliated with graduate groups in Cell and Molecular Biology and in Genomics and Computational Biology. He heads the Breast Cancer Program at the Abramson Cancer Center and serves as director of cancer genetics at the Abramson Family Cancer Research Institute.

Chodosh earned his M.D. degree from Harvard Medical School and his Ph.D. degree in biology from Massachusetts Institute of Technology in 1989. Following a residency in medicine at Massachusetts General Hospital, he took a fellowship in endocrinology at Mass General and a fellowship in genetics at Harvard, where he studied transgenic animal models. He joined the Penn faculty in 1994.

Strom Assumes More Responsibilities

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 & Epidemiology, was appointed to the newly created positions of vice dean for institutional affairs in the School of Medicine and senior advisor to the provost for global health initiatives. He will continue as director of the Center for Clinical Epidemiology & Biostatistics.

As vice dean, Strom will lead the School of Medicine's relationship with the Philadelphia Veterans Administration Medical Center. This longstanding

association has provided exceptional opportunities for faculty and residents to diversify their professional experiences. In addition, he will work closely to develop and promote the educational and research missions of the Center for Public Health Initiatives and the Leonard Davis Institute of Health Economics. He will also play a significant role in developing and implementing the PENN Medicine Biomedical Informatics Initiative.

As senior advisor to the provost, Strom will implement the University's global health initiatives. He will coordinate public-health activities across the University and work with key groups to advance Penn's commitment to public health, global health, and health-services research.

Honors & Awards

Steven E. Arnold, M.D., professor of psychiatry and neurology, has been appointed director of the Geriatric Psychiatry Program in the Department of Psychiatry. He will continue as director of the Cellular and Molecular Neuropathology Program in the Department of Psychiatry. His charge is to develop new initiatives in translational research and to develop new treatment programs in collaboration with other departments and programs allied with Penn's Institute on Aging, including the Penn Memory Center, Geriatric Medicine, and the Penn Comprehensive Neuroscience Center. Arnold was recently named to the editorial board of *Schizophrenia Bulletin*.

Arnold succeeds **Ira Katz, M.D., Ph.D.**, as director of the Geriatric Psychiatry Program. Katz, who is credited with developing a nationally recognized geriatric psychiatry program, is currently on a leave of absence from Penn while he serves as the deputy chief patient-care services officer for mental health and director of the Office of Mental Health

Services in the Department of Veteran Affairs in Washington, D.C.

The Association of American Medical Colleges has named **Marjorie A. Bowman, M.D., M.P.A.**, professor and founding chair of the Department of Family Medicine and Community Health, the recipient of its 2007 Women in Medicine Leadership Development Award. According to the A.A.M.C., Bowman's "wonderful track record of academic leadership clearly demonstrates a career-long commitment to developing women leaders. Your contributions have greatly advanced women faculty, staff, and students at the University of Pennsylvania School of Medicine. This award recognizes your profound influence on medical education."

Virginia Chang, M.D., assistant professor of medicine in the division of general internal medicine, was selected as one of 15 medical-school faculty nationwide to receive a 2007 Physician Faculty Scholars Award from the Robert Wood Johnson Foundation. Her project is Weight Status and Quality of Care among Older Adults in the U.S. She has been awarded \$300,000 over a three-year period.

Under the Physician Faculty Scholars Program, talented junior faculty, nominated by their medical schools and selected by the program, will receive support to enhance their skills and productivity through institutional and national mentoring, specific research experience, and protected time.

On July 1, **Stephen G. Emerson, M.D., Ph.D.**, who had been the Francis C. Wood Professor in Medicine, Pathology, and Pediatrics and chief of the Division of Hematology/Oncology, assumed his new position as president of Haverford College. He graduated in 1974 from Haverford *summa cum laude*, with a

dual major in chemistry and philosophy. Emerson, who joined Penn's medical faculty in 1994, coordinated and directed a research and education budget of more than \$50 million annually. He also ran one of the foremost labs in the country that focused on stem cell biology and transplantation. Among his honors are the Rolex Career Achievement Award and the Donald B. Martin Teaching Service Award, and he was regularly named a "Top Doc" in his field by *Philadelphia Magazine*. At the national level, Emerson has been actively involved with grant review and scientific program review at the National Institutes of Health and the National Science Foundation.

Ruben C. Gur, Ph.D., professor of psychiatry, neurology, and radiology, and director of the Brain Behavior Laboratory, was selected by NARSAD: The Mental Health Research Association to receive its Distinguished Investigator Award. The association will provide Gur with a one-year grant of \$100,000 to advance his study of behavioral characteristics related to schizophrenia. Gur is one of 23 scientists to receive NARSAD's award this year. He expects to use the award to relate behavioral aspects of schizophrenia to specific genetic changes; to study some of the genetic systems in humans; and to use animal models. His group has a well-characterized population of individuals with schizophrenia and their families in whom neurocognitive factors have been carefully studied. They are obtaining genetic samples and will relate the psychological findings to gene changes, looking at specific genes that have been linked to schizophrenia.

Howard I. Hurtig, M.D., a specialist in Parkinson's disease, has been named the first holder of the Frank A. and Gwladys H. Elliott Chair of Neurology.

The Elliott chair, the first endowed University position at Pennsylvania Hospital, was funded through the estate of Dr. Frank A. Elliott; he established the Department of Neurology at Pennsylvania Hospital in 1959. It was his request that the chair be awarded to a researcher/practitioner at Pennsylvania Hospital. During his tenure at Pennsylvania Hospital, Elliott focused mainly on stroke prevention. In the 1960s, he developed one of the first stroke-risk-analysis clinics in the U.S.

Hurtig is the current chief of service of the Department of Neurology at Pennsylvania Hospital. He has played a critical role in the founding of both the Parkinson's Disease and Movement Disorders Center and the ALS Center at Pennsylvania Hospital. He is currently the co-director of the Parkinson's Disease and Movement Disorders Center.



Robert W. Neumar, M.D., Ph.D., associate professor of emergency medicine, won the 2007 American College of Emergency Physicians Award for Outstanding Research. The award is granted annually to an individual world-wide for his or her contributions to emergency medicine research. Neumar is director of the Molecular Brain Resuscitation Laboratory, which seeks to characterize the molecu-

lar events that cause neuronal death after acute brain injury and to develop clinically effective therapies to minimize brain damage and improve functional survival.

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, received two honors recently. The New York Academy of Medicine presented him its Medal for Distinguished Contributions in Biomedical Science for his groundbreaking research in diabetes. Among his many accomplishments is his work with Dr. Donald Steiner to develop the first accurate method of measuring insulin secretion in diabetics using animal insulin, which helped pave the way to the commercial production of human insulin.

Rubenstein was also presented the 2007 Academic Health Centers Leadership Award from the Clinical Research Forum, an organization consisting of the nation's leading academic health centers. He was cited for his leadership at Penn where, for the past six years, he has helped establish "an aggressive scientific program to advance clinical and translational research in such areas as cardiovascular disease, as well as diabetes, obesity, and metabolism." He was also praised for playing a pivotal role in helping the Forum realign and revitalize its own strategic initiatives.

Michael E. Selzer, M.D., Ph.D., professor of neurology, has been elected a Fellow of the Royal College of Physicians, U.K., in recognition of his important contributions to the field of neurorehabilitation. Fellowship in the College is accorded to distinguished physicians and medical scientists and is a particular honor when awarded to persons outside the U.K. Selzer is on leave from Penn, serving as the director of rehabilitation



research and development at the U.S. Department of Veterans Affairs in Washington, D.C. He continues to supervise the research in his laboratory at Penn on the mechanisms of axon regeneration in the central nervous system and to direct the N.I.H.-funded Center for Experimental Neurorehabilitation Training. At Penn he has also served as associate dean for graduate education, as director of Biomedical Graduate Studies, and as director of the clinical neuroscience track in the School of Medicine. Selzer is the president-elect of the World Federation for Neurorehabilitation and the coordinating editor of the two-volume *Textbook of Neural Repair and Rehabilitation*, published by Cambridge University Press.

Mark L. Tykocinski, M.D., the Simon Flexner Professor and chair of the Department of Pathology and Laboratory Medicine, is president of the American Society for Investigative Pathology, a society of biomedical scientists who investigate mechanisms of disease. Investigative pathology is an integrative discipline that links the presentation of disease in the whole organism to its fundamental cellular and molecular mechanisms. Tykocinski is also president-elect of the Association of Pathology Chairs, whose mission is to provide leadership and to advocate for the dynamic discipline of pathology.



IN Good

By Martha Ledger



PENN'S
SCHOOL OF MEDICINE
PIONEERED AN OFFICE
FOR ACADEMIA-INDUSTRY
ALLIANCES.

COLLABORATIONS
ARE GROWING, AND
THE OFFICE
HAS BECOME A
NATIONAL MODEL.

*Photographs by Candace Di Carlo
Art by Wally Neibart*

Company

A Friday morning meeting that tumbled into the lunch hour has just ended, and host Terry Fadem is left with a small tray of extra sandwiches, cans of soda, and a sense of excitement that something really electric has just taken place. Fadem's meeting had brought together scientists, translational research experts, and clinicians from PENN Medicine with scientists, marketing people, and managers from a medical products company. The company currently sponsors both clinical and basic research at PENN Medicine, and, as managing director of the Office of Corporate Alliances (OCA), Fadem is hoping to identify additional projects for collaboration.

He is well prepared. By tirelessly visiting department chairs and division heads, Fadem has become extremely knowledgeable about who is researching what at PENN Medicine. And, as a 20-year management veteran of DuPont and a senior fellow at the Wharton School prior to his OCA appointment, he is also in the loop of the pharmaceutical, biotechnology, and medical device companies that PENN Medicine wants to attract.

A phone call to a friend started the process toward this morning's meeting. "I told him that Penn is doing some research in an area that might be of interest to the company," Fadem explains. "My friend – who is an executive at the company – acknowledged that someone on their side is doing research in that area, too." Bingo. Fadem scheduled the meeting.

Despite the overlap established in the phone conversation, a match is never

Terry Fadem, right, and Lance Becker, M.D., examine Becker's cooling vest, intended to help keep cardiac arrest patients alive. At left is David Gaieski, M.D. '94, co-director of the Clinical Center for Resuscitation.

“We asked them if they think we’re good enough – and we were going to convince them that we were – to give us a pot of unassigned money each year for a number of years.”

guaranteed. “You’re not sure you’ll be presenting things they want to hear about,” Fadem explains. “Their interests and ours could be totally misaligned.”

But this morning, they weren’t. “We went into a room and gave them an overview of what we’re doing here at Penn, and they gave us an overview of what their interests as a company are. It was just a straight-out discussion,” he says. “Three, maybe four, specific projects of mutual interest emerged that we could collaborate on.”

The connections Fadem develops are intended to provide direct sources of funding for research and also promote the conversion of scientists’ discoveries and inventions into actual drugs and devices. Inventions with marketplace potential are expected to lead to licensing and royalty income, which will itself be plowed back into more research. The commercialization process rarely produces money in less than 10 years, so it is too soon to know how lucrative it will be.

Direct funding from industry, however, is definitely up since 2003, when the OCA was established in the School of Medicine. It has, in fact, almost tripled to \$50 million annually – around 10 percent of PENN Medicine’s total research budget. In the past, the majority of funding was for clinical studies. But, as a result of new models, the lion’s share of

this money is now directed toward basic science research.

For many scientists, the alliances have also provided heady, synergistic experiences that invigorate research. The nature, timing, and management of these collaborations have had everything to do with this momentum.

* * *

While the Friday morning meeting was simple in format – not to mention the chow – it was decades in the making. For a long time, few in academia, it seems, understood how best to work with industry.

One significant barrier was the widely held conviction that academia and industry are distinct cultures. At a 1982 national conference hosted by the University of Pennsylvania to explore possible collaborations, A. Bartlett Giamatti, Ph.D., then the president of Yale University, defined the cultures as inherently incompatible: “The academic imperative [is] to seek knowledge objectively and to share it openly and freely; and the industrial imperative [is] to garner a profit, which frequently creates the incentive to treat knowledge as private property.”

At the same conference, Sheldon Hackney, Ph.D., a historian and Penn’s president, exhorted attendees to “lay out



According to Glen Gaulton, Terry Fadem “really knew how with faculty members.”

[their] differences . . . and allay mutual distrust based on stereotypes.” He, too, however, came off as somewhat partisan. While Hackney acknowledged that the community of scholars was an idealized vision, he considered it one worth holding on to. “It is still our governing myth,” he said, “and it influences our behavior in admirable ways.”

Just a few years earlier, such a conference would never have occurred. Back then, discoveries made in the ivory towers stayed in the community of ivory towers. The federal government owned all intellectual property arising from research it funded, and university discoveries were rarely developed into products because companies chose not to invest in ideas that were also available to their competitors. In 1980, Congress passed the Bayh-Dole Act, which fostered commercialization. It gave universities



industry worked" and also knew the right way to interact

ownership of their intellectual property, which meant they could license discoveries to industry with sufficient protection to encourage for-profit development.

Even then, however, industry didn't always come around looking for inventions. It had its own strategic plans that didn't always coincide with academic interests.

* * *

Soon after his arrival in 2001, 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, began developing a strategic plan for PENN Medicine and searching for ways to finance it. He identified industry as a source of income that had not been sufficiently tapped. Numerous companies had con-

tracts with individual Penn scientists for what's known as sponsored research. But among the top 10 pharmaceutical companies – which are the most obvious partners for biomedicine – the School of Medicine had sponsored-research connections with only three. Rubenstein noted, too, that PENN Medicine's income from licensing was disproportionately low for an institution that was among the nation's top recipients of funding from the National Institutes of Health (NIH). Together with Glen N. Gaulton, Ph.D., a professor of pathology and laboratory medicine who was then vice dean for research and research training for the School of Medicine and who had already been developing a strategy in this area, Rubenstein formed a new model for PENN Medicine-industry collaboration.

Rubenstein and Gaulton approached GlaxoSmithKline. They were interested in promoting PENN Medicine's strength in cardiology, which covers the entire spectrum from basic to clinical research and includes animal models for virtually all disorders. Gaulton, who is now executive vice dean and chief scientific officer for the School of Medicine, recounts the meeting: "We asked them that, if they think we're good enough – and we were going to convince them that we were

– to give us a pot of unassigned money each year for a number of years." The money would be distributed on a competitive basis. Researchers would submit proposals to a joint PENN Medicine-GSK committee that would determine which should be funded. GSK liked the plan and committed \$10 million a year for five years for projects in cardiology, pulmonary disorders, and cancer. The format insured that the research was simultaneously of academic significance and useful to industry. "There's no intellectual property at this point," Gaulton emphasizes. "It's giving people money to do good research."

The GSK contract was signed in early 2003, and Rubenstein and Gaulton didn't lose momentum. They called a meeting with some Wharton faculty – who invited Fadem along for his industry perspective – and they laid out their concerns. As Fadem recalls, "Some collaborative work was happening, but it was happening at a low level. Nobody seemed to know exactly how it was happening. A variety of offices were involved."

Fadem mostly listened. His single contribution that day was to say that academic institutions are notoriously torturous to deal with. Industry, he told the dean, "will go with whoever is easiest



to work with. They want it easy, and easy means keeping it simple.” What he had in mind was this: An industry representative might have to contact nearly a dozen different individuals and offices: a principal investigator, the contracting office, the Center for Technology Transfer, and two attorneys (one looking at intellectual property and one looking at sponsored research). If animal studies were involved, it meant yet another contact.

Fadem was asked to do a study to assess whether the situation was as messy at other institutions, identify PENN Medicine’s specific capabilities, and determine what was going on in the marketplace. By the time he reported back, he was deeply versed on the subject. The dean hired him to establish the Office of Corporate Alliances and gave him one directive: “Make us easy to work with.”

The OCA opened in August 2003 – the first such office in a medical school.

Rubenstein’s timing was astute. The NIH had been on a pace to double research funding by 2003. But in that very year, it notified research universities that such largess was at an end and universities should start investigating other sources of funding.

Fadem was not only in the right place at the right time, but also, according to Gaulton, the right person for the job. “We needed someone from the outside who really knew how industry worked,” Gaulton explains, “but usually those individuals are too much divorced from a nuanced appreciation of academic faculty and what the right way to interact with them is. The last thing you ever want to do – because it’s just the wrong thing to do – is come to a faculty member and start *telling* them things. The first thing you want to do is ask, how can I help?” Fadem had both the expertise and requisite respectfulness to succeed in the job, not to mention the stamina for doctors’ hours. He’s usually at work at 6:00 a.m. to field telephone calls

from medicine’s larks, the surgeons and anesthesiologists. Eighty percent of faculty or industry representatives contacting the office call him directly.

For the Friday morning meeting, Fadem is dressed in a crisp white business shirt and geometrically patterned tie, but nothing about his personality is hard-edged. Colleagues describe him as knowledgeable, articulate, lively, personable, and unpretentious – he says “gee whiz” a lot to point out the obviousness of something. He is a founder and president of the Biomedical Research and Education Foundation, a nonprofit consumer-oriented organization whose central project is a national registry to monitor problems with implantable devices. In his spare time, Fadem gardens, and he has created a botanical experiment around his house to see how many birds and insects he can attract.

As managing director of the OCA, Fadem is assisted by a staff of three business and legal experts housed together in modest offices on the second floor of the Anatomy-Chemistry Building. The OCA’s responsibilities include management of the huge GSK contract, as well as a similar one with AstraZeneca that was finalized in 2006. (Negotiations with a third major pharmaceutical company are nearing completion.) The OCA is the single point of contact for all administrative issues arising from the contracts, and it deals with all the University’s internal offices on industry’s behalf. It is also the connection between industry-funded scientists and the joint committees that evaluate their progress.

It is in this last area that a bit of corporate discipline has entered academia. Scientists must establish milestones in their proposals and then make quarterly progress reports related to them. “In industry,” Fadem explains, “you’re always asked what’s your next milestone. You talk about progress all the time.” By con-



trast, the government requires its grantees to file what are called non-competing renewal reports once a year to declare outcomes, publications, patents, and plans for the next year. Scientists with even multiple government grants consider this a minor inconvenience.

“In the beginning, many industry-funded faculty were less than enthusiastic about [the reporting],” Fadem concedes, “but I get no pushback on this.” And, in fact, the process has proven to be productive. Four years into the GSK contract, 14 articles have been published in academic journals by nine principal investigators, and applications have been filed for six patents. PENN Medicine scientists have made discoveries in basic mechanisms relevant to ovarian and other cancers, asthma, atherosclerosis, congestive heart failure, leukemia, and diabetes.

What Fadem discovered is that, as oral or written dialogue increases, additional studies are discussed and new opportunities created. For him, the most exciting dialogue is about science and among sci-



entists. It floats way above any delineation of two distinct cultures. “Same men, same women,” he says. “They all went to graduate school together. They followed different paths, but the school relationships are ones you maintain for a lifetime. In an alliance agreement, they work together superbly because it’s scientists talking to their peers.”

“We had monthly meetings with our colleagues at GSK,” says Mitchell A. Lazar, M.D., Ph.D., the Sylvan H. Eisman Professor of Medicine and Genetics, chief of the Division of Endocrinology, Diabetes, and Metabolism, and director of the Institute for Diabetes, Obesity, and Metabolism. “Some people were there in person, and others dialed in from all over the world. The attendance was gratifying” – and a sign that the dialogue was highly regarded by everyone.

Lazar studies mechanisms of nuclear receptors, the molecules that regulate expression of genes in response to hormones and other compounds. These molecules control a host of processes,

but in functioning as regulators of metabolism, they are drug targets in the treatment of such disorders as metabolic disease, diabetes, and hyperlipidemia.

Through the alliance, Lazar studied the mechanisms by which some GSK-developed compounds interacted with receptor molecules. For some compounds there turned out to be no mechanistic differences from those previously known, and this discovery was helpful in contributing to “no-go” decisions for GSK. In other cases, he found mechanistic differences, “which is of interest,” Lazar says, “but it is too early to know where this will lead.”

His own research was enhanced by gaining access to these and other proprietary compounds. “I was always jealous of other investigators who had relationships with pharmaceutical companies that provided them with compounds to probe the receptors they were studying,” he says. “Sometimes they were the same receptors that I was working with, and I felt that it gave them an advantage.”

Lazar has already published two articles stemming from GSK-funded work, and he expects to publish others with what he says are very exciting results. His lab is also assisting GSK scientists to publish their own findings – something industry scientists don’t regularly bother to do. “Their scientists helped some research we were doing, and our scientists helped some GSK research that was not part of the alliance.”

“It would be wonderful if our lab’s work led to a drug,” Lazar continues. “The probability of that is extremely low. But to feel that we’re playing a closer role in the development of a drug is terrific. Some academic scientists feel that we can do as good a job in drug development as a pharmaceutical company, but I don’t think we can. The infrastructure for high throughput drug screening, toxicology, and pharmacokinetics is hard to create in

an academic medical center, but it exists – in an enviable way – in a pharmaceutical company.”

* * *

While the huge pharmaceutical alliances make up the bulk of Fadem’s responsibility, he also matches PENN Medicine scientists and outside companies on an individual basis. Sometimes, it is the company that comes looking for a scientist. Other times, it is a physician or researcher who has ideas for inventions and is in search of a company.

In the latter situation, Fadem will help analyze whether or not an idea has commercial potential or how to make it appealing to industry. According to Lance B. Becker, M.D., an emergency physician who has worked closely with the OCA head for the past year, “Fadem always understands exactly how industry will look at an idea. He thinks about what do they have to put in and when can they see a return on their investment – the kind of things that I don’t ever think about.”

A professor of emergency medicine and founder/director of PENN Medicine’s year-old Center for Resuscitation Science, Becker is in a hurry to have his ideas converted into products. He foresees a revolution in emergency care. Annually, some 250,000 Americans suffer out-of-hospital cardiac arrest, but only 12,500 of them currently survive. Becker thinks that as many as 100,000 might be saved. His optimism is based on basic-science breakthroughs in the field of resuscitation that suggest a role for interventions. Two examples: scientists discovered that oxygen-deprived cells die over a period of many hours, which means that coming back intact – both physically and mentally – is possible even after a five-minute shutdown, the conventionally held point of no return; scientists have also established that cooling down cells seems to

“We’ve gone from ‘gee whiz, let’s work with industry’ to ‘gee whiz, we’re going to make sure that we’re commercially successful.’”

retard their deterioration. (Becker’s exciting research was featured in *Newsweek’s* cover story of May 7, 2007).

A clinician as well as a basic scientist who studies mitochondria, Becker has already obtained patents for a defibrillator that can be used by people without medical training and for cooling slurries that reduce body temperature quickly. His goal is to get life-saving products into ambulances, emergency departments, and people’s homes. When he arrived at Penn in 2006, he went to visit Fadem almost immediately.

“If you want to develop a product that’s actually going to be used on patients,” Becker says, “you absolutely need to work with industry. It’s just not the skill of the university to take things and have them appear on the shelf.” Companies contribute expertise about usability, and they also have staff skilled in regulatory matters and marketing.

They also contribute ideas. “We sat around a table for days and days and days with [their] engineers,” says Becker. “We took trips together to see how different kinds of devices are used, and eventually we had new intellectual property. And I don’t think we would have had those ideas without the company.”

The strategy behind these partnerships is to license technology before it’s invented. “The device doesn’t exist yet,” Becker explains. “We don’t have it and they don’t have it, but we share a vision about how it would work and what it would look like.” Through the OCA, the company can negotiate financial arrangements up front so that it knows its costs, whether or not it will share in intellectual

property, and how expensive an exclusive license will be. The company may even wish to patent the invention, saving the University hundreds of thousands of dollars in patenting costs. “Having invested in the idea,” Becker points out, “the company is motivated to develop it. As a result, discoveries don’t languish or need to be shopped around.”

Fadem is also able to put together an umbrella agreement for a company that wants to do multiple projects with the University, like develop a device, run a conference, and support basic research. The OCA can efficiently negotiate them all together.

Becker notes that a scientist whose work is not at the point of turning into a therapy or a device cannot benefit from the type of partnership he is forming, but he thinks partnerships are appropriate for many who dismiss overtures from companies. “We are all too busy,” he says. And without the OCA, he, too, might resist commercial proposals, which pop up for him almost daily. His colleagues around the country who don’t have anything equivalent to the OCA keep asking, “How the hell do you make these connections?” Becker says, noting, “Without Fadem and the OCA, Penn would be leaving a lot of money on the table.”

Fadem’s work got an unexpected endorsement from the government. In 2005, the NIH put big money behind the proposition that university research should result in products that improve the public’s health. In addition to being ahead of the curve in establishing the OCA, the School of Medicine was also a leader in research that bridges the



bench (and clinical discoveries) and the marketplace. That same year, Garret A. Fitzgerald, M.D., chairman of the Department of Pharmacology, became director of the new Institute for Translational Medicine and Therapeutics (ITMAT), and in 2006 the institute was one of 12 entities throughout the nation to receive the NIH’s first Clinical Translational Science Awards. The grant for approximately \$68 million supports translational research and subsequent commercialization. Fadem is responsible for the commercialization core.

“We’ve gone from ‘gee whiz, let’s work with industry’ to ‘gee whiz, we’re going to make sure that we’re commercially successful,’” Fadem says. Four years ago, his focus was to increase funding from industry; his focus today is insuring that the fruits of research actually reach the marketplace. Now, if an NIH grant looks like it’s moving in a direction that would interest a company, Fadem tries to bring that company into a relationship with PENN Medicine in advance.

* * *

Elsewhere, there has been opposition to collaboration with industry. At the University of California at Berkeley,



for example, the Novartis Agricultural Discovery Institute gave \$25 million over five years to the university's Plant and Microbial Biology Department. The contract, signed in 1998, caused campus divisiveness that lasted for years and led the university to commission an independent evaluation. The contract pitted environmentalists, who were not funded, against biotechnology engineers, who were, and it led to discussion of such profound issues as the purpose and responsibilities of a public university.

Not everyone at Penn is thrilled by University-industry alliances and commercialization. "There are certainly faculty that would say, 'I would never take a penny from a drug company,'" says Gaulton. But he and Fadem have not encountered overt opposition to the alliances. Only one department chair, according to Fadem, questioned whether collaboration with industry is the right role for academia. In 2005, *The Daily Pennsylvanian* raised the matter. In an article, Thomas Jongens, Ph.D., associate professor of genetics, expressed concern that industry funding would be available only in areas that benefit industry and that, as government support decreased, significant scientific questions were likely to go unanswered. Jongens works on fragile X disease, a

low-incidence disorder that might not get attention because the therapies to treat it could never be profitable.

The most troubling issue surrounding these alliances is the possibility of conflict of interest – or even its appearance. A vast amount of literature on university-industry collaborations asks whether scientists receiving money from industry through any number of connections can retain objectivity – the very basis of the scientific endeavor. It also questions whether industries that fund research will refrain from undue pressure on researchers and university administrations. Failures have occurred on both sides.

Aware of these dangers, the University of Pennsylvania has embedded a variety of safeguards in the institutional process. Members of the PENN Medicine faculty have to disclose personally negotiated industry relationships and their monetary value. A University committee on conflict of interest makes determinations in potentially problematic cases. Guidelines are now extremely rigorous for anyone doing clinical work for companies with which they have a pre-existing relationship. In some cases, the committee forbids it, says Fadem. In other cases, it requires some form of oversight or insists on a co-principal investigator.

"I say everything should be declared," says Gaulton, "and then you come to a judgment about what is reasonable. I do think it's an area that requires constant revitalization. Constantly, every year, we should be sitting down about conflict of interest and saying, what are the issues that face us as academicians? Are our policies and our faculty behaving in a way that's working?"

* * *

This past summer, the U.S. House of Representatives Science and Technol-

ogy Committee invited testimony on the Bayh-Dole Act. The speakers had much praise and few caveats for the legislation that had initiated academia-industry collaboration. It seemed to have worked best in the biomedical field, where the promise of exclusivity supports the development of new drugs. Arundeeep S. Pradhan, the director of technology and research collaborations at Oregon Health and Science University, predicted, "The Bayh-Dole Act will continue to be a catalyst for innovation in the U.S. economy for the next 25 years as well." There were hints, however, that industry would in the future do what it has always done – seek out whoever is easiest to work with. Susan B. Butts, senior director of external science and technology programs for the Dow Chemical Company, explained that most foreign universities allow industry to own or control inventions resulting from the research that they fund and that this more favorable treatment is already causing companies to do more of their sponsored research abroad.

But for now, industry support of university research is on an upswing in the United States. Fadem's OCA has been replicated in at least a dozen medical institutions whose office names bear the words "alliances," "partnerships," or "collaborations." It is a sign that the role of the university is evolving quickly now. While intramural collaborations are becoming more common across medical specialties, university departments, and even schools, these offices represent an opening in the university's outer wall. They afford a passageway to the resources of business and industry, which include an army of university-educated scientists and problem-solvers. The public – which through the NIH and other government agencies continues to fund the bulk of university research – is out there, too, and waiting for cures. ■

A NEW BUILDING WILL HELP PENN CAPITALIZE ON ITS STRENGTH IN TRANSLATIONAL MEDICINE.

It has been said that research space is the coin of the realm for biomedical institutions, one of the clearest signs of the importance and success of a research program. If an academic medical center wants to retain and recruit the best investigators, it must be able to offer space in which they can do their exceptional research. And not just any space. Especially in a field so competitive, the space must be as up to date as possible. That's where PENN Medicine's latest construction project, a research tower of 13 floors and 400,000 square feet, comes in. According to Glen N. Gaulton, Ph.D., executive vice dean and chief scientific officer of the School of Medicine, it will be coming just in time when it opens in mid 2010.

The School of Medicine has had an enviable track record in research, as indicated by its consistently stellar showing over the last dozen years among the medical schools that receive funding from the National Institutes of Health for research and research training. But,

as Gaulton says, "Our current research space is at capacity – and has been since 2002." Ironically, Penn's own success has exacerbated the problem. "Our faculty's success in bringing in research funding outstripped our plans," continues Gaulton. "We had hoped not to reach capacity until 2004. New space is needed for the extension of current projects and for the outstanding researchers we are recruiting."


As problems go, this one is much better than some.

The plan to construct the research tower fits neatly into the vision of 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. When he arrived on campus in the summer of 2001, one of the things he emphasized was that treatments at Penn would have to be at the cutting edge, "where research intersects patient care." It's a short step from that description to translational medicine, which will be the focus of the new research building. From the beginning, too, Rubenstein emphasized the importance of strategic planning. In his first column in *Penn Medicine*, he wrote about the strategic blueprint he had initiated, which would "define the objectives and initiatives that will maintain our institution at the forefront for the next decade. . . ." Here, too, he spoke of the need to "recognize and strengthen the many valuable intersections of research, education, and patient care that occur at our institution."

It is no surprise that the Plan for PENN Medicine, when completed in

RAISING A TOWER FOR RESEARCH



Shown at the far left of the architectural rendering (concept only) is the Roberts Proton Therapy Center (lower floors) and the research tower (upper floors). Rendering courtesy of Raphael Viñoly Architects.

2003, identified an urgent need for new research space. At the time, however, as Rubenstein noted in a message to the medical faculty in June of this year, the need for new clinical space was seen as more pressing. Given the financial restraints, the school made a series of moves to acquire incremental space both on and off campus. But, as Rubenstein wrote, "With the acknowledgment that incremental space was only a stop-gap effort if we were to continue to be a top-tier school, over the last two years the University and the School of Medicine have been engaged in detailed space planning and site review for new research space."

During that same time, Penn's Health System has done very well financially. In October 2005, UPHS broke ground for the Perelman Center for Advanced Medicine on the southern edge of campus, on the former site of the Convention Center. (That center is scheduled to open in 2008). A more recent project is the Roberts Proton Therapy Center, which will be adjacent to the Perelman Center. After weighing other possible spots for research space, the PENN Medicine administration recognized that it had a great opportunity: the new research building will be erected above the Roberts Center, adjacent to and west of the Perelman Center. In that way, as Rubenstein noted in his message, "we can take advantage of cost savings and other economies resulting from the ongoing construction on the site for the Perelman and Roberts Centers." Kevin Mahoney, senior vice president and chief administrative officer of the Health System, estimates the savings at nearly \$50 million because no additional site excavation or foundation will be necessary.

According to Gaulton, "Penn is extremely well positioned to excel in translational medicine. We have exceptional faculty and a new generation of trainees who are thought leaders in this area."



Glen N. Gaulton, Ph.D.

In recent years, Penn has been able to strengthen its translational medicine in significant ways. The Institute for Translational Medicine and Therapeutics, created in 2005, brought aspects of translational medicine together (see "Development Matters, pp. 30-33); last fall, the institute played a significant part in helping the School of Medicine receive a major Clinical and Translational Science Award from the N.I.H. As Rubenstein noted in a recent letter to colleagues and friends of PENN Medicine, research is "the backbone of the healing and recuperative sciences," and Penn needs to "capitalize on our exceptional strength in translational medicine, which connects basic research to patient care in a highly mindful and intentional fashion." The new research tower will push Penn's program in translational medicine further along in a highly mindful fashion.

The upper floors of the Perelman Center for Advanced Medicine will flow directly into the lower floors of the new research building, making physical the intersection between clinical practice and research. In addition, there will be meeting rooms on new building's lower level, where clinicians and researchers who work in the same area will offer paired presentations. Not the least of the crossovers will be a food court that will serve both buildings.

Gaulton sums up the ideal picture: "Designing the building so that interactions take place constantly will increase the rate at which observations are shared

back and forth and new drugs are identified and developed, will advance large-scale genomic and genetic analysis, and will help us translate those observations into new therapies that are optimally safe and effective for each individual."

The new research building will include five floors devoted to laboratory space, although two of the floors will be fitted at a later point. There will be a floor for animal imaging as well as two vivarium floors where animals or plants will be kept for research under conditions simulating their natural environment. In addition to two floors that will house the tower's mechanical needs, three other floors will remain shells for clinical expansion.

Raphael Viñoly, the internationally known architect who designed the Perelman Center for Advanced Medicine, will also design the new building.

Years before the research tower has been built, it already has made appearances in national publications. An early rendering of the building was included in *Science* (17 August 2007), in an article on translational research. In addition, *The Chronicle of Higher Education* (September 6, 2007) ran an article about the "building spree" of medical schools despite limited support from the federal government. Gaulton was quoted about Penn's ability to attract "great people from other institutions." The planned building, according to the *Chronicle*, "will ease some of the crowding for biomedical-research space on campus."

The estimated project costs for the new building are not final, but the range is likely to be \$370-\$400 million. Both the University of Pennsylvania and the Health System will contribute, but Gaulton notes that philanthropy will be expected to play a major role in funding the new research building and the development of the research programs that will reside within it. ■

The Physician-in

By Ken Wilan

Sea kayaking offers
Dennis Ausiello, M.D. '71,
a chance to navigate,
but the much
larger **challenge** is
navigating
Massachusetts
General Hospital.



Two sides of Dennis Ausiello: handling paperwork in his hospital office and paddling in his kayak.



-Chief



Cotuit Bay, nestled in Cape Cod and leading into Nantucket Sound, offers Dennis Ausiello a chance to sea kayak.

On summer weekends and generally by himself, he pokes around small islands, rarely venturing further than 600 feet off shore or in swells bigger than three feet. Still, he covers 10 to 20 miles on a typical day. For Ausiello, sea kayaking is a stamina sport. “You go for distance, not for maneuverability or speed,” he explains. And being on the water gives him a reprieve from the pain of his bad back.

Maneuvering during the week is a very different prospect. To get to his office as physician-in-chief of Massachusetts General Hospital (MGH), Ausiello makes a left at the nurses’ station of an obstetrics/gynecology unit, steers clear of a gurney or two in the hallway, and goes past images of his predecessors. James Howard Means, John Potts, Walter Bauer, and James Jackson are among those who gaze from the walls, captured in a sheen of oil paint. Jackson helped establish MGH as well as *The New England Journal of Medicine*, and it is his name attached to Ausiello’s professorship at Harvard Medical School – the Jackson Professor of Clinical Medicine. And just at the door to the suite, he is greeted by a bust of J. Bigelow, an MGH surgeon who in 1846 wrote an account of what is considered the first public demonstration of the use of ether during surgery.

Ausiello’s L-shaped office is hardly state of the art. Dominated by a desk and conference table, it looks lived-in and a bit shabby, as if left untouched from the 1970s while the hospital continually rose new around it. Ausiello has occupied the office since 1996, and personal touches include photos of fellow interns

at MGH in the early ’70s, pigs in various forms (there is a reason), and reminders of another Boston institution Ausiello holds in high regard: the Red Sox. The office has the effect of making a visitor feel at once comfortable and welcome. From here, Ausiello directs some \$175 million annually in research funds, the portion of MGH’s budget claimed by the 19 divisions and units of the Department of Medicine. As the largest clinical department in the hospital, it is also the nucleus of responsibility for patient care while it performs a crucial role in educating the next generation of doctors. After walking in at 7:00 a.m., Ausiello is rarely alone. Instead, he deals with a parade of visitors in meetings or travels throughout the hospital. About eight days out of the month, he travels throughout the world. Stamina helps.

Ausiello – or “Denny” to many people who know him even slightly – never aimed to get the job. “I didn’t aspire to be chairman of medicine at MGH, because timing is everything,” he says. “I started out wanting to be a physician-scientist.”

Things could have gone differently.

As a Harvard undergraduate majoring in biochemistry, he says, “I mentioned I was interested in hormones and receptors.” He was directed to a researcher named Geoff Sharp, who was running a laboratory at MGH for Alexander Leaf, chairman of medicine. “I became a student in that lab and because I was completely undifferentiated, I got involved in aldosterone. Ultimately, I did my thesis on that and made some discoveries regarding receptors.” But, he points out, he could just as easily have gone down a Ph.D. path had he been assigned to a chemistry lab at Harvard instead.

Photographs by Kathleen Doohar

One major effect of being in Leaf's lab was an expanded notion of hospital-based work.

Growing up, says Ausiello, "I had no idea the role of research and scientific inquiry had with a hospital. If you broke your leg, you went to the hospital." Working in Leaf's lab exposed him to interns and residents. "I became less naive about the role of science in a hospital."

A Native New Englander

Ausiello grew up in Revere, Mass., just north of Boston. His father, an artist by training, was a furniture designer and wood carver who often made money by crafting furniture reproductions, such as mending a broken leg on an original Chippendale. His mother managed loans for a local bank. His grandfather, also an artist, had immigrated to the U.S. from Italy after becoming an outcast from his family. "He was disowned when he wanted to marry this orphan seamstress" whom his family considered socially and educationally below them. But he followed her to America and they raised nine children. His grandfather made ends meet by painting murals of scenes of Italy on the sides of row houses.

"In the 1950s, Boston was run down," says Ausiello. "I was seven or eight and my father took me to row houses on Commonwealth Avenue that were being gutted and renovated. My grandfather had painted murals on these houses, on their plaster, of scenes of Italy. At the first house next to the Ritz [hotel], my father had a tear in his eye, showing me what my grandfather painted 30 years ago."

Today, Ausiello's office is only a 12-minute walk from where the murals had been, yet he inhabits a very different world from both his father and grandfather. His days are mixed with administrative duties and educational responsibilities. Some days he gives counsel to venture capitalists or

meets social obligations that benefit MGH. It is a world his great grandparents may very well have approved.

A typical day for Ausiello starts at 7:00 a.m. with a meeting with the thrombosis/hemostasis service. A two-hour meeting with all MGH department chiefs is next, followed by a meeting to review patient-capacity issues and then a meeting with the chief of cardiology. At noon, he meets with the chief academic officer for Partners HealthCare (who is also chief of gastroenterology). A conference call with MicroCHIPS, based in Bedford, Mass., is next; Ausiello sits on its board of directors. At 3:00 p.m., Ausiello takes part in a conference call with the executive director of Research!America, a non-profit education and advocacy group. Next, he has a meeting with the search committee looking to fill the position of chief of dermatology, followed by an hour for his daily conference with the residents. He is then free (!) of meetings and able to catch up on work until 7:00 p.m., when he goes to an MGH Cancer Center fundraiser that ends at 10:30 p.m.

In addition to being physician-in-chief, Ausiello is the director of the PASTEUR Program at Harvard Medical School. An initiative he helped found, the program strives to help medical students enter medicine as investigators who challenge dogma and who view patient care holistically. Part of challenging dogma, he says, means asking "How could I do that differently? How could I begin to explore the unknown? . . . It's more a continuous process of admitting what you don't know."

Ausiello is also president of the Association of American Physicians, co-editor of the *Cecil Textbook of Medicine*, head of a small research lab at MGH that studies hormone action in the kidney, and a member of a number of company boards, including Pfizer, Inc., the New York-based pharmaceutical firm. Ausiello was



From his office in Massachusetts General Hospital, Ausiello over

invited to Pfizer by Michael S. Brown, a fellow Penn Medicine alumnus (Class of '66) and winner of the Nobel Prize in Physiology or Medicine in 1985. Brown and Ausiello both did their internship and residency in medicine at MGH.

"I spend a lot of the time in an advisor role in biotech, pharma, and even venture capital, bringing durable wisdom to those fields," Ausiello explains. "Whatever you think about pharma, it's the only system we have. It doesn't mean in-



sees the 19 divisions and units of the Department of Medicine.

dustry is flawless, or there isn't room for improvement. But the system needs to be preserved, and it needs the public trust."

In Ausiello's view, "If you make the argument that we live in a complex interactive society, and academia works with industry to facilitate drug discovery, then you have to come up with ways to align interests. Industry is faced not only with succeeding but *failing* fast," in order to put resources behind the most likely drug candidates. Academia is strong in

the early discovery end of the process, and that strength "opens up the possibility of serious collaborative ventures."

"He's an incredibly creative guy," says Terry McGuire, a managing general partner of Polaris Venture Partners in Waltham, Mass. Polaris invested in MicroCHIPS, and Ausiello sits on the investment company's life sciences advisory board. "When you go to a board meeting with Denny, you are sure to walk away with two or three ideas you hadn't thought about before."

"It's a symbiotic relationship," says John Flint, also a managing general partner of Polaris. "We get the value of his judgment, and he gets to see what's next from a technology standpoint."

"I'm a son and grandson of doctors," Flint explains. "The phenotype of doctors is they all don't tend to be good businessmen. Denny breaks that phenotype. He has extremely good business judgment, which is another way to say common sense. He has an eye for good people. It is very unusual to find someone both a scientist and a very good business person."

"And," he adds, "he's such a mensch."

Off to Philly

At Penn's School of Medicine, Ausiello maintained his early interest in hormones and began to focus on those that act on the kidney. There he also met – or re-met – Samuel Thier, M.D., whom he had known when Thier was chief of the renal unit at MGH and Ausiello was an undergraduate at Harvard. Since that time, Thier had moved to Penn as a professor and advanced to vice chairman of the Department of Medicine.

"As an undergrad, he was absolutely spectacular with maturity and scientific acumen," Thier says of Ausiello. At Penn, Ausiello considered him a mentor and worked with him and Stanton Segal, M.D. (a professor of pediatrics who

passed away in April 2007) in Segal's lab, studying amino acid transport in the kidney; the work led to a paper in the *American Journal of Physiology* on the cellular accumulation of L-lysine in the kidney cortex of rats.

When not studying or working in the lab, Ausiello says, he spent many nights watching the Flyers play the Bruins with their superstar Bobby Orr, and watched the 76ers play the Celtics. "I was rooting for the Boston teams" – which often led to what he calls "contention in the stadiums."

When he graduated, those home teams continued to exert their pull.

"With mixed emotions, I advised him to return home," says Thier, who would also go back to Massachusetts and become president of MGH as well as CEO of Partners HealthCare System. "His family was here, he loved his time at Harvard College, and his wife was from New England."

Thier is now professor of medicine and health policy at Harvard Medical School. In "the final turn-about," as he puts it, "I work for Denny. And I like it."

Returning to MGH, Ausiello completed an internship in medicine, followed by a clinical fellowship at Harvard Medical School. He also served as assistant resident in medicine at MGH. In 1973, he moved away from New England for the last time, doing research in the laboratory of kidney and electrolyte metabolism at the National Heart and Lung Institute in Bethesda, Md.

"It was a tradition to break up residency and fellowship training, and a way to become a physician-scientist," explains Ausiello. And, he points out, it was a way to avoid being drafted by satisfying his military requirement.

Back at MGH as a fellow, he stayed on as a faculty member and was given his own nephrology lab. While he was a practicing physician, he saw patients less

and less. “If you’re going to be good at something, you spend most of your time on it,” he says. “I never had a practice but taught both medicine and nephrology. I knew I would never hang out a shingle, but I saw how I could be a dedicated physician and teacher” while focusing on research.

Ausiello made his research mark in epithelial biology of membrane protein trafficking, ion channel regulation, and signal transduction; eventually, he ran a 50-person lab with a \$10 million research budget. He also rose through the ranks, serving as chief of the renal unit for 13 years. It was this same unit that Alexander Leaf had created and where Ausiello got his research start as an undergraduate. Among other academic appointments, Ausiello also served as director of Harvard’s M.D.-Ph.D. program.

“Denny has a tremendous and deep-penetrating intellect,” says William Crowley, M.D., who trained two years ahead of Ausiello at MGH and is now the hospital’s director of clinical research. “It’s not just in biology. It transfers to administration and business problems. That’s why he was selected for leadership jobs. He can see where trends are going.”

Another of Ausiello’s fans is his son John, 33 years old and a fellow in endocrinology at Columbia University Medical Center. When he and his brother were growing up, Ausiello coached them in baseball and soccer. Looking back – and now understanding “the pressure to produce” – John Ausiello reports that his father “was able to be home at 3:00 p.m. on a Friday afternoon for soccer practice, spring and fall, then baseball.” As he puts it with some understatement, “He is an efficient worker and able to delegate.”

Fostering growth

In 1996, Ausiello was named physician-in-chief of Massachusetts General.

His Penn mentor Sam Thier, then head of Partners, was on the search committee that recommended Ausiello. At the time, MGH had 832 patient beds, 33,899 inpatients, and about 1.2 million outpatient visits annually. The medical staff, including physicians, dentists, psychologists, podiatrists, residents, and fellows, totaled 2,997, and there were 2,204 nurses.

The numbers for 2006 are 902 beds and 46,276 inpatients and about 1.3 million outpatient visits annually. The medical staff totals 4,088, with 3,645 nurses. And additional growth is on the horizon: 150 beds are slated to be added over the next several years. But it wasn’t supposed to be that way.

According to Ausiello, consultants for the last chief advocated slimming MGH down to a 500-person hospital. That, he says, was the typical thinking in the ’90s: hospitals needed to shrink their inpatient capacity and move procedures to outpatient facilities. Many hospitals did reduce capacity, but Ausiello held out against that strategy. “A lot of community hospitals shut down because of a financial squeeze, so people were driving by their community hospital to come in here,” he says.

Part of the same strategy to reduce inefficiencies and drive down costs also fostered consolidations. In 1994, MGH and Brigham and Women’s Hospital linked under the umbrella of Partners HealthCare. Other major academic medical centers also attempted to consolidate clinical facilities around this time, including Columbia’s College of Physicians & Surgeons and Cornell’s Weill Medical College (still together as New York-Presbyterian Hospital), Mount Sinai and New York University Medical Center (now separated), and Stanford University and the University of California at San Francisco (now separated).

Part of Ausiello’s job early on was to help MGH and Brigham foster a positive conver-

gence – not necessarily an easy task.

Thier, who helped direct the merger, recalls a quip by George Richardson, M.D., an MGH doctor with a strong sense of tradition: “When it was announced MGH and Brigham were getting together, George said the Soviet Union, Yale, and Brigham were the enemies. Now only Yale was left.”

“Historically, these departments were very competitive, but that changed with creating a degree of synergy and maybe sibling competitiveness,” says Victor Dzau, M.D., who had been physician-in-chief at Brigham and who worked with Ausiello during that time. Dzau is now CEO of Duke University Health System.

At first, Ausiello points out, some people thought there should have been “a stronger and fuller integration in areas of residency programs or maybe there shouldn’t be a neurosurgery program at both places.” But, he continues, “for the most prestigious hospitals, full service was the name of the game.” It was quickly decided not to dismantle established programs but to help define best prac-



tices and efficiencies between the two centers.

Ausiello's colleagues note that helping to forge a partnership between the medical centers and building on that partnership plays to Ausiello's strengths in dealing with people. Another of his strengths that has been very useful, they say, is his ability to pick up on indications of where medicine is headed and put systems in place to get there.

"There are different people for different eras and different times," says Crowley, referring to MGH's chiefs of medicine. "Alex [Leaf] was here when the place was small. John Potts [Penn Medicine '57] was the perfect person for growth in the '80s and '90s, when the research enterprise grew. Denny is good for a more systems and institutional approach. We're becoming a large complex organization an order of magnitude more complicated than what Potts had and two orders of magnitude from what Leaf had."

For example, continues Crowley, when Ausiello became chairman of MGH's executive committee on research, he re-

structured the institution's approach to research. His new vision meant cross-cutting multiple areas, including genetics, stem cell research, biology and tissue repair, informatics, and systems biology. Research funding and the research itself would no longer operate within traditional silos. "Up to that moment everything had been done by department," says Crowley. "It took some getting used to. 'General Hospital' is on the door. So it was a new way of doing business. He saw it and he implemented it."

"One of real joys of where science is today is the human organism is rapidly becoming the experimental model," says Ausiello. "The amount of information now available to this generation in its collection is so enormous, you have to look and correlate and decide what you want to teach and how. When I was a medical student, you could teach all of genetics." That, he insists, "is no longer possible."

Of course, this growth in knowledge and technology means more opportunities in research, patient care, and teaching, and that also means making some tough choices. The opportunities and areas "are constantly playing off each other," says Ausiello. "Do you expand beds or build buildings or an ER?" Administrators always face such choices, he says, but today it is more complicated "with tremendous resource demands."

"High-tech medicine is expensive," notes Michael Brown. In the context of competing pressures, "Denny has managed to maintain MGH as a leader in research and patient care. The force of his personality has allowed him to maintain focus on clinical care and research."

That, and navigation skills.

Considering the future

"We're working in an environment where collective wisdom is becoming

more important than individual wisdom," says Ausiello. In a word, it's about *teams*. "How," he asks, "do you get people to respond to collective thinking?"

As Ausiello sees it, information technology will allow more efficient flow of knowledge, records, and safety information between individual physicians and the broader community; it will also facilitate a smoother integration between clinical care and testing and discovery. He also believes information technology will probably be the single most expensive item for academic health centers to implement over the next 10 years. At the same time, he calls it a paradigm rather than a solution.

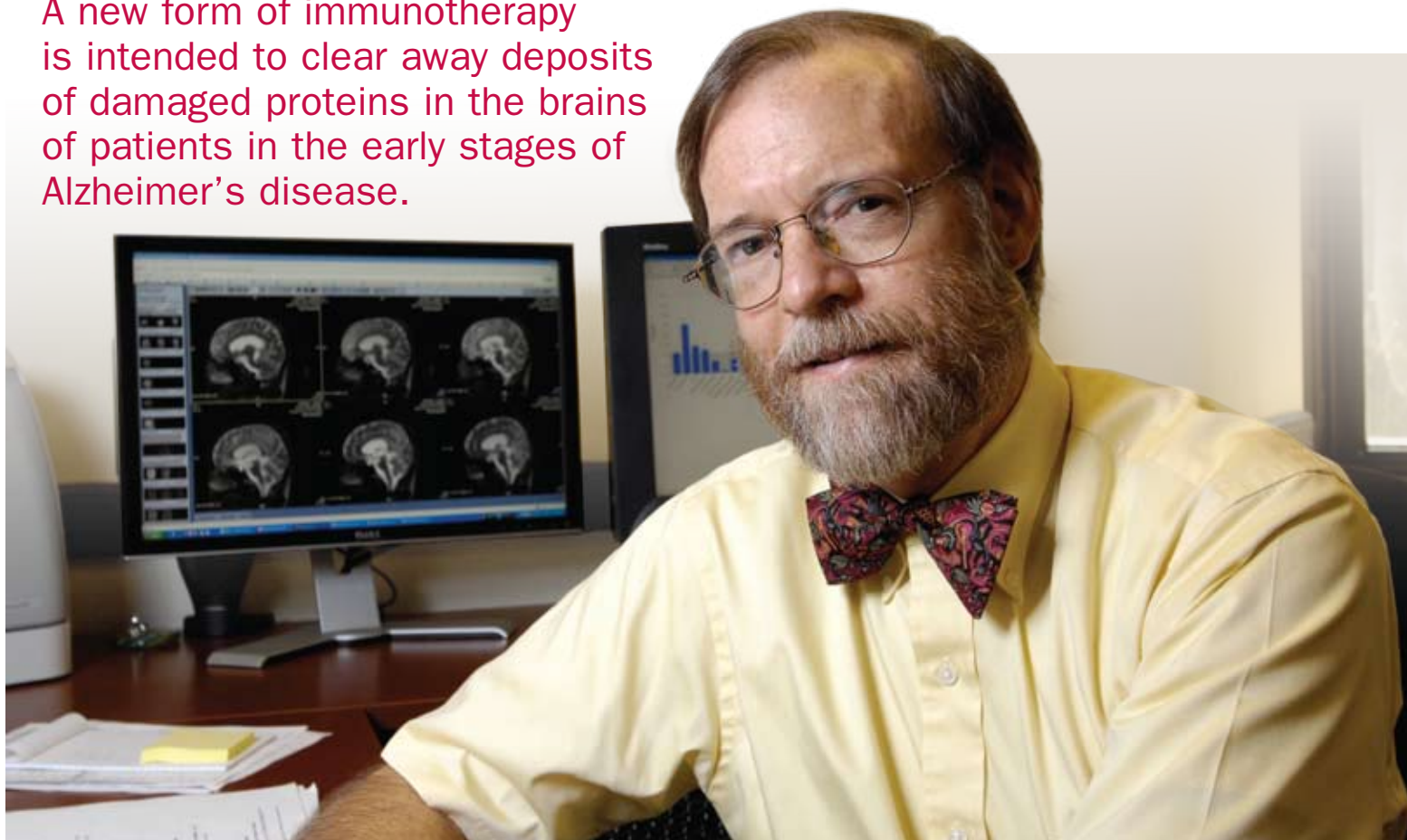
Knowing how to make the best use of new information technology is only part of the plan. "Many world-class observations are made by astute physicians inquiring about not just what we know, but what we don't know," says Ausiello. "So we need to make sure students are inquiring about what they don't know, and then make sure they have tools and understanding." Of all the attributes a medical investigator needs, "The most important is challenging dogma."

And remember those photos of pigs in Ausiello's office? It is one of the ways he shows his love for his father, who passed away. "My father made pig breadboards for friends and family. When I was a young boy, I would help him trace the thing, help shape the tail. Over the years I've translated that into liking pigs and collecting them. Then people started giving me pigs."

As for inherited stamina, Ausiello's mother, 90, still dances three times a week. Perhaps that kind of staying power has been passed on to her son and helps him get to the gym three times a week as "treatment" for his back – those times when he is not on the water, navigating his kayak. ♥



A new form of immunotherapy is intended to clear away deposits of damaged proteins in the brains of patients in the early stages of Alzheimer's disease.



Christopher Clark, M.D., director of the Penn Memory Center, has been honored frequently as a "Top Doc" by *Philadelphia Magazine*.

The Amyloid Factor

By Thomas W. Durso

Photographs by Daniel Burke

As a longtime Alzheimer's disease researcher, Christopher M. Clark, M.D., has seen enough to caution patients and their families, all of them desperate for some glimmer of good news, not to get their hopes up too high. But even he admits he is excited about the possibilities popping up throughout the field.

"You deal with patients all the time, and you always try not to be overly optimistic and not to oversell," says Clark, director of the Penn Memory Center and co-director of the Alzheimer's Disease Center. "People with the illness say it's moving too slow, but major therapeutic breakthroughs just take time. It's tiny breakthrough after tiny breakthrough, incremental and constant."

At present, Clark is helping to determine whether one of those tiny breakthroughs will lead to something much larger. He is directing a Phase II clinical trial of a treatment, developed by Eli Lilly and Company, that clears deposits of damaged proteins in the brains of patients who are in the early stages of Alzheimer's disease. The hope is that by eliminating the deposits, the treatment will halt or even reverse the crippling memory and cognitive impairment that afflicts Alzheimer's patients. Penn is one of only six sites in the nation conducting the trial.

It is not uncommon for proteins somehow to lose their normal shapes and functions, and the body has a natural mechanism for clearing out these mis-

shapen, dysfunctional materials. But neurons can lose their ability to rid themselves of deformed proteins. When that happens, amyloid-beta proteins begin clumping together in the brain; these deposits are the basis for the telltale neurofibrillary plaques that pathologists use to confirm the presence of Alzheimer's disease. Preliminary research in both animals and patients suggests that antibodies directed against this pathologic protein can clear away the deposits.

An earlier drug, developed by Elan Corp. of Dublin and Wyeth Research, used active antibodies to achieve this goal, but research was halted after several patients in clinical trials developed brain inflammation and died. Because the brains

of these patients were found at autopsy to be remarkably free of amyloid deposits, researchers set about developing passive-immunization methods. Both Lilly and the Elan-Wyeth partnership are now in Phase II trials in which patients are given laboratory-manufactured antibodies that clear the deposits. This step reduces the possibility that patients will develop their own “active” antibodies, which are believed to be the cause of the fatal brain inflammation seen during the earlier trials.

“The ideas behind immunotherapy have undergone a bit of an evolution,” says Clark. “The first concepts, about six years ago, said, ‘This is the pathology we can see over the microscope; let’s get rid of it and see what happens.’ But a lot of scientists think that by the time [the protein] clumps, it’s too late. It’s like sweeping up dust balls under your bed. The dust balls are still going to be generated. You can sweep up the amyloids and get them into the bloodstream and out the kidney all you want, but you’re not going to help the cell. Nobody knows if that’s right, but the immunotherapy is designed to get rid of the plaques by clearing the proteins before they clump.”

According to Clark, many experts regard such immunomodulatory treatments and trials as a proof of concept: “If they are effective, that would be a strong argument that that logic is correct and that destruction of the formation of amyloids will modify this problem and be disease-modifying.”

In the double-blind study that Clark is heading, participants underwent a preliminary evaluation, followed by 12 weeks last spring and summer during which they received either periodic passive immunization treatments or infusions of a placebo. Each participant is being followed in the Penn Memory Center for one year from the time they began treatment so that their health can be monitored.

Penn offered participation in the study to 10 patients with mild Alzheimer’s disease and three healthy individuals who showed no evidence of Alzheimer’s disease. The patients received a series of infusions, while the three healthy individuals received a single infusion.

There are two main goals of the study: to ensure that the treatment is safe for patients and to determine the dosage and scheduling that are most effective.

Once the year of monitoring has elapsed, Clark and his team will analyze spinal fluid samples from the patients to determine whether the telltale proteins are present there.

“If there is a treatment schedule and dose for this passive antibody infusion

Many scientists now believe that by the time amyloid-beta proteins begin to clump in the brain, it’s too late for effective treatment.

that can alter the amount of amyloid in the spinal fluid – reflecting, presumably, the clearance of amyloid in the brain – that will give us a good indication that the treatment strategy is effective and what dose and frequency to use,” says Clark. The next step would be to launch a much larger Phase III trial “and see if we can actually do something to significantly modify – and ideally reduce – the progression of Alzheimer’s disease. The answers are going to come out in the next year or two.”

Clark, an associate professor of neurology, is a veteran of Alzheimer’s treatment trials, and the use of antibodies is nothing new to him: His team was involved in the Phase I trials of Elan and Wyeth’s active-immunization antibody several years ago.

“Part of our mission here is to discover new treatments and to help in the dis-

covery and evaluation of new treatments for Alzheimer’s disease,” Clark says. Since the Penn Memory Center was founded in 1991, he continues, “We have done many treatment evaluations and trials, including trials that resulted in the first FDA.-approved drugs for Alzheimer’s disease way back in 1995 and 1996.”


An interesting facet of the process in which Clark is engaged is that Alzheimer’s disease presents so late in the patient’s life. Developing and testing treatments that are meant to be applied *before* the onset of symptoms is extraordinarily challenging, because researchers cannot ethically conduct trials on patients who they are unsure are ill.

“The issue is, when do the plaques begin to form and deposit in the brain compared to when we can see that they’re there?” Clark notes. “Traditionally, up until four or five years ago, a person had to become demented before we could say they had Alzheimer’s disease. This was around age 70 or so. But now we believe that the problem begins in the brain years before that – some people would say 20 years before symptoms appear is when the misfolded proteins begin to be laid down. We’ve pushed the diagnosis back to the prodromal stage – mild cognitive impairment – where we can identify clinically that something might be wrong, and we can get some idea on how likely it is that it has to do with Alzheimer’s pathology. From a clinical standpoint, that’s as far as we can go right now.”

In the meantime, Clark is eager to see whether the new immunotherapy that is intended to clear the amyloid clumps “is going to have a significant practical impact on brain function.” If it does and if clinicians can start the therapy while the brain is only very mildly impaired, he says, “you’ll be doing an awful lot of people an awful lot of good.” ■

CAN GUN VIOLENCE BE CONTROLLED

By John Shea

 Representatives from several of Penn's schools offered their perspectives on the alarming rise in gun violence.

Statement One: “We are an embarrassment to the rest of world – and we *should* be embarrassed.”

Statement Two: “We as a society have chosen to live with guns.”

These statements by the same speaker suggest the kind of balancing act people trying to control gun violence in Philadelphia and around the nation must perform.

The speaker: C. William Schwab, M.D., professor of surgery and director of the Firearm & Injury Center at Penn (FICAP). The place: a large, modern classroom in the Law School. The occasion: in July, at the Media Seminar on Gun Violence, in which experts from several of the University's schools presented their views to mostly local and occasionally feisty newspeople and took their questions.

The first statement reveals Schwab's feeling about the terrible cost of gun violence. The second suggests a kind of concession on Schwab's part, an attempt to place the discussion of what to do in a more neutral setting.

As Schwab explained, he and his colleagues at FICAP are not clamoring for gun control: “Immediately, the audience would be polarized.” There are, he added, more than 220 million guns in circulation in the United States. Chief of traumatology and surgical critical care at HUP, Schwab has operated on many people who had suffered gunshot wounds. And, as he put it, when you spend years “patching people up, you get pretty tired of it,” witnessing the toll in human life and human suffering. Still, he sought a way to frame the discussion in a less

controversial way. That was the impetus for FICAP, founded in 1997.

Therese Richmond, C.R.N.P., Ph.D., associate professor in the School of Nursing and research director of FICAP, appeared to have made a similar adjustment of outlook. She spoke of caring for patients who had been shot, emphasizing the difficulties survivors have in coming to terms with what has happened; the psychological stress that may seem out of proportion to the severity of the wound; and the impact of the incident on the survivor's family. Still, like Schwab, Richmond argued for a different approach to the question of how to live with guns more safely.

The approach FICAP has taken is to place gun violence in the context of public health. How, asked Richmond, can our society learn from the example of motor vehicle deaths? Faced with the high toll of automobile fatalities, she pointed out, “We didn't say *decrease the cars*.” Instead, automobile manufacturers began to produce safer cars; environments were made safer; activists helped make it “socially unacceptable” to drink and drive. In short, changes in design and laws have helped lower the number of deaths and the severity of injuries in car accidents. FICAP believes the same approach can work with guns.

In response to a question, Schwab clarified how gun injury can be compared to disease. Every gun injury has an environment, a host, and a vector (in this case, the bullet). This threat to public health may not be “curable,” he said, but

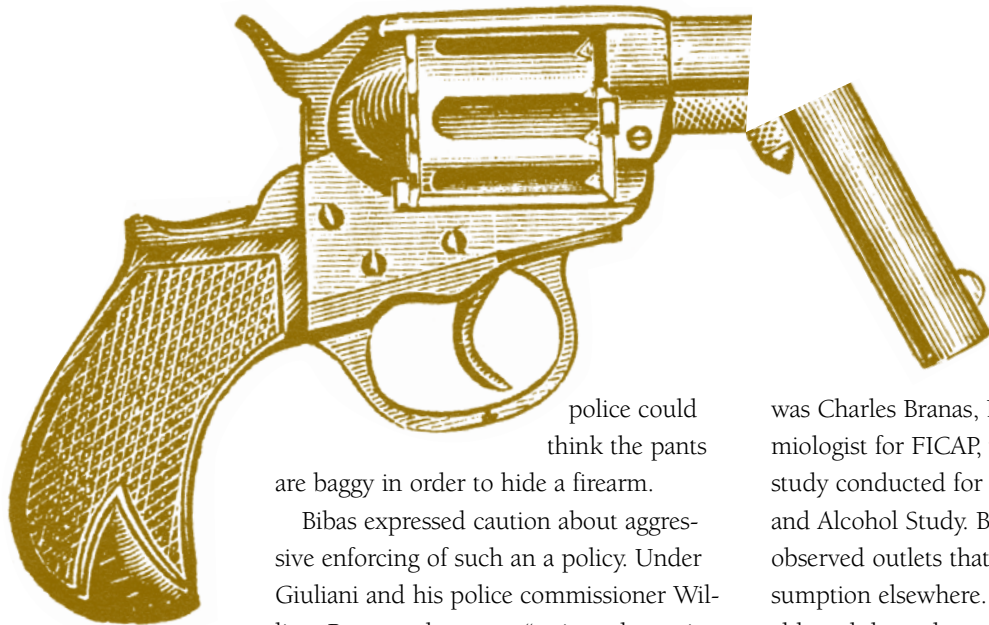
it can be managed. As Richmond added, if you can change one of those elements, you can stop that incident of gun violence from happening.

But as both Schwab and Richmond emphasized, to proceed effectively to control gun violence, researchers and planners need certain essentials. “We are *totally* helpless because we don't have the data and we don't have the funding.” To a great extent, that is because the government has imposed restrictions on the Centers for Disease Control and Prevention on the collection and dissemination of data related to guns. Richmond noted that the NIH has funded only a handful of major studies on the impact of gun violence over the past 30 years.

Rose Cheney, Ph.D., a demographer who serves as executive director of FICAP, spoke about one of the initiatives FICAP has joined in an attempt to gather the kind of information that could make a difference. The recently established Pennsylvania Injury Reporting and Intervention System (PIRIS) collects information from local hospitals on gunshot wound injuries. The data is then used by state and local agencies and community partnerships to home in on certain problematic activities, develop new programs, and evaluate how current efforts to reduce violence are faring.

As Cheney said, the initiative brings in perspectives from several disciplines. PIRIS identifies youths ranging from 15 to 24 years old who have either been shot or have shot themselves; case managers then try to help them through a

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wide range of issues, with the primary goal of preventing repeated violence. So far, Cheney reported, 75 percent of youths discharged from hospitals were successfully enrolled. It is too early to tell whether the program will reduce future violence, but PIRIS will have data to work with. And, Cheney emphasized, it sends “a very important message – you are not on your own.”

Stephanos Bibas, J.D., M.A., a professor in the Law School, spoke about some of the legal implications involved in trying to control gun violence. One of the topics in the news was the policy of “stop-and-frisk,” which Michael Nutter, W ’79, now the Democratic candidate for mayor of Philadelphia, supported during the primary campaign. A former prosecutor in New York City under Mayor Giuliani, Bibas noted that “stop-and-frisk” was not a new approach. “The real question is, how much?” The courts have ruled that police do not need “probable cause” but do need some basis for suspicion before stopping a person and frisking them for illegal weapons. And the basis for stopping someone cannot be racial. Possible contexts, Bibas suggested, would be if someone is wearing a long coat that could hide an automatic weapon or is seen “casing the joint.”

A *Philadelphia Inquirer* reporter suggested the complexity of the issue by pointing out that many young African Americans favor a style of baggy pants, but some

police could think the pants are baggy in order to hide a firearm.

Bibas expressed caution about aggressive enforcing of such a policy. Under Giuliani and his police commissioner William Bratton, there was “quite a dramatic decline” in gun-related violence; but because more minorities were stopped, there was noticeably more tension between the police and minority groups. That kind of policing is always more effective when the police work closely with community leaders and make it clear that the goal is not merely to “maximize arrests.” On the other hand, a reporter for the *Daily News* claimed that a study by Columbia University had concluded that stop-and-frisk is a form of racial profiling.

Lawrence W. Sherman, Ph.D., professor of sociology and director of the Jerry Lee Center of Criminology of the School of Arts and Sciences, spoke about the importance of gauging “gun density” as a way to prevent gun violence. As he put it, “Kansas City is the prototype.” It was there, in 1992, that the police began to stop and frisk at the “hot spots,” acting on suspicious behavior and body language. The threat of being found with an illegal weapon was enough to keep many people from carrying the weapons. The result was a 50 percent decrease in gun crimes in the targeted areas. Sherman, who has designed similar interventions for several cities, believes that Nutter’s proposal can be effective in Philadelphia, “with due diligence.”

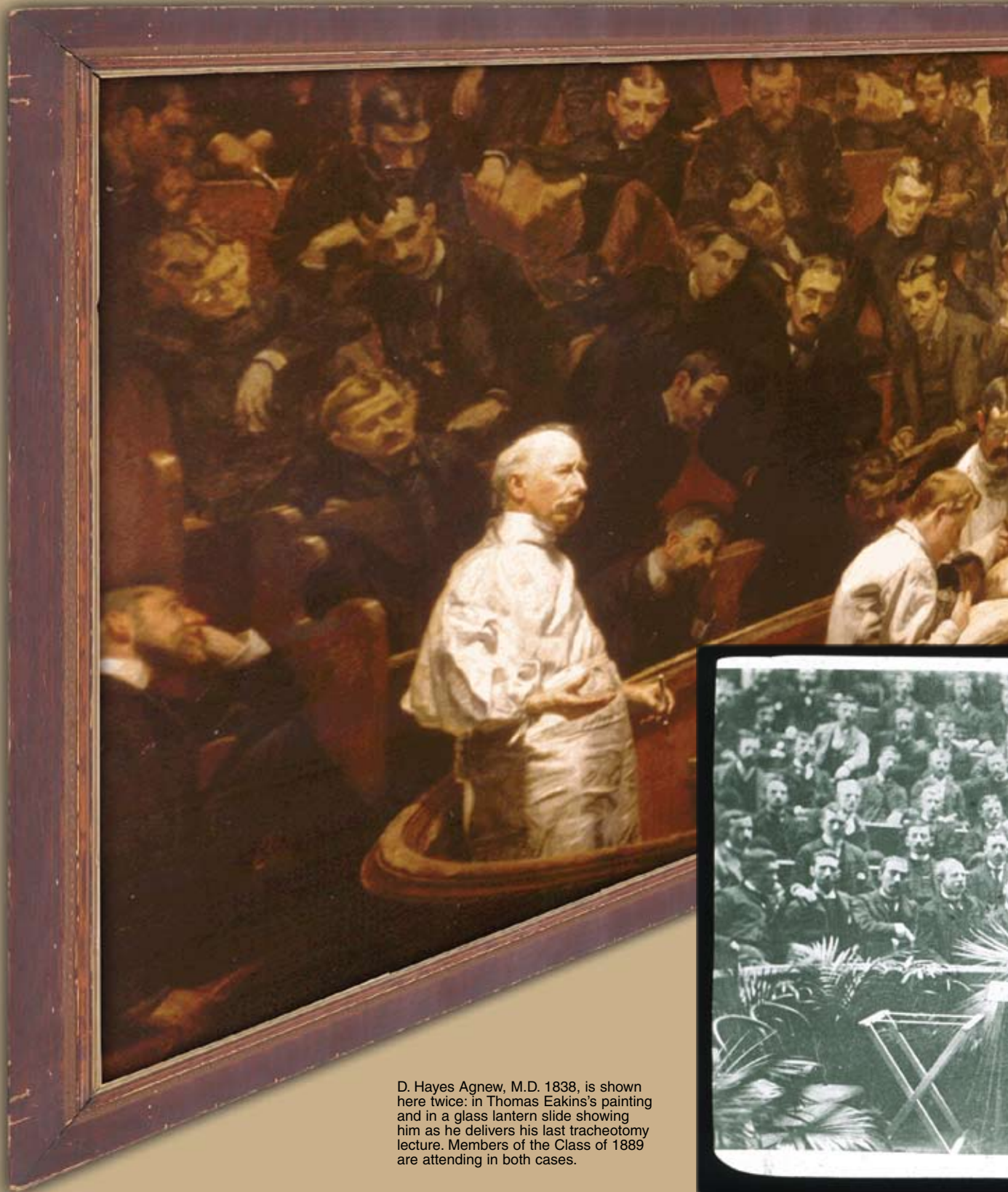
The last featured speaker of the seminar

was Charles Branas, Ph.D., lead epidemiologist for FICAP, who reported on a study conducted for the Philadelphia Gun and Alcohol Study. Branas and his team observed outlets that sell alcohol for consumption elsewhere. According to Branas, although bars also sell alcoholic drinks, they tended to have a quieter environment, the servers paid more attention to how much patrons were drinking, and bouncers seemed ready to toss an unruly patron. In contrast, gun violence was more likely to occur when the alcohol was bought at an outlet, taken away, and consumed in the vicinity of the outlet. Consuming the alcohol outdoors was seen to be especially dangerous. Among the study’s recommendations: police public drunkenness near the take-out stores and train the servers there about when to sell the alcohol and when not to.

Branas, whose study had not yet been published, faced several questions and comments. One reporter disagreed with Branas’s contention that the outlets were a greater source of violence than the bars. Another wondered about the relative costs of buying the alcoholic drinks: was there a social or economic factor to the violence? Branas’s study did not address that question.

All in all, the media seminar served to raise questions, provide different perspectives, and suggest areas to investigate. As Philadelphians know all too well, any useful ideas cannot come too soon. On September 23, *The Philadelphia Inquirer* reported that more than 300 people had been killed by guns in the city so far this year. ■

A GLIMPSE INTO THE



D. Hayes Agnew, M.D. 1838, is shown here twice: in Thomas Eakins's painting and in a glass lantern slide showing him as he delivers his last tracheotomy lecture. Members of the Class of 1889 are attending in both cases.

PAST: THE MEDICAL CLASS OF

1889

By John Shea



The Class of 1889 may be the only one from Penn's School of Medicine to appear in a genuine masterpiece. The masterpiece in question is Thomas Eakins's *Agnew Clinic*, which, after it was moved off campus because of a steam leak in the John Morgan Building five years ago, is now on loan to the Philadelphia Museum of Art. As many alumni and faculty members recall, the painting shows Penn's white-haired D. Hayes Agnew, M.D., considered the leading surgeon of his day, delivering a lecture in a surgical amphitheater while junior colleagues perform surgery on a female patient. What is not as well known is that the interested spectators in the amphitheater are drawn mostly from the Class of 1889. The graduating class, in fact, commissioned the painting for Agnew, who was to retire at the end of that school year.

Through careful detective work, archivists and historians have been able to identify all of the people in the painting. These include students, surgeons, nurse, and other onlookers – including Eakins himself. (He is at the lower far right, listening to Frederick H. Milliken, M.D. 1879, a HUP physician.) Given who commissioned the painting, it is not surprising that almost all of the students look alert and interested, with the possible exception of the young fellow in the fifth row who is almost horizontal. But he's been identified as William Furness, Class of 1891, so his relative youth might help explain his unusual posture.

This year, the Class of 1889 is, in some ways, back in the spotlight again. The University of Pennsylvania Archives and Records Center is currently presenting an on-line exhibition that considers the class as an example of “Penn in the 19th Century.” (It can be accessed at

<http://www.archives.upenn.edu/histy/features/1800s/1889med/med1889entry.html>.) The exhibition takes various perspectives, including curriculum, composition of the student body, extracurricular activities, and the faculty. It also takes a look at the class in relation to *The Agnew Clinic*. The exhibition's interesting background text is well supplemented by a set of glass slides that show the members of the class both as students and later in life as physicians who seemed well disposed to attending reunions over the years. The glass slides were recently located and purchased for the University Archives by Susan Molofsky Todres, CW '75, WG '77. In the last few years, she has become, as Mark Frazier Lloyd, director of the archives, put it, “the most generous patron the archives has ever known.”

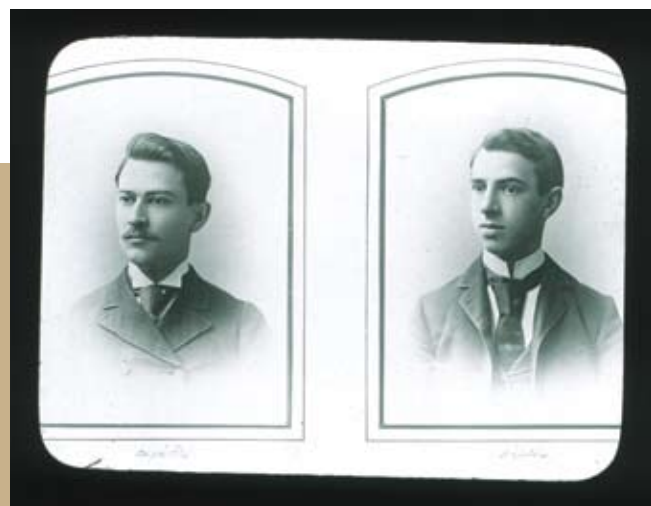
Mary D. McConaghy, who prepared the exhibition, reports that there is no indication who gathered and prepared

the materials for the slide show, but she suspects they were prepared for the class's 40th reunion. A “circular letter” to the class at that time notes that “Lantern slides, bringing back '89's good old days, will be shown.” That particular reunion was eventful, with marches, dinner at the University Club at 16th and Locust streets, attendance at the Penn-Princeton baseball game, and a gathering at the farm of Alfred Stengel, a classmate.

Stengel was one of the class's most accomplished members: he became a professor of medicine at Penn, a physician at the University's hospital, a member of the board of trustees, and a vice president of the University. Stengel appears among studio portraits taken of members of the Class of 1889 at graduation and in the slide depicting the living quarters of Benjamin Brooke (Stengel is seated behind the table). Today, his name graces one of the School of Medicine's annual faculty



Nine members of the Class of 1889 joined the Stillé Medical Society. Here, the students gather around the society's namesake, Alfred Stillé, M.D. 1836, emeritus professor of the theory and practice of medicine and of clinical medicine.



Two members of the Class of 1889, photographed at graduation: Henry Deischer Stichter (left) and Alfred Stengel.

Awards of Excellence – the Alfred Stengel Health System Champion Award.

What McConaghy calls her favorite images are those showing the students – all with hats or caps – in the dissection room. “There is a certain bravado, a fascination with cutting apart a human body that aspires to move past fear and nervousness to gaining control of oneself and of the blood and guts in front of them.” But as she goes on to say, the dissection images were important “because they illustrate important inter-related scientific and cultural developments of the time.” Dissection, for example, did not become a part of the medical-school curriculum until the University moved to West Philadelphia in 1872, the medical school got a new, expanded campus, and the University hospital was established for teaching in 1874.

As the online exhibition notes, a total of 197 students attended classes at one time during the three-year progression of

course work; only 128 students earned their degrees in 1889. Their educational backgrounds varied before attending medical school: “Many had attended and even graduated from college, but a considerable number of other students entered medical school without any college credits.” The median age at graduation was 23 or 24. Of the students who graduated in 1889, 72 percent were from Pennsylvania, and five graduates came from other countries. One of the class’s graduates was an African American, William Cromwell Green.

In addition to course work, the students could enjoy athletics or music and join social fraternities. They could also join student medical societies. What makes their participation in such societies somewhat different from the experience of later Penn students is that of the four societies open to the medical students during their second and third years of study,

all were named after faculty members who were either still active or emeritus: Agnew himself; William Pepper, who was also the University’s provost; Alfred Stillé, emeritus professor of the theory and practice of medicine and of clinical medicine; and Horatio C Wood, professor of material medica, pharmacy, and general therapeutics. Some of the glass slides of the medical societies show the students gathered around these physicians of great reputation.

One other note about the Class of 1889 and the faculty members who taught them: it was to this class that William Osler delivered his famous valedictory address on “Aequanimitas” (May 1, 1889). Unfortunately, the historical record doesn’t note whether the graduating students responded to Osler’s announcement of his departure for a school in Baltimore with the Roman virtue of “imperturbability.” ♥



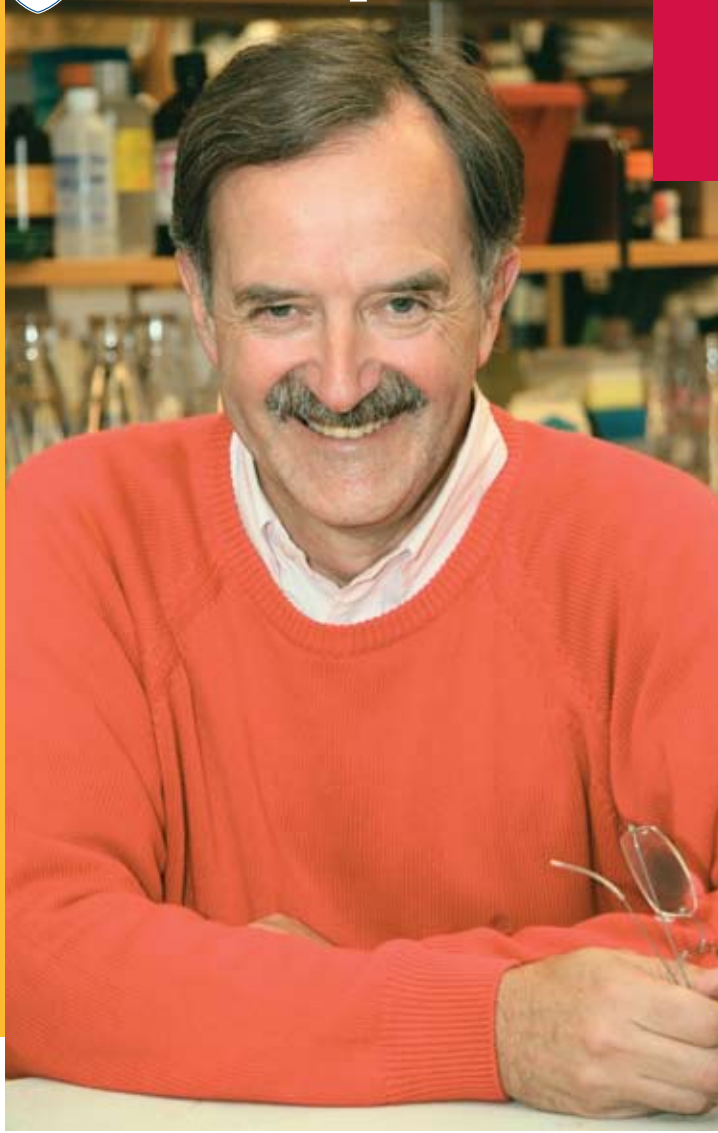
The four presidents of the medical societies in 1889.



The living quarters of Benjamin Brooke, Class of 1889. Alfred Stengel is seated behind the table, and Brooke is behind him.



Seven members of the Class of 1889 in the dissection room.



ITMAT:

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It's been a banner year for the Institute for Translational Medicine and Therapeutics (ITMAT). PENN Medicine has announced the construction of a new translational research building (see cover story, pp. 14-15). Thanks to an anonymous donor, Garret FitzGerald, M.D., director of ITMAT and chair of the Department of Pharmacology, now holds the Robert L. McNeil Jr. Professorship in Translational Medicine and Therapeutics – the first endowed chair in the nation dedicated to this emerging field. The Institute, created in 2005, has been featured in recent articles in *Science*, *Nature Reviews Drug Discovery*, and *Genome Technology*.

And ITMAT's leadership in translational medicine has been recognized – and enhanced – by a \$68 million award, one of 12 that launched a consortium described by Elias A. Zerhouni, M.D., director of the National Institutes of Health, as “the first systematic change in our approach to clinical research in 50 years.”

“I would say that PENN Medicine's philosophy is to deploy cutting-edge discoveries and translate them into novel therapies that are safe and effective as quickly as possible. Penn has caught the wave of what is called translational medicine,” says FitzGerald. “Our strengths in research and care, as well as broader connections across the University, give us a unique opportunity to accelerate the move from the lab bench to the bedside.”

A Historic NIH Award Expands ITMAT's Influence

Last fall, the NIH awarded the School of Medicine's ITMAT – together with The Children's Hospital of Philadelphia, the Wistar Institute, the University of the Sciences of Philadelphia, and eight other Penn Schools – \$68 million to form an alliance to facilitate clinical and translational research. Institutional commitments of \$30 million bring the Philadelphia consortium's total to nearly \$100 million, and ITMAT serves as its academic home. In all, 12 academic medical centers across the nation received the Clinical and Translational Science Awards (CTSAs).

“Penn was the only one among the 12 that already had a focus on translational therapeutics,” says FitzGerald. “We are in a great position to lead the charge amongst our peer institutions into the medicine of the future.”

Penn has long been a leader in fostering interdisciplinary institutes. The Abramson Cancer Center, the Cardiovascular Institute, and the Institute for Diabetes, Obesity, and Metabolism are three examples, all of which, like ITMAT, depend on philanthropic support to continue their groundbreaking work.

Paving the Way to Personalized Medicine

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ng the Crest of a **Translational** Wave

sonalized medicine, in which information about a patient's genotype or level of gene expression and clinical data are used in order to select a therapy. The term emerged in conjunction with the Human Genome Project. Over the past decade or so, new predictive sciences have emerged in biomedical research – including genomics, proteomics, metabolomics, and cytomics – that open the possibility of new approaches to drug development and more effective diagnosis, therapeutics, and patient care.

“Herceptin and Gleevec are effective if you have a certain genetic makeup, and this is likely true of all drugs,” FitzGerald says. “There's huge variability in

“People can vary remarkably in response to a given drug – some will experience twice the efficacy, others one tenth the efficacy.

What are the genetic explanations for this?”

FitzGerald wants to know.

response to the same drug given at the same dose at the same time of day.” That variability includes both positive impact and negative side effect, which means that by analyzing individual human responses to therapies, investigators are aiming to create not just better drugs, but safer ones.

Translational medicine's integrated skill set is crucial to realizing the potential of personalized medicine. “Investigators must be able to move back and forth between cellular and animal model systems and mechanistic studies in humans and large clinical trials,” FitzGerald notes, explaining that creating a drug to block a certain genetic receptor, for example, involves:

- * applying cellular biology to discover the receptor
- * manipulating the receptor genetically in mice to see what happens
- * creating a drug to block the receptor
- * quantitatively analyzing the way the drug works in

mice – how effectively it binds to the receptor; how it breaks down; how genetics affects these responses

- * introducing the drug into humans and measuring both how it is tolerated and what degree of receptor blockade it produces
- * determining how a patient's genetic profile alters the mechanism of drug action
- * assessing whether this information can identify people who are particularly susceptible to benefit or risk in clinical trials.

“People can vary remarkably in response to a given drug – some will experience twice the efficacy, others one tenth the efficacy. What are the genetic explanations for this?” FitzGerald wants to know.

Rejuvenating the Pharmaceutical Industry

Personalized medicine promises safer, more effective therapies. But it could also make it less expensive to develop them, rejuvenating the business model that the pharmaceutical industry – so important to the economies of both Philadelphia and Pennsylvania – uses.

“The way we've developed medications thus far has been rather crude,” FitzGerald notes. “We discover a medication that treats something and show that it can be tolerated by humans. Then we come up with a dose that's really a guess – and gamble the huge investment in this process on the hope that *that* dose, on average, will be more effective than a placebo.”

From the standpoint of industry, it can take 10 years or more and \$1 billion to develop a new drug, then billions more to market it. Naturally, companies hope that their new medications will more than recover that investment before their patents expire – and that they will not be derailed by adverse side effects, such as those that caused Merck to pull Vioxx®, a drug that brought in billions of dollars a year, from the market in 2004. Indeed, while FitzGerald's research was the first to predict and explain the cardiovascular problems with NSAIDs like Vioxx, he is currently pursuing interdisciplinary research to “personalize” their usefulness. “Drugs like Vioxx relieve pain and inflammation, but cause serious problems in perhaps one to three percent of the people who use them,” he explains.



Development Matters

“OUR STRENGTHS IN RESEARCH AND CARE, AS WELL AS BROADER CONNECTIONS ACROSS THE UNIVERSITY, GIVE US A UNIQUE OPPORTUNITY TO ACCELERATE THE MOVE FROM THE LAB BENCH TO THE BEDSIDE,” SAYS FITZGERALD.

“Rather than abandon them, we would like predict and manage their risk.”

In a 2005 opinion piece published in *Nature Reviews Drug Discovery*, FitzGerald describes pharma’s current business model as “the Wal-Mart principle” (low margins on high volumes of goods). Instead, he advocates “adding value to the primary product [so that it] can be priced at a premium and sold to a more carefully defined segment” – i.e. shifting to personalized medicine, whose therapies are more effective and safer. In addition, FitzGerald points out, personalized medications may be both faster and less expensive to develop, with expanded Phase II trials and smaller, shorter, and less costly Phase III studies.

Educating a New Breed of Physician-Scientists

“Our limitation right now is a real deficit in people who can do this kind of research. At Penn we have about 10, and that’s actually a very large number. Most of our peer institutions have at most one or two,” says FitzGerald. “We have to breed physician-scientists who can cross over from basic science to clinical research, who understand how therapies work in human beings, and who are cognizant of the challenges posed by certain diseases.”

One of ITMAT’s primary missions is to fill that gap. The Institute offers a Master of Science degree in Translational Research (M.T.R.), supported in part by NIH awards. The two- to three- year program is already being offered as a joint degree with Penn’s M.D., Ph.D., and D.V.M. programs and will be extended to other disciplines. There are currently 22 students pursuing the M.T.R., and the program continues to expand. ITMAT has also established a joint fellowship program with Penn’s Institute for Medicine and Engineering.

ITMAT seed grants of \$150,000 offer incentive for cross-disciplinary research. Only researchers from different departments who haven’t worked together can qualify. Six pairs of senior investigators won grants in the latest funding round.

Penn’s Great Strength – and a Philanthropic Challenge

The future of medicine, FitzGerald says, will increasingly rely on the integration of skill sets that

reside in the School of Medicine with those found in engineering, veterinary science, business, and other academic disciplines. Penn’s unified campus, he says, makes it “much better positioned than places like Harvard, with its geographically dispersed schools, to pursue that integrated vision.”

The NIH’s landmark CTSA grant recognizes Penn’s – and ITMAT’s – leadership in translational medicine. It is a foundation and a vote of confidence, and ITMAT has also built important alliances within the pharmaceutical industry, with partners such as GlaxoSmithKline and AstraZeneca. FitzGerald hopes the grant will also galvanize philanthropic interest in this burgeoning area.

FitzGerald cites Harvard’s Broad Institute as an example of the impact a large private contribution can yield. Los Angeles philanthropists Eli and Edythe Broad made their \$100 million, 10-year commitment in 2003 to create an institute that aims to develop tools for genomics-based medicine. Harvard’s hospitals, the Whitehead Institute for Biomedical Research, and MIT

An International Movement –

Translational medicine isn’t just an American phenomenon; it’s becoming a priority in Europe, too. According to a recent Science story, the European Commission has targeted much of its health research budget of 6 billion euros for the next six years at translational projects that span European borders, including programs in Germany, Italy, and the U.K.

Garret FitzGerald, M.D., who is involved in the review of Britain’s new programs, has pursued translational medicine on both sides of the Atlantic long before anyone gave it a name. During his pre-med studies at University College Dublin in 1968, a day course in clinical pharmacology piqued his interest in doing research with an eye toward developing therapeutic applications. He followed his medical studies with graduate study at Trinity College, Dublin; the University of London; the Royal Post-



The research building will rise above the Roberts Proton Therapy Center (right). Rendering (concept only) courtesy of Raphael Viñoly Architects.

are also partners in the venture, which, according to FitzGerald, has had a “catalytic effect” on genomics research both at Harvard and beyond.

“We need more philanthropy searching to invest in the interfaces between medicine and emerging technology,” he says, noting that the funding for his McNeil Professorship may signal a promising trend.

and an International Leader

graduate Medical School of London; and the Max Planck Institute, Cologne, Germany. FitzGerald spent the 1980s at Vanderbilt University, becoming clinical pharmacology chief, then returned to University College Dublin in 1991 to chair the Department of Medicine and Experimental Therapeutics. University College Dublin, the University of Edinburgh, and the University of Frankfurt have awarded him honorary doctorates.

FitzGerald arrived at Penn in 1994 as founding director of the Center for Experimental Therapeutics, was appointed chair of the Department of Pharmacology in 1996, and was named director of the newly created Institute for Translational Medicine and Therapeutics in January 2005. His own research lab investigates bioactive lipids in inflammation and cardiovascular disease.

Recent Gifts

Henry Jordan, M.D. '62, and Barbara Jordan have contributed \$1.8 million, including \$1.5 million to create the Jordan Family Challenge Fund to encourage gifts to support graduate scholarships, as well as \$300,000 to seed funding for the Aaron T. Beck Fund for training and research within the Department of Psychiatry.

The **Ellen and Ronald L. Caplan Patient Education Center** in the Perelman Center for Advanced Medicine, named with the **Caplans'** \$1 million gift to the Abramson Cancer Center, will serve as a resource for patients diagnosed with cancer to learn about treatment options, prevention, and other services.

With their \$1 million gift, **Elaine and Melvin Merians** have established the Helene Blum Assistant Professorship in Radiation Oncology at the Abramson Cancer Center. The Fund honors Mrs. Merians's late mother.

With her \$1 million gift, **Betsy Z. Cohen, Esquire, L'66** will support innovative approaches to improve the early detection of cancer at the Abramson Family Cancer Research Institute.

Close friends of **Joan L. Steinberg, ED '54, and Alan A. Steinberg, ME '54**, honored Alan's recent passing through an extraordinary anonymous gift supporting the Abramson Cancer Center's establishment of the Alan Steinberg Scholars in Cancer Research Fund.

A \$1 million gift from **Benjamin & Mary Siddons Measey Foundation** will support the School of Medicine's Center for Advanced Surgical Simulation.

In recent months, the School of Medicine has received research grants of \$1 million or more from **The Leukemia and Lymphoma Society, the W. M. Keck Foundation, the Association Française Contre Les Myopathies, and the Juvenile Diabetes Research Foundation**, as well as \$8.5 million in research funding from **GlaxoSmithKline**.

Alumni Events

November

Sunday, November 4 – AAMC Alumni Reception, Washington, D.C.
Saturday, November 10 – Ophthalmology Reception, New Orleans

February

Sunday, February 3 – Academy of Dermatology Reception, San Antonio, Texas
Monday, February 4 – Campaign Reception, Los Angeles
Monday, February 4 – Campaign Reception, San Francisco

CREATE A LEGACY...
BUILD THE FUTURE OF MEDICINE...
Endow a Scholarship.



My goal in medicine is to serve as a primary care physician in a medically underserved community — I'd love to have a bilingual clinic. Right now I am involved with a community-based initiative to provide health care and other services to Spanish-speaking immigrants in South Philly. I am also very interested in public health, prevention, and international health.

My scholarship liberates me to pursue these goals.

CAITLIN POLLEY

Huldah Bender Kerner, M.D. Memorial Scholar

For more information, contact:

Kristen Rozansky
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Progress Notes

Send your progress notes to:

Jason B. Bozzone
Associate Director of Alumni
Outreach and Reunions
PENN Medicine Development
and Alumni Relations
3535 Market Street, Suite 750
Philadelphia, PA 19104-3309

'50s

William D. Glenn III, M.D. '56, and Frances B. Glenn, D.D.S., his wife, have written *Complete Guide for Having Children with Perfect Teeth* (AuthorHouse, 2007). According to the authors, "With precise fluoride nutrition, parents can ensure their children's teeth will not only resist decay but also resist possible trauma – all for about \$20 a year, and prevent costly orthodontics for a little more." In addition to recommendations about care and treatment of teeth, the book includes material about the American Dental Association and "antifluoridationists." William Glenn has retired from otolaryngology and head and neck surgery. Frances Glenn, who practiced pediatric dentistry and orthodontics for 45 years, has served on the Board of Overseers of the University of Pennsylvania School of Dental Medicine since 1990.

'60s

Charles R. Koch, M.D. '60, G.M.E. '67, Philadelphia, recently was awarded emeritus status by the Regional Council of Child and Adolescent Psychiatry. This honor is conferred on child and adolescent psychiatrists who have contributed to the Council over the years by working on committees, have retired, and are senior.

William R. Taylor, M.D., G.M.E. '63, West Hartford, Conn., recently published the results of the Military/Pacifist Similarities Survey. His pilot study can be found at www.AmericanConfusion.com. Taylor spent 40 years practicing child and family psychiatry in clinics, hospitals, schools, and private practice. After retiring from psychiatry in 2000, he published a book, *American Confusion from Vietnam to Kosovo* (available at Amazon.com).

Carl E. Bartecchi, M.D. '64, Pueblo, Colo., has published *A Doctor's Vietnam Journal* (Merriam Press, 2006). He is Distinguished Clinical Professor of Medicine at the University of Colorado and a physician with Internal Medicine Specialists in Pueblo. After providing a brief history of Vietnam since World War II, Bartecchi relates his experiences as a flight surgeon at the 41st Medical Detachment at Soc Trang during the Vietnam War. In addition to caring for soldiers, Bartecchi and his colleagues began to look after the local orphanage. The dramatic difference in the children's health drew villagers to the base. As Bartecchi told *The Pueblo Chieftain*, "In those provinces we went to, the only medicine was folk medicine. All of a sudden, Western medicine comes and has antibiotics and aspirin. . . . People with arthritis were able to walk again." Bartecchi also writes of his disillusionment after the war, inspired in part by publication of *The Pentagon Papers*. Then he writes of his return to Vietnam in 1997, which led to establishing a relationship with the Vietnamese doctors at Bach Mai Hospital in Hanoi. Bartecchi now heads the Bach Mai Hospital Project, which seeks to expand and enhance medical care and medical education in Vietnam by providing specialized equipment and training to the doctors and nurses at the hospital. The project is supported by Catholic Health Initiatives (CHI) Colorado Foundation, and all royalties from *A Doctor's Vietnam Journal* will also go the project. (The Web site is <http://home.comcast.net/~ckbartecchi/Bach-Mai/about.htm>)

Edgar P. Nace, M.D. '65, a board-certified psychiatrist with added qualifications in addiction psychiatry and forensic psychiatry, and Joyce A. Tinsley, M.D., have written *Patients With Substance Abuse Problems: Effective Identification, Diagnosis, and Treatment* (W. W. Norton, 2007). Beginning with explaining the challenges of treating substance abusers, the book goes on to look at the reward pathway in the brain and discusses the proposed role of dopamine in a patient's overwhelming desire to use his drug of choice. Later chapters consider denial; available treatments; and two groups of at opposite ends of the spectrum:

adolescent substance abusers and geriatric substance abusers. Nace is clinical professor of psychiatry at the University of Texas Southwestern Medical Center at Dallas and medical director at Turtle Creek Manor in Dallas. A Distinguished Fellow of the American Psychiatric Association, he also has a private practice.

R. Tim Lachman, M.D. '67, Wynnewood, Pa., a specialist in neuromuscular diseases, was appointed assistant professor of neurology at Temple University School of Medicine. He had been a clinical assistant professor of neurology at Thomas Jefferson University.

Doris Gorka Bartuska, M.D., G.M.E. '68, emeritus professor of medicine (endocrinology, diabetes, and metabolism) at Drexel University College of Medicine, received the Phyllis Marciano, M.D., WMC '60, Woman in Medicine Award from the Trust Fund of the Alumnae Association of WMC/MCP. The citation reads: "In recognition of her outstanding contributions and untiring devotion to teaching, mentoring, patient care, and leadership, as a role model for women in medicine."

John M. Benson, M.D. '68, Bar Harbor, Maine, medical director of medical imaging at Mount Desert Island Hospital, was inducted as a fellow in the American College of Radiology (ACR). A trustee of the hospital, he is chair of the Committee on Ultrasound Accreditation of the ACR.

Bennett Lorber, M.D. '68, Elkins Park, Pa., the Thomas M. Durant Professor of Medicine in the infectious diseases section at Temple University School of Medicine, received his 12th Golden Apple Teaching Award; was named the Outstanding Senior Educator by the Department of Medicine; and was made a Master of the American College of Physicians. A year ago he was given the Honored Professor Award by the Temple Medical School Alumni Association.

Patricia A. Gabow, M.D. '69, chief executive officer and medical director of Denver Health, was named one of the "50 Most Powerful Physician Executives in Healthcare" by *Modern Healthcare*.

One of only eight women on the list, she was also one of only two CEOs who lead safety-net hospitals. Gabow joined Denver Health in 1973 as chief of the renal division and was promoted to CEO/medical director in 1993. She also serves as professor of medicine in the Division of Renal Disease at the University of Colorado School of Medicine.

'70s

Kenneth Brown, M.D. '73, director of the Program in International and Community Nutrition at the University of California at Davis, was one of 16 scientists and clinicians elected to The Johns Hopkins University Society of Scholars. Established in 1967, the society inducts former postdoctoral fellows and junior or visiting faculty at Johns Hopkins who have gained distinction in their fields of physical, biological, medical, social, or engineering sciences or in the humanities. Brown has spent his career investigating the causes, treatment, prevention, and complications of childhood malnutrition in low-income countries, with particular emphasis on the appropriate feeding of infants and young children. He is considered an international expert in the dietary management of diarrheal diseases and the role of zinc and other micronutrients in the prevention and treatment of infection. He has received the International Award for Modern Nutrition, the Kellogg Prize in International Nutrition Research, and the E. V. McCollum Award of the American Society for Clinical Nutrition.

Barnard A. Kaplan, M.D. '74, was elected chief of ophthalmology at the Virtua-West Jersey Health System, which has three hospitals in Camden and Burlington counties. He and Sydney L. Tyson, M.D., are principal partners of Eye Associates, a comprehensive ophthalmology practice with six locations throughout southern New Jersey.

'80s

Michael C. Vidas, M.D., G.M.E. '82, Peoria, Ill., was re-elected to



the board of trustees of the Illinois State Medical Society. A board-certified otolaryngologist, Vidas is on the staff of OSF St. Francis Medical Center and Proctor Hospital, both in Peoria, and serves as an instructor in surgery at the University of Illinois College of Medicine at Peoria.

Rona Woldenberg, M.D. '87, Great Neck, N.Y., has been inducted as a fellow in the American College of Radiology. Associate director of medical education and associate chief of neuroradiology at North Shore University Hospital, she is also assistant professor of radiology at the New York University School of Medicine. She is editor in chief of the ACR's Case in Point, an on-line learning tool.

'90s

Dimitri A. Christakis, M.D. '93, M.P.H., is author, with Frederick J. Zimmerman, Ph.D., of *The Elephant in the Living Room: Make Television Work for Your Kids* (Rodale Books, 2006). Christakis is professor of pediatrics at the University of Washington School of Medicine and adjunct professor of health services at UW's School of Public Health and Community Medicine. He also serves as director of UW's Child Health Institute, where Zimmerman is an investigator. The book covers such areas as television's effects on attention span, learning, aggressive or kind acts, sleep and dreams, risky behavior with sex or alcohol, as well as TV marketing of products to children. The authors also suggest ways to turn TV into a positive force in their children's lives.

Evan P. Nadler, M.D. '95, assistant professor of surgery at New York University School of Medicine, serves as director of minimally invasive pediatric surgery there. He was lead author of the first published study in the United States to evaluate the use of laparoscopic adjustable gastric banding for morbidly obese adolescents (*Journal of Pediatric Surgery*, January 2007). According to Nadler, the study suggests that "the lap band provides a safer and equally effective weight loss strategy compared to the gastric bypass." Nadler is part of an FDA-approved study evaluating the safety and

efficacy of the gastric band in patients under the age of 18.

Brian S. Glatt, M.D. '97, Short Hills, N.J., has opened a practice, the Premier Plastic Surgery Center of New Jersey, in Morristown (www.drbrigianglatt.com). He married Jessica Marshall in September 2006.

Niraj J. Gusani, M.D. '98, WG '94, ENG '94, and Nehal Patel Gusani, Hummelstown, Pa., have moved to the Harrisburg/Hershey, Pennsylvania area. Niraj will join the Department of Surgery at the Penn State Milton S. Hershey Medical Center, focusing on gastrointestinal oncologic surgery. Their daughter, Anjali Niraj Gusani, was born in March 2007.

'00s

Wilson Y. Szeto, M.D., G.M.E. '03, has joined Penn's Department of Surgery as assistant professor. After receiving his M.D. degree from the Medical College of Virginia, he completed a general surgery residency, a cardiothoracic residency, and an aortic and endovascular fellowship, all at HUP. His areas of expertise involve thoracic aortic surgery and complex valvular heart surgery, including valve-sparing aortic root replacement and minimally invasive mitral valve repair.

OBITUARIES

Morris W. Weinstein, M.D. '30, West Orange, N.J.; January 1, 2007.

John A. Fritchey Jr., M.D. '35, Harrisburg, Pa., August, 2006

Theodore M. Marmo, M.D. '35, Clarks Summit, Pa.; February 9, 2004.

Milton Mazer, M.D. '35, West Tisbury, Mass.; January 7, 2007. After earning his medical degree, he worked for some years in Veterans Administration hospitals in Philadelphia. In 1943, he enlisted in the Army Air Corps and was stationed in England, where he attained the rank of captain. After the war, Mazer temporarily left medicine to try writing and had stories published in *The New Yorker* and *Esquire*. He then became interested in psychol-

ogy and enrolled in the Academy of Psychoanalysis in New York. He obtained his degree in 1950 and practiced psychoanalysis in New York until he moved to Martha's Vineyard, Mass., 11 years later. As the Vineyard's first psychiatrist, he did pioneering work in the field of rural mental health, which led to the establishment of Martha's Vineyard Community Services. His book *People and Predicaments* (1976), a clinical study of the Vineyard population and the psychological stresses that are unique to Island life, "remains a timeless textbook with its deftly wrought profile of mental-health problems among Islanders – including depression, alcoholism, and suicide," according to *The Vineyard Gazette*.

David William Kline, M.D. '36, Yarmouth, Maine; December 23, 2006.

Frederick A. Bavendam, M.D. '37, G.M.E. '41, Bellevue, Wash.; September 9, 2006.

Randal A. Boyer, M.D. '37, Elverston, Pa.; December 11, 2005.

Joseph Lachman, M.D. '37, G.M. '55, Wynnewood, Pa., July 24, 2005.

Charles W. McGavran II, M.D. '37, Santa Barbara, Calif.; July 21, 2006.

William Serber, M.D. '38, Corte Madera, Calif.; July 1, 2006.

Paul J. Benson, M.D. '39, G.M.E. '46, Silver Spring, Md.; May 20, 2006.

Ernest M. Evans, M.D. '39, Seattle, Wash.; March 7, 2005. He did graduate training at Columbia Presbyterian and the University of Michigan, then served as a medical officer in World War II. He had a 40-year career as an internist at Seattle's Swedish Hospital. He continued to work into his 80s, reviewing disability claims for the state.

Henry S. Wieder Jr., M.D. '39, G.M.E. '43, Philadelphia; January 14, 2007. He had been a professor of orthopaedic surgery at Penn.

James S. C. Harris, M.D. '40, G.M.E. '47, Lansdale, Pa., a retired surgeon; April 7, 2007. After earning his medical degree, he served

in the Army and trained infantry soldiers in Texas. He was chief of thoracic surgery at Roxborough Memorial Hospital from 1956 to 1985 and chairman of the surgery department of Germantown Hospital from 1962 to 1982. He maintained a surgical practice in Germantown for almost 30 years and was on the faculties of the medical colleges of Hahnemann University, the University of Pennsylvania, and Temple University. He received several teaching awards, including two Golden Apples from his Temple students. After retiring from surgery in 1984, he was medical director at Roxborough Memorial for 10 years.

Sylvan H. Eisman, M.D. '41, G.M.E. '50, Philadelphia, emeritus professor of medicine in Penn's School of Medicine; June 26, 2007. A long-time citizen and avid supporter of the University, he was born in Philadelphia on September 30, 1916; earned his undergraduate degree from Penn in 1937; and received his M.D. degree from Penn four years later. Following medical training at the Hospital of the University of Pennsylvania and a stint as chief resident under Dr. Francis C. Wood, Eisman spent the rest of his long career at Penn.

It was a career that was greatly admired by colleagues and patients. In 1983, the trustees of the University of Pennsylvania approved a resolution in Eisman's honor and acknowledged the creation of the Sylvan H. Eisman Professorship of Medicine and his appointment as the School of Medicine's first Distinguished Professor of Clinical Medicine. The resolution noted that Eisman was "above all a constant, loyal, and superb physician. For so many, the burden of illness has been lightened by his consummate knowledge, his practical wisdom, his keen judgment, his unfailing concern and good humor. . . . He gives us much to emulate, and legion are those who have tried to make themselves more like him."

Joining the medical faculty in 1946, Eisman became a full professor in 1970. A general internist with a specialty in oncology, he helped establish HUP's chemotherapy unit. Although he retired from private practice in 1989 and earned emeritus status, he continued to maintain an office at the Medical Center. There, he addressed issues in risk management and medical malpractice

until retiring in 2003. The Sylvan H. Eisman Professorship, established by grateful patients, alumni, friends, and family, has been held by faculty members who followed his example of compassion and skill. In 1998, Penn's School of Medicine created a set of clinical "Awards of Excellence" for the faculty, including the Sylvan Eisman Outstanding Primary-Care Physician Award. Like Dr. Eisman himself, who received the Schools Lifetime Humanism Award in 2002, the recipients of the Eisman Award each year are noted for their professionalism and humanism. Among his other honors was the Alumni Service Award, given in appreciation of his "generous, loyal, and energetic commitment" to the School.

It is entirely characteristic of Eisman that, when he was asked in 1999 to name his "finest hour" at HUP, he replied: "Christmas Day, when I served as Santa Claus and delivered gifts to patients who had to remain in HUP over the Holiday Season." For many years, Eisman went from unit to unit in Santa guise, dispensing good cheer. Perhaps the most fitting comment on Eisman was made by Edward Stemmler, M.D., former dean of Penn's School of Medicine: "The life of a dean would be easy indeed if there could be a faculty of Sylvan Eismans."

Morton M. Halpern, M.D. '41, G.M. '45, Boca Raton, Fla., July 2006.

Donald R. Kindschi, M.D. '41, Sauk City, Wis., a physician until his retirement in 1979; May 11, 2006. He practiced in California for nine years before accepting a position teaching anesthesiology at a college in India from 1956 to 1961. He then worked at hospitals for Appalachian coal miners in Kentucky for several years and ended his career at the Veterans Hospital in Madison, Wis., in 1979. Earlier he had worked briefly for the Soil Conservation Service. Active in the Nature Conservancy, he received its highest honor, the Oak Leaf Award.

George E. Hikes, M.D. '42, Gettysburg, Pa., April 20, 2006.

Robert C. Walden Jr., M.D. '42, Manchester, Conn., an obstetrician and gynecologist there for 40 years; August 18, 2006. During World War II and after he served

in the U.S. Navy (1942-48). While a medical officer aboard the destroyer U.S.S. *Ludlow* from 1943 to 1945, he earned three battle stars.

L. John Bingham, M.D. '43, St. George, Utah; July 7, 2007. He completed his pre-med studies at The University of Utah before accepting a Latter Day Saints mission call to the German-Austrian Mission. He was with the missionaries evacuated from Europe at the beginning of World War II. Near the end of the war, he served as captain in the Army Medical Corp with occupation forces in Pacific. He received an honorable discharge from the Air Force Reserve in 1971. He began his first private practice as a family doctor in Kamas, Utah, in 1947, but spent most of his career in Idaho Falls, Idaho. Upon retirement, he and his wife accepted an LDS mission to Manila, The Philippines, where he served as the area medical coordinator from 1989 to 1991.

John E. Fisher, M.D. '43, New Castle, Ind.; May 21, 2006. An alumnus of Wittenberg University in Springfield, Ohio, he was a member of its board of directors for 20 years and received its Alumni Service Award. During his 34-year medical practice, he was the team physician for New Castle Community School Corporation for 20 years and a doctor at the New Castle State Hospital and for the Chrysler Corporation. He was a captain in the U.S. Army in World War II, stationed in Hawaii.

C. Maynard Guest, M.D. '43, Naples, Fla.; September 10, 2004. Elected to Alpha Omega Alpha in medical school, he interned at the Columbia Presbyterian Hospital in New York City and was a medical resident at the Mary Imogene Bassett Hospital in Cooperstown and the Bronx Veterans Administration Hospital. He was a lieutenant, j.g., in the U.S. Navy Reserve in World War II and a captain in the U.S. Army Reserve in the Korean War. He practiced medicine in Albany from 1950 until 1983, when he became executive secretary of the state's Board for Professional Medical Conduct, serving until 1995. He was co-founder of the Arthritis Clinic at Albany Medical Center Hospital and chairman of the Department of Rheumatology at St. Peter's Hospital. He had also been associate professor of clinical medicine at Albany Medical College.

William A. McMair Jr., M.D. '43, Salt Lake City, Utah; February 25, 2006. He completed internships and residencies at Washington, D.C., General Hospital and Children's Hospital in Boston, where he specialized in pediatrics. In World War II, he was a medical officer at William Beaumont Hospital in El Paso, Texas. McMair practiced medicine in Salt Lake City for more than 30 years, serving on the staffs of Primary Children's Hospital, LDS Hospital, Holy Cross Hospital, and the University of Utah Department of Pediatrics. In 1960, he was president of the Utah Intermountain Pediatrics Society.

J. Douglas McNair, M.D. '43, G.M.E. '53, West Covina, Calif.; December 8, 2006.

Col. John B. Moyar, M.D. '43, Fort Garland, Colo., a neurosurgeon who had served in the U.S. Army Medical Corps during World War II, the Korean War, and the Vietnam War; August 20, 2006. His last post was at Darnall Army Community Hospital in Fort Hood, Tex., where he retired in 1973 as a colonel, military commander in charge of the hospital, and chief of its neurosurgery service.

Martin G. Netsky, M.D. '43, G.M.E. '44, Belmont, Mass.; October 18, 2005. A former professor of neuropathology at the University of Virginia School of Medicine, he was coauthor of *Evolution of the Nervous System* (1974) and *The Choroid Plexus in Health and Disease* (1975).

William M. Simons, M.D. '43, Manheim, Pa.; July 25, 2007.

William Weiss, M.D. '43, East Falls, Pa.; March 8, 2007. After residencies in internal medicine and in pulmonology in New York and California, he joined Philadelphia General Hospital in 1950 as director of the pulmonary disease service. His 24-year career at the hospital was interrupted from 1953 to 1955 by his service in the Air Force at Baker Air Force Base in California. For almost 20 years, he was involved in the Pulmonary Neoplasm Research Project in Philadelphia. The project involved more than 6,000 male volunteers who agreed to have a chest X-ray every six months. The hope was that physicians would be able to

detect cancer sooner, but by the time lung cancer showed up on an X-ray, it had usually progressed beyond the curable stage. In the 1960s, Weiss researched so-called safer cigarettes.

A significant part of his research involved examining working conditions. In 1973, he was one of the authors of a landmark article in *The New England Journal of Medicine* that presented scientific evidence that workers exposed to chloromethyl ether were at risk for developing small-cell cancer. The chemical, then widely used to make several types of polymers, resins, and textiles, is now highly restricted.

For more than 30 years, Weiss was a professor at the former Medical College of Pennsylvania. He was on the staff of Hahnemann University's medical college from 1966 until 1984, when he was named emeritus professor. He received many professional awards, including the Strittmatter Award from the Philadelphia County Medical Society in 1991. Author of more than 200 medical articles, he also compiled amusing stories about his experience as a military physician in *Khaki in a Long White Coat*, (2002), a self-published book.

Neihl J. Williamson Sr., M.D. '43, Trout Run, Pa.; March 3, 2007. During WWII, he served in the Navy with the 10th Marines in the South Pacific. For 30 years he practiced medicine in Jersey Shore, Pa. He had served on the Jersey Shore Hospital Board of Directors and spearheaded a fundraising drive that resulted in construction of the Jersey Shore Swimming Pool.

Jack A. Wolford, M.D. '43, G.M.E. '47, New York, N.Y., emeritus professor of psychiatry at the University of Pittsburgh; October 17, 2005. He had been superintendent of the Hastings State Hospital for psychiatric patients, in Lincoln, Nebraska, for two years; chief of social psychiatry at Western Psychiatric Institute and Clinic, in Pittsburgh; commissioner for mental health for the State of Pennsylvania; and a founder of The Group for the Advancement of Psychiatry. He served as a captain in the U.S. Army Medical Corps during World War II.

Herbert Volk, M.D. '44, Larchmont, N.Y.; March 31, 2007. He

was a member of the founding faculty in the Department of Surgery of Albert Einstein College of Medicine of Yeshiva University, where he worked from 1955 to 1991. He also practiced for more than 30 years at New Rochelle Hospital. A retired captain in the U.S. Naval Reserve, he served in Japan during WWII.

David L. Miller, M.D. '46, Chautauqua, N.Y., Sept. 12, 2006.

Robert R. Rascoe Jr., M.D. '46, G.M.E. '53, Wynnewood, Pa., a retired obstetrician and gynecologist and emeritus associate professor at Penn; March 13, 2007. After discharge from the Navy, he completed a residency in obstetrics and gynecology at HUP and a research fellowship at New York Hospital, where he studied under Dr. George Papanicolaou, developer of the "Pap" smear for detection of cervical cancer. In 1954, Rascoe joined HUP's staff. There he researched cervical cancer with a grant from the American Cancer Society; chaired the utilization-management committee for several years; and maintained an obstetrics and gynecology practice. He retired from practice in 1994 but continued to teach medicine until 2005.

Toby A. Greco, M.D., G.M. '48, Garnet Valley, Pa.; June 17, 2007. He earned his medical degree from Temple University. A decorated naval veteran of World War II, he served as chief surgeon on a tank landing ship, operating on and treating the wounded during several battles in the South Pacific. After the war, he was appointed chief of gynecology at Methodist Hospital, where he treated patients for several years before opening his own practice. During his years of practice, he delivered more than 5,000 babies.

George W. S. Moore, M.D. '48, Centreville, Va.; August 1, 2007.

Jack B. Jay, M.D. '49, Desert Hot Springs, Calif., May 2006.

Claude R. Joyner Jr., M.D. '49, G.M. '53, Sewickley, Pa., November 2006.

David B. Robinson, M.D. '49, Skaneateles, N.Y., July 9, 2006.

Joseph B. McCoy Jr., M.D. '50, G.M.E. '54, Davidson, N.C.; June 7, 2007.

Donald H. Roberts, M.D. '51, Palm Bay, Fla., August 5, 2006

Robert E. Henderson, M.D. '52, New Castle, Pa., a retired surgeon; July 31, 2007.

George W. Cheek Jr., M.D. '53, G.M. '60, Burlington, N.C., June 2006.

Louis A. Ensenat, G.M. '53, New Orleans, July 31, 2005.

Richard J. Leswing, M.D. '53, Bound Brook, N.J.; May 9, 2007. He had been a manager at American Cyanamid, the diversified chemical manufacturer.

D. Cramer Reed, M.D., G.M.E. '53, Wichita, Kan.; April 11, 2007. He earned his bachelor's degree in biological science from Wichita University in 1937, followed by his M.D. degree at Washington University in St. Louis. He began his career as an urologist and educator in 1946 and was the first to perform a kidney dialysis in Wichita. He served on the Wichita University Board of Regents (1959-1964) and was a member of the Board of Trustees (1964-69). Upon retiring from medical practice in 1970, he was chosen as founding dean of the College of Health Professions at Wichita State University. Leading the effort to bring to Wichita the University of Kansas School of Medicine, he was named founding dean of the University of Kansas School of Medicine-Wichita in 1971. As medical director and vice president for medical affairs at Wesley Medical Center, he co-founded Health Strategies. He retired from Wesley in 1986, becoming a health-care consultant. The Wichita Area Chamber of Commerce honored him with its "Uncommon Citizen Award" in 1989, and he and his wife, Geney, were recognized as "Outstanding Citizens of Wichita" in 2003 by the Mayor and City Council. The College of Health Professions and many of his colleagues and friends established the D. Cramer Reed Faculty Development Fund in 1990.

Bruce F. Rothmann, M.D., G.M.E. '53, Hudson, Ohio; June 14, 2006. He earned his medical

degree from New York University. In honor of his many years as a professor of pediatric surgery at Akron's Children Hospital, an endowed chair in pediatric surgery was established in his name. A member of the board of trustees of Akron Children's Hospital Foundation, he was also an associate clinical professor of surgery at Case Western Reserve University.

Charles H. Ewing, M.D. '54, Worcester, Pa.; July 14, 2007. After completing his internship at Abington Memorial Hospital, he established a family practice in Abington. In 1974, he decided to specialize in the new field of geriatrics and became a physician at Rydal Park, a retirement community, where he worked for 22 years. He was on the staff of Abington Memorial Hospital for 47 years and established an education fund there. Founding director of the Friends Life Care at Home in Blue Bell, he was active with the organization until 2003. He was a founder and former president of the Eastern Pennsylvania-Delaware Valley Geriatric Society. He was also a longtime board member of the Abington Friends School Committee.

Stanley Gottlieb, M.D. '54, Blue Bell, Pa.; June 17, 2007. After medical school, he served in the Air Force as a flight surgeon. He then joined General Electric as medical director of its space division. While there, he worked on "Corona," a secret government program later declassified by President Clinton. In the 1960s, he was responsible for the studies leading to the recommendation that tetanus booster shots be given every 10 years rather than every four, as was the practice then. In 1972 Gottlieb joined McNeil Pharmaceuticals, a Johnson & Johnson company, working on drug development. He was the only person in J&J to receive three Johnson Medals, given for successful research and development. When he retired in 1997, the company named an award in his honor – The Dr. Stanley Gottlieb Business Building Award.

Charles B. Payne Jr., M.D. '56, Germantown, Ohio; August 26, 2007. He received his B.S. degree in zoology from Yale University in 1952, one of only four African-American men in his class. After

graduating from Penn, he took an internship at the Cooper Hospital in Camden. He became a captain in the U.S. Army Medical Corps, stationed in Hokkaido, Japan, from 1957 to 1964. After leaving active duty, he completed his residency in internal medicine at the Cleveland Metropolitan General Hospital, then took a research associate position in pulmonary diseases at the Cleveland Veterans Administration Hospital. He had a private practice before serving as a professor of medicine at the University of Maryland, Case Western Reserve, the Union Institute, and Wright State University, where he had a dual appointment to the Dayton Veteran's Administration Medical Center until his retirement as emeritus professor in 1996. His professional life included consulting appointments, writing medical articles and textbook chapters, testifying before the state legislature on lung disease, and serving on the editorial boards of medical journals.

James L. Pendleton, M.D. '57, Bryn Athyn, Pa., a retired psychiatrist; June 7, 2007. He was treasurer of the Cole Foundation, which describes itself as dedicated to renewing the culture, and a member of the corporation of the Academy of the New Church.

Stanton Segal, M.D., G.M.E. '58, Merion Station, Pa., professor of pediatrics at Penn; April 16, 2007. A member of the Department of Pediatrics for 41 years, he was widely recognized for his expertise on rare inherited metabolic diseases in children. Born and raised in Camden, N.J., Segal graduated *summa cum laude* from Princeton University in 1948. He earned his medical degree at Harvard in 1952 and trained at HUP and New York Hospital-Cornell Medical Center. He also did training and worked as an investigator at the National Institute of Arthritis and Metabolic Diseases before joining Penn and The Children's Hospital of Philadelphia.

During his tenure at Children's Hospital, Segal established the Division of Biochemical Development and Molecular Diseases. He introduced mass spectrometry and nuclear magnetic resonance for metabolic research, and he began a metabolic diagnostic laboratory that is now one of the premier facilities in the country for the

study of patients with inborn errors of metabolism. His research focused on inherited disorders of membrane transport, including cystinosis and cystinuria, and on disorders of carbohydrate metabolism, particularly galactosemia, the body's inability to process milk sugar. He received more than \$20 million in research funding from the N.I.H. and other sources, and several of his trainees have become world-renowned authorities in the field of metabolic diseases.

In 1997, Segal was among the physicians honored in *Philadelphia Magazine* as "World Class Docs," cited for his expertise in galactosemia. He received the 1998 Robert H. Herman Memorial Award, presented by the American Society for Nutrition to a clinical investigator whose research has contributed significantly to advancing clinical nutrition.

In addition to his research, Segal was known as a patient advocate. He was a leader of the Committee for the Protection of Human Subjects at Children's Hospital and served as the advocate for research subjects for Penn's Clinical and Translational Research Center. He had also served on the executive committee of the University's Faculty Senate and on the Committee on Academic Freedom and Responsibility for the Medical Faculty Senate.

John R. Musser Jr., M.D. '62, Amesbury, Mass.; June 1, 2007. He served for 11 years with the Navy Medical Corps, providing services to Marines deployed in the Mediterranean and in the Dominican Republic. He was discharged in 1973 after serving through the Vietnam War. He opened a private practice in Amesbury, where he saw patients at the former Amesbury Hospital and Anna Jaques Hospital in Newburyport. He served in various positions on the Anna Jaques staff, including chief of surgery and president of the board of directors. He retired in 2004 from Seacoast Orthopedics Associates, a medical practice that he founded. In 1989, he became an active member of the Navy Reserve and volunteered to return to active duty to serve in Operation Desert Shield in 1991. He served aboard the hospital ship USNS *Comfort* as the officer in charge of the medical staff. He retired in 1996 as a Navy captain

and the director of health-care services for the Naval Reserve Readiness Command in its New England region. He was an active member of the local community, serving on the board of directors of the Merrimack Valley and Southern New Hampshire Pregnancy Care Clinic.

Charles V. Perrill, M.D., G.M.E. '62, Penney Farms, Fla., emeritus professor of surgery and physiology at the University of Florida; June 6, 2007. As a foreign missionary doctor, he worked at the Clara Swain Hospital for women and children in Bareilly, India, for 20 years. Back in the United States, he was a professor of surgery and physiology at the Medical College of Ohio at Toledo before becoming medical director of the Penney Retirement Community. He published an autobiography, *Life Line*, in 1992.

Myra Singer Haskin, M.D., G.M.E. '63, Wynnewood, Pa.; March 2, 2007.

S. Marjorie Hosfeld, M.D., G.M.E. '63, Newtown Square, Pa.; August 5, 2007. She had been director of physical medicine and rehabilitation at Paoli Hospital for 10 years. After some years as an obstetrician-gynecologist, she changed specialties and studied rehabilitation therapy on a three-year fellowship at the Mayo Clinic in Rochester, Minn. She was on the staff of Magee Rehabilitation Hospital in Philadelphia before joining Paoli Hospital.

Robert E. Kaye, M.D. '63, New York, N.Y.; August 10, 2006.

Alan Earl Beer, M.D., G.M.E. '70, Los Gatos, Calif., obstetrician and gynecologist; May 1, 2006. After receiving his M.D. degree in 1962 from Indiana University, he worked in public health in Tuba City, Ariz. At Penn, he did his residency in obstetrics and gynecology and his fellowship in immunology and genetics. Founder of the American Society for Reproductive Immunology, he was director of the Alan E. Beer Center for Reproductive Immunology and Genetics in Los Gatos. He was editor in chief of the *Journal of Reproductive Immunology* for more than two decades and had served as chairman of the N.I.H. study

section on human embryology and development.

Elias Abrutyn, M.D., G.M.E. '71, Bala Cynwyd, Pa., an infectious-disease expert and associate provost and associate dean of academic affairs at Drexel University College of Medicine; February 22, 2007. After earning his bachelor's degree at the University of Pennsylvania, he studied at the University of Basel in Switzerland for three years before receiving a medical degree from the University of Pittsburgh. He was an intern, resident, and fellow in infectious diseases at HUP. For more than 30 years, he taught at Penn's School of Medicine and was senior scholar in its Center for Clinical Epidemiology and Biostatistics. He also served for many years on the faculty of the Medical College of Pennsylvania, later consolidated into Drexel University College of Medicine. Abrutyn was a former president of the Society for Healthcare Epidemiology of America, a master of the American College of Physicians-American Society for Internal Medicine, and a member of the council of the International Society of Cardiovascular Diseases. For 29 years, he was an associate editor of the *Annals of Internal Medicine*. He was co-editor of *Saunders Infection Control Reference Service*.

Alan L. Hillman, M.D., M.B.A./G.M.E. '86, professor of medicine and health-care systems at the University of Pennsylvania; May 24, 2007. After receiving his medical degree from Cornell University, he was a Robert Wood Johnson Clinical Scholar at Penn. His interests included health economics; technology assessment; financial incentives to physicians; cost-effectiveness analysis; and health policy. Among the positions he held were director of the Center for Health Policy at the University's Leonard Davis Institute of Health Economics and associate dean for health services research in the School of Medicine. He served for many years on the editorial boards of *Health Services Research*, *Healthcare System Strategy Report*, *Managed Care*, and *PharmacoEconomics*. "How Do Financial Incentives Affect Physicians' Clinical Decisions and the Financial Performance of Health Maintenance Organizations" (*The New England Journal of*

Medicine, 1989), which he wrote with Mark V. Pauly and Joseph J. Kerstein, was named Article-of-the-Year by AcademyHealth. A member of the American Society for Clinical Investigation, he received the Young Investigators Award from the Association for Health Services Research in 1993. He was also a recipient of Penn's Medical Student Government Excellence in Teaching Award.

Sridhar R. Charagundla, M.D. '97, Ph.D. '99, G.M.E. '00, assistant professor of radiology at Penn; June 1, 2007. A former chief resident in radiology at HUP, he also took an MRI fellowship there. He delivered the Blue Ribbon Lecture at the February meeting of the Philadelphia Roentgen Ray Society.

FACULTY DEATHS

Elias Abrutyn, M.D. See Class of 1971.

Robert Austrian, M.D., the John Herr Musser Emeritus Professor of Research Medicine; March 25, 2007. He earned his A.B. degree from The Johns Hopkins University in 1937 and his M.D. degree Hopkins in 1941. Beginning in the late 1940s, he devoted his professional life to conquering pneumococcal pneumonia, a major killer of the elderly and chronically ill. Working with great mastery as a clinician, epidemiologist, and microbiologist, Austrian proved that bacteremic pneumococcal pneumonia remained a killer even in the age of penicillin and other antibiotics. He identified the pneumococcal types that most frequently caused disease and used this information to develop a vaccine to protect against the disease, personally supervising clinical trials to prove the vaccine's efficacy. After a study of patients in New York's Kings County Hospital from 1952 to 1962, Austrian and Jerome Gold in 1964 concluded that antimicrobial drugs had to be supplemented by other measures, such as a vaccine, "if the significant mortality resulting still from pneumococcal infection is to be reduced."

In 1962, Austrian left the State University of New York College of Medicine at Brooklyn to join Penn's medical faculty. There he served as the John Herr Musser



Professor of Research Medicine and chair of the department. He continued his clinical and epidemiological work by developing a vaccine under the aegis of the National Institute of Allergy and Infectious Diseases and by conducting clinical trials among gold miners in South Africa. In 1976, he reported that the vaccine was both safe and efficacious. His scientific efforts culminated in 1977 with the licensing of a vaccine containing antigens of 14 serotypes of pneumococcus and in 1983 with expansion of the vaccine to contain 23 serotypes that accounted for 85 percent of blood stream infections associated with pneumococcal pneumonia. According to *The New York Times*, Austrian's efforts "saved the lives of hundreds of thousands of people." Still facing some skepticism in the medical community, Austrian and others performed a case-control study published in 1991 that conclusively established the protective efficacy of the pneumococcal vaccine. In addition to his scholarly work, he also wrote *Life With the Pneumococcus: Notes from the Bedside, Laboratory, and Library* (1985).

In recent years, Austrian remained an inspiration to his colleagues and students. An active participant in the weekly clinical Infectious Diseases Case Management conferences held at HUP, he spent part of every day, six days a week, working in his laboratory. Among his many awards and honors are the Albert Lasker Clinical Medical Research Award in 1978; election to the National Academy of Sciences in 1979; the Bristol Award from the Infectious Diseases Society of America in 1986; election to senior membership of the Institute of Medicine, National Academy of Sciences, in 1992; and The Maxwell Finland Award for Scientific Achievement from the National Foundation of Infectious Diseases in 2001. Austrian received an honorary degree from the University of Pennsylvania in 1987, a year after he became emeritus, and the auditorium in Penn's Clinical Research Building is named in his honor.

Sridhar R. Charagundla, M.D.
See Class of 1997.

James S. C. Harris, M.D. See class of 1940.

Alan L. Hillman, M.D. See Class of 1986.

Harold I. Lief, M.D., emeritus professor of psychiatry, Bryn Mawr, Pa.; March 15, 2007. He earned his medical degree from New York University in 1942. During World War II, he served in the Army Medical Corps in North Africa, Italy, France, and Germany. After the war, he took a psychiatry residency at Long Island Medical Center, followed by psychoanalytic training at Columbia University's College of Physicians and Surgeons. Before coming to Penn, Lief served on the faculty at the Tulane University School of Medicine.

A pioneer for education on human sexuality, Lief joined the Penn faculty in 1967 as professor of psychiatry and director of the Division of Family Study. In that period, he also served as director of the Marriage Council of Philadelphia and the Center for the Study of Sex Education in Medicine. According to Albert J. Stunkard, M.D., former chairman of Penn's Department of Psychiatry, Lief helped to found the center to "promote sex education using objective, validated studies and good data." In 1963, Lief was co-editor of *The Psychological Basis of Medical Practice*, a textbook for medical students, with his brother, Dr. Victor F. Lief, and his sister-in-law, Dr. Nina R. Lief. The book addressed psychosomatic conditions, physiological side effects of psychiatric drugs, and other elements of the mind-body relationship. A former president of the American Academy of Psychoanalysis, Lief had also served as president of the Sexuality Information and Education Council of the United States. After retiring from Penn in 1982, he was a psychiatric consultant at Pennsylvania Hospital and maintained a private practice in Wayne, Pa. In the 1990s, Lief was an expert witness in cases involving "repressed memories" of sexual abuse. Although he emphasized that sexual abuse should never be minimized, he cautioned against easy acceptance of repressed memories.

Robert R. Rascoe Jr., M.D. See Class of 1946.

Stanton Segal, M.D. See Class of 1958.

Henry S. Wieder Jr., M.D. See class of 1939.

LEGACY GIVING

Celebrating a Golden Anniversary ... and Penn



"We wanted to perpetuate our good fortune," says Mrs. Spencer. "It was the perfect thing to do."

Dr. Douglas Spencer, M.D. (1957), decided on an unusual way to donate to his classis scholarship fund. Dr. Spencer, who enjoyed a distinguished career as a developmental pediatrician, retired from the Alfred I. duPont Hospital for Children in 1992. Mrs. Spencer was a medical secretary at HUP while they lived in West Philadelphia and later had a career as an interior designer.

The Spencers wanted to show their gratitude to the School and to celebrate Dr. Spencer's 50th Reunion. "My medical-school years at Penn provided the solid base for the entire rest of my career," says Dr. Spencer. "Marcie Merz and Christine Ewan of the Office of Planned Giving suggested a way to give what was hidden in plain sight: an unneeded life insurance policy. When fully paid up, these policies are often overlooked assets that can provide support for PENN Medicine and tax advantages for the donor.

"We took out this policy years ago before we had young children, but now our children are grown and the purpose of the policy is no longer relevant," says Dr. Spencer. "So the couple simply transferred ownership of the policy to Penn. Penn then directed the cash value (which had grown to far exceed the policy's face value) to the Medical Class of 1957 Scholarship Fund.

During Medical Alumni Weekend in May, Dr. Spencer joined with 49 members of his class to celebrate their 50th reunion. The class contributed an impressive \$437,000, completing the endowment of the Medical Class of 1957 Scholarship.

"Attending the festivities blew my mind and brought tears to my eyes," says Mrs. Spencer. "The School is so wonderful and the students are so brilliant and diverse."

The Spencers' unneeded life insurance policy is one of many creative gift opportunities that benefit both the School of Medicine and its donors. As you chart your financial future, the Office of Planned Giving is ready to assist in developing an appropriate strategy to incorporate your charitable objectives. Contact Marcie Merz, J.D., Senior Director, or Christine Ewan, J.D., Associate Director, at 215-898-9486 or at PENN Medicine, 3535 Market Street, Suite 750, Philadelphia, PA 19104-3309. You can email Marcie or Christine at: mmerz@ben.dev.upenn.edu or cewan@ben.dev.upenn.edu. Also, visit the new web site of the Office of Planned Giving: www.med.upenn.planyourlegacy.org.

The Pursuit of Excellence

PENN Medicine has long had the three-part mission of achieving excellence in education, patient care, and research. Over its long history, our institution has developed from a two-professor program into the vibrant and multifaceted organization of today. With each step, the interrelationships among education, patient care, and research have become clearer and more vital. Strengthening one part helps strengthen the whole.

But excellence does not come without a cost. In my last column in Penn Medicine, I emphasized how endowed professorships help us recruit and retain the very best faculty members. Such professorships allow us to direct resources toward other needs.

As you can see elsewhere in this issue, one of those needs is providing research space, sometimes for the same professors whom we have been able to retain through endowed professorships. We have been frugal in these last years in terms of new construction, but when the time was right, we made the commitment to construct a state-of-the-art facility for outpatient services. Under the leadership of CEO Ralph W. Muller, our Health System has had several successful years that allowed us to undertake this costly project, to be called the Perelman Center for Advanced Medicine. In addition to the generous support of Raymond and Ruth Perelman, the Roberts family has made a generous gift toward the Roberts Proton Therapy Center; and many other donors, who share our vision of excellence, have made significant contributions to these buildings and the programs that will be housed in them.

Now the time is right for a new research building. It, too, will have a transforming effect on our institution, in part because it will house our rapidly expanding program in translational medicine. The new space will allow our exceptional investigators to conduct their research under the best possible conditions. But even when our researchers are supported



by outside grants, the cost of pursuing excellence is high. We were delighted last October when NIH selected a consortium led by PENN Medicine and CHOP to receive one of its innovative Clinical and Translational Science Awards. The award was for \$68 million over five years – but given the enormous potential involved, we saw the wisdom of supplementing it with another \$30 million from our own resources over that period.

As much as they are necessary to support our pursuit of excellence, however, bricks and mortar are not sufficient. It is always people who really make the difference. In this regard, in the last eight months, the School of Medicine has lost three outstanding long-time members of its faculty, all of whom contributed immeasurably to our stature. (Their obituaries are in this issue.)

Robert Austrian, M.D., the John Herr Musser Emeritus Professor of Research Medicine, died on March 25 at the age of 90. For more than five decades, Dr. Austrian devoted himself to conquering pneumococcal pneumonia, using his skills as a clinician, epidemiologist, and microbiologist. And once he identified the pneumococcal types most responsible, he developed a vaccine to fight them. Dr. Austrian came to Penn in 1962 – with an endowed professorship. Although he became emeritus in 1986, he continued to spend part of nearly every day in his laboratory. He remained an active participant in the weekly clinical conferences on infectious diseases, an inspiration to his colleagues and students.

Stanton Segal, M.D., G.M.E. '58, professor of pediatrics, died on April 16 at the age of 79. A distinguished member of our faculty for 41 years, he was one of the world's

leading experts on inherited metabolic diseases. He worked in his lab right up to the end. And beyond his scientific acumen, he had great respect for patients, serving for years as a patient advocate in Penn's General Clinical Research Center. Before coming to Penn, Dr. Segal was an NIH investigator. Leon E. Eisenberg, M.D., a former dean of Yale University School of Medicine, trained with Dr. Segal there. Eisenberg once described Dr. Segal as “the ideal mentor for me, . . . nurturing, and tireless.”

Sylvan H. Eisman, M.D. '41, G.M.E. '50, our first Distinguished Professor of Clinical Medicine, died on June 26 at the age of 90. He was one of the very few faculty members who had an endowed professorship named after him, and the Sylvan Eisman Outstanding Primary-Care Physician Award is given annually to faculty members noted for professionalism and humanism. A healer in the classic sense, he treated the whole person with dignity. At the campus memorial service, among the speakers were Gary W. Crooks, M.D., G.M.E. '84, professor of medicine, and Marie Savard, M.D. '76, G.M.E. '80, both of whom trained under Dr. Eisman. Dr. Eisman, said Dr. Crooks, was known for “his ability to cut to the chase.” There may have been 60 patients on the HUP floor – but Eisman knew all their histories by heart. According to Dr. Savard, who is herself a clinician, writer, and patient advocate, Dr. Eisman was “a gentle giant like no other” who taught most through his actions.

I believe excellence can breed excellence. At Penn, we must nurture the best people to follow in the footsteps of these great professors. And we must provide our faculty and staff with the best sites in which to do their work, whether it is research, education, or patient care. That is a winning combination that can only continue with the support of our alumni, friends, and patients. ♥

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



n recent years, Penn's investigators have been so successful in attracting research funding that the institution has run out of research space. Now the administration has announced plans to build a state-of-the-art research building, providing 400,000 square feet on its 13 floors. To be built adjacent to the Perelman Center for Advanced Medicine, the new building will encourage interactions between clinicians and researchers and will house Penn's rapidly growing program in translational medicine.

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