# Yale Medicine

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By Sonya Collins

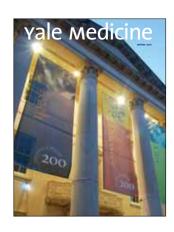
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ON THE COVER Army Colonel Lionel M. Nelson came out of retirement to serve as brigade flight surgeon with Task Force 449 at Camp Stryker in Baghdad. "The need for flight surgeons with experience is significant," he said. "The Army asked, and I volunteered."

Photograph courtesy of Lionel Nelson



#### HOW TO REACH US

Yale Medicine welcomes news and commentary. Please send letters (350 words or fewer) and news items to Yale Medicine, I Church Street, Suite 300, New Haven, CT 06510, or via e-mail to ymm@yale.edu, and include a telephone number. Submissions may be edited for length, style, and content.

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#### Reactions to women in medicine

In her excellent essay on women in medicine in the Autumn 2010 issue of Yale Medicine ["Improving the lot of women in medicine"], Jill Max seems to lament that "Even in pediatrics or psychiatry, where women have accounted for half the field for more than 25 years, they have accounted for only about 10 percent of department chairs during the past decade." I read that to imply that everyone in academic medicine should strive to become a chair regardless of his or her primary interests or skills.

More than rarely, it has seemed to me that some faculty members advance beyond their original interests—and sometimes even their merits as an outstanding clinician or researcher—into running a department. That leads to a Rake's Progress, as I like to call it, of going on to become a dean or worse. It may be unfair to gripe that women have not in larger numbers chosen the administrative route: they may have preferred the one-on-one of caring for patients. I am sure the satisfactions of patient care outlast those of any administrator, given the usually abbreviated term of the latter. Howard M. Spiro, м.D. Professor Emeritus of Medicine

New Haven, Conn.

I was frankly astounded. I finished the nicely balanced article "Improving the lot of women in medicine" in the Autumn 2010 issue, impressed by the persistence of this issue of undervaluing women in medicine. How can we have discussed it for so long and still be baffled for a solution? Then I went on to read the following article, "When medicine meets the business world," which features four photographs of business/medicine leaders. All four are men! Could not one photo be found of the successful female leaders mentioned in the article? Maybe I should not feel so baffled. As Pogo (Walt Kelly) said, "We have met the enemy and he is us."

Joseph Connors, м.р. '73 Vancouver, B.C.

#### **Remembering Tom Forbes**

When I returned to New Haven for the 45th reunion of the Medical School Class of 1965, my classmates immediately began entertaining each other with stories about Thomas Forbes, PH.D., our kind and gentlemanly associate dean who strove to avoid any stress in his encounters with young people by preceding any possibly contrary comment with a nervous little cough. So many of us had so many kind things to say about him that it was easy for me to pitch in with my short tale:

It was the winter of 1960 when I came to New Haven to be interviewed for the next medical class. A motherly secretary ushered me into the handsome office of Dr. Forbes, who immediately put me at my ease with his kind smile, two-handed handshake, and comfortable slouching in his leather chair. We chatted amiably about this and that until finally he asked, "Uh, Mr. Barchilon, can you think of anybody at Yale that you particularly admire?"

"Cole Porter!" I answered immediately.

Tom Forbes leaned back and paused a moment. "Ahem, uh, Mr. Barchilon, I meant from the medical school." He paused again a moment, then leaned forward with a smile. "But come to think of it. he's my favorite, too,"

That pretty well clinched Yale for me, especially after the adrenaline-rush interviews I had had at Columbia and Johns Hopkins. I felt comfortable at Yale and have always been proud to have learned the art of medicine there.

John Barchilon, м.р. '65 Thousand Oaks, Calif.

#### A "phantom" in the Class of '72

I was pleased to read in Yale Medicine that Donald Berwick, M.D., was the Commencement speaker last year. The article reminded me that Don was considered a phantom member of our Class of 1972. Apparently he enrolled at Yale but belatedly decided to attend Harvard Medical School. For whatever reason, this news apparently did not prevent him from having a place at a cadaver or from having a designated place and materials in every laboratory and small-group session. To my recollection, this practice continued well into our second year. The joke was that with the Yale system as it was, he could earn an M.D. from both Yale and Harvard. It is fitting that Don finally did make it down to the Yale medical campus.

Philip L. Cohen, M.D. '72 Philadelphia, Pa.



#### **Online: Yale Netcasts**

Additional content for articles in this issue of Yale Medicine is available online at iTunesU, or by pointing your browser to yalemedicine.yale.edu.

starting Point

#### A snapshot of the School of Medicine

Since I started working at *Yale Medicine* in 1998, no issue of the magazine has generated the response of that to our Winter 2011 Bicentennial issue. Since we mailed this issue in mid-January, alumni, faculty, staff, and colleagues at our peer schools have been sending their congratulations on the photo essay, "A Week in the Life."

"The breadth of the life at YSM shown in these photos is terrific—I learned a great deal about the mysteries down the halls I don't walk—and in the hall in which I work every day. It really made me proud to be part of the medical campus," wrote Laura Crawford, a program administrator who coordinates international travel for residents and students.

"Had I not graduated in 1948, I would have immediately applied to Yale med school," wrote Albert A. Fisk, M.D. '48.

From H. Steven Moffic, M.D. '71, "Your special issue of 'A Week in the Life' helped me to appreciate the current life of Yale School of Medicine, movingly going from a custodian to our dean, from high-tech surgery to after-hours music, covering so many aspects of the system of Yale medicine."

Once again I must extend thanks to a great team of photographers—Julie Brown, Terry Dagradi, Robert Lisak, Michael Marsland, Frank Poole, and Stephanie Zollshan—and to our designer, Jenn Stockwell, as well as everyone in our publications office who supports our efforts.

John Curtis *Editor* 

SECOND OPINION BY SIDNEY HARRIS



"WE'VE FINALLY COMPUTERIZED YOUR FILES. NOW WE JUST HAVE TO GET THEM OFF FACEBOOK."

#### yale medicine

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# A shorter workday for interns

New work rules for first-year residents put limits on their hours but raise concerns about training.

As of July I, medical interns around the country will be required to work fewer hours per day but with more supervision, and will be forbidden to moonlight within their hospital or elsewhere. Those changes, mandated by the Accreditation Council for Graduate Medical Education (ACGME) in September last year, are drawing a mixture of praise and concern from the Yale medical community.

The most controversial change involves duty hours. Currently residents may work no more than 80 hours per week and no more than 24 hours continuously (plus up to six additional hours for transfer of patient care). The new rules will put interns—first-year residents—into a separate category. They can still work up to 80 hours but their shifts must end after 16 hours with no extra time for transfer of care. Interns at Yale are already barred from moonlighting.

Rosemarie L. Fisher, M.D., HS '75, professor of medicine and pediatrics, and associate dean of graduate medical education, sat on the I6-person ACGME task force that devised the new rules. "I'm getting things thrown at me," she said, "like 'Why did you do this?' "

The answer, she said, is based on the intersection of two factors: the interns' minimal level of training and growing evidence of problems caused by sleep deprivation. Sleep deprivation among interns has been linked to errors in patient care and medication



Resident Erin Vaughn, center, goes over medical records with first-year residents Anne Cowell and Natasha Shapiro as they prepare to hand off patients.

administration, as well as to car accidents after long shifts. Extreme fatigue also hinders the ability to learn. "All of us on this task force believe we need graduated responsibility for patient care," said Fisher, "and to do that we need to have the least trained, least competent people get more time off initially to learn and to get enough sleep so they're not impaired."

Others aren't so sure. Peter Herbert, м.р. '67, chief of staff and senior vice president for medical affairs at Yale-New Haven Hospital (YNHH), said, "My major concern is that this may diminish the quality of the interns' education and put them a little farther behind at the end of a year. Their perception of the overall course of illness obviously changes when they see less of it." Moreover, Herbert said, they are not considered the key decision makers at any time of day—that role is for attendings and senior residents. "We'll do our best to ensure that their education is as complete as possible, but there's no substitute for being in the hospital."

Jason Ackerman, M.D., one of Yale's current 170 interns, questions the notion that cutting interns' hours will prevent mistakes. "If the reasoning is that you make poor decisions after so many hours of not sleeping," he said, "it makes more sense to cap the hours of the senior resident, who ultimately makes the decisions and needs to be more rested and alert than the intern."

But like Fisher, Ackerman believes that experience can make a difference when fighting fatigue. When facing a medical situation, interns must go through a mental checklist—a task more difficult when exhausted but second nature with experience. He also agrees that more rest could improve learning. "At the end of a 30-hour call shift, it really is hard to absorb anything, no matter what the lecture or teaching point is."

## et cetera ...

Another concern is that as interns work fewer hours, there will be more patient handoffs. "We know handoffs between team members always increase error rates," said Asghar Rastegar, M.D., professor of medicine.

That's where another new rule comes in. As of July I, a supervising physician must now be physically present or immediately available within the hospital to help ensure safe handoffs and patient care by interns. Fisher believes that this close supervision will also enhance the interns' education. Herbert notes that Yale-New Haven already has intricate protocols and electronic systems for handoffs, established in response to rule changes mandated in 2003.

Although the interns' reduced hours must be filled by other personnel, Herbert doesn't foresee a big increase in spending—again because of Yale's response to the 2003 rules, which included expanding Yale-New Haven's Hospitalist Service by bringing in dozens of physicians, physician assistants, and nurse practitioners.

Other changes in response to the rules are in the planning stages, according to Herbert, Fisher, and Rastegar.

"The interns are understandably anxious," said Rastegar, "partly because the devil you know is better than the one you don't. But I think things will settle down. And the bottom line is that we are not going to negotiate on the mission and our goals."

—Steve Kemper

# Child Study Center celebrates 100 years of mental health research

As the School of Medicine's bicentennial year draws to a close, Yale's Child Study Center (csc) celebrates a milestone of its own. A series of four symposia marks the centennial of an institution that has grown from a single room in the New Haven Dispensary into a leader in multidisciplinary research on children's mental health.

One of the School of Medicine's 28 departments, the CSC evolved and matured together with the field of developmental psychology—which was still young at the turn of the 20th century. The founder of psychoanalysis, Sigmund Freud, did not publish his major work on developmental psychology—*Three Essays on the Theory of Sexuality*—until 1905.

Freud's ideas did, however, influence G. Stanley Hall, the first president of Clark University and an early proponent of developmental psychology. One of Hall's students, Arnold L. Gesell, Ph.D., a native of Wisconsin, received



In a single room in the New Haven Dispensary, Arnold Gesell launched in 1911 the Clinic of Child Development, which would become the Yale Child Study Center.

#### STOP AND SHOP COMES DOWNTOWN

More than a year after New Haven's only downtown supermarket closed, the Stop and Shop Supermarket Company has announced plans to fill the space on Whalley Avenue with a new store this spring. The store will replace a Shaw's supermarket that closed in March 2010.

The loss of Shaw's created a "food desert" downtown, depriving residents of the Whalley Avenue area and Yale students of a full-service supermarket. The new store comes after efforts by Yale, the city of New Haven, and the Greater Dwight Community Investment Corporation—owner of the site—to fill the space. The store is expected to generate about 130 full- and part-time jobs. It will include seafood, deli, and floral departments; a cheese shop and bakery; ethnic specialty items; and an in-store branch of People's United Bank.

—John Curtis

#### **BIODESIGN INSTITUTE LAUNCHED**

By early next year, research scientists in Building B-24 on the West Campus may be working on nanomachines that function inside living cells, developing materials for tissue engineering, or creating DNA nanorobots to carry out programmed tasks.

In January university officials announced the creation of the Biodesign Institute, where biologists, engineers, and researchers in other disciplines will explore the ways in which living and material systems operate at the nanoscale. James E. Rothman, PH.D., the Fergus F. Wallace Professor of Biomedical Sciences and chair of the Department of Cell Biology, has been named director of the new institute. T. Kyle Vanderlick, PH.D., dean of the School of Engineering and Applied Science, will serve as deputy director.

"Engineers design systems from first principles, and do so on ever-smaller scales," said Rothman. "Biologists are reverse engineers, and seek to deduce the design that nature provides. There is a profound intersection between these oppositely oriented views that enriches both."

—J.C.

one of the first two doctorates conferred in developmental psychology in the United States from Clark in 1906. Gesell became an assistant professor in Yale's new Department of Education in 1911. On his arrival, Gesell persuaded the medical school's dean, George Blumer, M.D. 1891, to provide a room in the dispensary for the study of retarded children. While working part time, Gesell then enrolled in the School of Medicine and received his M.D. in 1915, four years after he'd opened his clinic in the dispensary.

Gesell's work influenced not only the department he founded—then called the Yale Clinic of Child Development but also the burgeoning field of child psychology as well as pediatrics. He was among the first to attempt a quantitative study of children's maturation, observing and measuring the responses of infants and children to different stimuli. A pioneer in the use of motion pictures and one-way mirrors, he filmed about 12,000 children to record and study their behavioral patterns. Mental development, he concluded, occurs in an identifiable sequence of stages similar to those associated with physical development. Some of Gesell's data were integrated into schedules used to calculate the Gesell Developmental Quotient-for a time a widely used measure of young children's intelligence. One of his most prominent students was Benjamin Spock, MED '29, whose ideas about child care influenced generations of parents. Although some of Gesell's views have fallen out of favor, he exerted a strong influence on American psychology in general as well as on childrearing practices. Gesell retired from the University in 1948 and died in 1961.

The first of four symposia was held on January II and focused on infant mental health and development, with talks by the csc faculty as well as by Helen Egger, M.D. '9I, assistant professor of psychiatry and behavioral sciences at Duke University School of Medicine. Subsequent symposia will honor Gesell's successors as CSC directors: Milton J.E.

Senn, M.D., Donald J. Cohen, M.D. '66, and Albert J. Solnit, M.D., HS '52.

CSC chair Fred R. Volkmar, M.D., smiled brightly when asked about the center's future. "We've got a big push for anxiety programs," he said, adding that a recent donation will fund three new professorships. Anxiety disorders, he said, affect about 20 percent of the population and often lead to or are associated with such problems as depression and mood disorders.

Expansion is also occurring in the area of autism spectrum disorders (ASDS). "For the first time, we have kids with [ASDS] going to college on a regular basis, which is great," said Volkmar. "But they need some special help, and so we're trying to think about ways we can meet that need." Although psychologists have made great strides in their ability to diagnose and intervene in children with ASDS, Volkmar noted that adolescents and young adults with these disorders still need support as they complete their education and enter mainstream society.

Another point of pride for Volkmar is the CSC's Albert J. Solnit Integrated Training Program, a highly selective and innovative six-year program begun in July 2004. The program, which admits only two trainees per year, combines the traditional internship, residency, and fellowship years and prepares trainees for board examinations in both adult and child psychiatry.

An innovative program from its start in 1911, Yale's CSC is still the leader in the field. Volkmar credits the department's collaborative model—at least in part—for its success. "Some of the things here we take for granted," he said, noting that the center's scientists work in a range of fields, from neurobiology of developmental disorders to stem cells to MRI. "Because there's so much going on," he said, "it means there's more potential for cross-disciplinary work," which is critical to the successes he is aiming for.

—Charles Gershman

#### A federal grant moves plans to link med school with downtown a step forward

Nearly half a century ago, the area between the Yale School of Medicine and downtown New Haven was the bustling Oak Street neighborhood, full of homes and small businesses. That space is presently occupied by Route 34, a busy highway that carries tens of thousands of speeding cars each day.

In an ambitious project known as Downtown Crossing, the city is planning to convert Route 34 back to a street grid that will reunite the School of Medicine with the rest of the university and downtown New Haven. Developer Carter Winstanley has already committed to developing a \$140 million office and lab building at 100 College Street. The proposed eight-story building will occupy what is now thousands of square feet of empty air above the connector between 300 George Street—another Winstanley building—and the School of Public Health. Like 300 George Street, which houses a number of medical school programs and offices, the new building is slated to accommodate some of New Haven's burgeoning biotech enterprises and could also provide much-needed space for the medical campus. "We have an infinite number of ideas for growing our programs and we need space to accommodate them," said Dean Robert J. Alpern, м.D., Ensign Professor of Medicine.

Downtown Crossing came a step closer to reality in October when the city received a \$16 million grant from the U.S. Department of Transportation to begin Phase I, covering the eastern half of the connector from Union Avenue to



A rendering (below) shows the Route 34 corridor after the first phase of Downtown Crossing. A proposed eight-story building would add thousands of square feet of new office and lab space. At left, the connector and the Air Rights Garage.



College Street. The grant will allow the city to reclaim II acres of land that will be used for new institutional, retail, residential, and commercial space—creating 2,000 immediate construction jobs and 960 permanent jobs, according to the mayor's office. Phase I will also reconnect the medical school campus with downtown New Haven.

"The medical school campus is very active during the day as a place to work but it's not active as a place to live," said Alpern. "We'd like one continuum as you walk from Chapel Street toward the medical school."

Returning the area to its urban origins will alleviate some of its traffic dangers—two pedestrians, including a Yale medical student, have been killed in recent years—and provide muchneeded growing space for the medical campus and New Haven businesses. "This project allows us to knit the two principal job platforms of the city together," said Mayor John DeStefano Jr. "It addresses a near-term demand for

real estate and allows us to significantly increase the size of the central business district, which will have benefits for collateral economic growth as well."

The federal grant will be supplemented by \$8 million from the state and \$7 million from the city to cover the \$31 million estimated cost of the first phase of the project. The second phase—to develop the western half of the connector from Orchard Street to Ella Grasso Boulevard—is still in the preliminary planning stage.

—Jill Max

# et cetera...

#### RNA HELPS GENES DETERMINE TRAITS

A Yale study suggests that genes are not the sole determinants of an organism's characteristics. The team reported in *Nature Genetics* on December 26, 2010, that a type of regulatory RNA works with a common protein, Hsp90, to protect organisms from harmful genetic variations—without the help of genes.

About a decade ago, scientists found that flies lacking Hsp90 often had abnormalities. Hsp90 seemed to protect against harmful genetic variations, but the researchers suspected that it doesn't act alone. They found that a small non-coding RNA called Piwi-interacting RNA acts with Hsp90 and another organizing protein called Hop to prevent both the emergence of new genetic variants and the activation of existing variants.

"This study shows that we still have a lot to learn about the most basic principles of gene regulation," said senior author Haifan Lin, PH.D., director of the Yale Stem Cell Center.

—John Curtis

#### THE BRAIN'S MOLECULAR GLUE

The human brain has about 90 billion neurons, interconnected through junctions called synapses. Our brains form synapses to organize new knowledge and memories; malfunctioning synapses, on the other hand, are linked to such disorders as mental retardation and Alzheimer disease.

Yale scientists reported in the journal Neuron in December that a molecule called synaptic cell adhesion molecule 1 (Syncam 1) is essential for both synapse formation and maintenance. When the Syncam 1 gene was activated in mice, more synaptic connections were formed. Mice without the molecule produced fewer synapses. So far, so good.

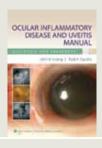
The team's next finding, however, was not so clear-cut. Mice with high levels of Syncam 1 failed at spatial learning, while mice lacking Syncam 1 learned better. Too much of a good thing?

"It appears that SyncAM 1 ties synapses together; some of this molecule is needed to promote contact, but too much glues down the synapse and inhibits its function," said senior author Thomas Biederer, PH.D., associate professor of molecular biophysics and biochemistry.

—J.С.







#### The dark side of motherhood

A psychiatrist explores mothers' ambivalence over their needs and their children's.

Poetry, paintings, and corporate America have long idealized the love of a mother for her child, from Kipling's "Mother o' Mine" to Mary Cassatt's portraits and soft-focus Mother's Day cards. Psychiatrist Barbara Almond, M.D. '63, has written a new book about another aspect of motherhood: mothers' feelings of anger and resentment.



The Monster Within Barbara Almond, M.D. '63

Maternal ambivalence is both universal and inevitable, says Almond, a psychoanalyst, training analyst, and instructor emeritus in psychiatry at Stanford. In her book *The Monster Within: The Hidden Side of Motherhood*, Almond explores "the conflicts between the child's and the mother's needs, both legitimate." Complicating these conflicts is the fear that accompanies love. "What we love can disappoint us. What we love, we can also lose,"

Almond writes. "That mothers have mixed feelings about their children should come as no surprise to anybody, but it is amazing how much of a taboo the negative side of ambivalence carries in our culture."

Almond draws on stories from clinical practice and fiction to investigate the dark side—from a woman's commonplace fear that she will love her child insufficiently to extremes that include a mother's murder of a daughter in Toni Morrison's novel *Beloved* and Andrea Yates's real-life drowning of her five children.

Almond contends that facing ambivalence, which she views as a mixture of loving and hateful feelings, can be constructive, "when it leads the mother to think creatively about her difficulties mothering and how they can be managed."

Some publishers—and some reviewers—found Almond's book too disturbing. On the contrary, she says, "I'm offering this as a comfort to mothers. They don't have to drive themselves so hard."

—Cathy Shufro

## How We Age: A Doctor's Journey into the Heart of Growing Old

by Marc E. Agronin, M.D. '91 (Da Capo Press) The author, a specialist in geriatric psychiatry, recounts his experiences counseling the residents of the Miami Jewish Home and Hospital, and describes how his work has transformed his view of aging. This book illustrates that aging is more than an inevitable decline—that old age can also be a period of vitality, wisdom, and creativity.

#### After the Diagnosis: Transcending Chronic Illness

by Julian Seifter, M.D., HS '78, with Betsy Seifter, PH.D. (Simon and Schuster) Julian Seifter had to learn to accept himself as a person with a lifelong illness when he was diagnosed with type 1 diabetes at the start of his intern year. In an account that is part memoir, part self-help book, the author speaks as both physician and patient, offering strategies helpful in managing chronic challenges on a day-to-day basis in order to maintain a positive and productive attitude toward life.

## Envy Theory: Perspectives on the Psychology of Envy

by Frank J. Ninivaggi, м.D., FW '77, assistant clinical professor in the Child Study Center and of psychiatry (Rowman & Littlefield) The author offers a theory of envy as the nucleus of information processing. He explores various concepts related to envy as the root of mental disorders and treatment resistance as well as the possibility of turning envy into a tool for healthy maturation. He also advances principles and guidelines for pragmatic applications of his theory in psychotherapies and psychoeducation.

# Ocular Inflammatory Disease and Uveitis Manual: Diagnosis and Treatment

by John J. Huang, м.D., clinical instructor in medicine; and Paul A. Gaudio, M.D., assistant clinical professor of ophthalmology and visual science (Lippincott Williams & Wilkins) This clinical manual is designed for quick reference; it features color photographs along with bulleted how-to instructions for workup and treatment of each disorder. The book is organized into anterior, intermediate, and posterior eye disease, with separate sections for inflammation and infections of the cornea and sclera.

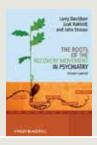
#### The Roots of the Recovery Movement in Psychiatry: Lessons Learned

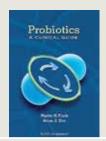
by Larry Davidson, PH.D., professor of psychiatry; Jaak Rakfeldt, PH.D., assistant clinical professor of psychiatry; and John Strauss, M.D. '59, professor emeritus of psychiatry (Wiley) The authors highlight the limitations of such previous efforts to reform and transform mental health practice as the deinstitutionalization movement begun in the 1950s, in the hope that the field will not repeat these mistakes. The book incorporates lessons about recovery gained from such related fields as psychology, sociology, social welfare, philosophy, political economic theory, and civil rights.

#### **Probiotics: A Clinical Guide**

by Martin H. Floch, M.D., clinical professor of medicine; and Adam S. Kim, M.D. (Slack) This guide presents current and evidence-based recommendations for primary care providers and

on campus







gastroenterologists in the use of probiotics to treat specific diseases and disorders. It includes a review of the science underlying probiotics and probiotic products.

## Handbook of Brain Microcircuits, 1st ed.

edited by Gordon Shepherd, M.D., D.PHIL., professor of neurobiology; and Sten Grillner, м.D. (Oxford University Press) This handbook covers over 40 regions of the vertebrate and invertebrate nervous system to provide a guide to key circuits within the neurosciences. Each chapter is organized around wiring diagrams of the key circuits. The book includes a comprehensive presentation of a new concept of brain microcircuits as the major organizing principle of the nervous system.

#### Visualizing Psychology, 2nd ed.

by Siri Carpenter, PH.D. 'oo; and Karen Huffman, M.D. (Wiley) This book integrates updated photographs, illustrations, and graphics to elucidate complex concepts in psychology. The goal is to help students understand the world around them and interpret what they see in a meaningful and accurate way. Examples illustrate the uses of psychology in the workplace and personal relationships.

#### Gastrointestinal Malignancies: An Issue of Emerging Cancer Therapeutics

edited by Wasif Saif, M.D., M.B.B.S., associate professor of medicine (medical oncology) (Demos Medical Publishing) This text provides a review of current and emerging therapies for this group of malignancies, including common colorectal cancers, rare gastrointestinal stroma malignancies, and esophageal cancer. The chapters discuss current screening tools for colon cancers as well as assessment of predictive markers in the management of colon cancer. The volume also describes the state-of-the-art use of cytotoxic chemotherapy and the incorporation of newer biological therapies.

### Seeing Patients: Unconscious Bias in Health Care

by Augustus A. White III, M.D., нs '66 (Harvard University Press) In a book that is part autobiography, the author argues that the best means to improve health care is for medical schools to train physicians who are not only scientifically adept but also culturally competent. White cites studies showing that physicians and hospital staff on the whole dispense lower-quality care to minority patients. Females, both white and nonwhite, homosexuals, and the elderly are also treated differently from middle-class white men. Poorer quality of care results in measurably higher mortality rates among these vulnerable subpopulations.

The descriptions above are based on information from the publishers.

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#### PAULINE CHEN

## Changing the language of medicine

"From the moment we learn to speak the language of medicine," said Pauline Chen, M.D., HS '98, "we are taught to express ourselves in the passive voice."

And that, said Chen, author of Final Exam: A Surgeon's Reflections on Mortality, has implications for patient care. Such phrases as "the patient presented ... sustained a gunshot wound ... pronounced dead ..." turn patients into passive recipients of treatment rather than human beings actively involved in their care, said Chen, who gave the John P. McGovern Lecture for the Program for the Humanities in Medicine in January.

"The language we use in talking about our patients, the mother tongue of medicine, the passive voice, does little to foster the kind of support and communication integral to compassionate care. It obliges us to objectify the very people we seek to care for. And it provides an invisible but powerful hurdle to true patient-centered care," she said. "The greatest of doctors are those who bypass the passive language they have inherited and replace it with the active comfort, true healing, and hope of compassionate, patient-centered care."

—John Curtis



#### DAVID VAN ESSEN

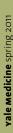
## Mapping pathways in the human brain

The human brain has 86 billion neurons, connected by 150 trillion synapses that exchange signals through 100,000 miles of wiring. Since the 1980s David C. Van Essen, PH.D., chair and **Edison Professor of Neurobiology** at the Washington University School of Medicine in St. Louis, has been trying to map those pathways. "The brain mediates perceptions, actions, and memories," he told the audience at a Neurobiology Seminar in January. "It does that through the specificity of its wiring."

Van Essen and colleagues at the University of Minnesota and seven other institutions are part of the Human Connectome Project, which will use noninvasive neuroimaging techniques to map brain circuits in 1,200 healthy adults (twins and their non-twin siblings). The project recently received a five-year \$30 million grant from the NIH.

Their research will yield valuable information about the brain's workings, and may lead to future projects to study psychiatric and neurological disorders. But Van Essen acknowledged that given the complexity of neural circuitry, the effort poses an "ambitious and exciting" challenge. "We can anticipate major discoveries and insights, but we aren't going to get a complete connectome, macroscopic or microscopic, in the near foreseeable future," he said, "so we need to manage our expectations."

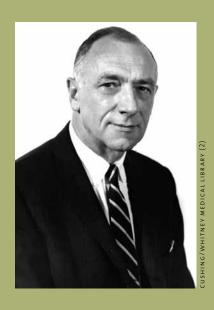
—J.С.





Vernon Lippard served three terms as dean, steering the medical school through growth in its physical plant and an explosion in research funding.

By Kerry Falvey



Until the middle of the 20th century, the School of Medicine's department chairs were expected to serve as deans juggling their decanal responsibilities in addition to their other work. When Dean C.N.H. Long, M.D., stepped down in 1952, the deanship became a full-time position, and the Yale Corporation hired Vernon W. Lippard, M.D. '29, who had served as dean of two other medical schools.

Lippard applied to the School of Medicine in 1925, after only three years at Yale College. Four years later he left the school with an M.D. cum laude. He had been a student editor of the Yale Journal of Biology and Medicine, which began publication during his last year of medical school. After a period in private practice as a pediatrician, Lippard became an assistant dean of Columbia University's College of Physicians and Surgeons in 1939. During World War II he served in the U.S. Army with the 9th General Hospital in the Pacific Theater of

Operations, returning to Columbia in 1945. In 1946 he became dean of Louisiana State University School of Medicine. Yale hired him away from the University of Virginia School of Medicine, where he had been serving as dean since 1949.

At Yale, Lippard quickly focused on a number of challenges—a deteriorating physical plant, an ill-defined relationship with Grace-New Haven Hospital, deficiencies in the clinical departments, an undernourished Department of Public Health, and a need for increased financial support for operations.

Lippard's tenure happily coincided with an explosion in federal funding for biomedical research. The dean also possessed a knack for fundraising. In 1953, he secured a grant to build a new dormitory—Edward S. Harkness Memorial Hall was completed in 1955—and funding for the Mary S. Harkness Memorial Auditorium, the first large-capacity space at the medical school, with 449 seats. The dean



oversaw an addition to Sterling Hall of Medicine; he also renovated or built new laboratory space for the departments of pharmacology, epidemiology, internal medicine, pediatrics, and radiology. The Department of Public Health celebrated its 50th anniversary in 1965 with a new home, the ninestory Laboratory of Epidemiology and Public Health. The Connecticut Mental Health Center, a cooperative endeavor between Yale and the state, opened in 1966. With the exception of Dean Milton C. Winternitz, M.D., no previous dean had embarked on such extensive expansion of the physical plant.

Committed to building Yale's clinical departments, Lippard increased the full-time faculty from about 195 members in 1952 to 520 in 1967 with an additional 560 part-time appointments. Many departments were reorganized, including the new Department of Epidemiology and Public Health, which combined public health with the Section of

Epidemiology and Preventive Medicine under one chair in 1961. Federal grant money pouring into the School of Medicine at this time to fund research helped spur this huge growth. The school's annual operating budget grew from nearly \$3 million in 1952 to over \$16 million in 1967; the endowment doubled as well.

Lippard streamlined management of the medical school by centralizing authority within the dean's office. He hired two half-time assistant deans: Thomas R. Forbes, Ph.D., as assistant dean for student affairs and chair of admissions; and Lippard's former colleague from the University of Virginia, Arthur Ebbert Jr., M.D., as assistant dean of postgraduate medical education.

Lippard steered the medical school through another agreement with the hospital, creating the Yale-New Haven Medical Center in 1965. The agreement gave Yale more say in administering the hospital and changed the institution's name to Yale-New Haven Hospital.

Lippard maintained a high profile working on medical issues at the national level. After serving as president of the American Association of Medical Colleges in 1954–55, he was a member of the Surgeon General's Consultant Committee on Medical Education, which published a report in 1959 on the growing shortage of physicians in the United States. As a member of the National Committee on Health Services for the Aged, Lippard was involved in the early development of the Medicare program. When he left the School of Medicine in 1967 after three terms as dean, he was appointed assistant for medical development to the president and fellows of the Yale Corporation. He died in 1985.

This article has been adapted from *Medicine at Yale: The First 200 Years*, a book by Kerry Falvey celebrating the bicentennial of the Yale School of Medicine



# The high cost of a medical education

With the cost of medical school topping \$250,000, becoming a doctor means going into debt.

#### By Sonya Collins Illustration by Joanna Szachowska-Tarkowska

In the summer of 1957, Warren D. Widmann, M.D. '61, HS '67, earned his first year's tuition for the School of Medicine by waiting tables at a hotel on the New Jersey shore. And he had money left over.

"I think when I started medical school, it was either \$650 or \$850 a year," Widmann says. Unable to work summers after his first year, Widmann relied on his wife's salary as a schoolteacher and some help from his parents—a high school administrator and a school secretary—and he finished medical school debt-free. "Now," says Widmann, "hardly anybody in the middle class can afford to go to medical school without accumulating debt."

Since Widmann's day, medical school tuition has risen on a much steeper curve than wages and the cost of living. When "Adam" (students' identities have been shielded in this article), the son of two schoolteachers, started medical school in 2008, Yale's tuition was \$42,350 per year. Students were advised to budget an additional \$25,000 per year for books, equipment, travel to rotations, medical expenses, licensing exams, and living expenses. Adam's parents were expected to contribute about \$8,000 a year, and scholarships and loans would cover the rest.

Recent changes to financial aid policies have relieved some of the pressure on middle-class families, but students still struggle and the medical school would like to do more. "People save their whole lives to send their kids to college, but they haven't been saving to send them to medical school. That's a reason there's so much debt among medical students," says Dean Robert J. Alpern, M.D., Ensign Professor of Medicine. "The only way to address debt is to increase the scholarship endowment. I don't see tuition going down. Our only hope is that we can get the endowment to rise faster than tuition rises."

#### The basics of financial aid

Yale is not the most expensive medical school in the country. During the 2009–2010 academic year, tuition at Tufts (\$50,320), for example, exceeded Yale's \$43,850. Nor is Yale's tuition far above the national average for private medical schools—\$39,233 in 2009.

How do students come up with the money? The School of Medicine has a "need-blind" admission policy and a "need-based" financial aid policy—once accepted, a student's financial needs are fully met through loans and scholarships. But first, students must borrow what's known as the "unit loan," currently \$22,700 per year.

Before 2008, if the parents' total income topped \$45,000, they were expected to help pay for their child's medical school education. Parental assets apart from income are also considered in determining students' need. (The Financial

Aid Office uses a formula that considers some 142 variables.) "We determine a parent contribution," says Laura Ment, M.D., associate dean for admissions and financial aid, and professor of pediatrics and neurology, "but parents don't always contribute, so students borrow to cover their parents' contribution."

In 2008, thanks to the infusion of \$1.1 million from the Yale endowment, the income threshold for parental contributions increased to \$100,000. Since then, a sliding scale for parents whose incomes fall between \$100,000 and \$140,000 has been introduced. "These changes benefit almost 90 percent of the students who receive aid," says Ment.

The need-based financial aid policy allows students from lower- to lower-middle-class backgrounds to graduate with debt

left goes into Michelle's checking account each September and January. "I've never had accessible money before, so it almost feels like a luxury to me even though I'm budgeting," she says.

Michelle shares a one-bedroom apartment, cooks at home, walks everywhere, and wears hand-me-downs. The money usually runs out shortly before the next disbursement is due. "I don't know what I would do if I had to buy clothes, or if I didn't share a bedroom, or if I had to spend any money."

"Emma White," who entered medical school in the same boat as Michelle, borrowing the unit loan and receiving the rest from scholarships, scrimps as well. "I never

"Not many students will go into primary care just to have their debts forgiven; they go into primary care because they love the field and having their debt repaid is a bonus on top of that."

—Adam

that rivals the lowest medical school averages in the country. (In 2008, the average debt of U.S. medical school graduates ranged from \$79,872 at the University of Hawaii to \$194,548 at Creighton University.) In 2010 Yale medical students graduated with an average debt of about \$127,000, including debt incurred prior to medical school. "By selecting students based on their merits, without regard to their financial circumstances, and by providing financial aid sufficient to enable all accepted students to attend the school without hardship, we have been able to enroll outstanding and exceptionally diverse classes year after year," says Ment.

#### Making ends meet

Whatever their financial status, many medical students struggle with finances during their student days. Before medical school, "Michelle" had never had health insurance. Her father is unemployed and her mother has never worked, so she borrows only the unit loan. After tuition and any other monies owed to Yale are subtracted, what's

buy clothes," White says, recalling a resident who teased her about the bleach spot on her pants. "It's a tight budget. You don't have a lot of extra spending money." She grows her own vegetables and accepts gifts of tomatoes from a neighbor's garden as well. By going to the same Cedar Street lunch cart every day, she gets her meal for half price and sometimes takes home leftovers. "You do feel like you're a little old for this when all of your friends from college are now making six figures," she says.

To get free yoga classes during her first two years of medical school, "Lynn" would show up at 5:30 a.m., take a 90-minute class, wait for the others to leave, then clean the bathrooms and the studio. She also subsists on a backyard garden and supplements her harvest with weekly deliveries from a farm share program.

One student, whose father is a hospitalist and whose mother doesn't work, said that he can't expect much help because he has six siblings. "My parents have had to help them all," says the student, who asked to be identified as "Mike." "I'm not going to receive any money from them." He borrowed \$50,000 for his undergraduate education and will add \$240,000 to those loans by the time he finishes medical school. At \$290,000, his debt will be more than double the average debt of a recent graduate of the School of Medicine.

Disbursements arrive in January and September, and budgeting can be a challenge. "Right now I'm living on my credit card," says Mike, who admits that he could budget better. "A number of us all run out by the middle of June. As soon as September comes, I'm going to pay off all my credit card bills. And the cycle will start all over again."

Ment and Gerber advise students on ways to live within their means. "We show students where they need to cut corners—whether it's finding a roommate, eating at home, or going to Costco and buying in bulk," Ment says. "I think the vast majority of our students understand these strategies."

#### Living with debt

Despite significant student debt, loan forgiveness programs like those of the National Institutes of Health (NIH) and the National Health Service Corps (NHSC) attract relatively few students. These programs offer full or partial loan repayment to physicians who conduct research for nonprofit organizations or practice primary care in underserved areas. Although the United States has produced roughly 20,000 doctors per year for the past 10 years, in 2009 only 3,391 physicians who had earned their M.D.s in the previous decade applied to the NIH's loan forgiveness program. For NHSC, the number of annual applicants dropped from 963 in 2003 to 355 in 2008.

Michelle, who came to medical school to be a psychiatrist, says she would go into a loan forgiveness program only if its stipulations fit her career plans. Nor is Mike, who plans to pursue an ear, nose, and throat specialty, willing to alter his career plans over his nearly \$300,000 of debt. As Adam pointed out, "Not many students will go into primary care just to have their debts forgiven; they go into primary care because they love the field and having their debt repaid is a bonus on top of that."

Many students—those with debt levels ranging from relatively low to quite high—take their indebtedness in stride. "Jonathan" is leaning toward pediatrics or medicine but does not intend to apply to a loan forgiveness program. He feels that many of his peers are not interested in the programs because they "are not that fearful of their debt."

Some students, however, feel profoundly burdened by their debt and the emotional toll does not necessarily correlate with the number of dollars borrowed. "It gives me a knot in my stomach every day," says White, who borrowed only the unit loan for her first two years. "You don't know what lies down the road and if you'll be able to pay it off."

#### **Debt and career choices**

Although it would seem that debt would drive young doctors into high-reward specialties, studies on the issue have only confounded researchers. A December 2008 report by the Association of American Medical Colleges found that both debt and students' plans to pursue primary care or practice in underserved areas rose in parallel. Many Yale students feel debt has little to do with career choices and describe a host of other intricate factors—not the least of which are personal goals and dreams.

When Nancy R. Angoff, M.P.H. '8I, M.D. '90, HS '93, associate dean for student affairs and associate professor of internal medicine, polled students several years ago, she found that for many, debt was a significant factor in their choice of specialty. But Angoff and other faculty believe that debt is not the greatest motivator in students' career decisions. Nevertheless, all acknowledge the desire to ease the financial burden of becoming a physician or even to remove money from the equation completely. "I personally feel we'd be a lot better off as a country if there was no tuition for medical school," says Robert H. Gifford, M.D., HS '67, the school's first deputy dean for education, who retired in 2000.

Lowering student debt is a continuous priority for Alpern. Like Gifford, he would like to see the medical school eventually go tuition-free but admits it would be a challenge. The medical school, Alpern notes, was able to institute more generous financial aid policies in 2008 and then again in 2009 and 2010 because the Yale endowment was steadily growing. "And we had plans to do more until the endowment dropped, so if the endowment recovers, we'll be able to get back into the business of doing more to lower debt." YM

Sonya Collins is a freelance writer based in Atlanta, Ga.





# Medicine and the military

Life in the armed forces offers some physicians a chance to serve both country and patients.

#### By Jill Max

Scott Hines, M.D. '99, made quite an impression when he showed up for his admissions interview at the School of Medicine. Proud of his position as a flight test officer in the U.S. Navy, he wore his dress whites, which he considered an expression of his identity. As a veteran of combat missions in Operation Desert Storm, Hines was used to pressure, but the interview put him on the spot in a different way. How, he was asked, could he justify going from a career in which his job was to kill people to a new calling—healing people? Hines didn't see a conflict. As a military officer, his goal was to provide a strong defense that would deter war. He saw military service as a way to save lives, albeit in a different way from the work of a physician.

The reasons physicians serve in the military or soldiers go into medicine are as varied as the individuals who take these paths. For some, the armed forces offer a way to finance their medical education; for others the choice reflects a desire to serve their country. Still others were obligated in the past to serve as a result of the doctors' draft, which, from 1950 to 1973, required male physicians and other health care providers to serve in the military. While deployment overseas and separation from their families

deter some from entering the military, travel, the experience of leadership, and the thrill of adventure entice others. One common ideal, however, unites those who choose both the military and medicine. As Sarah Goss of the Class of 2013, a West Point graduate and commissioned Army officer who plans to serve in the military after medical school, expressed it: "They both involve service and lifelong learning."

#### From TOPGUN to trauma platoon

In 1985 Hines had just graduated from Boston College with a scholarship to attend Ohio State University College of Medicine. Instead he signed up to become a Navy pilot. "The day I walked into Aviation Officer Candidate School I knew that I was going to make a career of the Navy," he said. "It felt right from day one for me."

Hines studied at the Navy Fighter Weapons School in Miramar, Calif., popularly known as TOPGUN. He served for three years during the Gulf War, in which he completed almost 40 combat missions. After the birth of his first child Hines realized that his Navy career path would mean multiple deployments and a lot of time away from his growing family. It was time for another change.



PREVIOUS PAGE Just prior to her graduation from West Point, Sarah Goss, a member of the medical school Class of 2013, posed in full dress regalia for her "firstie" or senior portrait.

Hines applied to the School of Medicine and received a scholarship from the Navy. After medical school he did a transitional internship at the Naval Medical Center Portsmouth in Virginia and then became a flight surgeon—a general medical officer. In 2004 he completed his residency in emergency medicine at Portsmouth in a program that is rigorous yet largely unrecognized. "A lot of folks think the only people who stay in military medicine are the ones who can't cut it on the outside," he said. "That is simply not the case."

Hines believes that his years as a flight surgeon made him a better and more confident resident. He stayed on at Portsmouth as a staff physician in the emergency department. In 2008 he was deployed to a remote airstrip in northern Iraq for eight months and he came home to the realization that his deployment had taken a significant toll on his family; one of his three sons had difficulty adjusting to his return. Hines retired from the military in December 2009. Even after 22 years of active service, he still wonders whether he did enough.

#### An expert in bullet wounds

Martin Fackler, M.D. '59, became interested in medicine because his grandfather and uncle were physicians. The doctors' draft was in effect when he went to medical school; after his internship at the University of Oregon at Portland, he served in the Navy on a transport service that carried troops, their dependents, and government employees all over the Pacific. Fackler was one of two naval doctors aboard the ship.

After a general surgery residency at Chelsea Naval Hospital in Boston and training in plastic surgery at Bethesda Naval Hospital, Fackler was sent to the Naval Support Activity Hospital in Da Nang, Vietnam, in December 1967; one month later, the Tet Offensive began. "You just can't get that kind of training in trauma surgery anywhere else except in the military in time of war," he said.

In Da Nang, Fackler stabilized incoming casualties. Most cases were flown out within a day or two, but extensive ones remained at Da Nang until healed. Thus, in Da Nang, Fackler had limited experience treating postoperative complications. His next post, however, was in Yokosuka, Japan, where patients were sent to recover from surgery. He expanded his overseas experience by transferring to the Army and becoming chief of surgery at Landstuhl Regional

Medical Center in Germany—the largest military hospital outside the continental United States.

After 20 years in the military, Fackler was thinking of retiring but was invited to set up and direct a lab for the study of gunshot wounds at the Presidio Army base in San Francisco. A competitive shooter since the age of 14—he had been captain of the rifle team at Gettysburg College—Fackler jumped at the job, which also made use of his experience in Da Nang. For 10 years, Fackler devoted all his time to wound ballistics research, thanks to funding provided by the Army's Medical Research and Development Command.

Fackler is now regarded as one of the world's foremost ballistics experts, having developed wound profiles for 26 different types of bullets. He retired from the Army in 1991 after 31 years of active duty. Since then he has testified in over 200 trials as a ballistics expert. He now lives in Gainesville, Fla., where he is on the staff of the pathology department of the University of Florida. He still receives calls to testify but rarely travels.

William Heydorn, M.D. '59, a classmate of Fackler's, has also done his share of traveling with the Army, with two postings in Germany and one in Korea. Heydorn served under the doctors' draft after completing his internship at Bassett Hospital in Cooperstown, N.Y. He completed a tour of duty in Germany, then a residency in general surgery, and began a 13-month tour in Korea in 1966, where he was the hospital commander and only fully trained general surgeon at the 44th Surgical Hospital. His first patient was a Korean farmer who had stepped on a land mine. Heydorn returned to Germany as a general surgeon and then trained in cardiothoracic surgery at San Francisco's Letterman Army Hospital. Heydorn crossed paths with Fackler during his third tour at Letterman, and ended up spending the last 14 years of his career at Letterman as chief of surgery and commanding officer before retiring in 1989 after 30 years of service. Heydorn now surveys hospitals for the Joint Commission International, an organization that accredits hospitals around the world; he has worked in 17 countries during the last four years.

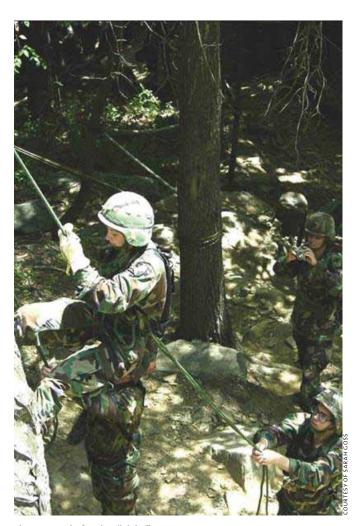
#### Adrenaline and a sense of accomplishment

It would have been easy for Heydorn to leave military service after 10 or 20 years, but he stayed because he enjoyed both the work and the places he visited. Lionel Nelson,

м.D. '69, on the other hand, initially thought a career in the military wasn't for him. When he received his draft notice in 1971, during his first year of surgical residency at Stanford, he joined his local Air Force Reserve unit. He expected to be mobilized, but the Vietnam War was winding down. He didn't much care for his military stint and spent the next few years building his otolaryngology practice and doing head and neck trauma surgery in San Jose, Calif. In 1984, the year he turned 40, he found himself looking for excitement. He found it one night at the bedside of a SWAT police officer he'd treated for a gunshot wound. The officer suggested that Nelson join the local Army Reserve Special Operations Civil Affairs Unit. From that time on, he was hooked. He trained to become a flight surgeon and over the next 18 years he left his practice several times a year for short missions as the physician and flight surgeon on small teams involved in civil-military operations, mostly in Southeast Asia. Nelson was expected to take care of the medical needs of the pilots and crew, which included inner ear, sinus, or vision problems that could adversely affect a mission, as well as any other medical issues that cropped up. He also addressed medical needs of the local population.

Nelson retired from the Army Reserve in 2002, but in 2008, in response to a growing need for flight surgeons, he volunteered for a tour of duty in Iraq. Three months before his 65th birthday, he became the brigade flight surgeon with Task Force 449 at Camp Striker in Baghdad. Embedded with the troops and far from the comforts of a support network, he found that his work differed from what he was used to in his otolaryngology practice; here he served as GP, flight surgeon, surgeon, podiatrist, and sometimes dentist. "There was no telling what challenge was about to come through your tent flap next," he said of his three-month tour. "Life could change in a moment from mundane to high drama. It forced you to pull up medical knowledge from those deep brain recesses that you don't remember learning, but must have at some time as a medical student or house staff." He described the experience as "an unforgettable adrenaline high accompanied by a great sense of accomplishment."

As the senior medical officer Nelson had a lot of experience, but he also took flak for his age; some of the younger soldiers, he heard, were making bets on how soon he would fall and break his hip. Little did they know that at home Nelson rises at 4:30 a.m. for a 70-minute workout before



The summer before her "plebe" or freshman year at West Point, medical student Sarah Goss spent six weeks in training, including rappelling at a site affectionately known as "Beast Barracks."





Since his retirement after 30 years in the military, William Heydorn has surveyed hospitals for the Accreditation Counsel on Graduate Medical Education. In the past four years he has worked in hospitals in more than 18 countries in Europe, Asia, the Middle East, and South America. In 2010 he posed with the senior leadership of the Huashan Hospital at Fuday University in Shanghai.

surgery. As it turned out, the soldiers who once laughed at him came to confide in him, viewing him as a father—or perhaps grandfather—figure. "Some of my most interesting experiences in Iraq were just sitting and talking," he said. "The soldiers were young; for most of them it was the first time they had been away from home, they were in a hostile environment, and they were on edge from mortar attacks. You can call it psychiatry, but it was basically friendship."

#### "Nothing like it in civilian life"

The idea of being a physician in the military often conjures visions of what Nelson experienced in Iraq: an austere environment, lots of noise, and tedium punctuated by mayhem. In reality, however, the military offers a variety of experiences. William M. Narva, M.D. '56, spent most of his 35-year Navy career in the Washington, D.C., area. During medical school in 1952, the draft was still in effect but student deferments were not. Narva wrote to the Army, Navy, and Air Force, seeking a commission in the reserves. Within a week the Navy responded, and he enlisted as an ensign in the medical corps. "It's 60 years later and I still haven't heard from the Army and the Air Force," he quipped.

Narva accepted the dermatology training offered by the Navy, completing an internship at Bethesda and his residency at a naval hospital in San Diego. After a five-year tour at a naval hospital in Oakland he was named chief of dermatology at the National Naval Medical Center in Bethesda, Md. Within a week, Narva found himself in the bedroom of President Lyndon B. Johnson. Narva treated every president up to George H.W. Bush.

Narva continued his ascent with posts that included staff medical officer for the chief of naval operations, director of the Naval Reserve Division at the Bureau of Medicine and Surgery, and vice president of the Uniformed Services University of the Health Sciences (USU). Five years after being promoted to rear admiral in 1982, he was appointed attending physician to the U.S. Congress, which included members of the Supreme Court. He never expected to spend his entire career in the Navy but every time he thought of retiring, a new opportunity would arise. "In our practice, we were getting referrals from all over the world," he said. "Bethesda was a diagnostic center and there wasn't a day that went by that I didn't see something I had never seen before."

Except for a year in Vietnam in the mid-196os, Robert Joy, M.D. '54, M.A., spent most of his 26-year Army career doing research stateside. Joy began his military career in the ROTC during medical school. He took an Army internship at Walter Reed Army Medical Center in Washington, D.C., not only because it offered excellent training, but also because he had a wife and baby—a standard internship paid \$50 a month, while the Army paid about \$250. Joy was founding commander of the Army Research Institute of Environmental Medicine in Natick, Mass., and held senior staff positions in medical research in the Office of the Army Surgeon General and the Office of the Secretary of Defense. In 1976, he became the first Commandant of Usu in Bethesda, where he founded the Department of Medical

History in 1981. He has been professor emeritus at USU since 1996.

At 81, Joy still goes into the office one day a week. Looking back over his long career, what he enjoyed the most was tutoring, advising, and encouraging young men and women. Beyond that, Joy relished being in command. "There's nothing like it in civilian life," he said. In some aspects, however, the Army is not unlike other careers: "It's a system that's workable if you know how to work it," he said. "If you are respected for your work, are liked as a person, and are willing to be flexible, you can pretty much get what you want."

#### Not for everyone

For some alumni, military service was a way to finance their education and serve their country, but from the beginning they viewed it as a short-term commitment along the way to other career plans. John Lundell, M.D. '94, received an Air Force scholarship to attend the School of Medicine and owed five years of active duty after his residency ended in 1999. Two years later, the world changed abruptly; and both he and his wife, Andrea L. Lundell, M.D. '94, who was also in the Air Force, faced the possibility of simultaneous deployments. They had to arrange for relatives to care for their two young children in the event that happened. Andrea remained stateside, but John went to Iraq in 2003 as part of a mobile field surgical team. The next year he finished his commitment. Although he enjoyed his military service, he wanted an academic position and took a faculty spot at the University of California, San Diego, later moving to Baylor University in Dallas, where he has a private practice. "I got a lot of great experience at a young age and it gave me a lot of confidence," Lundell said.

Monika Dalrymple, M.D. '96, financed her Yale undergraduate and medical education by joining the Air Force ROTC. She owed eight years after graduating, but it turned into 12 when the Air Force required her to do a military (rather than civilian) residency in diagnostic radiology at Wilford Hall Medical Center at Lackland Air Force Base in San Antonio.

Neither Monika nor her husband, Neal Dalrymple, M.D., who also served in the Air Force, was ever called overseas. Neal finished his commitment just before 9/11, and Monika has a medical condition that exempts her from



William Narva, shown in 1963, treated every U.S. president from Lyndon Johnson to George H.W. Bush.

serving in a desert environment. But she worried that the Air Force would change the rules. She also found it difficult to manage child care for her young daughter because she had to be available 24/7 but never knew when she would get a call. "The military never really fit me personally," she said.

#### At West Point, an interest in medicine

Goss, currently a medical student, had no interest in the military until her family toured the Naval Academy in Annapolis, Md., during a vacation. After a pre-college summer program there, she entered West Point. During military training in the summer between her freshman and sophomore years, she got a blister that developed a MRSA infection. While she was in the hospital, the idea of being a military officer and a physician took hold. The summer between her junior and senior years she spent a month at Brooke Army Medical Center in San Antonio, where she worked with

#### **Doctors in the Armed Forces**

Monika Dalrymple, M.D. '96 joined the Air Force ROTC in college and served 12 years in the military. She presently specializes in gastrointestinal radiology within a group practice in San Antonio.

Mitchell Edson, M.D. '56 a captain in the Navy, practices four days a week at Washington Hospital Center in Washington, D.C., where he was chief of the urology residency program between 1978 and 1996. He completed residencies in surgery and urology at the St. Albans Naval Hospital in New York City, and was chair of the Department of Urology at the National Naval Medical Center in Bethesda, Md.

Martin Fackler, M.D. '59 served on a Navy transport ship at a Navy hospital in Da Nang, Vietnam, and in hospitals in Japan and Germany. After 20 years in the military he started and directed a lab for the study of gunshot wounds at the Presidio in San Francisco when it was an Army base. He is considered one of the world's foremost ballistics experts.

J. McLeod "Mac" Griffiss, M.D. '66 a retired colonel in the Army Reserves, is professor of laboratory medicine and chief of immunochemistry at the University of California, San Francisco, and a specialist in infectious diseases at the San Francisco VA Medical Center.

**William Heydorn, M.D. '59** served in Army hospitals in Korea, Germany, and San Francisco. Heydorn now surveys hospitals for the Joint Commission International, an organization that accredits hospitals around the world.

**Scott Hines, M.D. '99** served in the Navy before attending medical school. He saw combat in the first Gulf War as a fighter pilot and served in Iraq as a flight surgeon during the second Gulf War. He retired from the military in 2009 after 22 years of service.

Robert J.T. Joy, M.D. '54 served in the Army from 1954 to 1981 as a battalion surgeon and was founding commander of the Army Research Institute of Environmental Medicine. He held senior staff positions in medical research in the Office of the Army Surgeon General and in the Office of the Secretary of Defense. In 1981 he founded the Department of Medical History at the Uniformed Services University of the Health Sciences and became professor emeritus in 1996.

Craig H. Llewellyn, M.D. '63, M.P.H. retired from the Army as a colonel and now divides his time between Florida and Vermont. He is professor and chair of the Department of Military and Emergency Medicine at the Uniformed Services University of the Health Sciences School of Medicine; founding director of the Center for Disaster and Humanitarian Assistance Medicine; and a member of the executive committee of the National Disaster Life Support Educational Consortium. He also works with academic institutions as well as federal, state, and county organizations in organizing and teaching emergency medical preparedness.

John C. Lundell, M.D. '94 received an Air Force scholarship to attend medical school, as did his wife, Andrea L. Lundell, M.D. '94. John Lundell served in Iraq during the second Gulf War; he is presently practicing as an anesthesiologist in Dallas. Andrea Lundell practices radiology in Rockwall, Texas.

William M. Narva, M.D. '56 spent most of his 35-year Navy career in the Washington, D.C., area. He was staff medical officer for the chief of naval operations, director of the Naval Reserve Division at the Bureau of Medicine and Surgery, and vice president of the Uniformed Services University of the Health Sciences. Five years after being promoted to

wounded vets returning from Iraq and Afghanistan, including many amputees. "That experience sealed the deal for me," she said. "Even the ability to pick up a fork or open a door had such an incredible effect on their spirit." Back at West Point, she devoted her senior project to designing and building a "bionic" foot with a group of fellow cadets. The group incorporated a motor within the foot that engages when the patient steps down, creating propulsion to mimic a human gait. In May 2009, Sgt. 1st Class Patrick King, who lost his foot in Iraq, was the first to try the device, which will eventually be tested on other military amputees.

After medical school, Goss plans on doing her residency at a military hospital, after which she'll owe 10 years of active service and six years of reserve service. She is leaning toward emergency medicine or orthopaedics, and is open to spending her entire career in the military. Like all physicians who enlist in the armed services in today's

post-9/II world, Goss has no choice but to reconcile herself to being deployed overseas, which she knew was a definite possibility when she enrolled at West Point.

Goss may find it difficult to imagine what awaits her. But Lionel Nelson is very clear regarding what he liked about serving in the military: "Besides the chance to see wondrous places far off the tourist trail and the chance to give back to the country," he said, "it was almost always a great adventure, a significant sense of accomplishment, and rarely routine or dull." YM

—Jill Max is a freelance writer in Trumbull, Conn.

rear admiral in 1982, he was appointed attending physician to the U.S. Congress, which included members of the Supreme Court. A specialist in dermatology, Narva treated every president from Lyndon B. Johnson to George H.W. Bush.

**Lionel M. Nelson, M.D. '69** had no interest in the military until 1984, when he joined the local Army Reserve Special Operations Civil Affairs Unit in San Jose, Calif. After training as a flight surgeon he went on short missions in civil-military operations in Southeast Asia. In 2008 he volunteered for a mission in Iraq. He presently practices otolaryngology in San Jose.

**Sunny Ramchandani, M.D. '04** is a lieutenant commander in the United States Navy. He is the integrated chief of general internal medicine at the Walter Reed National Military Medical Center. He deployed to Afghanistan as the Senior Medical Mentor for the Afghan National Security Forces in 2009, guided the execution of a new health care reconstruction strategy, and received the Bronze Star Medal.

**Gabriel Rocha, PA-C '09** enlisted in the Army in 2002 and trained as a medic. In 2003, he was deployed to Baghdad and treated casualties from the bombing of the United Nations headquarters there. Rocha has since joined the Navy, where he will serve as a physician associate.

**Benjamin D. Smith, M.D. '01, HS '06** served in the United States Air Force from 2006 through 2010, when he left with the rank of major. For four years he was a staff radiation oncologist in the Air Force. He is now an assistant professor in the Department of Radiation Oncology, Division of Radiation Oncology, at the University of Texas MD Anderson Cancer Center in Houston. In 2010 he received the Meritorious Service Medal from the Air Force.

**Richard S.K. Young, M.P.H. '73, M.D. '73** a pediatric neurologist and chair of pediatrics at the Hospital of Saint Raphael in New Haven, is a colonel in the Connecticut Army National Guard. He has completed three tours in Iraq.

Heather C. Yun, M.D. '01 a major in the United States Air Force, is medical director of infection control at San Antonio Military Medical Center and assistant professor of medicine at the Uniformed Services University of the Health Sciences. She is also assistant chief of the Infectious Disease Service, San Antonio Military Medical Center; and associate program director of the Infectious Diseases Program, San Antonio Uniformed Services Health Education Consortium.



Are you working in military medicine or another of the fields we'll be profiling in our "Alumni Career Paths" series? Do you know medical school alumni, former Yale house staff, or fellows who are? Send us the names and then check the Web edition of *Yale Medicine* to view an expanding list of alumni with similar interests. You can write to us at ymm@yale.edu and view the list at yalemedicine.yale.edu.

#### "Alumni Career Paths" future articles:

- International health and research
- The front lines of clinical practice
- Academic medicine
- Physician/writers



Michael Schwartz



Scott Strobel



**NOTES** 

Jorge Galán



Haifan Lin



Hongyu Zhao



Paul Barash

#### New assistant dean for curriculum named

MICHAEL L. SCHWARTZ, PH.D., was named assistant dean for curriculum in October. Schwartz is an associate professor of neurobiology who has directed the core neurobiology course "Structure and Function of the Nervous System" since 1985 and has served as director of medical studies in the department since 1987. He was appointed director of medical courses for the School of Medicine in 2007 and has since chaired both the Course Review Committee and Course Directors Committee.

As assistant dean for curriculum, Schwartz will be responsible for overseeing the content, implementation, and review of the medical student curriculum, and for ensuring that it is designed and integrated to achieve the school's educational objectives as well as meet national accreditation standards. Schwartz will chair the curriculum committee and work with the directors of courses, modules, clerkships, and electives. In addition, he will play a vital role in implementing curriculum reform, which is part of the school's strategic plan for medical education.

#### New czar appointed to lead West Campus

SCOTT STROBEL, PH.D., the Henry Ford II Professor of Molecular Biophysics and Biochemistry, was appointed in December to succeed Michael Donoghue, PH.D., as vice president of West Campus Planning and Program Development. In this position Strobel will direct the second phase of growth at Yale's 136-acre facility in West Haven.

Donoghue, the G. Evelyn **Hutchinson Professor of Ecology** and Evolutionary Biology, developed the overall blueprint and launched many major initiatives at the site during his two-year term as the inaugural West Campus czar.

Strobel is an expert on the structure and function of RNA, a field in which Yale is a recognized world leader. He is also committed to improving education in the sciences. With a Professor Grant from the Howard Hughes Medical Institute, Strobel takes students to South American rain forests each year to collect materials for the isolation and study of new microorganisms. His goal for the West Campus is to take a stimulating environment for the study of science to a new level.

Ten Yale faculty members are among 214 new NARSAD Young Investigators to receive grants to pursue research related to schizophrenia, depression, bipolar disorder, autism, ADHD, and such anxiety disorders as OCD and PTSD. Each scientist will receive \$60,000 over two years. The researchers include:

Jessica A. Cardin, PH.D., assistant professor of neurobiology; Silvia Corbera, PH.D., postdoctoral associate in psychiatry; Janghoo Lim, PH.D., assistant professor of genetics; Douglas J. Guarnieri, PH.D., associate research scientist in psychiatry; Jason K. Johannesen, PH.D., assistant professor of psychiatry; Roger J. Jou, M.D., M.P.H., clinical fellow in the Child Study Center; Ruth Sharf, PH.D., postdoctoral associate in psychiatry; Megan V. Smith, DR.P.H., M.P.H. '00, FW '09, associate professor of psychiatry; Bao-Zhu Yang, PH.D., assistant professor of psychiatry; and Lingjun Zuo, PH.D., associate research scientist in psychiatry.

Three Yale faculty are among 503 members of the American Association for the Advancement of Science (AAAS) to be named AAAS Fellows this year for their distinguished efforts to advance science or its applications in society and public policy as well as in research and education. The new fellows received a certificate at the 2011 annual meeting in Washington, D.C., in February.

Jorge E. Galán, PH.D., D.V.M., chair of the Section of Microbial Pathogenesis, was honored for his contributions to the field of microbial pathogenesis and his studies of the interaction of enteric bacterial pathogens with their host cells. Haifan Lin, PH.D., director of the Yale Stem Cell Center,

was honored for his contributions to stem cell research and developmental biology, particularly for work in stem cell niche theory and the regulatory role of small RNAs in stem cells and germ line development. Hongyu Zhao, PH.D., the Ira V. Hiscock Professor of Public Health (Biostatistics) and professor of genetics and statistics, was honored for fundamental contributions to statistical genomics and genetic epidemiology, for outstanding service to the fields of statistics and human genetics, and for the training of many young scientists.

Paul G. Barash, M.D., professor of anesthesiology, received the Distinguished Service Award of the Society of Cardiovascular Anesthesiologists in recognition of his contributions both to the specialty of cardiac anesthesia and to the society—of which he is a founding member. Barash was recognized on the 50th anniversary of the founding of the University of Kentucky College of Medicine for his contributions to the field of anesthesiology through Clinical Anesthesia, the textbook for which he serves as senior editor. He is the only alumnus of the College of Medicine to be honored with both the Commonwealth Award of the University of Kentucky (2004) and the Distinguished Alumnus Award (2007).

Henry J. Binder, M.D., professor of medicine (digestive diseases) and of cellular and molecular physiology, was listed among the top 75 gastroenterologists in the country in November by Becker's ASC Review, a publication providing business, legal, and clinical news related to ambulatory surgery centers. Binder is also the







Marna Borgstrom



**Tobias Carling** 



Linda Degutis



Rosemarie Fisher



**Thomas GIII** 



John Leventhal

winner of the 2005 Distinguished Achievement Award from the American Gastroenterological Association for his work on colonic ion transport and diarrhea.

Marna P. Borgstrom, M.P.H. '79, president and CEO of Yale-New Haven Hospital, has been named to the Association of American Medical Colleges (AAMC) 2010-2011 board of directors. Borgstrom will serve a two-year term on the 17-member AAMC governing board, which represents all 133 U.S.-accredited and 17 Canadianaccredited medical schools.

Tobias J.E. Carling, M.D., PH.D., HS '02, FW '08, assistant professor of surgery, has been named the first Doris Duke-Damon Runyon Clinical Investigator, the Doris Duke Charitable Foundation and the Damon Runyon **Cancer Research Foundation** announced in June 2010. Carling will receive a total of \$486,000 over three years for his project titled "Molecular Genetics of Endocrine Tumor Disease."

Linda C. Degutis, M.S.N. '82, DR.P.H. '94, assumed the directorship of the Centers for Disease Control and Prevention's National Center for Injury Prevention and Control in November. As director of the injury center, Degutis will work to fulfill the agency's mission of preventing injuries and violence and reducing their long-term consequences. She was most recently research director of the Department of Emergency Medicine at the School of Medicine, and director of the Yale Center for Public Health Preparedness at the School of Public Health.

Rosemarie Fisher, M.D., associate dean and professor of medicine

(digestive diseases), received in September the highest honor bestowed on internal medicine educators, the Dema C. Daley Founders Award, by the Association of Program Directors of Internal Medicine at the association's spring meeting.

Thomas M. Gill, M.D., Humana Professor of Medicine (Geriatrics), was elected to the Association of American Physicians (AAP) during its annual meeting, held in Chicago in April 2010. The AAP is a nonprofit professional organization founded in 1885 for "the advancement of scientific and practical medicine."

Harlan M. Krumholz, M.D., M.Sc., the Harold H. Hines Jr. Professor of Medicine, has been invited to join the board of governors of the Patient-Centered Outcomes Research Institute (PCORI) of the U.S. Government Accountability Office. The Patient Protection and Affordable Care Act of 2010 established PCORI as a nonprofit organization to assist patients, clinicians, purchasers, and policymakers in making informed health decisions.

John M. Leventhal, M.D., HS '76, professor of pediatrics, won a 2010 Ray E. Helfer Society Award for distinguished contributions to the field of child abuse and neglect in April 2010. The Helfer Society, named for the pediatrician who pioneered research on child abuse in the late 1960s, is a national honorary society for physicians who work in the field.

Thomas H. McGlashan, M.D., professor of psychiatry, has received three awards in the past two years: the Stanley Dean Award for research in schizophrenia from

the American College of Psychiatrists, the Richard J. Wyatt Award from the International Early Psychosis Association for research in early identification and treatment of psychosis, and the Award for Research in Psychiatry from the American Psychiatric Association for "significant contributions to our understanding of the impact of early detection and preventive interventions in schizophrenia." He has also been nominated to serve a four-year term as a member of the National Advisory Council of the National Institute of Mental Health.

Nancy A. Moran, PH.D., the William H. Fleming Professor of Biology, received the International Prize for Biology from the Japan Society for the Promotion of Science in December. Moran received the award for her work on symbiotic relationships between insects and the bacteria that live within them.

Charles A. Morgan III, M.D., associate clinical professor of psychiatry, received the 2010 Sir Henry Wellcome Medal and Prize from the Association of Military Surgeons of the United States in November. Morgan was honored for his article "Effect of Carbohydrate Administration on Recovery From Stress-Induced Deficits in Cognitive Function: A Double-Blind, Placebo-Controlled Study of Soldiers Exposed to Survival School Stress," which appeared in the journal Military Medicine in February 2009.

Marvin Moser, M.D., clinical professor of medicine, was honored by the American Society of Hypertension for his 50 years of achievements in research and treatment with the creation of

the Marvin Moser Clinical Hypertension Award.

Sara Rockwell, PH.D., professor of therapeutic radiology and of pharmacology, gave the 7th Robert F. Kallman Memorial Lecture at Stanford University in August. She also received the Distinguished Service Award from the Radiation Research Society at the society's annual meeting in Maui in September.

Clarence T. Sasaki, M.D., '66, HS '73, the Charles W. Ohse Professor of Surgery, has received the 2010 ALA Award from the American Laryngological Association for unique and significant contributions to the advancement of medicine. The American Broncho-Esophagological Association also honored Sasaki with the 2010 Chevalier Jackson Award for lifelong outstanding advancement in bronchoesophagology, the association's highest recognition.

Joan Steitz, PH.D., Sterling Professor of Molecular Biophysics and Biochemistry, was one of five panelists at a congressional briefing in September, "For Women in Science: 21st-Century Policy and Politics."

Bauer Sumpio, M.D., PH.D., HS '86, professor of surgery (vascular) and of diagnostic radiology, became president-elect of the New England Society for Vascular Surgery at its annual meeting in Rockport, Maine, in September.

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### Shelf exams are the stuff of dreams

In the Class of 2013's Second-Year Show, faculty devise an alternate reality for the class president.

Anyone who mastered the convoluted plot of the Leonardo DiCaprio movie Inception would have had little trouble following the story line of Staph Inception, the Class of 2013's Second-Year Show. Loosely based on the movie, the show depicted faculty invading the dreams of class president Chris Sauer in the hope of persuading



TOP Stephanie Meller played Quinn, the high school crush of Chris Sauer, president of the Class of 2013, who played himself.

ABOVE Amanda Hernandez played the Lead Fashion Design Girl, who, at a career fair, tries to lure Sauer away from medicine and into the world of fashion.

RIGHT Sauer and cast in the show's finale.

him to support shelf exams—National Board of Medical Examiners standardized tests that students oppose.

The plot follows Sauer playing himself in videos and dance routines as a "Mysterious Girl" (played by Katherine Chau) lures him from Club Med to a clinical suite where faculty members chloroform him. They then use an inception device invented by the whiskey-swigging James Jamieson, м.D., PH.D., head of the м.D./PH.D. program (played by Graeme Rosenberg), to implant an alternate reality in his dreams. These dreams take Sauer back to high school and lead him on a different path through college and med school. His high school crush Quinn, played by Stephanie Meller, is really Nancy R. Angoff, M.P.H. '81, M.D. '90, нs '93, associate dean for student affairs. She's in cahoots with other instructors to steer Sauer toward support for the shelf exams.

As Sauer travels through four layers of dreams he must, among other things, choose between Quinn and singing in a boy band; attend a career fair; resist the temptation of a life of debauchery in fashion design; and finally be saved by a dream "defense" that was also implanted in his brain.

Charisse Mandimika was the show's executive producer and Misia Yuhasz was the executive director. Writers and directors included Yuhasz, Felicity Lenes, Greg Stachelek, Nick Theodosakis, and Brian Zhao.

—John Curtis



# From a TV series, a physician offers a vision of "what makes us caregivers"

The fictional physician and title character in the television series House is no one's idea of a role model. "He's arrogant, a drug addict, a jerk, and an soв," said Lisa Sanders, м.р. '97, нs 'oı, during her Commencement address to the 31 graduates of the Physician Associate Program in December. And she should know. Sanders, an assistant clinical professor of medicine, is a consultant to the show, which was inspired in part by her "Diagnosis" column for The New York Times Magazine. Yet despite this description of Gregory House, she said, "People come up to me and say, 'I wish my doctor was Dr. House.'"

The appeal of House, said Sanders, may be that although he hates patients, he loves diagnoses and wrestles with symptoms until he can make sense of them. House, she said, "embodies a willingness to get into the problem and fix the problem."

Sanders went on to describe a resident at Waterbury Hospital who reflected that persistence as she took on a patient whose case had perplexed other physicians for a year. The patient's frequent nausea and vomiting had forced her to drop out of the University of Connecticut. A halfdozen visits to the hospital and a full workup had yielded no insights into the problem. The resident found no obvious causes: the student was otherwise healthy, smoked and drank only occasionally, and was not pregnant. Only extremely hot showers relieved her symptoms. Finally, after countless

searches through the literature, the resident turned to "Dr. Google."

Her Web search—she Googled nausea, vomiting, and hot showers—unearthed the diagnosis. The patient was suffering from cannabinoid hyperemesis syndrome, a clinical condition linked to long-term marijuana use. The resident, Sanders said, succeeded where other physicians had failed because of her "willingness to become fully engaged with the problem, to take it on as a problem, to own it, to really figure it out."

"This commitment we make to our patients—to take on their problems—this is what makes us caregivers," Sanders said.

After Sanders' talk, Mary Warner, PA, M.M.SC., director of the Physician Associate Program, and Dean Robert J. Alpern, M.D., Ensign Professor of Medicine, presented diplomas to the graduates on the stage of Woolsey Hall.

Three students received awards for exceptional performance: Matthew Brogan, PA-C 'IO, received the Dean's Academic Award; Heather Dobbin, PA-C 'IO, received the Dean's Clinical Award; and Megan Duet, PA-C 'IO, received the Dean's Humanitarian Award for outstanding service to others.

The Didactic Instruction Award, for dedication and excellence in the classroom, was given to John S. Francis, M.D., assistant professor of medicine. The Clinical Instruction Award, for exemplary teaching at a clinical rotation site, went to Hartford Family Medicine Center. The Jack Cole Society Award, for contributions in support of the physician associate profession, was given to Rita A. Rienzo, PA, M.M.SC., assistant professor of medicine.

—J.С.







TOP Dean Robert Alpern awarded a diploma to Courtney Johnson at the Commencement of the Physician Associate Program in December.

MIDDLE Ross Roberts looked on as Jamie Sun helped Adam Simon with his mortarboard before the start of Commencement in Woolsey Hall.

**ABOVE** Lisa Sanders, assistant clinical professor of medicine and author of the "Diagnosis" column in *The New York Times Magazine*, gave the Commencement address.



Yvette Fay Francis-McBarnette broke race and gender barriers at the medical school and in her career as a pediatrician. In the 1960s she launched the Foundation for Research and Education in Sickle Cell Disease.

# Breaking barriers in medicine and race

The second black woman to enter the School of Medicine became a pioneer in sickle cell disease.

A medical student in a time charged with racial tension in America, Yvette Fay Francis-McBarnette, M.D. '50, echoes black Yalies before her who consistently reported getting along well with their white classmates. "We were a close-knit, supportive group," she said.

Perhaps this atmosphere motivated a 22-year-old Fay Francis, as she was known, to write a letter to the *Pittsburgh Courier* during her second year of medical school. "I have been urging all the prospective [black] medical students I know to apply," she wrote, "but most [feel] it would be a waste of time. This is not true." Francis-McBarnette concluded that as long as blacks were not represented in top schools, "the number of Negro doctors and nurses [would continue] decreasing."

The daughter of college-educated schoolteachers who emigrated from Jamaica, Francis-McBarnette always knew that she would go to college. After skipping several grades in school, she enrolled at Hunter College when she was just 14 and earned a bachelor's degree in physics in three and a half years. At 18, Francis-McBarnette was too young for medical school and unable to get a job in a lab in New York City. Those jobs were reserved for white applicants, she was told. So she got a master's in chemistry at Columbia instead. In 1946, at the age of 19, she was the second black woman to enroll at the Yale School of Medicine.

Despite her letter to the *Pittsburgh Courier*, Francis-McBarnette had no involvement in the civil rights movement. But in the medical profession, she broke barriers for women and blacks. While running a private pediatric practice, directing a clinic at Jamaica Hospital in Queens, and completing a second residency in internal medicine, Francis-McBarnette raised six children with her husband of 54 years, Olvin McBarnette, now a retired district superintendent for the New York City Board of Education. Among her children are three attorneys and a schoolteacher.

In medicine, Francis-McBarnette broke barriers for sufferers of sickle cell disease. She began using prophylactic antibiotics 15 years before their effectiveness was confirmed by an article in *The New England Journal of Medicine*.

Francis-McBarnette first heard of sickle cell disease and its mostly black victims in the 1950s during her pediatrics residency at Chicago's Michael Reese Hospital. The hospital, which closed its doors in 2009, served the city's black population, which was increasing due to the migration of African Americans from the South to the North. "I went home and tested all my relatives [for sickle cell]," she said.

In 1966, in private practice and an attending pediatrician at Jamaica Hospital, she launched the Foundation for Research and Education in Sickle Cell Disease with colleagues who included Doris Wethers, M.D. '52. The foundation was instrumental in opening the first comprehensive sickle cell clinic of which Francis-McBarnette became director.

The pediatrician was soon invited to Washington to sit on an advisory committee before then-President Richard M. Nixon signed the National Sickle Cell Anemia Control Act in May 1972.

Since 1970 she had been successfully treating sickle cell children with prophylactic antibiotics. "I stayed on antibiotics for 35 years," said Cassandra Dobson, D.N.SC., a lifelong patient of Francis-McBarnette, who started on the regimen in 1971. "If I hadn't, I would've died."

And by 1970, five years before New York State mandated the screening of infants for sickle cell disease, Francis-McBarnette's organization had already screened some 20,000 schoolchildren. That year in the May issue of the *Journal of the National Medical Association*, the doctor called for treatment that would allow those with sickle cell disease "to pursue their education, earn a living, and rear their families." These endeavors were unheard-of for sickle cell patients, who barely lived to adolescence when Francis-McBarnette started practicing.

"I was told I was going to die at 5, at 10, at every milestone of my life," Dobson said.

On the pediatrician's thencontroversial advice that her patients do anything they wanted to do, including bear children, Dobson had children, became a registered nurse, and earned her doctorate in nursing. Francis-McBarnette recently attended Dobson's 50th birthday party, where Dobson said in a speech that she wouldn't be celebrating this milestone if it weren't for "Dr. Francis."

When Francis-McBarnette's first patients lived beyond age 18, Francis-McBarnette referred them to adult doctors, but they refused to go. "They don't know anything about me. I'm

staying right here with you," her patients told her. So in 1978, at age 52, Francis-McBarnette completed a residency in internal medicine and a fellowship in hematology at Bronx-Lebanon Hospital Center so that she could continue to care for her former pediatric patients.

Like Dobson, Maureen Michel has also been a lifelong patient of Francis-McBarnette. When she was visiting New York from Haiti in 1975, Michel, then 9 years old, was hospitalized. Now 44, Michel saw Francis-McBarnette until the doctor retired in 2000.

Today, in the course of searching for a new doctor, Michel still meets many who do not know what sickle cell disease is. "My whole life, every time I go to the emergency room, I call Dr. Francis. 'Do you think this medication is good for me?' When she retired, I didn't know if I would ever find any doctor like her, and to tell you the truth, I never have."

—Sonya Collins

#### A doctor and pilot's journey from a NYC housing project to Atlanta by way of Vietnam

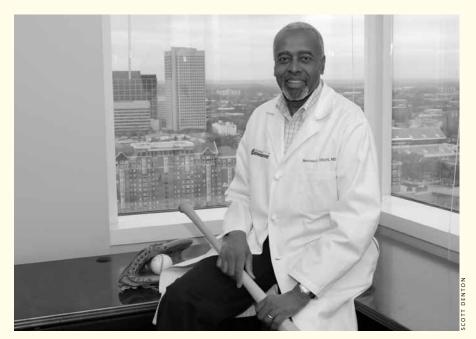
Norman Elliott's journey to Yale began on a combat mission from Vietnam to the Philippines in 1972. A first lieutenant flying rescue for the Air Force during the Vietnam War, Elliott, M.D. '79, was evacuating a 17-year-old airman who'd attempted suicide by swallowing Drano. "I'd work with the physicians at stabilizing the patients. That was how I came to enjoy medical work," Elliott said.

The physician on that flight was Phil Steeves, M.D. '70. Elliott confided to Steeves that he would like to be a doctor, but at 23 and with several years of military service still ahead of him, "I thought I was going to be too old."

Steeves assured Elliott that there were plenty of older med students at Yale who'd come from other careers. Once back in the States and after five years of active Air Force duty, Elliott enrolled at the School of Medicine in 1975 and continued to fly for the reserves throughout his studies. While his classmates took trains to New York for the weekend, he jokes, he was often flying to Europe.

Today Elliott's life looks like child-hood fantasies come true. The boy who grew up building model airplanes, watching *Sky King* on television, and reading the *Steve Canyon* comic strip in the projects in Queens, N.Y., has chased typhoons all over the Pacific and hurricanes through the Gulf of Mexico as a weather reconnaissance pilot. And he is fondly known as "Doc" to the Atlanta Braves, for whom he is now head team physician.

Norman Elliott started his career as a pilot in the Air Force, then switched to medicine. He is now the head team physician for the Atlanta Braves.



Elliott ended up in Atlanta by chance. The New Yorker always imagined the South as too rural for him, but after a short visit to Atlanta in 1978, Elliott said, "This is where I'm staying."

Upon graduation from Yale, Elliott went to Atlanta for his residency in internal medicine at Emory. He then became a flight surgeon at the School of Aerospace Medicine at Brooks Air Force Base in Texas in 1983 and joined the Alabama Air National Guard. Following a fellowship in gastroenterology in Birmingham, Elliott returned to practice at Emory, all the while climbing the ranks of the Air National Guard to become Alabama State Air Surgeon and a brigadier general.

In 1992, Elliott was recommended by a colleague for a medical staff position with the Atlanta Braves. Hank Aaron, the Braves' senior vice president, wanted to address both a shortage of team physicians and a shortage of minorities in front office positions in major league baseball. Elliott's partner learned about the opening and referred Elliott, who was offered the job by Aaron himself.

Elliott and four other internists split medical duties at 80 home games that require the presence of one internist and one orthopaedic surgeon. At any game, Elliott may take care of players on the visiting and the home team, their families, umpires, and front office staff. He attends to immediate medical needs, makes referrals, writes prescriptions, and conducts physicals at spring training.

Elliott's favorite part of the job is swapping stories with the pros. Once in the locker room after a game, "I was filling out some papers, and Bobby Cox, Jimy Williams, and Terry Pendleton saw me and said, 'Hey, Doc, come on over!' " Elliot couldn't believe these guys were inviting him to talk baseball with them. "This was the thing I worshipped. And these were the guys that knew."

Elliott grew up a Yankees fan, though his father loved the Mets. "I couldn't be a Mets fan. My father tried to take me to Shea Stadium, and I said, 'The Yankees aren't playing there.'"

Elliott is happy that his father lived to see him join the Braves. His father never made it to Atlanta for a game, but he waited for his son's calls afterward telling him "what really happened in the locker room. He loved that."

Elliott has raised two children in Atlanta—Jason, 25, and Kristen, 21—with his wife of 27 years, Pam, a special education teacher in the public schools. When he's not at a home game, Elliott sees patients at three hospitals and is a clinical assistant professor at Emory University and Morehouse School of Medicine.

Practicing in three regions as distinct as downtown Atlanta, the city's suburbs, and the rural foothills, Elliott likes most that he meets people from different backgrounds and helps reduce their suffering, as he observed Steeves doing on the flight to the Philippines nearly 40 years ago. As it turns out, Elliott got his first lesson in gastroenterology that day, and the 17-year-old airman lived.

—Sonya Collins

#### Familiar Faces

Do you have a colleague who is making a difference in medicine or has followed an unusual path since leaving Yale? We'd like to hear about alumni of the School of Medicine; Physician Associate Program; and the medical school's doctoral, fellowship, and residency programs. Drop us a line at ymm@yale.edu or write to Faces, Yale Medicine, 1 Church Street, Suite 300, New Haven, CT 06510.

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John Patti



Robert Posteraro



Tina Poussaint



Jennifer Blair and Roberto Cipriano

#### 1960s

Malin Dollinger, M.D. '60, is now a medicolegal consultant after more than 40 years in practice as a medical oncologist. He is also co-editor of *Everyone's Guide to Cancer Therapy*, now in its fifth edition.

#### **1970**5

Stephen B. Arnold, M.D. '74, a cardiologist in the East Bay area, was honored by the American Heart Association in 2009 for outstanding contributions to reducing cardiovascular disease and building a healthier community. Arnold is an associate clinical professor of medicine at the University of California, San Francisco.

Duke E. Cameron, M.D. '78, нs '83, has been named cardiac surgeon in charge at the Johns Hopkins Hospital and director of the Division of Cardiac Surgery at the Johns Hopkins University School of Medicine. Cameron is also a co-director of the school's Heart and Vascular Institute, as well the inaugural James T. Dresher Sr. Professor of Surgery and director of pediatric cardiac surgery. Cameron, who joined the Hopkins faculty in 1984, will also become director of the Dana and Albert "Cubby" Broccoli Center for Aortic Diseases.

John A. Patti, M.D. '71, was elected chair of the American College of Radiology (ACR) Board of Chancellors in May 2010 at the organization's 87th Annual Meeting and Chapter Leadership Conference in Washington, D.C. He will serve as chair from May 2010 to May 2011. Patti is a radiologist at Massachusetts General Hospital in Boston

and a member of the faculty of Harvard Medical School.

Robert H. Posteraro, M.D. '73, a diagnostic radiologist, was named Outstanding Faculty Member of the Year in the Clinical Practice Management Program at Texas Tech University Health Sciences Center's School of Allied Health Sciences in Lubbock.

#### 1980s

Lisa Matzer, M.D. '88, recently opened a new cardiology office in Burbank, Calif., where she specializes in preventive cardiology and women's cardiac health.

Tina Young Poussaint, M.D. '83, was elected president of the American Society of Pediatric Neuroradiology last year. Poussaint is an associate professor of radiology at Harvard Medical School and director of the Neuroimaging Center of the Pediatric Brain Tumor Consortium at Children's Hospital Boston.

#### 1990s

Owen Garrick, M.D. '98, M.B.A., is president-elect of the American Medical Association Foundation (AMAF). Garrick has served on the AMAF board of directors since 2004 and will assume the position of president on June 1 for a one-year term. He is chief operating officer of Bridge Clinical Research, based in Oakland, Calif.

Alexander P. Miano, M.D., HS '99, FW '00, was appointed medical director of psychiatric services in the emergency department of the University of Connecticut Health Center in Farmington in July. He will continue his practice in adult psychiatry in

the metropolitan Hartford area. He lives with his wife, Sharon, and their two sons, Michael and Scott, in West Hartford.

#### **2000S**

Jennifer M. Blair, M.D. '04, and Roberto Cipriano were married on September 5 in New Haven, Conn. Blair has worked as a writer in New Haven and New York City and as an emergency medicine physician in Illinois, Connecticut, and Maine. Blair and Cipriano, an architect, traveled to Indonesia in October, where they will spend two years as volunteers in the ASRI Clinic founded and directed by Kinari Webb, M.D. '02.

#### Candace Hillary Feldman,

M.D. '08, M.P.H., and Evan Zane Macosko, M.D., PH.D., were married on May 23, 2010, in Tarrytown, N.Y. Feldman is a resident in internal medicine at Brigham and Women's Hospital in Boston and Macosko is a resident in psychiatry at Massachusetts General Hospital in Boston.

Kavita Mariwalla, M.D. '04, HS '08, FW '09, and Kabir Bhasin, M.D., HS '09, were married on June 5, 2010, in New York City. Mariwalla is the director of dermatologic and Mohs surgery at Beth Israel Medical Center and St. Luke's-Roosevelt Hospital Center in Manhattan. Bhasin is a cardiology fellow at Mount Sinai Medical Center in Manhattan. Members of the bridal party included Thomas Fernandez, M.D. '05; John K. Forrest, M.D. '05; and Jason Griffith, M.D. '08.

Sean M. McBride, M.D. '08, and Blake M. Landro were married on October 16 in Boston at the Museum of Science. McBride is a second-year resident in radiation oncology at Harvard. Landro is an advertising account manager for Google.

Sunny Ramchandani, M.D. '04, M.P.H., was named a White House Fellow in June 2010. Ramchandani is a lieutenant commander and physician in the U.S. Navy. He is the Integrated Chief of General Internal Medicine at the Walter Reed National Military Medical Center, where he co-founded a primary care delivery model that has been adopted by the U.S. Military Health System. He served in Afghanistan In 2009 as the senior medical mentor of the Afghan National Security Forces and received the Bronze Star Medal.

Curtis Weiss, M.D. '05, and Alexandra Block announce the birth of their son, Micah Block Weiss, on March 20, 2010. Mom, Dad, and Micah are doing well. Micah was so excited to meet everyone that he came two weeks early. Weiss is a pulmonary and critical care fellow at Northwestern University.

#### **2010**S

Elias N. Kassis, M.D. '10, and Sylvia R. Baedorf, M.P.H., were married on June 5, 2010, in Geneva, N.Y. The groom is a resident at Massachusetts General Hospital and the bride is a research education manager at Boston University Medical Center.

#### SEND ALUMNI NEWS TO Claire M. Bessinger, *Yale Medicine*, I Church Street, Suite 300, New Haven, CT 06510, or via e-mail

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Samuel D. Kushlan, M.D. '35, HS '38, a pathbreaking New Haven gastroenterologist and one of the oldest living alumni of the School of Medicine, died on October 16. He was 98. A mentor and role model for generations of physicians in training at Yale, Kushlan had continued to teach as a retired clinical professor of medicine until last summer.

Born in New Britain, Conn., in 1912, the son of Lithuanian immigrants, by the age of 10 Kushlan knew that he wanted to be a physician. He was admitted to the School of Medicine after his junior year at Yale College and, upon graduation in 1935, won the Campbell Prize, awarded to graduating students who secure the highest rank on Step Two of the National Board Examination. He conducted his student research and wrote his thesis under the supervision of Francis Gilman Blake, M.D., the chair of the Department of Internal Medicine and a world-renowned expert on infectious disease.

Following medical school, Kushlan trained as an intern and resident at what was then New Haven Hospital. His main diagnostic tools were the medical history and physical exam. X-rays were the only imaging technique available, and in those pre-penicillin days, the principal medications were aspirin, digitalis, phenobarbital, quinine, and morphine.

Except for a brief stint at
Harvard in 1938, Kushlan spent
his entire career at Yale. He
established the Section of
Gastroenterology in 1938 and
was the first physician in Connecticut to perform gastroscopic
endoscopy. For many years he
maintained an active practice in
New Haven and provided consultations throughout central
Connecticut.

In 2001, Kushlan was awarded the medical school's highest honor, the Peter Parker Medal, and in 2003 the Connecticut Chapter of the American College of Physicians bestowed upon him its Lifetime Achievement Award. In 2007, he received the

Yale Medal in recognition of his innumerable contributions to his alma mater.

Robert W. McCollum Jr., M.D., PH.D., HS '51, a professor and dean of public health for almost 30 years who made significant contributions to the understanding of viral diseases, died of heart failure on September 13 at his home in Etna, N.H. He was 85.

In the 1950s, McCollum worked with a Yale team, led by Dorothy M. Horstmann, M.D., that used blood samples from polio patients to isolate the polio virus and discovered that before it reached the spinal cord and paralyzed patients, it circulated in the blood. That finding formed a basis for the development of polio vaccines. In 1982 McCollum left Yale to become dean of the Dartmouth Medical School, where he played a central role in the creation of the Dartmouth-Hitchcock Medical Center in Lebanon, N.H.

David F. Musto, M.D., HS '67, professor of psychiatry in the Child Study Center and professor of the history of medicine, died on October 8 in Shanghai, China. He was there for a ceremony marking the donation of his books and papers on the history of drug policy to Shanghai University and the establishment there of a Center for International Drug Control Policy Studies. He was 74. Musto, a member of the Yale faculty since 1969, was internationally recognized as an historian of drug policy.

Following his residency at Yale Musto served in the U.S. Public Health Service as special assistant to the director, National Institute of Mental Health, until 1969. He published widely on the social history of policies involving alcohol, narcotics, AIDS, and mental health

and is known for his study of drug policy, *The American Disease: Origins of Narcotic Control*, published in 1973.

He was a member of the White House Strategy Council on Drug Abuse Policy during the Carter administration, historical advisor to the U.N. Commission on Narcotic Drugs from 1978 to 1980, a member of the National Council of the Smithsonian Institution from 1981 to 1990, and historical consultant to the Presidential Commission on the Human Immunodeficiency Virus Epidemic. He also served on the National Advisory Committee of the Robert Wood Johnson Foundation's program to combat drug and alcohol abuse, was a charter fellow of the College on Problems of Drug Dependence, and was a member of the alcohol advisory committee of the National Association of Broadcasters.

We have also received word of the passing last year of the following alumni:

David A. Berkowitz, M.D. '69, died on October 28 in Newton, Mass. He was 66.

F. Calvin Bigler, M.D. '57, died on July 16 in Winfield, Kan. He was 78.

**Levon Boyajian**, M.D. '56, died on March 22 in Englewood, N.J. He was 80.

**Stephen C. Cary**, M.D. '61, HS '64, died on October 29 in Ashland, Ore. He was 78.

**Robert V. Diserens**, M.D. '58, died on November 8 in Phoenix, Ariz. He was 77.

**Richard E. Dormont**, M.D. '40, died on July 5 in Minot, N.D. He was 95.

Robert S. Easton, M.D. '45, died on January 6 at his home in Peoria, III. He was 88.

Lloyd D. Flint, M.D. '41, died on February 2 at his home in Myrtle Beach, S.C. He was 92. Frank L. Golbranson, M.D. '47, died on January 10 in San Diego, Calif. He was 88.

Stanley I. Greenspan, M.D. '66, died on April 27 in Bethesda, Md., of complications from a stroke. He was 68.

William K. Hadley, M.D. '59, died on March 1 in San Francisco, Calif. He was 81.

O. Roger Hollan, M.D. '45, HS '46, died on August 25 of complications related to heart disease. He was 87.

Robert L. Janco, M.D. '70, died on March 9 in Malvern, Pa. He was 66.

Haskins K. Kashima, M.D. '58, died on November 11 of complications from Alzheimer disease in Lutherville, Md. He was 78.

Jay W. Kislak, M.D. '58, HS '59, died on June 24 in Truro, Mass. He was 76.

**Eugene G. McCarthy**, M.D. '60, died on November 16 in New York City. He was 76.

William F. O'Connell, M.D. '45, died on September 29 in Red Bluff, Calif. He was 88.

Philip H. Philbin, M.D. '47, died of pneumonia on October 10 in Bethesda, Md. He was 88.

Jack S. Rice Jr., M.D. '64, died on November 5 in San Angelo, Texas. He was 71.

Lee S. Sannella, M.D. '40, died on March 19 in Santa Rosa, Calif. He was 93.

SEND OBITUARY NOTICES TO Claire M. Bessinger, *Yale Medicine*, I Church Street, Suite 300, New Haven, CT 06510, or via e-mail to claire.bessinger@yale.edu End Note

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