THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF MEDICINE AND HEALTH SCIENCES

Medicine + Health

FALL 2014

SAVING LIVES AND LIMBS

GW's New Wound Healing and Limb Preservation Center Restores Independence by Repairing Limbs

A NOTE FROM ROSS HALL

A Commitment to Service and Leadership

As the first medical school to open its doors in the nation's capital, the GW School of Medicine and Health Sciences (SMHS) was built on a tradition of service and leadership with a strong commitment to the community. These values are evident each and every day, as our students, residents, and faculty serve their patients and provide the high-quality care to those locally, nationally, and globally.

For the better part of this year, we've embarked on the creation of a new strategic plan to guide SMHS over the next three years. Through a series of meetings, focus groups, surveys, and one-on-one interviews with those within SMHS as well as our partners, we've resolved that the school is a community of professionals who are exceptionally committed to improving the lives of those we serve. Therefore, as an institution, it was essential for us to identify how to move forward, while staying true to our values. The themes that became evident were: Leadership, Education, Discovery, Community, and Clinical Excellence.

We believe that it is our role to train the health care leaders of tomorrow by promoting a culture of excellence, creating a cadre of professionals prepared to lead in the face of change or adversity. We promote a culture that supports the highest level of professionalism while working, training, and living within a diverse community.

Over the past year, as you will read in the pages of this magazine, we have revised our MD curriculum and have implemented innovative teaching and learning strategies for our students, residents, and faculty. These new strategies will give us the proper tools and ability to better work within health care teams, to better serve our patients. We are teaching and learning how to treat the whole patient, not just their ailment.

With an emphasis on research, we are focused on helping those in need of a cure. Our commitment to a healthier community pushes us to make high-impact discoveries that will keep our families and neighbors healthier for longer.

We are also focused on the community. Altruism is a core value. We are committed to health equity and are supporting major initiatives working toward solving issues that plague those around us. With the growth of these initiatives, we hope to create a place where every person, regardless of the color of their skin, their economic status, or address – has equal access to quality health care.

Finally, we are committed to clinical excellence. As a destination for patients from around the world, we thrive each day to provide the best clinical care available. We have outstanding faculty members who have access to cutting-edge technology. Our clinical offerings continue to expand, providing the best care to our patients.

As we grow as an institution and maintain our commitment to the areas I outlined above, it is vital that the school receives the support it needs to continue that growth. We have added key leaders to our team who will help us implement our plan. This summer the University kicked off the "Making History" Fundraising Campaign that will help garner support for SMHS and its initiatives. I encourage you to learn more about the campaign and get involved.

I wish you a wonderful holiday season and a happy and healthy New Year.

Sincerely,

JEFFREY S. AKMAN, M.D. '81, RESD '85
WALTER A. BLOEDORN PROFESSOR OF ADMINISTRATIVE MEDICINE
VICE PRESIDENT FOR HEALTH AFFAIRS
AND DEAN, SCHOOL OF MEDICINE AND HEALTH SCIENCES

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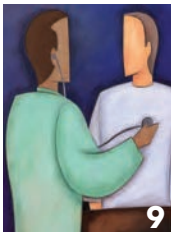


Features

COVER STORY

Departments

On the Cover:

Richard Neville, M.D., chief of the Division of Vascular Surgery and professor of surgery, pioneered the Distal Vein Patch to save lives by saving limbs.

Photo by: Michael Leong, Biomedical Communications

MAKING THE ROUNDS

WHITE AFTER LABOR DAY

Welcoming the Newest Members of the GW School of Medicine and Health Sciences Clinical Programs

M.D. program White Coat ceremony


Physician Assistants gather

The start of the academic year is a special time, particularly for those new to the GW School of Medicine and Health Sciences (SMHS). Not only does it mark the beginning of course work and training toward careers in health care, it also carries with it membership in a select group who have made the commitment to improve the lives of those in need. To signal that commitment, the SMHS clinical programs – the M.D. program, the physician assistant (PA) program, and the physical therapy (PT) program – host white coat ceremonies to welcome their newest members and start them on the path toward their professions. Between the three disciplines, SMHS faculty, staff, alumni, residents, and students welcomed nearly 300 incoming students. The M.D. White Coat ceremony on Aug. 9 was the first of this year, followed by the PA ceremony Sept. 4 and the PT event Sept. 17.

The M.D. program event welcomed nearly 180 members of the Class of 2018, a collection boasting an impressive array of social and academic all-stars, including Peace Corps, AmeriCorps, and Teach for America volunteers, as well as a Fulbright/Canada Scholar, Gates Scholar, and Howard Hughes Scholar.

Jo Shapiro, M.D. '80, who serves as the chief of the Division of Otolaryngology in the Department of Surgery at Brigham and Women's Hospital (BWH), one of the first women division chiefs at BWH, presented the keynote address. "I cannot possibly do justice to the enormity of this moment," confessed Shapiro, adding, "I'm going to disclose that I just love this school. The culture here has always put the patient in the center of everything."

Physician Assistant Celebration

"It's all about the patient," Elizabeth Prevou, a second-year dual-degree PA and master of public health candidate at SMHS, reminded the new class of PA students. "When you put on your white coat, you become a vessel for healing, compassion, and knowledge."

"We always pick the best and brightest for our future PA professionals," said Lisa Mustone Alexander, Ed.D. '03, M.P.H. '89, PA-C '79, assistant dean for community-based partnerships, interim chair of the Department of PA Studies, and program director for the PA program at SMHS, as she addressed the 68-member PA Class of 2016 during the PA Program White Coat Ceremony and Convocation.

Physical Therapy students posing during their ceremony, Sept. 17.

Keynote speaker Timi Agar Barwick, executive vice president of the Physician Assistant Education Association, began on a personal note. "Twenty-one years ago, I was here at GW as a patient," she said. The week before Barwick's oldest son was born, she was diagnosed with a brain tumor. "I remember the outpouring of support and exceptional care I received from GW Hospital's faculty," she said.

"So why am I telling you this?" Barwick asked the incoming students. "First, it's a patient story; and second, it's my way of saying you are all at a really great institution for the next two years."

Excellence in Physical Therapy

If you were to boil down the essence of what it takes to become a top-notch PT, according to Sharon Dunn, Ph.D., PT, OCS, a professor and chair at Louisiana State University, you'd be left with three crucial ingredients – humility, grit, and gratitude. Dunn presented the 2014 Excellence Lecture, the keynote address for the annual Physical Therapy program White Coat Ceremony and Convocation.

Something of an authority on what it takes to be outstanding in the field, Dunn has nearly three decades of experience practicing in, and volunteering her support for, the PT profession.

"It's the humility that makes you want to do better," the Shreveport, La., native told the 44 incoming doctor of physical therapy (DPT) students, adding that humility breeds reflective practice. "Grit is the characteristic of tenacious and determined individuals; it's perseverance and passion for achieving long-term goals," she explained. The final component in the formula for success, Dunn said, is gratitude. "It's the end game of humility. It's recognizing that others have contributed to your success." ■

Committed to Service

For the past four years, students from the School of Medicine and Health Sciences (SMHS) have opened the year partnering with Kids Against Hunger D.C. Metro to package meals. In that time the partnership has prepared more than 400,000 meals that have been sent to Haiti, Honduras, and Kenya, as well as locally throughout the mid-Atlantic region, making the relationship a major reason the organization is closing in on the 1 million meal mark.

Lakhmir Chawla, M.D., associate professor of anesthesiology and critical care medicine at SMHS and co-founder of the D.C. chapter of Kids Against Hunger, credits GW's commitment to this cause for helping his organization get a step closer to achieving this major milestone.

During this year's service-learning event, hundreds of students, staff, faculty, and alumni joined in to help those in need at the Commitment to Community Day, Aug. 26. Volunteers bagged 117,000 specially formulated meals made of rice, soy, dried vegetables, and micronutrients as the humanitarian food aid. This year's packaged meals traveled halfway around the world to the Philippines, an area recently devastated by a Category 5 typhoon.

When they weren't measuring ingredients to make the packaged meals, the groups were painting 100 fabric murals for clinics affiliated with Operation Smile, an international children's medical charity that provides free cleft lip and cleft palate repair surgeries to children worldwide. The murals will be displayed in recovery rooms around the country. ■

MAKING THE ROUNDS

The Rodham Institute, founded in 2013 in honor of the late Dorothy Rodham and housed within the School of Medicine and Health Sciences (SMHS), hosted its second annual summit to promote health equity, Nov. 6. Featured guests Hillary Rodham Clinton (center) and Rain Henderson, CEO of the Clinton Health Matters Initiative (right), joined Jehan "Gigi" El-Bayoumi, M.D., RESD '88 (left), founding director of the Rodham Institute and associate professor of medicine at SMHS, in a conversation about health equity and efforts to combat these issues.

Endowed Leadership

This fall, the GW School of Medicine and Health Sciences (SMHS) community celebrated the installation of a pair of key academic leaders – Nancy D. Gaba, M.D. '93, RESD '97, FACOG, chair of the Department of Obstetrics and Gynecology; and James L. Griffith, M.D., chair of the Department of Psychiatry and Behavioral Sciences. The endowed professorships highlight leaders among an accomplished faculty, who are instrumental in the school's pursuit of excellence by providing exceptional education and training, delivering high-quality clinical care, performing innovative research, and serving communities both local and global.

"GW has been my second home since 1989, when I was fortunate enough to join the medical school community," said Gaba during her installation as the Oscar I. and Mildred S. Dodek and Joan B. and Oscar I. Dodek Jr. Professor of Obstetrics and Gynecology on Oct. 8. "I feel that I have grown up here and some of the most impactful things that have ever happened to me, including meeting my husband, delivering my first baby and my own children, … choosing OB/GYN as a career, and even seeing my first patient die, happened here."

Gaba joins a distinguished group of leaders who have held this title, including Allan B. Weingold, M.D.; Harold Fox, M.D.; and John Larsen, M.D.

Griffith was formally installed as the Leon M. Yochelson Professor of Psychiatry and Behavioral Sciences on Aug. 11. "At no point have I ever considered any job other than teaching at a medical school," added Griffith, better known to his friends and colleagues as "Griff." He joins a distinguished group of leaders who have held the title, including Jerry Wiener, M.D.' David Mrazek, M.D.' and Jeffrey S. Akman, M.D. '81, RESD '85, Walter A. Bloedorn Professor of Administrative Medicine, vice president for health affairs, and dean of SMHS. ■

Building on a Sound Structure in Rheumatology

Autoimmune and musculoskeletal expert Victoria Shanmugam, M.D., recently joined GW's School of Medicine and Health Sciences as an associate professor of medicine and the director of the Division of Rheumatology in the Department of Medicine at GW's Medical Faculty Associates.

Already the largest academic rheumatology division in Washington, D.C., and the only one with multiple clinicians certified in point-of-care musculoskeletal ultrasound for diagnosis and therapy in rheumatic disease, Shanmugam will focus on expanding the division and creating more resources for autoimmune and rheumatic disease patients.

Shanmugam is the principal investigator of the Wound Etiology and Healing (WE-HEAL) study, which aims to create a bank of blood, fluid, and tissue samples that will help researchers study the reasons that some patients heal quickly and others have problems healing wounds. She is also exploring targeted therapies to treat a rare autoimmune disease called scleroderma, as well as doing research into the pathology of the aromatase inhibitor musculoskeletal syndrome. ■

Taking the Lead in Pediatrics

This summer, Stephen J. Teach, M.D., M.P.H., was selected to serve as the chair of the Department of Pediatrics at SMHS and pediatric clinical partner Children's National Health System (Children's National). In this role, Teach oversees the education and academic activities of faculty in the department. He is responsible for working in collaboration with the faculty, administration, and other support units at Children's National and SMHS to facilitate an environment that encourages creativity and excellence in clinical practice, medical research, and education and training. Teach is also responsible for planning, implementing, and managing all medical educational and training activities, as well as maintaining the accreditation for pediatric training programs. ■

Latasha Thomas, DPT, PT (left), and Emily Main, DPT, PT (right), became the first-ever graduates of the George Washington University School of Medicine and Health Sciences (SMHS) Neurologic Physical Therapy Residency Program. The graduation, led by Elizabeth Ruckert, DPT, PT, NCS, GCS, assistant professor of physical therapy and residency program director (center), signaled the completion of the residency program's critical pilot year before applying for certification from the American Board of Physical Therapy Residency and Fellowship Education.

Networking to Transform Health Care

"Often, when I come to meetings in Washington, D.C., I look to the left and I look to the right and I don't see any physical therapists," said Pamela Duncan, PT, Ph.D., FAPTA, FAHA, professor of neurology and director of innovations and transitional outcomes at Wake Forest Baptist Health. "I don't hear them talked about in the broad perspective of health care reform, and if they are, they're in the parentheses. But this isn't a barrier," Duncan continued. "This is the best opportunity we've ever had."

Duncan was addressing leaders of academic programs and health systems from across the country who convened in the nation's capital for a two-day conference and networking opportunity July 25–26, "Preparing the Next Generation of Physical Therapists for Innovative Practice: Physical Therapy Leaders Networking to Transform Health Care."

The event, co-hosted by GW's School of Medicine and Health Sciences' Physical Therapy program and Woods Duncan Consulting, addressed the opportunities and challenges for PT practice and education in this era of health care reform. Among the speakers was Walter Ettinger, M.D., M.B.A., senior vice president and chief medical officer of the University of Maryland Medical System, who presented the keynote address. Ettinger led a discussion about redesigning health systems for quality-driven and value-driven outcomes. ■

A Leg Up on the Competition

A new two-semester program at GW's School of Medicine and Health Sciences, the Graduate Certificate in Anatomical and Translational Sciences (GCATS), is aimed at students who want to compete for scarce slots in medical school and physician assistant programs. GCATS promises to help prepare students for the rigors they'll face in their medical and translational sciences studies. Classes in the inaugural program, which began Aug. 25, offer an understanding in human gross anatomy, microscopic anatomy, embryology, neuroanatomy, modern stem cell and developmental biology, systems physiology, and the technology for biomedical molecular imaging.

"Our medically oriented curriculum will provide students with a solid

MAKING THE ROUNDS

foundation in medical sciences," says Anne Chiaramello, Ph.D., associate professor of anatomy and regenerative biology at SMHS and director of the GCATS program.

The certificate program uses a problem-based learning approach to provide a fundamental understanding of the human body, including the normal structure and function of the major organs, as well as clinical insights into current approaches to treat and prevent diseases, and knowledge of state-of-the-art biomedical imaging technology. Credits from the graduate certificate can also be applied toward an advanced biomedical sciences degree program. ■

Fourth-year students in GW's School of Medicine and Health Sciences M.D. program Jane Lim, Kevin Okapal, and Jillian Roper, received the school's inaugural GW Primary Care Scholarship. Scholarship winners received $125,000 toward their student loans. The applicants submitted transcripts, as well as an essay and letter of recommendation, and winners were selected based on academic excellence, a demonstrated interest in pursuing a primary care specialty, and financial need.

GW Med Student Joins Select Research Program

Third-year GW School of Medicine and Health Sciences medical student Ismanie Guillaume was chosen as one of just 12 medical students to participate in the 2014 class of the American Society of Hematology's (ASH's) Minority Medical Student Award Program (MMSAP).

In May, Guillaume began participating in the career-development award program. It is offered to first- and second-year medical students and is designed to spark minority medical students' interest in the field of hematology and to encourage participants to develop and begin implementing hematology-related research projects.

Guillaume's study focuses on the effects of admixture – the combination of two or more genetically distinct populations – on the group of genes inherited from a single parent, specifically in individuals in the African-American population who are prone to sickle cell mutation. In the research, Guillaume hopes to learn where this population's sickle cell mutation originated, and what other genes and mutations along the affected chromosome tend to come with it. ■

D.C. D-CFAR Pilot Awards

D.C. D-CFAR selected two members of the GW School of Medicine and Health Sciences – Andre Rui Raposo, Ph.D., a research scientist in the Department of Microbiology, Immunology, and Tropical Medicine; and Marc Siegel, M.D., assistant professor of medicine in the Division of Infectious Diseases – as recipients of the 2014 D.C. D-CFAR Pilot Awards Program. The competitive research award provides pilot funds to HIV/AIDS investigators to assist them in the development of their NIH-funded research careers.

Raposo received the award for his investigation titled "Intrinsic Resistance Factors and the Latent HIV-1 Reservoir." The translational study will explore the possibility of using intrinsic immune mechanisms to combat HIV-1. Raposo hopes to develop an approach to boost the host's natural defenses against HIV-1.

Emerging data suggests that intrinsic immune factors expressed by HIV-1 target cells can restrict retroviral infection in vitro. Raposo believes that patients infected with an allele associated with lower viral loads in Caucasians, HLA-B*57 HIV-1, possess better control of HIV-1 replication caused by the pre-existing overexpression of host restriction factors.

Through his pilot grant, Siegel will collect preliminary data examining the influence of Hepatitis C virus (HCV) infection on serum and cellular markers of immune activation in HCV/HIV co-infected patients. The study, "The Impact of HCV on Aging Through Immune Activation in HIV-Infected Subjects," will assess whether co-infection with HCV accelerates the rate of aging in HIV patients by exaggerating the level of immune activation. The investigators plan on examining the effects of statin therapy and HIV integrase therapy, both of which have been shown to decrease markers of immune activation.

The D.C. D-CFAR Pilot Awards Program is geared toward encouraging new and novel work by early-stage investigators, underrepresented racial and ethnic minority groups and women, established investigators in other fields who wish to transition into HIV/AIDS research, and

investigators proposing translational or collaborative research projects. So far the program has funded 27 awards with a total of $1.1 million.

Tuning in for PA Week Reception

The GW School of Medicine and Health Sciences (SMHS) Physician Assistant (PA) Program hosted its inaugural PA Week reception on Oct. 7. The event was one of many activities that took place in celebration of National PA Week, Oct. 6–12, created to recognize and honor the work and accomplishments of PAs. Lisa Mustone Alexander, Ed.D. '03, M.P.H. '89, PA-C '79, assistant dean for community-based partnerships, interim chair of the Department of PA Studies, and program director for the PA program at SMHS, welcomed students, staff, faculty, and alumni to the annual celebration.

This year, the program honored the career of alumnus Mark Dills, PA-C '79. Dills received GW's PA Program Public Service Award for his dedication and commitment to the profession. "When I graduated from GW 35 years ago, I thought I was just going to be a PA," he said. "Little did I realize that GW had not just produced a PA, they had produced a leader."

Also recognized were Markos Yibas, M.D., and Mezgebe Haile, M.D., both associate clinical professors of PA studies at SMHS. They received the Dr. Jules Cahan Distinguished Teaching Award for their sustained and impactful service to PA students. The award honors more than 30 years of unwavering support for GW's PA students by Jules Cahan, B.A. '49, M.D. '53, who was granted professor emeritus status during university commencement ceremonies in 2012.

Take a Walk in My Shoes

Imagine being a 35-year-old homeless man living in Washington, D.C., who speaks only Spanish, as he tries to navigate the health care system to receive care for a chronic ailment. That was the challenge for Lauren Arbetman, a first-year medical student at the GW School of Medicine and Health Sciences (SMHS). "The most frustrating part for me was finding a doctor and waiting in line," says Arbetman, who spent the entire time filling out forms and being shuffled from room to room during the annual "A Walk in My Shoes" simulation Aug. 12.

Arbetman was one of the 181 medical students from the SMHS M.D. Class of 2018 who participated in this simulation organized by GW's Interdisciplinary Student Community-Oriented Prevention Enhancement Services (ISCOPES) program. The event gives first-year medical students the opportunity to navigate the health care system from the perspective of a community member who is uninsured or who lacks resources and access to quality health care. The event, held annually since 2007, was made possible through a collaboration between ISCOPES and the SMHS Office of Diversity and Inclusion.

Students are assigned an identity that includes race/ethnicity, age, language, occupational status, health issues, immigration status, and family situation. It is the student's responsibility to obtain health care by traveling to various rooms representing emergency rooms, government offices, hospitals, clinics, work, and other community sites.

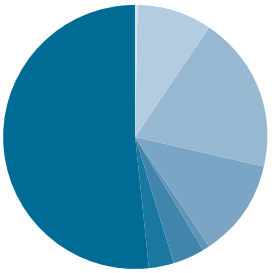
"What is so incredible about the event is that you get to see the frustration students experience when they, like so many others in this country, have to deal with confusing forms/processes, wait in line for services they don't qualify for, address crises when they just finished figuring out the last challenge, balance competing interests, react to being treated unjustly, and feel for a moment what it is like to be invisible," says Angie Hinzey, M.P.H., director of ISCOPES.

RESIDENCY PROGRAMS (ACGME ACCREDITED)

37 RESIDENT PROGRAMS **88** PGY1 RESIDENTS **376** TOTAL RESIDENTS **67** FELLOWS

HEALTH SCIENCE PROGRAMS

742 INCOMING STUDENTS



- **.4%** American Indian or Alaskan Native
- **9%** Asian
- **19%** African American
- **12%** Hispanic
- **.6%** Hawaiian or Pacific Islander
- **4%** Multi-Racial
- **3%** Unreported
- **51%** White

Female **48%**

Male **52%**

Avg. Age: **32**
Avg. Verbal GRE: **157**
Avg. Quantitative GRE: **153**
Avg. Analytic GRE: **4**

HEALTH SCIENCES DEGREES + PROGRAMS (INCOMING STUDENT ENROLLMENT)

ASSOCIATE OF SCIENCE (280)
Health Science Laboratory Technology
Health Sciences

BACHELOR OF SCIENCE IN HEALTH SCIENCE (217)
Clinical Health Sciences
Clinical Laboratory Sciences
Clinical Management & Leadership
Clinical Research Administration
Emergency Health Services
Emergency Health Services Management
Health Intervention and Disaster Response
Medical Laboratory Sciences
Pharmacogenomics
Doctor of Physical Therapy

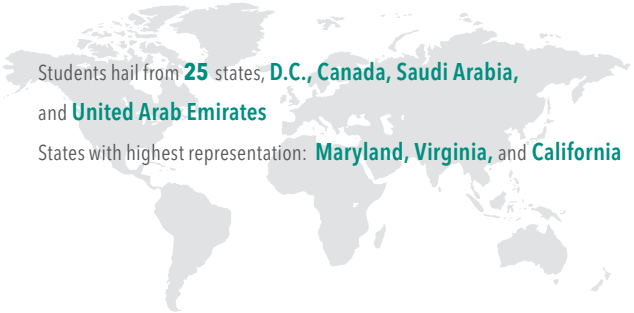
MASTER OF SCIENCE IN HEALTH SCIENCE (169)
Clinical and Translational Research
Clinical Management & Leadership
Clinical Research Administration
Health Care Quality
Medical Laboratory Sciences
Physician Assistant
Physician Assistant/Master of Public Health
Regulatory Affairs

GRADUATE CERTIFICATES (18)
Clinical and Translational Research
Clinical Research Administration
Clinical Research Practice
Health Care Quality
Regulatory Affairs

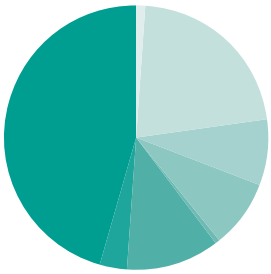
UNDERGRADUATE CERTIFICATES (58)
Clinical Laboratory Sciences
Clinical Laboratory Sciences/Microbiology
Medical Laboratory Sciences
Medical Laboratory Sciences/Hematology
Medical Laboratory Sciences/Microbiology

M.D. PROGRAM CLASS OF 2018

178 STUDENTS



Students hail from **25** states, **D.C., Canada, Saudi Arabia,** and **United Arab Emirates**
States with highest representation: **Maryland, Virginia,** and **California**



- **1.12%** American Indian
- **21.91%** Asian
- **7.86%** African American
- **8.42%** Hispanic
- **0.56%** Hawaiian or Pacific Islander
- **11.23%** Unreported
- **3.37%** Other
- **45.50%** White

Number of applications: **10,981**
Age range: **20 – 34,** with an average age of **23**
Students come from **85** different undergraduate institutions

Female **61%**

Male **39%**

MCAT Avg.: **30.5** total
GPA Avg.: **3.68**
Areas of study varied –
53% science majors

Tailored for Success

BY ANNE BANNER

As the academic year kicked off, GW's incoming first-year medical students began a rigorous academic experience. This year, the experience will be a bit different than those of years past, thanks to the release of a revised curriculum for the M.D. program at the School of Medicine and Health Sciences (SMHS). The revised curriculum is aimed at teaching students critical skills earlier in their academic careers to help them meet the needs of a changing health care environment.

The revisions to the curriculum are focused on four major areas: curriculum delivery, early clinical exposure, important new content areas of study, and enhanced use of technology. These curricular modifications are guided by shifts in the health care landscape and informed through research about how medical students learn best.

"SMHS has worked to create an environment that is tailored to optimal learning for its medical students," says Matthew Mintz, M.D., interim assistant dean for M.D. program curriculum. "While we have a deep tradition of training highly skilled doctors, we believe these revisions will further enhance the success of our graduates."

The traditional medical school curriculum, which is more than 100 years old, includes two years of classroom study of topics such as anatomy and biochemistry, followed by two years of clinical work in the hospital. This curriculum strategy has served the medical community well for generations, but in today's environment of enhanced technology and emphasis on interprofessional practice, adjustment is necessary.

First, GW has integrated its curriculum into organ-based systems and has moved away from lecture-based learning. SMHS is also employing "active learning" teaching methods to ensure that GW's medical students are fully grasping the information they need.

Second, GW medical students will have earlier clinical exposure. Clinical exposure will begin in March of the second year of medical school, giving students earlier experiences with direct care for patients. The increased clinical exposure will allow students to explore different areas of medicine and thus better inform their career choices.

Third, GW has introduced important new content areas to the curriculum. With the implementation of the Affordable Care Act, tomorrow's physician leaders will need to know not only the concepts of anatomy, physiology, and surgery, but also how to work in a team and understand public policy. The new content areas that GW's medical students are learning include public health, health policy, topics related to diversity, and interprofessional education. Furthermore, the new curriculum adds emphasis on professional development in the areas of wellness, ethics, leadership, and teamwork.

Finally, technological advances are assisting in medical care and in medical education. GW has unique and high-tech resources, including its brand-new, state-of-the-art Clinical Learning and Simulation Skills Center, which is central to the curriculum. Additionally, each incoming medical student — as well as the current second-year medical students — received iPads, with an array of pre-loaded applications to help medical students learn and understand important topics.

"Health care is continuously evolving, and with the dramatic shifts in medicine and medical education, it is important for our school to support innovation in medical education and remain on the cutting edge," says Jeffrey S. Akman, M.D. '81, RESD '85, Walter A. Bloedorn Professor of Administrative Medicine, vice president for health affairs, and dean of SMHS. "Thanks to a dedicated group of students, faculty, and staff, we have been able to implement innovative learning and teaching tactics that assist us as we prepare our students to practice medicine in tomorrow's health care system."

These tactics, coupled with enhanced faculty development efforts have created a learning environment that is ideal for the modern student and competitive in the market. ■

ON THE WEB
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available online below the story.

TRACK-SIDE MANNER

BY STEVE GOLDSTEIN | PHOTOS BY LAURA SEGALL

Alumnus Paul Kozak, M.D. '90, Relies on More Than Two Decades of Experience and Data as a Raceway Doc to Verify Driver Safety Improvements.

VROOM ... VA-ROOOM ... VA-VA-ROOOOOOOOMMM!!

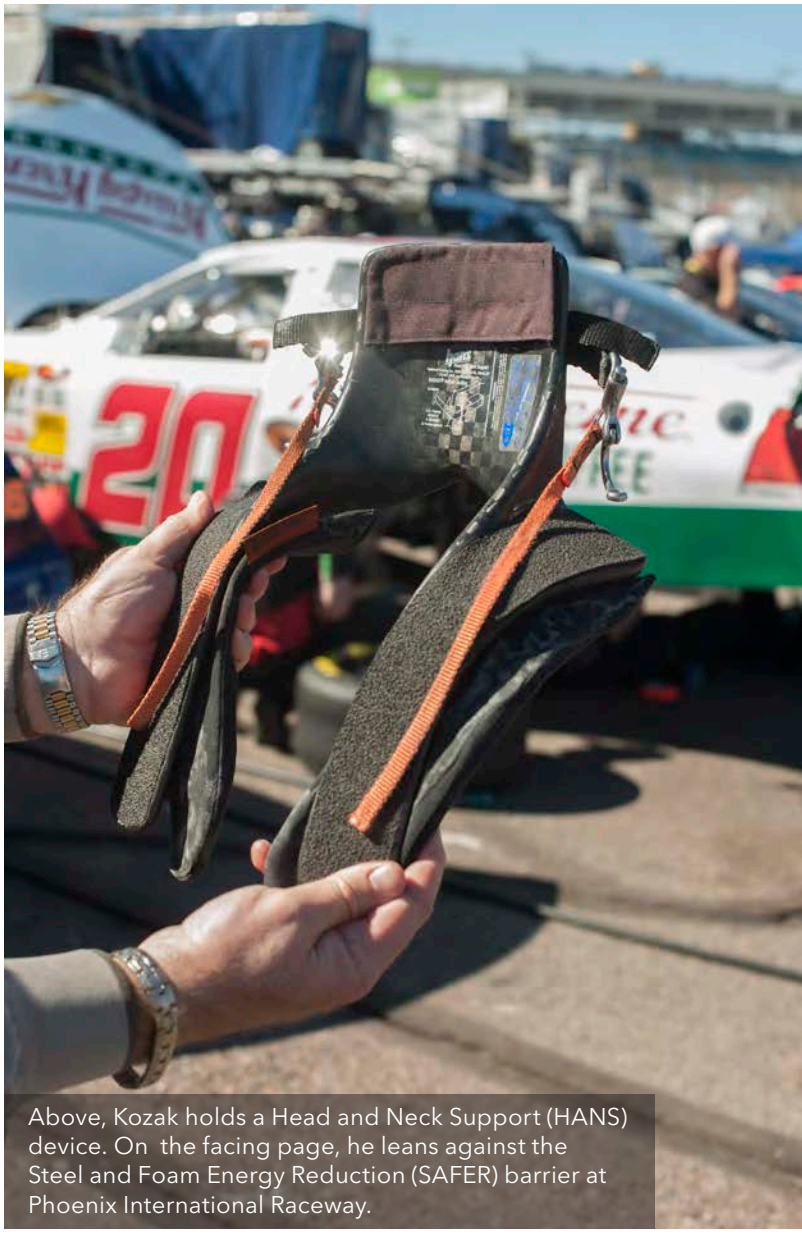
That's the sound of Paul Kozak, M.D. '90, falling in love. Smitten by the mating call of a Top Fuel dragster. It first happened while Kozak was moonlighting as a track doc at National Hot Rod Association races in Indianapolis during his residency at Methodist Hospital. Invited down to the start line on his first race-day medical outing, he sensibly asked, "Do I need earplugs?" Heck, just put your fingers in your ears, he was told. No one mentioned that at full throttle the engine of a dragster generates around 150 decibels of sound, enough to cause physical pain or even permanent internal damage. (ESPN once took some seismologists out to the starting line — a pair of dragsters registered 2.3 on the Richter scale.)

"It was like a rocket ship taking off," says Kozak, summoning the sensation of the hot rod revving up. "I could feel my heart vibrating in my chest and I thought I'd ruptured my eardrums. I was covered in little rubber pieces that flew off the tires.

"And, I was hooked."

Thus began Kozak's 22-years-and-counting career in auto racing medicine. He worked the famed Indianapolis 500 for 15 years, even flying back to Indiana for the legendary race long after moving to the Mayo Clinic Hospital in Phoenix in 1993, where he is an attending physician in the emergency department (ED). Since then, Kozak has been a track physician at the Phoenix International Raceway — where National Association for Stock Car Auto Racing (NASCAR) events are staged — and he now serves as medical director for the track. If it has an engine and people race it, Kozak has been there.

Thanks to meticulous record keeping, Kozak recently published seminal research on the impact of the two most significant safety improvements in auto racing since the introduction of the safety belt — Head and Neck Support (HANS) devices and Steel and Foam Energy Reduction



Above, Kozak holds a Head and Neck Support (HANS) device. On the facing page, he leans against the Steel and Foam Energy Reduction (SAFER) barrier at Phoenix International Raceway.

Paul Kozak, M.D. '90, helps adjust the Head and Neck Support (HANS) device on Brandon McReynolds, driver for the #16 NAPA Auto Parts Toyota in the NASCAR K&N Pro Series West, a regional stock car racing division of NASCAR.

(SAFER) barriers. Kozak has proved that the two have had an overwhelmingly positive impact on driver safety. He's also authored a chapter on motorsports medicine in a Mayo Clinic e-book, *Medicine in Challenging Environments*.

Yet getting from the starting line to the finish for Kozak was less like the straight shot of a drag race and more like the S-curves of a Formula One track.

Kozak, 50, grew up in Everett, Mass., which he affectionately describes as "the first smokestack north of Boston." But this working-class kid did well enough to go to Harvard University. "As my wife, Jeanna, likes to tell me, I'm a white-collar redneck," he grins. Those competing parts of his personality played out in his early work life. "I've only had two other jobs in my life, one pumping gas in high school and the second as a hospital orderly. I was a kind of bouncer in the emergency department; they needed a heavyset guy to hold the drunks down."

Hospital work, it seemed, appealed to Kozak. He took a year off after Harvard to work at Whidden Hospital in Everett. "I was probably the best-educated orderly," he says. When he applied to medical school at GW, Kozak was wait-listed at first, but then his "dogged determination," as he puts it, got him to Foggy Bottom. "One thing I give GW credit for — they took older people, people with some life experience," he says.

Med school turned him on to emergency medicine, and Kozak fell under the beneficial spell of Jim Scott, M.D., RESD '87, "everybody's favorite emergency room doc," recalls Kozak, although, as he confesses, his first imperative as he considered a life in medicine was "to make sure I didn't kill anybody."

Hospitals are often synonymous with their city's personality. Naturally, when Kozak began his residency at Methodist Hospital in Indianapolis — surprise! — he learned that a lot of the faculty members worked in support at the Indianapolis Motor Speedway. Additionally, there was an EMS elective for seniors in residency. Kozak learned how to safely approach a crashed car, how to operate the "jaws of life," and what the difference was between gas and methanol fires. "The race cars run on methanol, which burns clear — you just see a heat shimmer — so you have to be careful not to walk into a fire," he says.

After Kozak moved to the Maricopa Medical Center in

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Phoenix, he set up a similar program for residents as part of their EMS rotation. He continued his association with Phoenix International Raceway after moving to Mayo. By now, the brush-cut, burly Kozak is a track fixture and has personal relationships with many of the professional drivers. Which raises an interesting question. Most ED docs don't know their patients, but track physicians see the same drivers again and again. Kozak treated one crash-prone driver repeatedly and got to know him quite well. "As a physician, you kind of turn a switch off in your head," he explains. "A patient is a patient."

Another constant for race doctors used to be treating serious head injuries. Following the 2001–02 NASCAR season, in which four drivers died from basilar skull fractures, HANS devices were mandated for all sanctioned events. In 2004, SAFER barriers were installed at Phoenix International Raceway. Kozak had been keeping records that documented nearly nine years of medical histories pre-safety improvements — and has now covered an equal length of time after the improvements were required. In all, 940 driver medical evaluations, 705 resulting from a car crash, were analyzed.

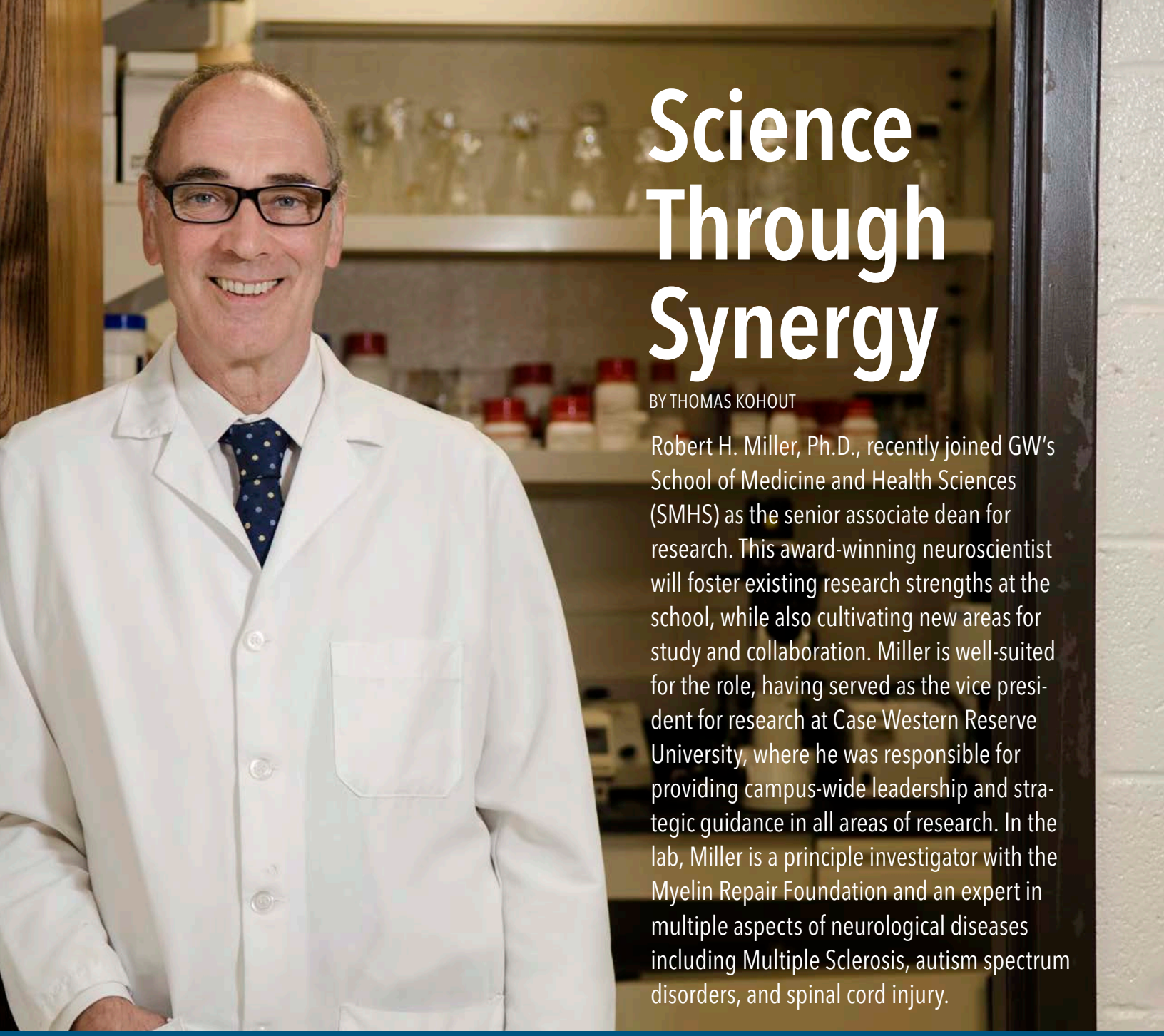
What Kozak and his study team found is that just over seven of every 10 drivers who crashed their car without HANS devices or SAFER barriers had to be transferred from the track medical center to a higher level of care, such as a trauma center, which might be miles away. Using both HANS devices and SAFER barriers reduced the odds of being transported to hospital care or losing consciousness by 90 percent. SAFER barriers alone reduced the odds by 87 percent, and just HANS devices cut the odds by 66 percent.

"After HANS and SAFER were introduced, I discovered I was transferring more spectators than drivers to hospitals," Kozak says. "The drivers would come in with runny noses or complaining about the bad burritos they ate." Kozak's team presented the findings in May 2014 at the Society for Academic Emergency Medicine meeting in Dallas.

"My hope is that this research will lead to wider adoption of these safety measures in the lower tiers of auto racing," says Kozak. He also believes the next frontier in race safety is for improvements in helmets to protect what he calls "the chewy center" of the race car — the driver.

Kozak may not have envisioned how his training as a clinician would lead to work outside the ED and research in the field. He's also found himself devoting time to professional advocacy, which earlier this year brought him back to the District and Foggy Bottom as part of a group advocating for increased federal funding for residency slots.

But the racetrack still calls. After all, it had him at *va-rooom.* ■



Science Through Synergy

BY THOMAS KOHOUT

Robert H. Miller, Ph.D., recently joined GW's School of Medicine and Health Sciences (SMHS) as the senior associate dean for research. This award-winning neuroscientist will foster existing research strengths at the school, while also cultivating new areas for study and collaboration. Miller is well-suited for the role, having served as the vice president for research at Case Western Reserve University, where he was responsible for providing campus-wide leadership and strategic guidance in all areas of research. In the lab, Miller is a principle investigator with the Myelin Repair Foundation and an expert in multiple aspects of neurological diseases including Multiple Sclerosis, autism spectrum disorders, and spinal cord injury.

Q: What is Multiple Sclerosis?

A: Multiple Sclerosis (MS) is a disease where the immune system attacks a certain component of the central nervous system called myelin, which is the fatty insulation that surrounds axons. T-Cells come in from the peripheral immune system and destroy the myelin. As a consequence, the axons in the neurons fail to conduct information from one part of the brain to another and you get paralysis.

Q: What therapies are available?

A: The therapies that are on the market regulate immune system attacks. Cells in the peripheral immune system, T-Cells, infiltrate the brain and spinal cord and attack the myelin sheaths. The therapies currently treat that T-cell infiltration. They are immunosuppressants; they attack the T-Cells and stop them from getting into the brain and spinal cord. The problem is they don't actually regulate the disease at all. The disease is still on-going in the brain and spinal cord, even though the patients feel better because they have fewer attacks.

Q: How much has MS research evolved since the start of your career?

A: When I started there might have been one or two therapies available. They were corticosteroids; they were just anti-inflammatories. They worked quite well to regulate the

immune attack, but of course they suppressed every other immune system as well. So patients became very susceptible to a whole variety of other diseases that T-Cells normally control.

Over the years there has been the development of a number of therapies that actually target the CNS (central nervous system) T-Cells specifically. The most effective therapies now actually block T-cell entry into the brain and spinal cord. Those work incredibly well. They actually stop the attacks almost completely. There are about 10-15 different drugs that target slightly different components of the T-Cell attack. Patients can choose drugs depending upon the level of side-effect these drugs have, and they all have some kind of side effects.

The goal now is not to try and stop the immune attack, because we can do that quite well. The goal is to try and actually repair the brain itself. That is where our research is focused.

Q: How do you convince the body to repair something that it doesn't ordinarily fix?

A: The question is, "does the body ordinarily repair the central nervous system?" When I started many years ago, everybody believed that you were born with the number of neurons and brain cells that you were going to have, and that you were never going to make any more. Over the last 30 years, that has clearly been shown to be wrong. We have in our brain and spinal cord, neural stem cells that are capable of creating new neurons, as well as new oligodendrocytes, the cells that make myelin, and other cells of the central nervous system. Under some conditions, the stem cells can be activated to promote recovery.

Q: What does your research focus on?

A: The most exciting area of our research, what we as well as others have discovered, is a population of cells in the bone marrow that have the capacity to promote recovery in the central nervous system. These cells are called Mesenchymal stem cells. We don't know really what they do in the intact animal — we think they make cartilage and other connective tissue — but they have a remarkable property. If you put them in an animal that has on-going MS-like disease, the cells will home-in on the brain and spinal cord, and promote functional recovery. Our job now is to understand how they get there and what is it that they're doing that promotes recovery.

Q: What attracted you to GW?

A: GW is expanding its research activities dramatically, and there are people here who can help develop new therapeutic approaches to MS. The neurology program here is very interested in translational neuroscience, taking discoveries from the bench to the bedside. Dr. Henry Kaminski, chair of the neurology department, and I are former colleagues. Another component is the very strong human immunology at GW. Dr. Doug Nixon — who leads the Department of Microbiology, Immunology, and Tropical Medicine — and his studies of AIDS and infectious diseases actually provide us with new insights and ideas to think about how to develop therapies for MS.

Q: What is your role in shaping the school's research development?

A: GW is undergoing an expansion in research, particularly in health-related research. Part of my role here is to support that, to help guide it, to think about strategies that will allow us to develop an even stronger basis for the research activity in health-related areas.

Q: How do you go about building the school's research portfolio?

A: It's clear that we have within our existing faculty, and within our existing structure, the ability to grow. That will be limited, however, so clearly we will go out and hire talent. We need an influx of investigators in order to continue to expand. Talent will come because we will build programs that are synergistic, where people are working in a group. When I came here, one of the attractions was to have people that I could interact with, who think about things that relate to what I do, but in a different way. We need to build groups of investigators who relate to each other, but have different expertise.

Q: Does that mean that the school should narrow the field of research into a few select areas or broaden it?

A: I think we already have some strong areas of research and we need to strengthen those. The neurological sciences are one example where we've made investments and we are becoming recognized as a national driver in the field. We have put resources and energy into human immunology and infectious diseases. That's an area that we'll continue to build and expand. Those two areas obviously interact. If one thinks about HIV/AIDS, there's a neurological component to that, there's an immunological component to thinking about making vaccines. Can you make a vaccine for MS? Can you make a vaccine that would be effective against Alzheimer's disease? A lot of the technologies and expertise interact. The other area that we're going to build in most immediately is cancer. We're looking to build and strengthen the whole aspect of cancer biology from the laboratory up through clinical cancer treatments, to effectiveness and outreach programs. Those are three areas we've identified as flagship areas for the school but we will continue to invest in outstanding investigators in all areas of health research. ■

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Severe peripheral arterial disease cost Carrington Sandidge two and a half toes, but the possibility of losing his leg threatened to rob him of independence and self-identity.

Saving Lives and Limbs

GW's New Wound Healing and Limb Preservation Center Restores Independence by Repairing Limbs

BY KRISTIN HUBING

On a bright September morning, Carrington Sandidge is on his way out the door to mow the expansive lawn surrounding his Temple Hills, Md. home, 10 miles outside of Washington, D.C. It's his 81st birthday, and he's just as dedicated to home improvement as he was the day he bought his three-story Colonial a decade ago. "I did the kitchen, I did the powder room," he catalogs his renovation projects. "I even put in all the fans."

Nine months earlier, however, home remodeling was the last thing on Sandidge's mind. He was having difficulty walking at all, let alone working on his home. Pain in his right leg that had been misdiagnosed as gout had worsened over the months, causing his toes to darken and hindering his mobility. "It was excruciating," he recalls. "My toes were getting darker and darker, and it hurt all the time."

Sandidge was eventually referred to the George Washington University Hospital's Wound Healing and Limb Preservation Center, led by Richard Neville, M.D., chief of the division of vascular surgery and professor of surgery at GW's School of Medicine and Health Sciences (SMHS). There, he was diagnosed with severe peripheral arterial disease. After amputating two and a half unsalvageable toes, Neville performed vascular surgery to bypass the left femoral-posterior tibial. Neville also performed a bypass on Sandidge's right external iliac-peroneal artery. Without surgical intervention to restore blood flow, it would only have been a matter of time before Sandidge lost his entire lower leg.

"I tell patients that we're not just saving your leg, we're saving your life."

–Richard Neville, M.D.

Creating Teams to Avoid Amputations

When Neville came to Washington, D.C. as a junior faculty member at Georgetown University in 1990, he noticed that he was seeing a lot of patients with hypertension, high cholesterol, and renal failure — and even more with gangrene due to diabetes. "Rates of diabetes are through the roof in D.C.," says Neville of the disease that affects more than 14 percent of the city's African-American population. Diabetics often experience impaired circulation, developing blockages in the arteries of the small vessels below the knee. Limb amputation is a common treatment for such patients, but Neville saw that this drastic measure was often preventable.

Working in concert with a colleague in plastic surgery, Neville put together a multidisciplinary team of vascular surgeons, plastic surgeons, podiatrists, orthopedists, infectious disease specialists, and wound care experts to provide the range of services necessary to heal wounds, treat vascular disorders, and prevent amputations. In 2011, the team moved to SMHS and the George Washington Medical Faculty Associates, and the doors of the GW Wound Healing and Limb Preservation Center opened in August.

"Amputation is not a small thing," Neville stresses. Although critical for patient survival, it is not without its costs. In addition to the steep medical bills and high mortality rates associated with amputation, the procedure often strips patients of their independence, placing an additional burden on family members. "I tell patients that we're not just saving your leg, we're saving your life," Neville says.

Maintenance of his quality of life was especially important to Sandidge, who has lived alone since the death of his second wife in 2012. After four months of physical therapy — "I was the clown in the class, always making everyone laugh," he says — Sandidge is back to his daily walks to Mt. Calvary Missionary Baptist Church, where he has served as a Deacon for more than a decade. "I'm cutting grass, I'm going up and down the steps, I'm doing everything," he reports, cheerfully.

Streamlining Services

The presence of a limb preservation center in the community benefits not only the individual patients, but also other physicians who now have a place to refer complex cases for multidisciplinary treatment. "Our goal is to streamline care," says Neville, who recognizes that getting to and from the doctor's office is a hassle for anyone, but presents a particular challenge for his patients who are already having difficulty with mobility. Standard of care for the average patient requires eight-to-10 hospital visits; a burden that can hinder a patient's willingness and ability to attend follow-up appointments — a crucial part of the process. The centralization of the Wound Healing and Limb Preservation Center allows various procedures, such as arteriograms, medical clearances,

Richard Neville, M.D.

Neville is a well-traveled lecturer, regularly delivering talks on the Distal Vein Patch, a bypass procedure he invented that uses a prosthetic graft sutured to the small blood vessels of the lower leg. But recently, his audiences have been most interested in learning about how to set up a limb preservation and wound care center in their own hospitals.

clinical evaluations, and revascularization, to be combined into just a few visits.

Neville is a well-traveled lecturer, regularly delivering talks on the Distal Vein Patch, a bypass procedure he invented that uses a prosthetic graft sutured to the small blood vessels of the lower leg. But recently, his audiences have been most interested in learning about how to set up a limb preservation and wound healing center in their own hospitals. "There aren't too many places that are doing clinical work, basic science in wound healing research, and are involved in academic education," Neville says. Physicians from across Asia in particular are anxious to replicate the initiative in their home countries, many of which are also experiencing a dramatic increase in rates of diabetes.

"It's rather difficult to optimize limb preservation results by dealing with it in a haphazard way," says Anton Sidawy, M.D., M.P.H. '99, Lewis B. Saltz Chair of Surgery, and professor of surgery at SMHS, who spearheaded the center's launch at GW. "It's crucial to have an organized limb preservation program where wound healing people, vascular surgeons, infectious disease people, and podiatrists are involved," he says. "A limb preservation center like the one we've created brings the knowledge, research, clinical care, and education necessary to optimize care of a patient with wound problems in the foot."

Research and Outreach

"I'm very proud of this effort," says Neville, who is grateful to GW for its support of not only his clinical vision, but also the research component that is crucial to the center's progress. SMHS recently recruited Victoria Shanmugam, M.D., whose experience in wound healing brings cutting-edge immunology and genomics research to the patient's bedside, to serve as the director of the division of rheumatology in the department of medicine. Bao-Ngoc Nguyen, M.D., assistant professor of surgery at SMHS, also conducts basic science research in wound healing, focusing on the molecular biology of wounds and why they sometimes don't heal.

Neville himself continues his research into avoiding hyperplasia, the body's natural response to arterial manipulations, and sits on the scientific advisory board of a Chicago company that is developing a stem cell product for use in revascularization. "It needs a lot of work, but in the future we might be able to implant something in the leg that will transform into an artery," he says.

The future looks particularly bright for the GW Wound Healing and Limb Preservation Center as well, which plans to establish outreach clinics in neighborhoods around D.C., especially those with the highest prevalence of diabetes and other diseases that limit circulation. "The big procedures would still be done at GW," Neville says, "but outreach and follow-up services will be accessible to people closer to home."

The center is also in the process of formalizing and expanding its fellowship program, which currently includes three vascular residents. Physician education remains a primary goal, as evidenced by the organization of the second annual Cherry Blossom Vascular Symposium in 2014, a multi-day event that brings together nationally recognized vascular specialists and surgeons to share insights and network with their peers. "Physician awareness of the potential for limb preservation is a very important part of our efforts," Neville says.

Patient awareness is an important component as well. "We want people to know that there's something they can do. They don't have to resign themselves to being in pain or having an amputation," Neville stresses. Case in point, Sandidge is as pain-free and mobile today as he was before the blockage developed in his right leg, if not more so. "Believe it or not, I walk better on that leg than I do on my left leg now," he boasts. "It's really an amazing thing." ■

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Health Science Programs Develop New Models of Education to Meet the Nation's Health Care Needs

BY KRISTIN HUBING

According to a 2013 study by the Health Resources and Services Administration, the demand for health care services in the United States will increase dramatically through the year 2020 due to an aging population and the expanded insurance coverage implemented under the Affordable Care Act. Given that projections are pegging the physician shortage at more than 20,000, it's imperative that health sciences professionals be fully integrated into the nation's health care delivery system to meet this expanded need. GW's School of Medicine and Health Sciences (SMHS) has been a leader in the effort to prepare for the expanded role of health professionals since the early 1970s.

In addition to nationally acclaimed programs in physical therapy and physician assistant studies, SMHS' health sciences offerings include academic programs in clinical research and leadership that prepare future clinicians and health leaders for employment in industry, direct patient care, research, and management. As an early adopter of the distance education model, SMHS also provides high-quality academic distance education for a variety of health professions by integrating adult learning principles and technology to benefit students globally.

In order to remain at the forefront of a rapidly changing health care landscape, SMHS' health sciences programs have embarked on a significant expansion that will allow the school to serve as an educational center for an even larger portion of the nation's new health professionals and leaders. "The Health Sciences programs at GW is evolving to meet the needs of the changing health care landscape," says Joseph Bocchino, Ed.D., M.B.A., senior associate dean for health sciences and professor of clinical leadership and management at SMHS.

This evolution for the health sciences at SMHS includes a significant expansion at the Virginia Science & Technology Campus (VSTC) in Ashburn, Va., which has housed GW research institutes and specialized academic programs since 1991. The health sciences fit well within this vital center for innovative research and graduate education; SMHS will base a premedicine, post-baccalaureate program with pharmaceutical and medical laboratory sciences programs at VSTC. In addition, the school is developing an interdisciplinary biomedical informatics program that will form the core of SMHS academic programming at VSTC.

The post-baccalaureate program in premedicine, which prepares candidates for medical school, will launch in June 2015 as a one-year program with a planned cohort of 25 students. The pharmaceutical sciences program is an expansion of SMHS' pharmacogenomics program and will serve as a pipeline for students planning to attend pharmacy schools nationwide. The biomedical informatics program will prepare students for careers in an emerging health care profession. Medical

laboratory sciences, an already formidable set of academic programs at GW, will expand with access to the VSTC campus and new laboratories that will support program needs.

"The educational systems in northern Virginia are producing well-qualified candidates for our academic programs who may be seeking careers in the health care field," Bocchino explains. "We are building partnerships with the Northern Virginia Community College system and the high schools to develop integrated programs that provide candidates with a seamless pathway to an affordable education and translatable careers in health sciences. The VSTC health sciences expansion will provide an excellent environment for all."

"SMHS continues to look for opportunities to develop innovative educational programs beyond the Foggy Bottom campus," says Jeffrey S. Akman, M.D. '81, RESD '85, Walter A. Bloedorn Professor of Administrative Medicine, vice president for health affairs, and dean of SMHS. "With the clear need to expand the U.S. health care workforce, and in the framework of the university's strategic plan, Vision 2012, we are leveraging our highly valued academic partnerships in Northern Virginia to expand opportunities for our partners, faculty, and students."

Both GW's President Steven Knapp, and President Barack Obama have stressed the importance of making education more accessible and more affordable in the United States; the message has resounded in the health sciences field and has become part of a university-wide mission at GW.

"This is a very strategic move for the school and the future of health sciences at GW," Bocchino says. "Consider the pressures on both educational systems that develop health professionals and the systems that provide health care to contain costs. We are doing our part to develop new models of education that address accessibility to education for health professionals and, by preparing qualified graduates, doing our small part in making care more accessible as well. I believe this move fully supports our presidents' vision for accessible and affordable education."

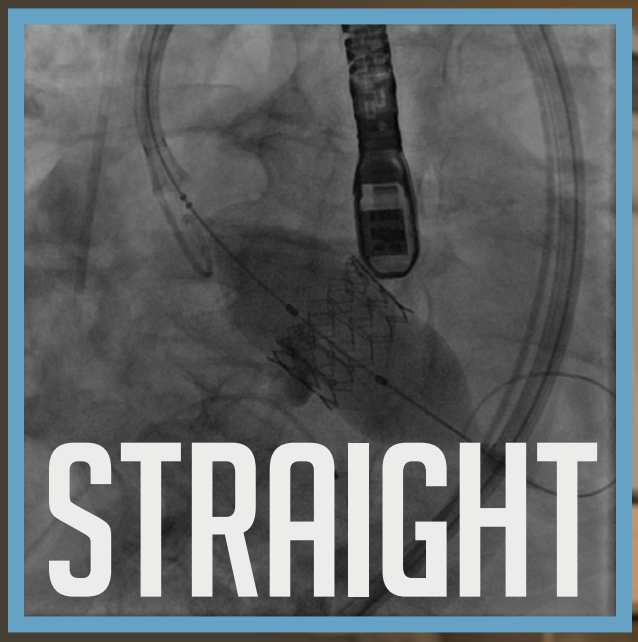
Bocchino reports that SMHS has been building relationships throughout the region for nearly two years. "Our partnerships with the NOVA Community College; the Virginia Community College System; and the community colleges in Maryland, including Montgomery College and Prince George's Community College, are key to realizing our full potential at VSTC and the health sciences at large here at GW," he says. "Our ultimate goal is to run fully integrated academic programs that will leverage partnerships with these institutions in order to develop curriculum that threads all the way through these independent systems to create a well-prepared bachelor's or master's graduate. We are creating a seamless pipeline, and an affordable experience, for students who need academic preparation for careers in the health sciences." ■

OCCUPATIONAL THERAPY

This fall, SMHS established an advanced practice Occupational Therapy Doctorate (OTD) degree program for practicing occupational therapists who are interested in interdisciplinary care of post-acute conditions. As opposed to physical therapy, which uses exercise to boost mobility and strength, occupational therapists rely on manual therapy techniques such as stretching and therapeutic exercise to improve dexterity to enhance a patient's ability to perform everyday tasks such as getting dressed.

"It is our mission to provide clinicians with opportunities that enable them to enhance their ability to serve their patients," says Joseph Bocchino, Ed.D., M.B.A., senior associate dean for health sciences at SMHS. "We are excited to offer this new degree for occupational therapists who wish to advance their skill set and advance their career."

The OTD program trains occupational therapy clinician-scholars to collaborate across the translational spectrum to integrate information from bench to bedside, and then on to influence policy. The curriculum focuses on transdisciplinary practice and research, scholarship in occupational therapy, and advanced concepts in function and learning, with an emphasis on post-acute and chronic care settings, one of the fastest growing segments of health care. The program is offered in an online learning format, using dynamic media for self-disciplined and self-directed students to pursue a clinical doctorate while preparing for professional advancement.



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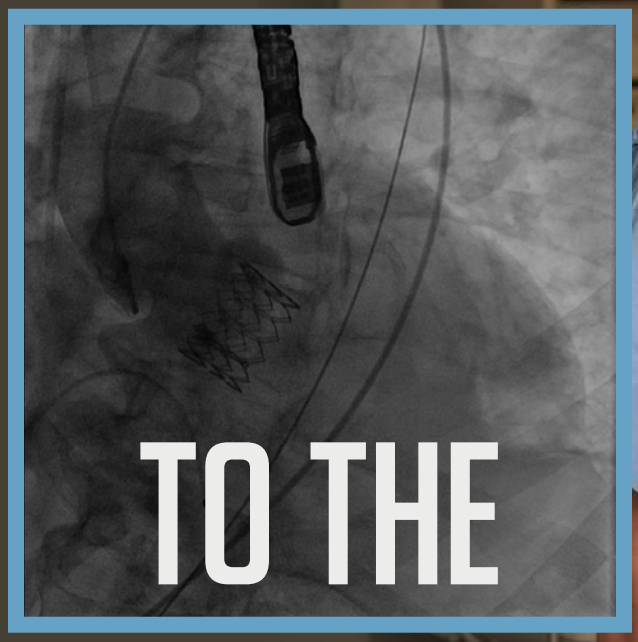

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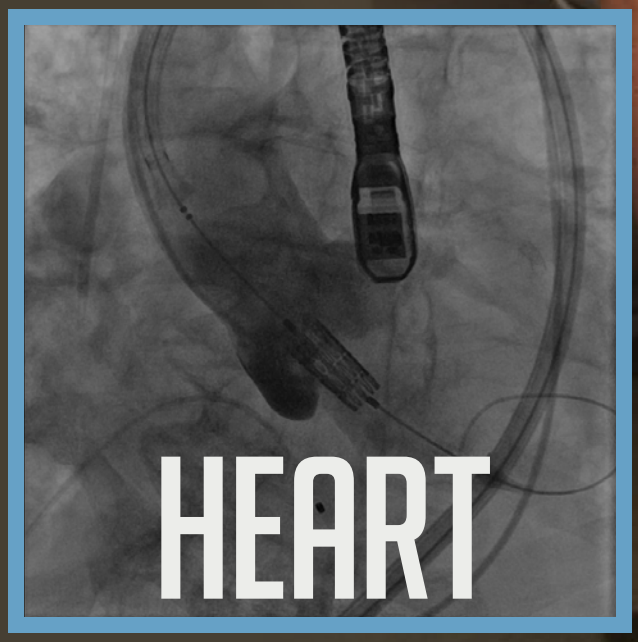


HEART

A REVOLUTIONARY VALVE REPLACEMENT PROCEDURE GETS HIGH-RISK PATIENTS ON THE ROAD TO RECOVERY

BY STEVE GOLDSTEIN

Slowly, methodically, Christian Nagy, M.D., manipulates the catheter through a half-inch incision in the 85-year-old patient's upper thigh and into the femoral artery — a relative interstate in comparison to the two lane blacktops of most other vessels. With eyes glued to the video monitor, Nagy maneuvers the sheath, as the catheter is called, toward the failing aortic valve — the toll booth to the pumping chamber that is the heart's left ventricle. The sheath carries a new valve sewn into a stent — a stainless-steel mesh scaffold — as well as a crimped balloon the diameter of a fountain pen.

At the same moment, a temporary pacemaker approaches the heart, preparing a high-octane boost that drives the heart rate from 63 beats per minute to a 180-beat redline. At that pace, the heart is essentially at a standstill, the force of the beating muscle is diminished and less likely to push the new valve out of alignment.

Nagy, director of structural heart disease and assistant professor of medicine at the George Washington University School of Medicine and Health Sciences (SMHS), edges the new valve into position. As the heart rate accelerates, he uses a pressure syringe to inflate the balloon and expand the new valve inside the old, forcing it against the walls of the vessel. In a few seconds, the pacemaker is withdrawn and the heart slows to its normal rhythm. Blood pumps out of the heart into the aorta, through the leaflets of the new valve, which prevent it from sloshing back.

Nagy eyes his colleagues among a 20-member team crowded into the procedure room of the second-floor Cardiac Catheterization Lab (Cath Lab) at George Washington University Hospital (GW Hospital). To a layman observer, it's a medical miracle. Instead of invasive heart surgery and all that it involves, patients show little more outward evidence of the experience than a half-inch incision on the upper leg, closed by two sutures. It's the 1966 science-fiction classic *Fantastic Voyage* come to life; a non-surgical intervention led by a tiny medical team traveling through the body to rescue a patient.

"The fact that we can operate on a patient without invading the body is amazing to me — and I do it!" says Jonathan Reiner, M.D., director of cardiac catheterization and professor of medicine at SMHS. "It's the Next Big Thing."

The procedure is called Transcatheter Aortic Valve Replacement, or TAVR, and it is revolutionizing heart repair procedures in the way bypass and stents have done decades before. An estimated 67,500 aortic valve replacements are performed every year in the United States according to the American College of Cardiology. When the valve is narrowed by stenosis-caused calcification, the heart struggles to push blood through, like a garden hose that's been constricted. The standard therapy is open-heart surgery, when surgeons split the chest and a new valve is sewn into the heart. The surgery requires up to a week in the hospital, weeks of rehab, a slow recovery, and the threat of infection — especially for an elderly patient.

In the early 2000s, French surgeon Alain Cribier conceived of a technique in which the new valve is placed inside a stent and delivered to the aorta through a blood vessel — the femoral artery — that could accommodate a catheter. "This technology," Reiner explains, "allows us to treat patients who in the past were thought to be untreatable, or thought to be treatable but very high risk, and we can do it in a minimally invasive way."

"This is like rebuilding a car engine," adds Reiner, "without opening the hood."

"The beauty is that you don't have to cut anything out, you don't have to open the chest," says Nagy, the TAVR point man. "For patients, this is a major advance." If the femoral artery is not adequate, TAVR can also be performed as trans-apical — through an incision between the ribs and into the tip, or apex, of the heart.

"Who would want surgery if you have a choice?" asks Nagy.

True enough — but TAVR is not available for everyone and the chosen are still relatively few. Although TAVR procedures have been performed routinely in Europe for more than seven years — half of the valve replacement surgeries in Germany last year were by TAVRs, for example — the practice is relatively new in the United States. The U.S. Food and Drug Administration (FDA), which regulates medical procedures in addition to pharmaceuticals and food, approved TAVR in 2011, but only for patients considered ineligible for surgery. The following year, after successful clinical trials, the eligibility pool was deepened to include those eligible for surgery but still considered to be high-risk (i.e. too old, too frail, or with a history of heart surgery).

The next "frontier," as Reiner puts it, is intermediate-risk patients. Enrollment has been completed in the latest FDA clinical trial and the study is halfway through a two-year process. "Probably in the next year or two we will see another major shift," Nagy estimates.

Nagy, a boyish-looking, 43-year-old raised in Germany, most recently trained in interventional cardiology at Tufts Medical Center, and came to GW in September 2013,

specifically to build a TAVR program. Only about 300 of the 5,000 U.S. hospitals are approved for this procedure and, in the Washington, D.C. area, only GW Hospital, Washington Hospital Center, and Fairfax Inova Hospital are performing TAVRs.

Nagy spent seven months building the GW program, which involved forming a valve team that includes himself; interventional cardiologists Reiner and Ramesh Mazhari, M.D., associate professor of medicine; and cardiothoracic surgeons Farzad Najam, M.D., FACS, and Gregory Trachiotis, M.D., FACS. They are among the 20 clinicians in the procedure room, as well as key members of the group that review each patient's candidacy for TAVR.

Another vital team member is Physician Assistant Elizabeth Jones, the TAVR coordinator and the point of contact for patients, guiding them through the process and working to align the schedules of busy team members — "like herding cats," as she puts it. Typically, patients are referred to the team by a cardiologist and then evaluated through a series of tests, including CTA scans, cardiac catheterizations, and transthoracic echocardiograms, among others. The evaluation process may last up to a month, Jones explains, after which the team decides whether or not a person is a good candidate for TAVR.

GW began performing TAVRs in May 2014; by October the team was completing its 13th procedure. Although the valves, made of heart tissue from a cow, cost about $35,000, the two-hour-long procedure is a bargain when compared with traditional heart surgery and its related expenses, such as extended hospitalization. But one of the remaining questions to be answered is the longevity of a TAVR-placed valve versus a surgical one.

"We have to prove the durability of the valve," explains Nagy. "Until we know more about the longevity of the valve we can't say this is going to be the gold standard." Reiner is wildly optimistic. Once it's approved for low-risk patients, he says, "you could potentially tell the patient that the procedure will be on Tuesday or Wednesday and you can be back at work Monday. Surgery means a week in the hospital, no driving for three weeks, and back to work in a month, maybe."

Jones says the rewards for her come from seeing patients feeling better and being able to do more with no fatigue or shortness of breath. "As one patient said to me after TAVR: "I feel like my old self again." ■

DELIVERING HOPE FOR HONDURAS

This fall faculty members from GW's School of Medicine and Health Sciences traveled to Centro Medico Comayagua Colonial Hospital in Comayagua, Honduras, to provide a free, two-week heart clinic. Cynthia Tracy, M.D., professor of medicine, director of electrophysiology, and associate director of the Division of Cardiology, and Marco Mercader, M.D., associate professor of medicine and director of electrophysiology research, led a five-member team from the GW Heart and Vascular Institute to identify at-risk patients in need of heart pacemakers and implantable cardiac defibrillators. The mission marked the institute's fifth trip to Honduras to address these acute cardiac needs.

Once at the central Honduran town of 60,000, the medical team provided care to more than 100 patients and implanted 36 devices during the two-week trip – more cardiac devices than are typically implanted across the country during an entire year. Many patients who received pacemakers or defibrillators during previous missions were evaluated for follow-up care.

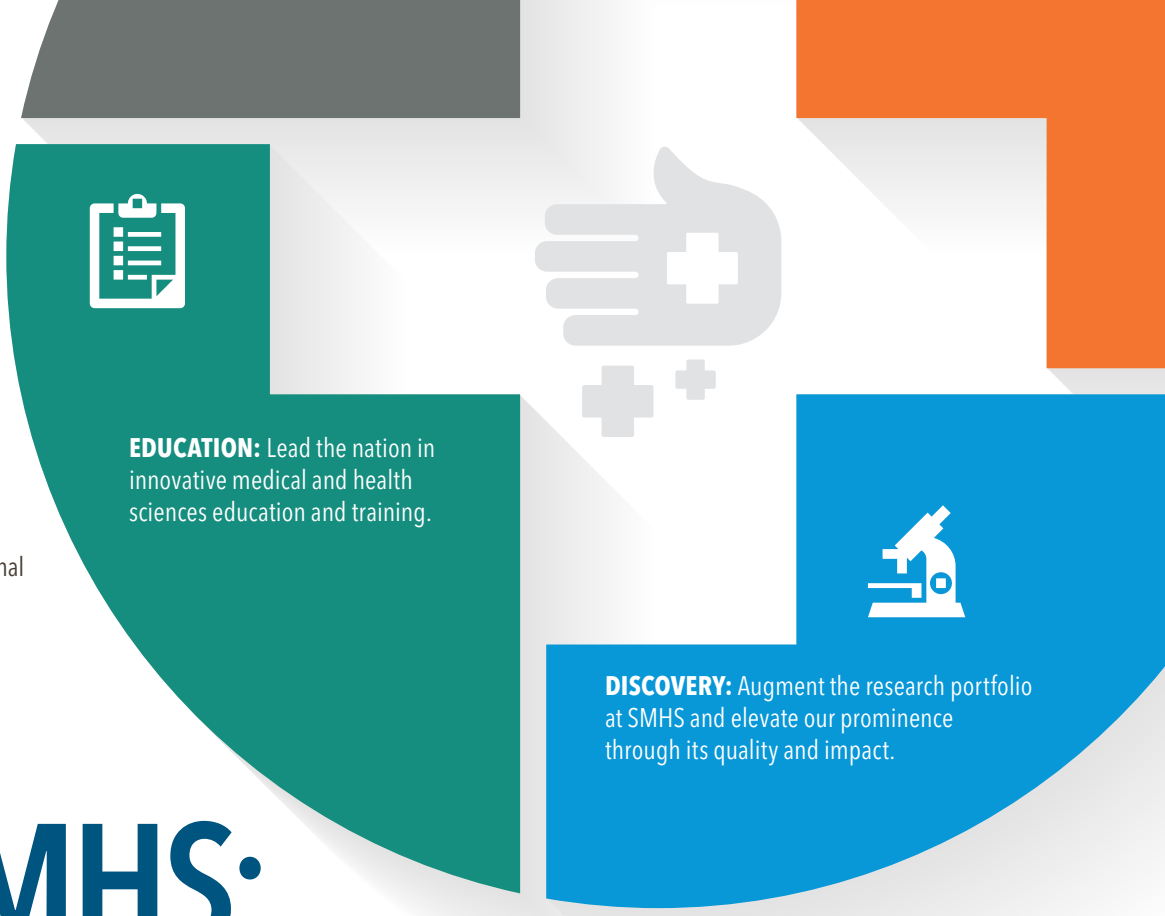
Since its first mission to Honduras in 2010, the GW mission team has evaluated more than 500 heart patients and implanted 165 heart pacemakers and defibrillators. The institute raised more than $500,000 in donated pacemakers and implantable defibrillators from the medical device industry, as well as $15,000 from individual donors to support this year's trip.

ON THE WEB
Scan this QR code with any mobile device for related content –
available online below the story.

COMMUNITY: Become nationally recognized for our commitment to health equity in local and international communities through research, service, education, and advocacy.

LEADERSHIP: Promote a culture of excellence through leadership, performance improvement, professionalism, and diversity and inclusion for students, faculty, and staff.

CLINICAL EXCELLENCE: Gain national recognition for clinical excellence at SMHS and its clinical partners.



GW SMHS:

Transforming Health Care Education and Expanding Research to Improve Lives

Members of the faculty, students, staff, community partners and others, spent the better part of the spring and summer working toward the creation of a strategic plan that will guide the GW School of Medicine and Health Sciences (SMHS) over the next three years. The strategic planning process, which involved surveys, interviews, and discussions with key stakeholders, identified priorities that leverage the strengths of the SMHS to achieve maximum success in each of its missions – education, research, and healing. As one of the oldest medical schools in the country, regarded as an institution that trains outstanding clinicians, the stakeholders identified that the SMHS community is collectively and uniquely interested in service, advocacy, and health equity.

"When combined with curricular changes that emphasize population health management, and the GW School of Medicine and Health Science's renewed interest and investment in translational, interdisciplinary, and health services delivery research, the overarching vision for SMHS becomes clear: GW SMHS's future is about transforming health care education and expanding research to improve lives," said Jeffrey S. Akman, M.D. '81, RESD '85, Walter A. Bloedorn Professor of Administrative Medicine, vice president for health affairs, and dean of SMHS. "That vision is built upon educating a diverse workforce; healing through innovative and compassionate care; advancing biomedical, translational, and health services delivery research with an emphasis on multidisciplinary collaboration; and promoting a culture of excellence through inclusion, service, and advocacy."

The planning process, led by Lourdes Winberry, M.P.H., associate dean for health affairs, resulted in a plan that reflects these values. The following goals provide the framework for the strategies of the plan.

- **Leadership:** Promote a culture of excellence through leadership, performance improvement, professionalism, and diversity and inclusion for students, faculty, and staff.
- **Education:** Lead the nation in innovative medical and health sciences education and training.
- **Discovery:** Augment the research portfolio at SMHS and elevate our prominence through its quality and impact.
- **Community:** Become nationally recognized for our commitment to health equity in local and international communities through research, service, education, and advocacy.
- **Clinical Excellence:** Gain national recognition for clinical excellence at SMHS and its clinical partners.

To read the strategic plan in its entirety, please visit: smhs.gwu.edu/strategicplan

Making History: The Campaign for GW

School of Medicine and Health Sciences Makes the Case for Transforming the Future

BY CHRISTIAN MYSLIWIEC

Meaghan Smith came from humble beginnings. She did not expect to go to college, but partial academic and athletic scholarships, along with need-based student loans, allowed her to earn the first bachelor's degree in her family — a bachelor of science in public health from George Washington University (GW). Later, she earned her master of public health degree in epidemiology. But when she considered pursuing her dream of becoming a primary care physician, tuition seemed like an insurmountable hurdle. Things changed entirely when she learned she was the recipient of an Adopt-a-Doc Scholarship, a School of Medicine and Health Sciences (SMHS) alumni program to support incoming medical students through a minimum gift of $20,000 over four years, sponsored by alumnus Peter Wonchang Choo, M.D. '85 and his wife, Stephanie Choo. The scholarship enabled Smith to enter the medical doctorate program at SMHS.

"I truly consider this to be the greatest gift I have ever received," Smith wrote in a thank-you letter to the Choos, her new adoptive family. "For that, I am eternally grateful."

Moments such as these are what *Making History: The Campaign for GW is all about.*

On June 20, 2014, the university officially launched a campaign to raise $1 billion by June 2018. As GW prepares for its bicentennial in 2021, *Making History* will have a transformational effect on the university, and seeks to greatly increase GW's ability to address society's most pressing concerns. Of the 10 schools within GW, SMHS will be responsible for attaining $225 million — close to a quarter of the total goal. "The funds we raise in the next four years will dramatically raise our level of excellence and improve our capacity to teach, heal, discover, and serve," explains Dennis Narango, associate vice president for medicine and associate dean for development and alumni relations at SMHS. "The campaign will benefit key strategic priorities for us, such as scholarships, professorships, research, and facility improvements."

At SMHS, scholarships are the highest priority for this campaign. Rising tuition rates have threatened higher education across the board, but the cost of medical education in particular is a significant barrier to many students. Without

some form of financial assistance, students like Smith find themselves prohibited by cost from entering certain medical fields. Many of these fields are specialties such as primary care that urgently need workers.

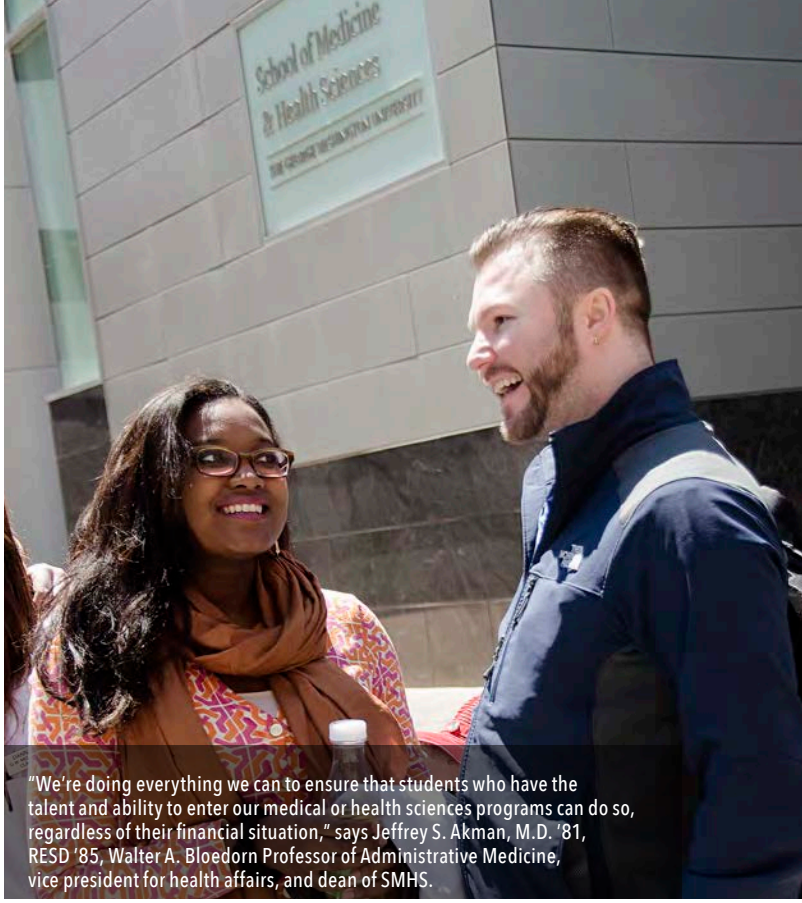
"We're doing everything we can to ensure that students who have the talent and ability to enter our medical or health sciences programs can do so, regardless of their financial situation," says Jeffrey S. Akman, M.D. '81, RESD '85, Walter A. Bloedorn Professor of Administrative Medicine, vice president for health affairs, and dean of SMHS. "The primary way we accomplish this is through building our scholarship funds. One of my top goals for this campaign is to expand the scholarship opportunities we make available to students."

In order to attract and retain a world-class faculty, an important campaign objective is to endow new professorships. Endowed professorships are essential to equipping the brightest minds of academia with the resources they need to form the next generation of physicians and health care professionals. Professorships also support the research activities of the holder, such as the Walter G. Ross Professorship of Basic Science Research, which was established in 2006 by the Walter G. Ross Foundation. The current holder is world-renowned HIV/AIDS researcher Douglas F. Nixon, M.D., Ph.D., and he has a bold vision for the funds the endowment yields.

"Our goal is to work toward a collaborative effort to functionally cure someone of their HIV infection," says Nixon, who is chair of the Department of Microbiology, Immunology, and Tropical Medicine at SMHS. "HIV/AIDS is a complex problem that requires a complex solution. I am deeply grateful for the Ross professorship, which supports us as we work to achieve that solution."

When GW President Steven Knapp began his presidency, he made a commitment to expand the university's research portfolio. SMHS has been a major driver of that goal, and the campaign will bring new funding for research operations and encourage new projects.

Cancer, gastroenterology, neuroscience and neurology, HIV/AIDS, neglected diseases of poverty, and vascular surgery research are all areas of strength at SMHS, and private donations can help accelerate the rate at which researchers expand the sum of knowledge in these fields. When alumna Carol Ludwig, M.D., RESD '82, awarded a grant through the Ludwig Family Foundation to Bao-Ngoc Nguyen, M.D., assistant professor of surgery at SMHS, it helped the vascular surgeon explore new ways to treat chronic non-healing wounds caused by diabetes or ischemia. By supporting Nguyen's work, the Ludwig Family Foundation became a partner in solving a problem that affects 6.5 million people at a cost of more than $25 billion annually. Supporting strong research initiatives is one way this campaign will enable SMHS to address society's most pressing health concerns.



"We're doing everything we can to ensure that students who have the talent and ability to enter our medical or health sciences programs can do so, regardless of their financial situation," says Jeffrey S. Akman, M.D. '81, RESD '85, Walter A. Bloedorn Professor of Administrative Medicine, vice president for health affairs, and dean of SMHS.

The school's leadership hopes this campaign helps SMHS achieve a renaissance. As this growth takes the school to new heights, the physical infrastructure will need to keep pace with increased activity. That is why the campaign will also invest in facility improvements and upgrades.

The school's main facility, Walter G. Ross Hall, has undergone renovations that created new laboratory space and upgraded the Clinical Learning and Simulation Skills Center. In Akman's vision for SMHS, these improvements are just the beginning.

"We hope the funds we raise during this campaign will drive even more facility projects," says Akman. "Our plan is to expand the school's lab spaces to accommodate our burgeoning research enterprise." The school will be adding new laboratories at the GW Virginia Science & Technology Campus for Health Sciences programs, and it will also have an entire floor in the new GW Science and Engineering Hall, which is slated for completion in 2015. SMHS intends to raise $10 million to finance the floor, which presents prestigious naming opportunities for generous donors, corporations, and foundations.

Among Akman's leading targets for the school is the construction of a new campus building within 10 years.

"Our future as an institution will be very different as a result of this capital campaign," says Akman. "By empowering our strengths and investing in strategic areas, we stand to see exponential growth. I am very excited about this campaign because it will benefit the people we care about most: our students and faculty, our physicians and health care professionals, our patients, and the community at large." ■

FACULTY NEWS

THE GOOD OLD DAYS

Former GW Dean Lawrence Thompson Bowles M.D., Ph.D., discusses the evolution of the medical school and what life is like today

BY LAURA OTTO

When Lawrence Thompson Bowles began medical school, he didn't know the difference between a vein and an artery. But he learned. "I was a philosophy major at Duke University, who was fascinated by mathematical logic," recalls Bowles, M.D., Ph.D., who also received his medical degree from Duke University School of Medicine. The university took Bowles in as an experiment. "Duke wanted to see if they should be admitting more liberal arts majors into medical school," he explains. "This was very avant-garde at the time."

Medicine, specifically surgery, captured all of Bowles interests – math, science, and hands-on learning. "I was always good with my hands," said Bowles, who played basketball in high school. "I saw them as tools, so surgery seemed like a logical choice." Bowles later earned a Ph.D. in higher education at New York University.

Everything was paper and pencil when Bowles arrived at GW in 1973, where he first served as associate dean of curriculum and student affairs. Bowles quickly rose in the ranks at GW; in 1975 he became dean of academic affairs; a year later he was selected to serve as dean of medicine and professor of surgery at SMHS, where he served in that capacity from 1976 to 1988. Ultimately, Bowles was appointed vice president for medical affairs and executive dean of SMHS, a role in which he served in until 1992.

"It was crucial in those days that students learned what they had to with direct hands-on patient contact," explains Bowles. Hospitals were filled during this time; an average hospital stay was one week, he adds. "There simply isn't an inpatient population today for medical students in their third- and fourth-years to have that kind of time and continuity with one patient's admission, which was possible with my own education in the 1950s and even in the 1970s," he recalls. Today, simulation labs such as GW's Clinical Learning and Simulation Skills Center have become a vital learning tool. "I'm one of the old guys," admits Bowles. "I learned by putting my hands on human beings." Bowles believes that "patient care is better than ever and technology is responsible for that."

Bowles remembers with great fondness current Vice President for Health Affairs and Dean of SMHS Jeffrey S. Akman, M.D. '81, RESD '85, the school's Walter A. Bloedorn Professor of Administrative Medicine. "Jeff is a remarkable guy," says Bowles. "Besides being extremely bright, he has a wonderful way with people. I knew he would make a terrific medical center chief executive."

During his tenure as dean, Bowles served as chair of the Special Medical Advisory Group of Veterans Administration, known today as the Department of Veterans Affairs, as well as chair of the Board of Regents of the National Library of Medicine. In 1992, he was appointed president of the National Board of Medical Examiners (NBME), an organization that develops and manages the United States Medical Licensing Examination.

Bowles retired from the NBME in 2000. Today, his days are spent volunteering at a local soup kitchen, which satisfies his need to use his hands to help people, and reading medical, nursing, and dental textbooks to the blind and dyslexic. He also serves on the SMHS Educational Evaluation Committee.

This past July, Bowles and his wife, Judy, celebrated their 49th wedding anniversary. Retirement has given the couple time to catch up with their three daughters: Emmy award-winning actress Julia Louis-Dreyfus; Lauren Bowles, who is also an actress and stars in the HBO series True Blood; and Amy Reyer, who is an executive coach, received her Ph.D. in women's studies at GW in 1998, as well as their five grandchildren.

At age 82, Bowles recalls his days as dean with a great sense of satisfaction. "I'm very proud of the way GW has stayed on the forefront of the changes in medical education and happy that I was part of its evolution." ■

Identifying the Effects of Developing the Faculty

In academia, methods used to demonstrate the impact of faculty development programs have long been lacking. A report from GW's School of Medicine and Health Sciences (SMHS) introduces a new model to demonstrate how faculty development programming can affect institutional behaviors, beyond the individual participant.

"Faculty development is essential for helping medical education faculty meet the demands of their roles as teachers, scholars, administrators, and leaders," says Ellen Goldman, Ed.D., M.B.A., associate professor of clinical research and leadership at SMHS, who co-authored the report with Margaret Plack, DPT, Ed.D., professor of physical therapy and health care sciences at SMHS.

Traditional assessment methods of faculty development programs often focus only on the learners and are limited to satisfaction measures or self-reported behavior. The new model, outlined in Academic Medicine, proposes examination of the impact that program graduates have on their colleagues. The way graduates influence work group processes is an important indicator of a program's success.

A qualitative study of 13 departments across three institutions found that in the presence of environmental facilitators, graduates exhibited enhanced confidence and five new behaviors: they became a resource and shared expertise; role-modeled good practices; role-modeled systematic approaches; fostered collaboration; and assumed new roles. ■

The Answer Within Us

For more than 30 years the scientific community has been stymied in its efforts to solve the HIV/AIDS riddle. Turns out, the answer might have been buried deep within us all along. Research by Douglas Nixon, M.D., Ph.D., and colleagues from the George Washington University (GW), Oregon Health & Science University, the University of Rochester, and University of California-San Francisco has turned to a fossil virus – a long-dormant and largely useless remnant of a retrovirus in our DNA – to combat HIV-1. In doing so, the team may have moved the world one step closer to finding a viable immunotherapy option for millions living with the disease.

For decades, the frequent mutation of HIV-1 has been a major hurdle for scientists seeking a cure. Much of their work has focused on neutralizing antibodies directed against HIV-1 in order to stop the virus. Those antibodies, however, haven't been able to keep pace with the virus' rate of replication. Nixon's research team may have found a way past this hurdle by directing an antibody that recognizes this ancestral fossil virus to target HIV-1 and neutralize it.

Nixon and colleagues reported on these findings in the article "An Antibody Recognizing Ancestral Endogenous Virus Glycoproteins Mediates Antibody-Dependent Cellular Cytotoxicity on HIV-1 Infected Cells," published in the "Cutting Edge" section of the July 2014 edition of the Journal of Immunology. ■

LEAD Certified

GW School of Medicine and Health Sciences professors Jillian Catalanotti, M.D., M.P.H., assistant professor of medicine and director of the internal medicine residency program (left), and Terry Kind, M.D., M.P.H., associate professor of pediatrics (right), were chosen to join a select group of medical education leaders for the Association of American Medical Colleges (AAMC) Leadership Education and Development (LEAD) Certificate Program.

The pair are two of 12 fellows serving in the Northeast Group on Educational Affairs (NEGEA), a regional subset of the AAMC. The two-year program is designed to provide the knowledge, skills, and practical experience that educational professionals in academic medicine need to be successful leaders. During the program, they will work with mentors on an ongoing basis over the course of two years, and attend meetings and workshops.

During the first of the workshops held in April 2014, Catalanotti and Kind met the additional fellows and six AAMC-assigned mentors, and discussed how to get the most out of mentorship and how to align an individual's goals and visions with that of one's institution.

"We all have similar challenges and were able to help each other brainstorm and work through them," Catalanotti says. "The idea is to apply the leadership lessons we've learned in the workshops at our own institutions, reflect on our application, and then discuss with the group when we meet again." ■

FACULTY NEWS

Feeling Presidential

Donald Karcher, M.D., chair of the Department of Pathology at the GW School of Medicine and Health Sciences, has been named president of the Association of Pathology Chairs (APC), the preeminent organization of academic departments of pathology in the United States, Canada, and Puerto Rico.

As president of the APC, Karcher will work closely with the leaders of the other major pathology organizations, such as the American Board of Pathology, the College of American Pathologists, and the American Society for Clinical Pathology, as well as the Accreditation Council for Graduate Medical Education, the Liaison Committee on Medical Education, and the Association of American Medical Colleges. Karcher has served as president-elect since July 2012; he also serves as councilor-at-large. ■

Intellectual Disability and Autism

As part of a national focus to better understand child health and development, Chiara Manzini, Ph.D., assistant professor of pharmacology and physiology at GW's School of Medicine and Health Sciences, was awarded a $747,000 grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development to research the causes of severe intellectual disability and autism.

"We are exploring the function of the gene and of the mutation that causes disease, by both using cell-based systems – analysis of neurons generated from animal models – and studying the behavior in mouse models to better understand the pathogenesis of the disease," says Manzini. "This gene regulates multiple signaling mechanisms inside the cells, and we are hoping to understand these mechanisms first, then figure out ways to modulate them to have an impact on the disease." ■

Weighing In on BMI and the Obesity Paradox

Peter Kokkinos, Ph.D., adjunct professor of physical therapy and health care sciences, and Charles Faselis, M.D., associate professor of medicine, both at the George Washington University School of Medicine and Health Sciences, recently published research showing that higher fitness levels negate the "obesity paradox." The study, titled "Cardiorespiratory Fitness and the Paradoxical BMI-Mortality Risk Association in Male Veterans," was published in the *Mayo Clinic Proceedings,* 89(6), pp. 754–762.

For years, the medical community has known that being overweight or obese increases one's risk for chronic diseases and premature death. Recent studies, however, have also reported that overweight and obese individuals die at a lower rate than those of normal weight, creating the puzzling phenomenon known as the "obesity paradox."

"We wanted to look at this paradox because physically active people usually have a relatively low body

weight and live longer than those who live a sedentary life," says Kokkinos.

In their study, Kokkinos and Faselis looked at more than 18,000 veterans over a 25-year period to assess the impact that body weight has on death when considering the fitness status of individuals. They found that individuals with lower BMI (body mass index) levels but higher fitness levels experienced no increase in their risk for premature death. The results suggest that the increased risk or mortality among those with a lower body weight is likely the result of unhealthy weight loss or loss of lean body mass associated with an undetected disease. ■

The Pathway to Defeating Pancreatic Cancer

A pair of grants totaling more than $1 million may shed light on the molecular underpinnings of pancreatic cancer.

In May, Alexandros Tzatsos, M.D., Ph.D., assistant professor of anatomy and regenerative biology at the School of Medicine and Health Sciences (SMHS), received an R00 award for $706,000. The grant was the second part of a National Cancer Institute (NCI) K99/R00 Howard Temin Pathway to Independence Award in Cancer Research –meant to aid young researchers in setting up independent research labs. This grant will fund Tzatsos' research project "The Role of

Epigenetic Regulators in Pancreatic Cancer." In February, Tzatsos received a $374,000 R21 award from the NCI to fund his project "Elucidating and Targeting Epigenetic Oncogenic Networks in Pancreatic Cancer."

Pancreatic cancer is a devastating disease, with few cases caught early enough for the patient to receive effective treatment. According to the American Cancer Society, it is the fourth leading cause of cancer-related death in the United States. Tzatsos studies the role of a histone demethylase, the enzyme that drives the development of pancreatic cancer. To support his study, Tzatsos developed genetically engineered mouse models to address the role of this epigenetic regulator in vivo.

"This could be key to understanding the molecular pathology of pancreatic cancer and developing better therapies,"says Tzatsos. ■

Autism and Early Brain Development

The link between autism and disrupted brain development is an essential part of the puzzle of the disease, and is poorly understood. However, thanks to funding from the Simons Foundation Autism Research Initiative (SFARI), GW School of Medicine and Health Sciences (SMHS) researcher Anthony-Samuel LaMantia, Ph.D., may be able to offer truly integrative and in-depth answers to these key questions in the field of autism research.

LaMantia, director of the GW Institute for Neuroscience and professor of pharmacology and physiology at SMHS, was awarded a $739,000 grant from SFARI for his promising research on a key class of nerve cells found in the cerebral cortex, which is the part of the brain that performs many key functions disrupted in autism, particularly social interaction, communication, and cognition.

SFARI is a leading funder of autism research in the United States. The prestigious SFARI research grants support cutting-edge investigations at several institutions. The SFARI research grant received by LaMantia and colleagues is the first such award at GW.

LaMantia and his research team, which includes interdisciplinary collaborators from GW and the University of Pennsylvania Perelman School of Medicine, will first look at how these nerve cells are generated from cortical stem cells during prenatal development. They will then look at connections made between these nerve cells in one cortical area and nerve cells in other cortical areas. On the basis of imaging studies, the connections between these nerve cells have been suggested to be either diminished or increased in patients with autism spectrum disorders (ASD). There is no clear indication, however, which cortical neurons make the abnormal connections, and whether under- or over-connectivity is related to autism pathology.

"Everybody agrees that sometime during development, the way the cerebral cortex is wired gets disrupted in autistic patients, and that this is a key reason for the difficulties in behavioral regulation that these patients encounter," says LaMantia. "But no one really knows how that happens and what the end point is. We have the capacity to actually work out a key part of that question in a valid animal model." ■

Tuning In and Turning On to Biomedical Research

LabTV, a new online project aimed at giving current and prospective students a behind-the-scenes look into biomedical research at universities across the country, has garnered a lot of attention for a pair from the George Washington University.

Sara Jenis, a sophomore in GW's School of Media and Public Affairs, was selected to profile the lab of Sally Moody, Ph.D., professor of anatomy and regenerative biology in the School of Medicine and Health Sciences. The resulting film earned Jenis an Outstanding Lab Profile Award at the 2014 Tribeca Film Festival.

Moody and research colleagues are exploring novel genes that are expressed in the embryo during the development of the nervous system. This research could lead to the discovery of the causes of birth defects and other neurodegenerative disease mechanisms. In her video, Jenis highlights undergraduate research assistants, who discuss their roles in the lab and how they became interested in conducting research.

LabTV, founded by TEDMED chair and entrepreneur Jay Walker, is an online initiative intended to attract young people – especially women and minorities – to the field of biomedical research through short, student-produced videos. Moody was among 100 researchers from U.S. colleges and universities with National Institutes of Health–sponsored research labs selected to pilot the project. The video featuring Moody's lab is available on the LabTV Youtube channel at http://ow.ly/D34LI. ■

From the Battlefield to the Operating Room

BY LAURA OTTO

In the summer of 2000, Sean Malin was working as a white-water rafting guide on the Arkansas River in Colorado after teaching snowboarding all winter — a far cry from his current post as an operating room anesthesiologist. Realizing age would eventually catch up with him, Malin contemplated his next career move. A psychology major at the University of Colorado–Boulder, Malin took a job at a psychiatric hospital, where he worked for two years, and it was there that he determined what he wanted to do with the rest of his life. "My experiences nurturing mental health patients and helping people as an EMT convinced me that becoming a physician was the right path for me," he says.

For Malin, M.D. '07, now a fourth-year anesthesiology resident at the GW School of Medicine and Health Sciences (SMHS), the path toward physicianhood has been anything but typical.

Malin arrived at GW in 2003. At age 30, he was what some would call a non-traditional medical student. That didn't bother Malin, who found GW's diverse student body and the opportunity to study in the nation's capital to be a perfect combination.

After medical school, Sept. 11, 2001 was a call to arms for Malin. Military service was a family tradition: Malin's mother, Judy, served in the U.S. Navy, and his older brother, Edward "Chip" Malin, M.D. '03, is a U.S. Army plastic surgeon.

The younger Malin received a Health Professions Scholarship from the U.S. Air Force, and for the next four years, he served as a flight surgeon. Stationed at Francis E. Warren Air Force Base in Wyoming, Malin was responsible for treating a helicopter squadron. He also completed a tour of duty in Afghanistan, where he led an aeromedical evacuation team in Kandahar.

Malin returned from the battlefield in 2012, bringing with him valuable skills and experiences, as well as a heightened interest in critical care medicine, which led him to pursue anesthesiology. "I like the critical aspects of anesthesiology," he explains. "You are assigned a patient and responsible for supporting their life. It's medicine with real-time effects."

"Sean's calm, laid-back style, at times, seems at odds with his military past. Yet beneath the surface lies a fiercely competitive individual with equal parts leadership, compassion, and intelligence," says Jeffrey Berger, M.D., M.B.A., interim associate dean for graduate medical education and associate professor of anesthesiology and critical care medicine at SMHS. "His hard work inspires me to appreciate opportunities and be more selfless, qualities I consistently see him demonstrate."

For Malin, the most rewarding part of residency is the opportunity to treat patients who are in tremendous amounts of pain and ease their discomfort. "It's extremely powerful to be able to administer an epidural to a laboring woman or put in a postoperative block for a patient who had joint surgery and take their pain away."

Malin encourages the next generation of residents to find ways to enjoy the experience and remember the importance of eating healthy and exercising. "Residency is difficult. It's long hours and hard work," he says. "But it's a privilege to have seasoned clinicians teaching you and pushing you to be the best physician you can be."

Divided Interests Producing Higher Standards

BY LAURA OTTO

Casey Nelson has many interests. "I always wanted to work in the public health sector, but I was also interested in doing more clinical, hands-on patient care," says Nelson, 29. Working at a community nonprofit organization in Austin, Texas, where she grew up, opened Nelson's eyes to the possibility of pursuing both passions. After college, Nelson spent two years at the Austin Travis County Integral Care, Community AIDS Resources and Education (CARE) Program, providing community outreach, education, and testing for those at risk for contracting HIV and other communicable diseases. The job took her to local county correctional facilities, where she saw how physician assistants (PAs) delivered whole-person care to inmates. It was a formative experience. "I realized I wanted to pursue clinical medicine and public health while serving a population that is often neglected," recalls Nelson.

As a third-year dual degree PA/master of public health (M.P.H.) student at the GW School of Medicine and Health Sciences (SMHS), Nelson found that the PA route was right for her. "There isn't one [perfect] path you can take in this profession. As a PA, I have the opportunity to serve patients in different clinical settings," she says.

Being a PA means having the skills, the flexibility, and the know-how to provide whole-person health care. "GW's program trains its students to be extremely flexible, meaning they have the maturity level and experience to adapt effectively to unpredictable and challenging situations," she says.

GW was the obvious choice for Nelson, who arrived on the Foggy Bottom campus in the fall of 2012. The program offered her both an opportunity to pursue a dual PA/M.P.H. degree and a location with unlimited access to the resources to further her interest in medicine and public health.

This past spring, Nelson received one of the highest honors a PA student can attain: the American Academy of Physician Assistants Student Academy PAragon Student award. Just one PA student is selected each year to receive the award. Nelson was recognized for her exemplary leadership skills, community service, and participation in advocacy activities on local, state, and national levels. "I'm extremely humbled," says Nelson, who adds that being nominated by her professors and peers for this award in the first place is an honor she feels is extremely validating. "Getting feedback from your peers is one of the best kinds of positive reinforcement. It shows that the work you are doing is having an impact," she says.

"Casey exemplifies the student leader qualities that our PA program is nationally recognized for," says Lisa Mustone Alexander, Ed.D. '03, M.P.H. '89, PA-C '79, assistant dean for community-based partnerships and interim chair and program director for the PA program at SMHS. "She demonstrates creativity and passion in service to others. It is truly fitting and well-deserved that she be honored in this way."

After graduation in spring 2015, Nelson will serve as a health service officer with the U.S. Public Health Service, a federal entity that provides health care services to underserved and disadvantaged populations and responds to public health disasters. She has been offered a sponsorship through the Senior Commissioned Officer Student Training and Extern Program with the Federal Bureau of Prisons, where she will provide primary care to inmates at one of the organization's nationwide facilities.

"The practice of medicine in a correctional facility is very similar to medicine in underserved communities; many of the patients are dealing with the same social and health problems," she says. "I can put the skills and experiences I learned at GW to good use."

Major Medical

Major General Nadja West, M.D. '88, Brings Poise and Intelligence to Her Role as Joint Staff surgeon at the Pentagon

BY KRISTIN HUBING

Major General Nadja West, M.D. '88, has a clear memory of her first day at GW's School of Medicine and Health Sciences (SMHS). "I was fresh out of West Point," West says of that day 30 years ago. "In the military everyone stands at attention, so when the professor came into the classroom I almost stood up. I looked around and realized 'I guess they don't do that here,'" she recalls with a laugh.

West, the United States Army Medical Command's first female African-American two-star general, serves as the Joint Staff surgeon at the Pentagon in Washington, D.C. She remembers her time as a GW medical student fondly, despite the transition from a structured military academy to a civilian education system. "It was a great environment," she says, "very conducive to learning." West especially appreciated that her classmates hailed from all across the country. "We had a

California clique who would wear Hawaiian shorts and flip-flops to class. Coming from the military, I thought that was neat," she recalls.

In her current role as the senior medical officer on the Joint Staff, West serves as medical advisor to General Martin Dempsey, the chair of the Joint Chiefs of Staff. "My role is primarily administrative at this point, but I get to do a lot of incredibly interesting things," says West. "As the U.S. representative to the NATO committee on military medical chiefs, I get to represent the United States if we ever have to use our military medical assets for deployments or humanitarian assistance."

West also represents the medical requirements of the nine unified combatant commands worldwide, interacting with the service surgeons general (for the Army, Navy, and Air Force) and the medical officer of the Marine Corps. She says that her first experiences in operational medicine "brought home the uniqueness of being a military medical provider."

"During my residency, I had the opportunity to deploy with the 197th, the infantry brigade during Operation Desert Shield/Desert Storm," West explains. "That was my first taste of medicine outside of the hospital, and I found it very rewarding to use my skills as a physician in an environment where they were critically needed.

"I can't think of a better group of people to be charged to take care of than soldiers, sailors, airmen, Marines, coast guardsmen, and their families," West says. "Look at what we ask them to do. They go to scary places where they might be hurt or killed on behalf of their country. We ask them to spend long periods of time away from their families. How can you not be proud of taking care of people like that?" she asks. "It's about the camaraderie, it's about the team."

Having grown up in a military family — "Dad had his own mini draft for the family" — and graduated from the United States Military Academy at West Point in 1982, just six years after the institution admitted its first female cadets, West always knew she would serve her country. She was a self-described "nerd" in high school, who enjoyed the sciences but also liked helping people. "Medicine was a good opportunity to combine both interests," she says.

After completing her family medicine residency at Martin Army Community Hospital in Fort Benning, Ga., West pursued a dermatology residency at Fitzsimons Army Medical Center in Aurora, Colo. West credits Carmen Myrie Williams, M.D., a dermopathologist who served on the SMHS faculty until 1997, with her own interest in dermatology. "There were very few African-American physicians there at the time, so she was a real role model for me. She's a brilliant doctor and was very enthusiastic about her specialty," West recalls.

West's reintroduction to the SMHS community after decades of traveling the globe with the military came in the form of another early mentor, Jehan (Gigi) El-Bayoumi, M.D., RESD '86, associate professor of medicine, associate professor of prevention and community health, and founding director of the Rodham Institute at SMHS. West says that she aimed to emulate El-Bayoumi, who was a resident when West was still in medical school. "In addition to being incredibly smart, she was kind and compassionate," West says.

El-Bayoumi recalls West with the same fondness. "It's really something else to hear that one of your former students is now a major general," El-Bayoumi says. "She showed her abilities as a leader at an early age through her poise, intelligence, grace, compassion, and kindness, while always maintaining a polite, professional, and respectful demeanor." El-Bayoumi reports that when she reconnected with West during the GW Women Physicians Networking Luncheon in early 2014, "it was evident that she was the same person I knew all those years ago, but now wearing well-earned stripes."

West and her husband Donald, a retired army colonel who was a medical task force commander in Afghanistan and Iraq — "another hero," she says — reside in Bethesda, Md., with their two children, Sydney, 20, and Logan, 17. Self-described "homebodies," West and her husband enjoy spending what limited free time they have relaxing at home. "People might think that sounds boring," she says, "but for us it's pretty cool to be able to sit down and read a book."

West encourages current SMHS students to take advantage of the opportunity of studying in the nation's capital and visit wounded warriors at the Walter Reed National Military Medical Center, where her own father, now deceased, worked as a logistician at the time of his retirement. "If you want to feel inspired about what military medicine does, see how appreciative these men and women are for the care they've received. It's right here," she says. "It's the reason the military health system exists: to take care of brave men and women like them." ■

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CLASS NOTES

Person to Person Care

Life-Saving Care Leads Irvin Kricheff, M.D. '55, to GW and a Career in Medicine

BY LAURA OTTO | PHOTO BY PETE BYRON

In 1934, at age 5, Irvin Kricheff was diagnosed with polio, a devastating infectious disease that spread from person to person, invading the brain and spinal cord and destroying the cells responsible for movement. During the era before a vaccine was created to combat this deadly virus, controlling the symptoms through supportive care such as antibiotics for infections and painkillers for muscle spasms as the disease ran its course was the only hope for survival. Luckily for Kricheff, he was in good hands. He was treated by Custis Lee Hall, M.D., professor of orthopedic surgery at GW. Hall, a direct descendent of Martha Washington, became more than just Kricheff's physician; he became his mentor and dear friend. "Dr. Hall is the reason I pursued a career as a physician," says Kricheff, a graduate of the GW School of Medicine and Health Sciences (SMHS) Class of 1955. He describes Hall as a phenomenal physician who treated his patients with kindness and compassion. "Dr. Hall was selfless in the way that he was always giving of his time," he adds.

Born in Philadelphia, Kricheff moved to Washington, D.C., at age 3 and spent most of his adolescence living in the northwest quadrant of the District near 16th and Irving streets. During World War II, Kricheff and his mother returned to Philadelphia. "I always intended to come back to Washington, D.C., and continue my training at GW under the guidance of Dr. Hall," recalls Kricheff, who received his bachelor's degree in premedical science from Pennsylvania State University. The pair even planned to go into practice together after Kricheff completed his medical training. Sadly, their plan never came to fruition; Hall passed away during Kricheff's first year of medical school.

The school Kricheff arrived at in 1951 would be unrecognizable to today's SMHS M.D. program students. There were roughly 100 students in Kricheff's class and only one woman; Walter A. Bloedorn, M.D., served as dean; and the medical school was housed at 1335 H Street N.W.

Impressed by GW's robust medical department, Kricheff originally wanted to become an internist. However, the lasting effects of polio made it impossible for him to pursue a specialty that would require him to be on his feet for extended periods of time. Kricheff later determined that he wanted to be among those making the diagnoses, so he turned his attention toward diagnostic radiology.

Kricheff would go on to became the first radiologist to perform an interventional neuroradiological procedure, a technique used to treat blood vessel disease, tumors, and clots in the brain and spinal canal through catheters inserted into the groin artery of a patient. Though commonly performed today, this procedure was cutting-edge in the 1980s, when neurointerventional techniques were deemed largely experimental and reserved for patients who had no other treatment options. Kricheff trained more than 300 neuroradiologists; made many original contributions to the field; and was awarded the highest honor, the Gold Medal, from both the Radiological Society of North America and the American Society of Neuroradiology.

It's hard for Kricheff to comprehend all the changes that have taken place at GW over the last 50 years. Having recently toured the school's new Clinical Learning and Simulation Skills Center, he was extremely impressed by the advances made in medical education and the strides GW continues to make to remain at its forefront. "The use of digital technologies and simulation to educate young physicians is outstanding and very different from my days in medical school when four students were assigned to dissect one cadaver," he recalls.

"I can't think of a more interesting, stimulating, and fun field to go into than medicine," adds Kricheff. He encourages future physicians to "be kind and sensitive with your patients, and remember it's a privilege to be a physician and have the opportunity to help people." ■

CLASS NOTES

Lawrence "Bopper" Deyton, M.D. '85, M.S.P.H

Alumni Weekend Celebration

More than 140 GW School of Medicine and Health Sciences (SMHS) M.D. program alumni and their spouses took advantage of a spectacular fall weekend in Washington, D.C., to celebrate the classes of 1964, 1969, 1974, 1979, 1984, 1989, 1994, and 2004 at the 2014 Alumni Weekend, Sept. 19–21.

The unofficial kickoff to the weekend began as SMHS alumnus Lawrence "Bopper" Deyton, M.D. '85, M.S.P.H., senior associate dean for clinical public health in SMHS, received the GW Distinguished Alumni Achievement Award (DAAA). The DAAA is the highest award given by the university and the George Washington Alumni Association, honoring select alumni for their lasting impact on society through professional, voluntary, or philanthropic accomplishments. Deyton was recognized for his service as the first director of the Center for Tobacco Products at the U.S. Food and Drug Administration, where he led the creation of the science, regulatory, and enforcement foundation for implementing the Family Smoking Prevention and Tobacco Control Act.

The weekend was full of opportunities for alumni to reconnect and attend lectures and events, including a concert by Daryl Hall and John Oates. Peppered throughout the weekend were tours of the new Clinical Learning and Simulation Skills Center and the school's gross anatomy lab, as well as annual lectures, including the annual Allan B. Weingold Obstetrics and Gynecology Lecture, delivered by Michael Berman, M.D. '67, RESD '69, "Stress Prevention Strategies"; and the Frank N. Miller Lecture, delivered by Deyton, "Physicians' Role(s) in Health Policy: Our White Coat is Needed STAT."


Class of '79 alumni (above from left) Donald Kaminsky, Bennett Futterman, and Jon Freudman take a break from Alumni Weekend events to strike their original yearbook pose.

Jeffrey S. Akman, M.D. '81, RESD '85, Walter A. Bloedorn Professor of Administrative Medicine, vice president for health affairs, and dean hosted the annual "Special 50th Luncheon," which this year honored the Class of 1964, as well as welcoming new and returning H Street Society members, alumni who have already celebrated their 50th reunion and are invited back each year to celebrate the school.

Highlighting the weekend was "the Grand Celebration" at the Fairmont Hotel. The dean delivered a toast to the crowd and thanked everyone for their participation. He also congratulated the Class of 1979 for winning the "Come Back, Give Back" challenge, a competition that challenged alumni to participate in Alumni Weekend and participate in supporting the SMHS through a class gift. ■

Save the Date!

Alumni Weekend 2015, Sept. 25–27

We look forward to celebrating the M.D. classes of

1965, 1975, 1985, 1990, 1995, and 2005

Get involved by contacting
smhsalumni@gwu.edu or (202) 994-7511

See you back at Ross Hall next year!

Russell C. Libby, M.D. '79, B.S. '74, F.A.A.P., received the 2014 American Academy of Pediatrics (AAP) Charles "Buzzy" Vanchiere award. The accolade – recognizing the outstanding contributions in the education of pediatricians in administrative pediatrics, practice management, and payment – was presented during the AAP's National Conference and Exhibition in San Diego, Calif., Oct. 11–14.

Established in 2001, the Vanchiere award celebrates the work of its namesake Charles "Buzzy" Vanchiere, and honors pediatricians who enhance the quality of care of their patients by providing educational services to all pediatricians at the local and national levels.

Libby is the founder, president, and medical director of Virginia Pediatric Group and co-founder of American Pediatric Consultants, Inc. He serves as chief of general pediatrics at Inova Children's Hospital, as well as president of HealthConnect IPA, a primary care Independent Practice Association.

In addition to his clinical work, Libby helped establish the SMHS Adopt-A-Doc Scholarship program, through which alumni can support a medical student's education with a minimum gift of $20,000 over four years. Most recently, Libby served as president of the Medical Society of Virginia and past president of the Medical Society of Northern Virginia. ■

Josh D'Angelo, DPT '13, recently traveled to Guatemala inspired by what he learned in the classroom as a graduate of the GW School of Medicine and Health Sciences Doctorate of Physical Therapy Program. D'Angelo wanted to provide Guatemalans, with the same quality care that patients in the United States receive. "GW trained my classmates and I to take a culturally sensitive and

Josh D'Angelo, DPT '13

patient-centered approach that is applicable to any patient we treat, regardless of their nationality or ethnicity." ■

GW School of Medicine and Health Sciences (SMHS) alumnus, **George "Rick" Hillegas III, Ed.D., M.P.H., PA '74,** was named a distinguished fellow by the American Academy of Physician Assistants for his contributions to patient care and his work in occupational medicine.

Hillegas, a member of GW's first graduating class from the Physician Assistant Program, currently serves as associate dean of the Physician Assistant Program in the School of Physician Assistant Studies at South College in Knoxville, Tenn.

Hillegas has 40 years of experience practicing as a physician assistant, including 26 years in the Naval Services. He also served as a medical officer on three different U.S. Coast Guard Icebreakers over the course of four nine-month deployments to the Antarctic and Arctic. ■

1960s

LEONARD WARTOFSKY, M.D. '64, M.P.H. '95, M.A. '61, B.S. '59, received the American Thyroid Association's (ATA) Lewis E. Braverman Distinguished Lectureship Award, recognizing individuals who demonstrate excellence and passion for mentoring fellows, students, and junior faculty and has a long history of productive thyroid research. Wartofsky presented the annual Lewis E. Braverman Lecture titled "A Tale of Two Iodines – And the Braverman/Wartofsky Intersection" during the ATA's 84th Annual Meeting Oct. 31.

1970s

STUART CAPLIN, M.D. '75, was named to the 2014 U.S. Para National Team for table tennis. Caplin was a 2007 silver medalist competing for the United States in Para Panamerican games in Rio de Janeiro, Brazil.

1980s

RAYMOND E. BOZMAN, M.D.,'81, inducted as a Fellow in the American College of Radiology (ACR) during the ACR annual meeting April 27, 2014.

MITCHELL ZEITLER, M.D. '82, RESD '86, B.S. '76, was installed as president of Collier County Medical Society, a physicians' professional organization located along the Florida Gulf Coast.

JOHN CHARLES, M.D. '83, was named vice president of medical affairs and chief medical officer at McLeod Loris Seacoast. Previously Charles served as chief medical officer at Grand Strand Medical Center in Myrtle Beach, Va.

1990s

THOMAS STAUCH, M.D., RESD '92, was recently named to the University of Maryland Shore Regional Health Board of Directors. Stauch, an orthopedic surgeon practicing in Easton, Md., joined the 24-member board consisting of business and community leaders and physicians from throughout the five-county region served by UM Shore Regional Health.

CLASS NOTES

BRUCE WHITE, A.S. '93, authored A Color Atlas and Basic Guide to Identification of Medically Significant Arthropods and Household Pests.

CHRISTINA M. PUCHALSKI, M.D. '94, RESD '97, was presented the 2014 Distinguished Service Award from the Association of Professional Chaplains.

MICHAEL A. EDWARDS, M.D. '98, RESD '05, FACS, has been appointed associate professor of surgery at Temple University School of Medicine, and chief of general and minimally invasive surgery and director of bariatric surgery at Temple University Hospital.

2000s

RAFAEL TORRES, M.D. '02, was appointed to serve as medical director of emergency medicine at White Plains Hospital. Since 2009, he has been medical director for Citywide Mobile Response, a comprehensive ambulance service in New York, as well as medical director of the emergency department at Westchester Square, St. Joseph's Medical Center in Yonkers, N.Y.

RYAN CLANCY, PA '04, received a full-time faculty appointment as a clinical instructor in the Physician Assistant Department at Drexel University's College of Nursing and Health Professions.

SEAN PEDEN, M.D., RESD '13, recently join Orthopaedic and Neurosurgery Specialists (ONS) in Greenwich, CT. Peden is an orthopedic surgeon specializing in foot pain and deformity-related conditions including Achilles tendonitis, ankle instability, cartilage injuries, bunions and hammer toes.

CHELSEA SLADE, M.D. '14, a family medicine resident at McKay-Dee Hospital Center in Ogden, Utah, was inducted into the Gold Humanism Honor Society. Slade was also among the 34 members of the SMHS Class of 2014 to be inducted into the Alpha Omega Alpha Medical Honor Society.

IN MEMORIAM

JAMES D. FINKELSTEIN, M.D., Professor Emeritus in the Department of Medicine in GW's School of Medicine and Health Sciences (SMHS), died Aug. 1, 2014. Finkelstein, who received emeritus status at SMHS in 2005, first joined the school as an assistant research professor of medicine and chief of the hepatology section at the VA Medical Center (VA) in 1967. He served as chair of the Department of Medicine at the VA for more than 20 years.

"He was one of the great physicians in the history of D.C. and U.S. medicine," said Alan Wasserman, M.D., Eugene Meyer Professor of Medicine and chair of the SMHS Department of Medicine. "He was a researcher, a clinician, an educator, and a great mentor to me and many others."

SAMUEL WEBSTER ADAMS JR., M.D. '46, B.S. '43, died at his home Aug. 15, 2014. Adams served as a physician in the United States Navy from 1943 until 1949. He began his medical practice in Martinsville in 1950 and continued until his retirement in 1992.

NAVDEEP S. KANG, B.S. '11, a fourth-year medical student, at GW's School of Medicine and Health Sciences (SMHS) died Aug. 27, 2014. A native of Sewickley, Pa., Kang graduated magna cum laude from GW's Columbian College of Arts and Sciences, earning a bachelor's degree in biology with a minor in French literature and language. He was admitted to SMHS as an undergraduate through the school's early selection program.

Benjamin H. Sullivan Jr., M.D. '38, B.A. '36

John B. Merrick, M.D. '42

Joseph Kolker, M.D. '44, B.A. '41

Samuel W. Adams Jr., M.D. '46, B.S. '43

Donald P. King, M.D. '46

Joseph D. Waxberg, M.D. '48

James L. Curtis, M.D. '49

Herman Henry Rock, M.D. '50

Eugene H. Guthrie, M.D. '51

Charles G. Vivion Jr., M.D. '52

Eric J. Ostrom, M.D., RESD '52

Bennet A. Porter Jr., M.D. '53, A.A. '49

David J. Pillow, M.D. '53

Kenneth A. Dregseth, M.D. '53

John C. Rhoads, M.D. '56

Paul K. Larive, M.D. '58

Joseph J. Pollock, M.D. '58, RESD '59

Hildegard Wessel-Manitsas, M.D., RESD '59

Djamshid Jack Ghatan, M.D. '60

John F. Mermel, M.D. '60, RESD '68

Ronald O. Hurston, M.D. '64

Norman S. Koval, M.D. '65, B.S. '61

John C. Seymour, M.D. '65

Alan S. Peiken, M.D. '68

William Stafford Lynch, M.D. '70

Sofjan Lamid, M.D., RESD '72

Mary Ann White, A.S. '79

Anna Fern Healey, B.S. '79

Sadie Anita Coleman, M.D. '82

Denise L. Hughes, A.S. '85

Susan M. Borkoski, B.S. '86

Stephen Horatio Slawson, M.D. '89

Navdeep S. Kang, MSIV, B.S. '11

IN DEVELOPMENT

Philanthropy and Giving Thanks

It's an intensive time to work in Development at GW. We are in the midst of *MAKING HISTORY: THE CAMPAIGN FOR GW,* an ambitious fundraising initiative that aims to raise $1 billion for the university by 2018. At the School of Medicine and Health Sciences (SMHS), our goal is to raise $225 million, nearly a quarter of the total.

With such an important responsibility entrusted to us in Development, it's tempting to get tunnel vision and to fixate on the destination while ignoring the journey.

The Thanksgiving season always helps to put things into perspective. In meeting the milestones we have achieved during our campaign journey, we find there is much to be thankful for:

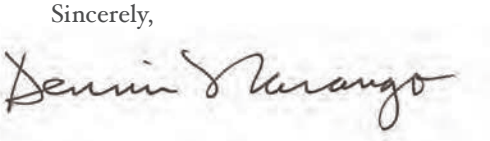
- That last fiscal year SMHS surpassed its $18 million fundraising goal and went on to attain $21.1 million, thanks to all of our benefactors.
- That for the past three fiscal years SMHS has consecutively increased its attainment, with a 56.4 percent increase from FY12 to FY14 (July 1, 2011 to June 30, 2014).
- That our development staff has a 100-percent participation rate in giving to SMHS, showing that the "boots on the ground" of this campaign are personally dedicated to our mission.

Thanksgiving points to the close relationship between gratitude and philanthropy. Our donors include alumni who are grateful for an extraordinary GW education, and patients who are grateful for the care they have received in their time of need. Their gifts are an expression of gratitude as well as a vote of confidence in GW.

Thankfulness and philanthropy, however, do not always have to take the form of money. It can be volunteerism. We are inspired by Stuart Kassan, M.D. '72, and Jay Katzen, M.D. '72, two accomplished SMHS alumni and Dean's Council members, who have volunteered to co-chair the SMHS Capital Campaign, and Lara Oboler, M.D. '95, who is serving with Kassan as co-chair of the Dean's Council. Supporting the campaign chairs are three honorary co-chairs, the inestimable L. Thompson Bowles, M.D.; Robert Keimowitz, M.D.; and Luther Brady, M.D. '48. They are giving of their time to move our mission forward. Other alumni and friends are coming on board in new volunteer positions, as well.

I would like to invite you to help advance our mission. Be it a donation, your time, or by spreading the word of our campaign, every effort counts. Thank you to everyone who has supported SMHS thus far during this campaign. You give us much to be thankful for.

Sincerely,



Dennis Narango, M.A., C.F.R.E.
Associate Dean, SMHS and Associate Vice President for GW Medicine Development and Alumni Relations

Dean's Council Members

Gary M. Abramson, Partner, the Tower Companies

Christopher L. Barley, M.D. '93, Internal Medicine, Clinical Assistant Professor of Medicine, Cornell/Weill School of Medicine

Luther W. Brady Jr., M.D. '48, B.A.'46, Radiation Oncology, Professor, Department of Radiation Oncology, Drexel University College of Medicine, GW Emeritus Trustee

Carlos R. Diaz, M.D. '72, RESD '75, Internal Medicine, Head, Internal Medicine Department, Naval Aerospace Medical Institute

Daniel Ein, M.D., FACP, FAAAAI, FACAAI, Clinical Professor of Medicine, The George Washington University, Director, Allergy & Sinus Center at the GW Medical Faculty Associates

Jeanne G. Holzgrefe, M.D. '96, Psychiatrist, Private Practice

Floyd Alexander Katske, M.D. '76, RESD '77, Urology, Clinical Assistant Professor of Urology, David Geffen School of Medicine, University of California-Los Angeles

Stuart S. Kassan, M.D. '72, FACP, MACR, co-chair, Distinguished Clinical Professor of Medicine, University of Colorado Denver School of Medicine, Chief Medical Officer, Multispecialty Physician Partners, GW Board of Trustees

Jay E. Katzen, M.D. '72, B.A. '67, Ophthalmology, Ophthalmologist, the Eye Center, GW Board of Trustees

Kerry L. Kuhn, M.D. '73, RESD '77, B.A. '70, FACOG, Gynecology, Private Practice, Senior Vice President of VitalMD

Gerald S. Lazarus, M.D. '63, Dermatology, Professor of Dermatology, Johns Hopkins University, GW Board of Trustees

Manucher Mohtashemi, M.D., Internal Medicine, Cardiothoracic Surgery

Lara S. Oboler, M.D. '95, co-chair, Cardiology, Interventional Cardiologist, Lenox Hill Heart & Vascular Institute

John C. Pan, M.D. '70, RESD '74, Obstetrics and Gynecology, Founder, GW's Center for Integrative Medicine, The George Washington University

Richard G. Popiel, M.D. '81, RESD '83, B.A. '75, M.B.A., Internal Medicine, Chief Medical Officer and Executive Vice President, Regence Health Care Services

Rakesh C. Sahni, M.D., Cardiology, Interventional Cardiologist, Maryland Cardiology Associates

Mark W. Surrey, M.D. '72, FACOG, FACS, Professor & Clinical Director, Reproductive Surgery, University of California, Los Angeles, Co-Founder and Medical Director, Southern California Reproductive Center

Allan B. Weingold, M.D., Obstetrics and Gynecology, Professor Emeritus, Former Chair of OB/GYN, The George Washington University

Art B. Wong, M.D. '67, Emergency Medicine, Founder, Emergency Physicians Group

The Dean's Council advises the dean of the School of Medicine and Health Sciences on strategic priorities and important issues for the school, and provides generous support and advocacy.

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School of Medicine and Health Sciences Makes the Case for Transforming the Future.
Read more on page 26.