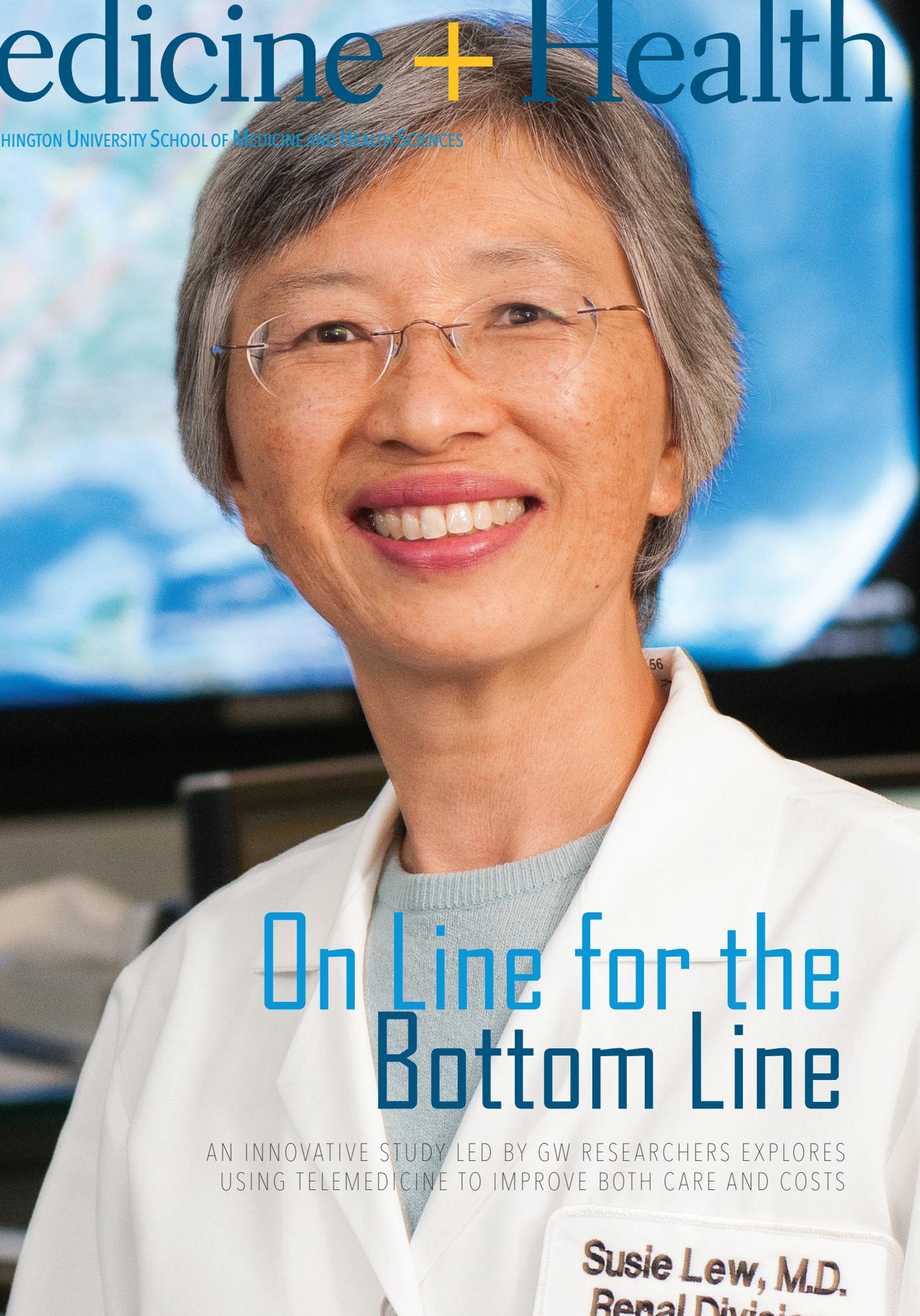


Medicine + Health

THE GEORGE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE AND HEALTH SCIENCES



On Line for the Bottom Line

AN INNOVATIVE STUDY LED BY GW RESEARCHERS EXPLORES USING TELEMEDICINE TO IMPROVE BOTH CARE AND COSTS

Susie Lew, M.D.
Renal Division



Momentum

As I look back at the events of this year at GW's School of Medicine and Health Sciences (SMHS), I am proud of what we have accomplished and excited by our momentum on many fronts.

Importantly, we exceeded our development goals set for the last fiscal year. The school's philanthropic support from alumni, grateful patients, faculty, and friends is providing scholarships for our students and endowment-based opportunities for our faculty.

We are making great progress on the renovations to Ross Hall. From a bricks and mortar standpoint, we are ensuring that the building will continue to serve the SMHS community and provide a home for our academic community that is conducive to advanced research and high-level learning.

With a new Clinical Learning and Skills Simulation Center set to open in 2014, our students will have a state of the art facility to practice advanced surgical skills and simulate real-life clinical situations. These experiences will undoubtedly equip our students with the skills they need to become leading clinicians.

Also, we are in the midst of an expansion of our biomedical research capacity thanks to the renovation of many of our wet labs. These new labs will provide additional space for basic science and discovery. The contemporary new facilities promise to help recruit additional highly skilled and motivated investigators.

Recruitment is another area where we've seen a great deal of growth in the past year. We have been fortunate to attract visionary leaders to join our faculty in both medicine and health sciences. These new clinicians and researchers are already expanding our research portfolio and providing our students with greater learning opportunities.

Finally, we have experienced significant momentum in the area of research. In the past several months alone, our faculty members have received nearly \$19 million in federally funded grants — and even more in privately funded grants. They are exploring new technology in emergency rooms and discovering why people with HIV/AIDS have higher rates of heart disease. Others are creating new devices to help physicians see better when operating, uncovering new biomarkers for cancers, and testing new mobile health modalities.

The sense of forward motion, *of momentum*, taking place at SMHS is undeniable. Rather than resting on these accomplishments we are already preparing for the challenges that lie ahead in health care and pushing to create greater, more abundant opportunities for our students, residents, and faculty.

Now that you've heard about SMHS, I encourage you to reflect on what you've done this year and send us an email about the great things that you've accomplished, smhsalumni@email.gwu.edu. We are working hard to cultivate an active network, and we'd love to hear from you.

I wish you a very happy and healthy holiday season.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey S. Akman". The signature is fluid and cursive, with a long horizontal line extending to the right.

JEFFREY S. AKMAN, M.D. '81, G.M.E. '85
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AND DEAN, SCHOOL OF MEDICINE
AND HEALTH SCIENCES

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Susie Lew, M.D., professor of medicine
Photograph by Michael Leong, medical photographer and digital
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A New Coat of White



While most students are reporting to campus to begin their course work, fall marks a different kind of beginning for the George Washington University School of Medicine and Health Sciences' physician assistant (PA) class of 2012. Class members were presented with their long white coats at a ceremony Aug. 11, replacing the short coats they received at the start of their program. The new coats symbolize the end of their didactic and clinical training and the beginning of their professional careers as physician assistants.

The student-organized event was an opportunity for families and friends to celebrate the accomplishments of the graduating PAs, as well as to give the faculty one last opportunity to assert the level of responsibility involved in caring for people's health and well-being. Lisa Alexander, Ed.D., interim chair and program director for the PA program, and Joseph Bocchino, Ed.D., M.B.A., interim senior associate dean for health sciences, opened the event. Bocchino called the event "an important day in the lives of these students, where they transition from being a graduate to a full professional."

This was also an opportunity to recognize several people who influenced the PA class of 2012. Stephen Robie, PA '12, received the Outstanding PA

Student Award for his commitment to moving the field forward and upholding the mission of the program. Brad Moore, M.D., M.P.H., medical director for the PA program, was presented with a plaque in recognition of his 16 years of service, as he moved on to the next phase of his career at the GW Medical Faculty Associates.

Noted health services researcher Roderick Hooker, Ph.D., PA-C, presented the keynote address, saying that being a physician assistant is one of the finest professions in the world because it offers the flexibility to switch specialties while continuing to grow in a career. "If I had to do it over again, I would not change a thing," he said. Hooker noted that our nation currently faces a shortage of primary care providers and that PAs will help bridge the gap. He also urged the new PAs to stay true to the professionalism that is needed for their new role, saying "the torch is passed to enhance the lives of people and make them well."

To view a video about the SMHS 2012 Annual Day of Service, visit smhs.gwu.edu/dayofservice. ■

New Medical Students Welcomed to GW's Health Community

Few moments are as memorable for medical students as the moment when they first put on their white coats. Thanks to the generous donations from nearly 200 George Washington University School of Medicine and Health Sciences (SMHS) alumni, the members of the Class of 2016 received their coats along with a commemorative reflex hammer, and recited the honor code during the annual ceremony Aug. 18.

This year's class was the most competitive in SMHS history. The school received a record 14,700 initial applications. From that deep pool of academic talent, 177 students from 25 states, Canada, and India were picked to make up the Class of 2016.

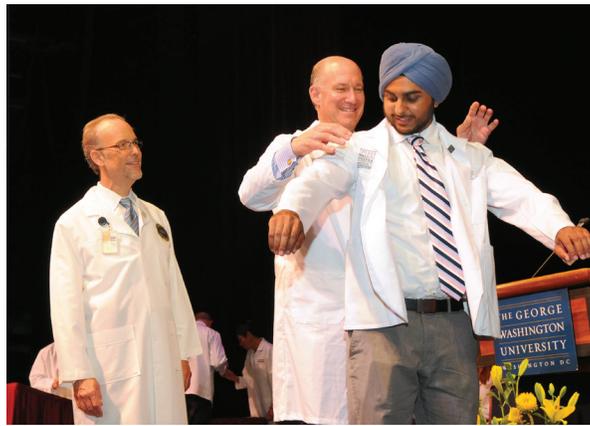
Presiding over his second M.D. White Coat Ceremony as Interim Vice President for Health Affairs and Dean of SMHS, Jeffrey S. Akman, M.D. '81, G.M.E. '85, wel-

came the new class and told them how eager the SMHS alumni, representing 10,000 physicians around the world, were to have them join GW's community of health professionals.

"We recognize and understand perhaps better than anyone the path you are embarking upon and the enormous responsibilities you are undertaking," said Akman. "In return, the graduates of this university enthusiastically embrace you as members of this community."

This year's keynote speaker was GW alumnus Lawrence R. Deyton, M.D. '85, M.S.P.H., director of the U.S. Food and Drug Administration's (FDA's) Center for Tobacco Products, who, 31 years earlier, was eagerly awaiting the start of his clinical training at GW.

Deyton boasts an impressive list of accomplishments not only as a clinician, but also as a public health professional and pioneer. Prior to his post at the FDA, Deyton served in leadership positions at the National Institute of Allergy and Infectious Diseases at the NIH for 11 years, and was chief public health and environmental hazards



that ideals of humanism are the very underpinning of medicine itself, and defined the principles of humanism as integrity, excellence, compassion, altruism, respect, empathy, and service.

As an openly gay man in the late 1970s, Deyton knew well that members of the gay community were often treated without the respect, empathy, or compassion that he thought were expected traits of any physician. Rather than accept the injustices he witnessed, Deyton joined with other activists to form organizations such as the National Gay Health Coalition and the National Gay Health Education Foundation, as well as Whitman-Walker Clinic, to better meet the needs of the gay community. ■

officer for the U.S. Department of Veterans Affairs, and a co-founder of Whitman-Walker Clinic in Washington, D.C.

"I strive every day of my career as a doctor, every time I use my medical education, to be guided by the principles of humanism in medicine," Deyton told the audience of students, faculty, alumni, family, and friends. He stressed



Service-Learning

School of Medicine and Health Science (SMHS) faculty, students, residents, staff, and alumni put down their books for a day and picked up paintbrushes while others prepared 100,000 bagged meals Aug. 21 for the SMHS Annual Day of Service. Some painted 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 and assists countries in building long-term self-sufficiency with these surgeries. Others joined with the organization Kids Against Hunger D.C. Metro to package meals to distribute to community kitchens in the Washington, D.C. area and to Haiti.

"This annual day of service reaffirms our mission to improve the world around us," said Jeffrey S. Akman, M.D. '81, G.M.E. '85, interim vice president for health affairs and dean of SMHS. "The experiences of this day will be the beginning of a great journey of giving back to the community." To view a video about the SMHS 2012 Annual Day of Service, visit smhs.gwu.edu/dayofservice ■

METEOR Program Shines Spotlight on Clinical Research

Looking to offer more educational opportunities and increase the number of underrepresented minority students considering research as a career path, the Clinical and Translational Science Institute at Children’s National Medical Center (CTSI-CN) launched the Mentored Experience To Expand Opportunities in Research (METEOR) program this past summer. The program encourages newly-admitted George Washington University School of Medicine and Health Sciences (SMHS) students from underrepresented communities to test the clinical and translational research waters by pairing them with a research mentor.

This program will identify and develop promising individuals in the M.D. programs, and encourage them to consider a career in clinical research,” said Lisa S. Schwartz, Ed.D., assistant research professor, Department of Clinical Research and Leadership at SMHS, and associate director of research education, training, and career development at CTSI-CN.

Mentors are chosen based on their research interests, as well as their desire to mentor incoming medical students. The goal is to match an incoming medical student with someone who would be committed to working with them for the duration of their medical education. “These mentors have made a commitment not only to providing enrichment in the area of research, which is the primary goal of the program, but also to act as academic advisors and to be resources for these students,” said Yolanda Haywood, M.D., associate dean for student affairs and associate professor in the Department of Emergency Medicine at SMHS.

METEOR program students are immersed in research throughout their four years at SMHS. They are required to enroll in the research track of the medical school curriculum, complete an internship between their first and second years, and participate in a research elective during their final year of medical school. The program also takes advantage of GW’s location in Washington, D.C. by coordinating visits to the National Institutes of Health Clinical Center and the Food and Drug Administration.

Keith S. Boniface, M.D., associate professor of emergency medicine at SMHS, was paired with Mark Hanna, one of three inaugural METEOR program students,

along with Yushekia Hill and Eric Strong. Boniface and Hanna were matched because they both had experience in trauma and emergency medicine. “I think the METEOR program is a great way for students to get exposure to a variety of research environments, network with clinician researchers, and gain experience in clinical research,” said Boniface. ■



GWCI Team Finishes Strong at the Marine Corps Marathon

For the third consecutive year, members and friends of the George Washington University community pounded the pavement throughout Washington, D.C. in support of the GW Cancer Institute (GWCI) as participants of the 37th annual Marine Corps Marathon, Oct. 28. This year’s GWCI Marine Corps Marathon Team, comprising 41 marathoners and 82 10K runners, raised more than \$42,000 to support the Cancer Institute’s efforts to eliminate cancer and cancer disparities. They joined 23,515 runners from all 50 states and 54 countries around the world to cross the finish line and complete the fourth largest marathon in the country. The 26.2-mile course starts in front of the Pentagon and winds its way throughout northwest Washington, D.C. before ending at the foot of the Marine Corps War Memorial in Arlington, Va. ■

GW Vascular Surgeon Anton Sidawy, M.D., Becomes University's Fifth Lewis B. Saltz Chair of Surgery



Former Saltz Chairs Ralph DePalma, M.D., and Joseph Giordano, M.D., congratulate Anton Sidawy, M.D., M.P.H., the latest member of the select group of surgeons.

On the 50th anniversary of the installation of the first Lewis B. Saltz Chair of Surgery, the George Washington University medical community turned out to honor Anton Sidawy, M.D., M.P.H. '99, on the occasion of his installation as the Lewis B. Saltz Chair of Surgery.

Sidawy has expanded and reorganized the department, adding a number of talented surgeons to the team and broadening the department's subspecialties to include vascular surgery, colorectal surgery, trauma, and general surgery, with immediate plans to expand thoracic surgery and various general surgery subspecialties, in addition to a limb salvage program.

The endowed position was established at GW's School of Medicine and Health Sciences (SMHS) in 1961 through a bequest from the Lewis B. Saltz estate. With his induction, Sidawy became the fifth GW surgeon to receive the distinction, joining a select group that includes Brian Blades, M.D.; Paul Adkins, M.D.; Ralph DePalma, M.D.; and most recently Joseph Giordano, M.D., well-known as the doctor credited for saving the life of President Ronald Reagan.

An internationally renowned vascular surgeon, Sidawy has served on the GW faculty for 25 years, and began his tenure as chair in December 2010. In the two years since he took over the leadership of surgery at GW,

"Dr. Sidawy's aspirations for turning the Department of Surgery into a world-class department matched exactly with what the university and SMHS see as their own aspirations," said Jeffrey S. Akman, M.D. '81, G.M.E. '85, interim vice president for health affairs and dean of SMHS. ■

GW Expands Cardiovascular Institute to Focus on Heart and Vascular Disease

The GW Cardiovascular Institute's board of directors unanimously voted to expand the institute's mission to include a focus on vascular disease. To reflect its expanded scope, the institute will be renamed the GW Heart & Vascular Institute. Adding the strengths of the GW Medical Faculty Associates' (MFA) team of vascular surgeons to its top-ranked GW cardiologists will create a natural synergy between prevention and treatment of heart and vascular disease.

"With the largest team of vascular surgeons in the metropolitan area, it was a natural decision to expand the Institute," said Richard Katz, M.D., the director of the GW Heart & Vascular Institute and professor of medicine at the GW School of Medicine and Health Sciences (SMHS). "The mission of the Institute will continue our academic tradition dedicated to education, research, and community service."

Richard Neville, M.D., chief of vascular surgery at the MFA and professor of surgery at SMHS, will serve as co-director of the Institute. Anton Sidawy, M.D., Lewis B. Saltz Chair of Surgery and professor of surgery at SMHS, and Joseph Babrowicz, M.D., assistant professor of surgery at SMHS, will join the Institute's board of directors. Katz, director of the division of cardiology at the MFA, will continue to serve as director of the Institute and chair of the board.

"In Washington, D.C., there is a large community prone to vascular disease. The medical community has done an excellent job at creating awareness of heart disease, but there has not always been awareness of vascular disease," said Neville. "It's really the same disease process in a different location. The process that causes heart disease may lead to stroke or amputation when it occurs in the neck or leg. It just makes sense that we join together in this joint initiative." ■

Clinical Laboratory Science program celebrates 70 years

This year marks the 70th anniversary of the Clinical Laboratory Science (CLS) program at GW's School of Medicine and Health Sciences (SMHS). The program, directed by Sylvia Silver, D.A., professor of pathology and medicine, and coordinated by Carol Smith, M.S., has undergone radical changes since its inception in 1942 as a part of the Columbian College of Arts and Sciences.

In the 1940s and '50s, Smith says, CLS used apprenticeship-style training and offered a limited menu of lab tests. By the '60s, laboratories became more automated, especially in chemistry. And in 1972, when CLS (then known as Medical Technology) moved to SMHS, accreditation by outside organizations had begun to provide more structure in oversight, quality, and content.

Today's CLS program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences. The program offers various degree options ranging from a bachelor of science in health science, to a post-baccalaureate certificate in clinical laboratory science, to four categorical certificate programs in blood banking, chemistry, hematology, and microbiology.

DISTANCE EDUCATION MODEL

In 2002, CLS moved to a distance education model and transferred lectures, assignments, and student interaction via discussion boards to the internet. Following their online courses, students are required to take six months of practicums at an approved clinical site in their home state.

Smith notes that distance education requires a lot of anticipation on the part of the professors. "It's a different type of teaching in terms of the way

you approach it," she says. "You're not seeing their faces, seeing the feedback that can make you say 'Oh, they're

not getting that.' And that's where it comes in handy that Sylvia and I have both taught for so many years face-to-face. We know the types of things that normally create misunderstandings for the students and we keep that in the back of our minds when preparing materials."

A benefit of distance education, which offers a part-time schedule and lower tuition fees than traditional on-campus programs, is the flexibility it offers working students who might not otherwise be able to pursue the degree.

Jessica Reinhardt, a 2006 graduate of the program who served in the military while pursuing her bachelor's degree, is grateful for the flexibility offered by the distance education model. "It may have taken me nine years to get my degree," Reinhardt says, "but if it wasn't for GW, it would have taken me much longer to complete the program. When I was activated by the military, Carol told me 'Don't worry, we'll get through this. You will not sacrifice your education.' And I didn't."



STRONG JOB PROSPECTS

There is no shortage of jobs for newly minted lab technologists. Medical laboratory science is ranked third in job growth and job security among health professions. According to the Bureau of Labor Statistics, employment in the field is projected to increase by 14 percent through 2016.

Reinhardt, who now works in biodefense for the U.S. Department of Homeland Security, has seen this need firsthand. "Our field is always short of people and a program like this is instrumental in keeping us staffed with the people that we need to continue our important work," she says. "I hope the program always continues to exist because we need to educate young people to fulfill the growing needs of the population."

Despite the dramatic changes in the field over the decades, the role of the clinical laboratory scientist has not been diminished, Smith says. "You will always need someone qualified who is able to keep an eye on the results. Someone who says 'This doesn't look right,' and decides what to do next." ■

>> ON THE WEB

Scan this QR code with any mobile device for related content about about the Clinical Laboratory Science program – available online below the story.



Advancing Whole-Person Care

Healing involves much more than just treating a disease. For many patients, spirituality plays an important role in the journey through illness and healing. Integrating this ideal into whole-person care can be challenging for doctors in today's health care system. Helping to spearhead this approach is Christina Puchalski, M.D. '94, G.M.E. '97, professor of medicine at the George Washington University School of Medicine and Health Sciences (SMHS) and director of the GW Institute for Spirituality and Health (GWish).

Established in 2001 to support spirituality in health care, GWish hosts an annual summer institute to "enable health care professionals to learn practical tools and ways to integrate spirituality more fully into their health care systems," according to Puchalski. This year, 30 health care professionals, including physicians, chaplains, nurses, counselors, educators, and others, gathered for the fourth annual GWish Summer Institute on GW's Foggy Bottom campus, July 9-13. Speakers addressed meeting patients' spiritual needs during care, and their remarks spanned specific recommendations for tools and tested models to integrate spirituality as part of whole-person care in inpatient and outpatient settings, as well as military and other clinical settings.

Tracy Balboni, M.D., M.P.H., assistant professor of radiation oncology at Harvard Medical School, served as the keynote speaker. She discussed her innovative research in analyzing the impact of integrating spiritual care into conventional health care. Balboni challenged the participants to examine the

cost of patient health and well-being if spiritual distress is not addressed.

Separating this year's institute from prior summer events was the clear definition of action that resulted. The very first summer institute presented the idea of integrating spirituality into whole-person care; now Puchalski and her colleagues are building on national guidelines they have developed and inviting nationally known speakers, such as Balboni, to come talk about their experiences with implementing models of integrated spiritual care.

For Puchalski, this is just the beginning. "To be able to take it from theory and ethics to actual national models and implementation of those models is a very significant advancement for the field," she says. ■

Learning On the Go

For the 40 residents in GW's Department of Emergency Medicine (EM), the pace of life is frenetic. Their demanding schedules at GW Hospital, Inova Fairfax Hospital, and the Washington, D.C. Veterans Affairs Medical Center leave limited time for weekly lectures. However, the Accreditation Council for Graduate Medical Education, which is responsible for the accreditation of post-M.D. medical training programs in the United States, requires EM residency programs to deliver at least five hours of planned education experiences per week.

To meet this logistical challenge the department chose to alter its method of curriculum delivery. "We have technology today that we didn't have 30 to 50 years ago," says Ali Pourmand, M.D., assistant professor of EM, who over the past 18 months has posted recorded lectures online. "Yet we are still teaching the same way we did then." In an effort to enhance the learning experience, Pourmand and his team, under the direction of Ray Lucas, M.D., associate professor of EM and vice chair for education, built a website where students and residents can access important course work within three days of

its original presentation. The online format, he adds, is particularly accommodating for residents, whose schedules leave little time for such activities.

Detractors claim that the online experience will limit the interaction between professors and their students, but that has hardly been the case at GW. Medical students who were accustomed to passively listening to live lectures now have the opportunity for substantial engagement with their professors. They are required to watch core concept lectures online before attending class and, as a result, are able to spend classes engaged in lively discussions of the day's topic.

The ever-expanding archive of online content is a valuable resource outside GW as well. "There's a growing community of people, not only in emergency medicine, but medicine in general, who are doing a lot of this – making podcasts, online videos," says Lucas. In addition to the lectures, users can find tutorials on topics as varied as how to read a CT scan and how to put on a splint. "It's something that everyone in medicine can benefit from," adds Pourmand. "And we hope they do." ■

GW Alumnus Returns to Lead GW Hospital

BY KRISTIN HUBING

By his junior year at the State University of New York at Buffalo, Barry A. Wolfman already knew that he wanted to become a hospital administrator. His very deliberate career path was a result of what he calls the meshing of his interests in medicine and business. "It was crystal clear," he says. "And I've done it ever since."

What he did not know at the time is that 28 years after completing his Master of Health Services Management degree at the George Washington University, he would return to Foggy Bottom as the CEO and managing director of GW Hospital.

Wolfman arrived back at GW in April 2012 after three decades in health care management that took him from Nashville to South Florida, Philadelphia, and California.

This background will no doubt assist Wolfman in his attempt to define and pursue excellence in clinical care at GW Hospital. "I want to execute on a game plan to cement the hospital's reputation based on excellent clinical outcomes, patient satisfaction, and high-end services that are attendant to being at an academic medical center," he says. Working closely with his colleagues at the School of Medicine and Health Sciences (SMHS) and the GW Medical Faculty Associates will be crucial in developing this plan, Wolfman says, especially given the competitive landscape.

Wolfman was attracted by the strong reputation of SMHS and Universal Health Services, the hospital management company that operates GW Hospital, and says it feels natural to be back at GW after all these years. He is looking forward to exploring the city with his wife, especially the restaurant scene, which was out of his reach as a graduate student.

In his free time, Wolfman enjoys traveling – he has made recent trips to Cuba with a fellow hospital administrator and to London, where his daughter lives. He is also an avid runner, with two triathlons to his credit.

The lessons of his athletic pastimes carry over to Wolfman's professional life. "It's not a sprint, it's a marathon," he says in regard to reaching his goals for the hospital. He plans to make a difference, but he wants to be measured in his approach. "This is a great opportunity, and I'm looking forward to settling in and immersing myself – to spending time with our physicians, the dean, and

the leadership of the Medical Faculty Associates," he says.

As the new CEO of GW Hospital, Wolfman intends to create an environment where the teamwork and pragmatism he values can flourish. "If I can build the right culture and collaborate with the medical staff and influence our employees, I think that's what it's all about." ■



*Barry A. Wolfman, CEO
and managing director of GW Hospital*

His executive experience in a variety of settings – the investor-owned National Medical Enterprises (now Tenet Healthcare), the faith-based Providence Health & Services, and the prepaid side of medicine at Kaiser Permanente – has given him a diverse perspective on hospital administration. "I feel really well-rounded in understanding what it takes to be successful," Wolfman says.

The Teacher Has Become the Student

Helping Faculty Members Become More Effective Teachers

BY LISA ANDERSON

Medical students aren't the only ones attending class at the George Washington University School of Medicine and Health Sciences (SMHS). Enrichment courses aimed at enhancing classroom skills and helping GW faculty members become more effective teachers are a regular fixture of the school's curriculum. Each year, SMHS hosts a variety of workshops and seminars geared toward making faculty members, fellows, and residents more than just successful medical practitioners and experts in their field.

"The fact is, most faculty members in the United States have not had formal training in or exposure to medical education theory, nor do they have an understanding of how to apply that theory," says Larrie Greenberg, M.D., clinical professor of pediatrics and senior consultant in medical education.

Traditionally, medical school professors have relied on expert knowledge and experience in their fields to train future physicians. This can make for some ineffective classroom interaction and patient-centered instruction. That is where faculty development initiatives at SMHS come in. With opportunities such as one-on-one counseling, the Master Teachers program (administered by GW's Graduate School of Education and Human Development), and periodic faculty development workshops, enhancing teaching and learning has become a central theme at SMHS.

The first step toward turning health experts into effective teachers is to give them a knowledge base, says Greenberg. "When they start understanding the jargon, such as, 'How does evaluation differ from feedback?' their attitude begins to change and they start to look at their classroom interaction differently," explains Greenberg. "Then, change can come in the form of skills and performance."

Ideally, faculty members, residents, and fellows who have not participated in the program would start by attending a brief faculty development workshop. Greenberg recommends that faculty members pick a workshop based on what they think is most pertinent to their every day tasks. Chances are they will walk away from that session with some new ideas, a change in attitude, and material they can put into practice.

Greenberg sees the OB-GYN department as a model for faculty development at SMHS. Several years ago, the department came to Greenberg and Benjamin Blatt, M.D., professor of medicine and director of the Clinical Learning and Simulation Skills Center (CLASS), to address poor reviews from students about their residents' teaching abilities. After receiving a small internal grant, Greenberg and Blatt worked with Nancy Gaba, M.D., associate professor of obstetrics and gynecology, and Jennifer Keller, M.D., assistant professor of obstetrics and gynecology, to design and implement the Residents as Teachers program. The program sought to improve residents' teaching skills and student interactions by focusing on six different modules

to better enable residents to teach in the clinical setting – orienting a learner, providing feedback, teaching a skill, teaching at the bedside, teaching around a case, and giving a mini-lecture. Those once poor reviews soon turned into praise for the program's efforts to focus on teaching, says Greenberg.

The success of the Residents as Teachers program sparked interest in modifying it for the OB-GYN faculty members. Greenberg, Blatt, Gaba, and Keller created a dynamic new offering with workshops and seminars to address issues such as mentorship, conducting research, and coping with sleep deprivation and fatigue. After being published in two peer-reviewed journals, the department's story not only serves as a model for other departments at SMHS, but may also be used as an example at other medical institutions.

"By helping our residents become better teachers, we are also helping them become better learners, and as a result they are getting more out of their residency experience," says Gaba. "I feel like it's true for me, too. Every time I teach a workshop I learn something that I can then apply to my own teaching to do a better job. It happens to me on a regular basis."

By continuing to place importance on nurturing faculty skills, SMHS expects to rise to a higher level of teaching and learning. The results of that may be invaluable.

After all, "We're training tomorrow's physicians, and it's a big responsibility," says Greenberg. ■



Veronica Michaelsen, M.D., Ph.D.

Employing a New Means of Evaluation

BY KRISTIN HUBING

Anyone who has taken a course in higher education is familiar with end-of-semester evaluations. They typically come in the form of surveys that employ Likert scales, which score responses along a range from “strongly agree” to “strongly disagree.”

Students are presented with statements such as *Instructor demonstrated knowledge of subject matter* and check a box to indicate their level of agreement.

This is precisely the sort of summative assessment that Veronica Michaelsen, M.D., Ph.D., newly appointed assistant dean for evaluation at the George Washington University School of Medicine and Health Sciences (SMHS), plans to avoid as she revises the way we evaluate students’ experience of the SMHS curriculum as an integrated whole.

In Michaelsen’s view, the classic interpretation of evaluation as a method of determining what’s “best” does not apply. “In education, we don’t have the luxury of doing a randomized control study where we do one thing with half of a class and something else with the other half.” Instead, evaluation means collecting the data that people need in order to do their jobs better and finding ways to get faculty invested in the evaluation process.

Students also play an important role in evaluation, and they can benefit from the process as well as the outcome. “Medical students are going to be involved in peer evaluation and review for the rest of their careers, and they need to learn how to do it in a constructive, professional way,” Michaelsen explains. “It’s very difficult to carve out time for that in the curriculum, but it’s something we can do through the evaluation process.”

Alex Stagnaro-Green, M.D., M.H.P.E., senior associate dean for education at SMHS, says that Michaelsen’s experiences provide her with a “rich and diverse background with which to lead the school in developing innovative and cutting-edge evaluation tools. This is critically important at this point in time, as we are developing a new medical school curriculum, which will be implemented in the fall of 2014,” he says.

Unlike in other fields, where a well-designed course can remain relevant for a decade or more, medical school curriculum is constantly changing. “Five years from now, the technology will have changed, the content will have changed, and our learners will have changed,” Michaelsen says. As for how she plans to stay on top of those changes and what they mean for the curriculum – “Well, I’ll be drinking a lot of coffee with people,” she says. ■

GW's Physician Assistant Program Turns 40

BY LAURA OTTO

This year, the George Washington University School of Medicine and Health Sciences (SMHS) celebrates the 40th anniversary of its Physician Assistant (PA) program. From the dawn of a new health care discipline to the implementation of the Affordable Health Care Act, SMHS has trained more than 2,000 PAs to transform the delivery of health care. Along the way, the health sciences program has broadened its scope and expanded its student body to keep pace with the evolving vocation.

In the early 1960s, an era of dramatic social change in the United States, a new health practitioner movement began to take shape. It was a time when medical corpsmen returning home from the Vietnam War were looking for a role in the health care system. They had extensive medical training and offered advanced skills in dealing with acute injuries, laboratory medicine, X-rays, suturing, fracture stabilization, and ventilation therapy. To combat a shortage of primary care physicians, hospitals turned to these corpsmen to fill many of the roles previously reserved for doctors. From that successful transition from the battlefield to the emergency room grew a new discipline in health care.

The GW Hospital joined the PA movement in 1969, turning to the veteran corpsmen to address staffing needs. Following an extensive quantitative analysis, and with the overwhelming support of the medical staff, the hospital confirmed that these veterans were able health professionals capable of

extending the services available to patients while maintaining quality care.

Thomas E. Piemme,

M.D., then-professor of medicine and director of the Division of General Medicine at SMHS, was a pioneer in the new health practitioner movement. He observed that demand for this new health care field far exceeded the numbers graduating from the nation's limited PA programs. In September 1972, Piemme received funding from the National Institutes of Health's Bureau of Health Manpower Education to develop a PA program at SMHS. From that first class of 24 PAs who graduated in 1974, the program has grown to 62 PA graduates in 2012. In 1987, due to an overwhelming demand from students interested in the clinical application of preventive medicine, SMHS began offering the nation's first-ever joint PA/Master of Public Health degree.

"GW's physician assistant program has grown in part because PAs have become so well accepted into the U.S. health care system," says James F. Cawley, M.P.H., PA-C, professor and interim chair of the Department of

Prevention and Community Health in GW's School of Public Health and Health Services and professor of PA studies at SMHS. He adds that today, PAs can be found in virtually every clinical practice setting.

PAs are now in higher demand than ever before, with roughly 80,000 clinical practitioners nationwide. Recently, the influx of new veterans from the Iraq and Afghanistan wars has created a second wave of highly skilled military candidates interested in pursuing careers as PAs. A gender shift over the past decade has also transformed the discipline; roughly 80 percent of today's entering PA students are women. It's a stark contrast to the school's first class of PA graduates that was nearly 80 percent male.

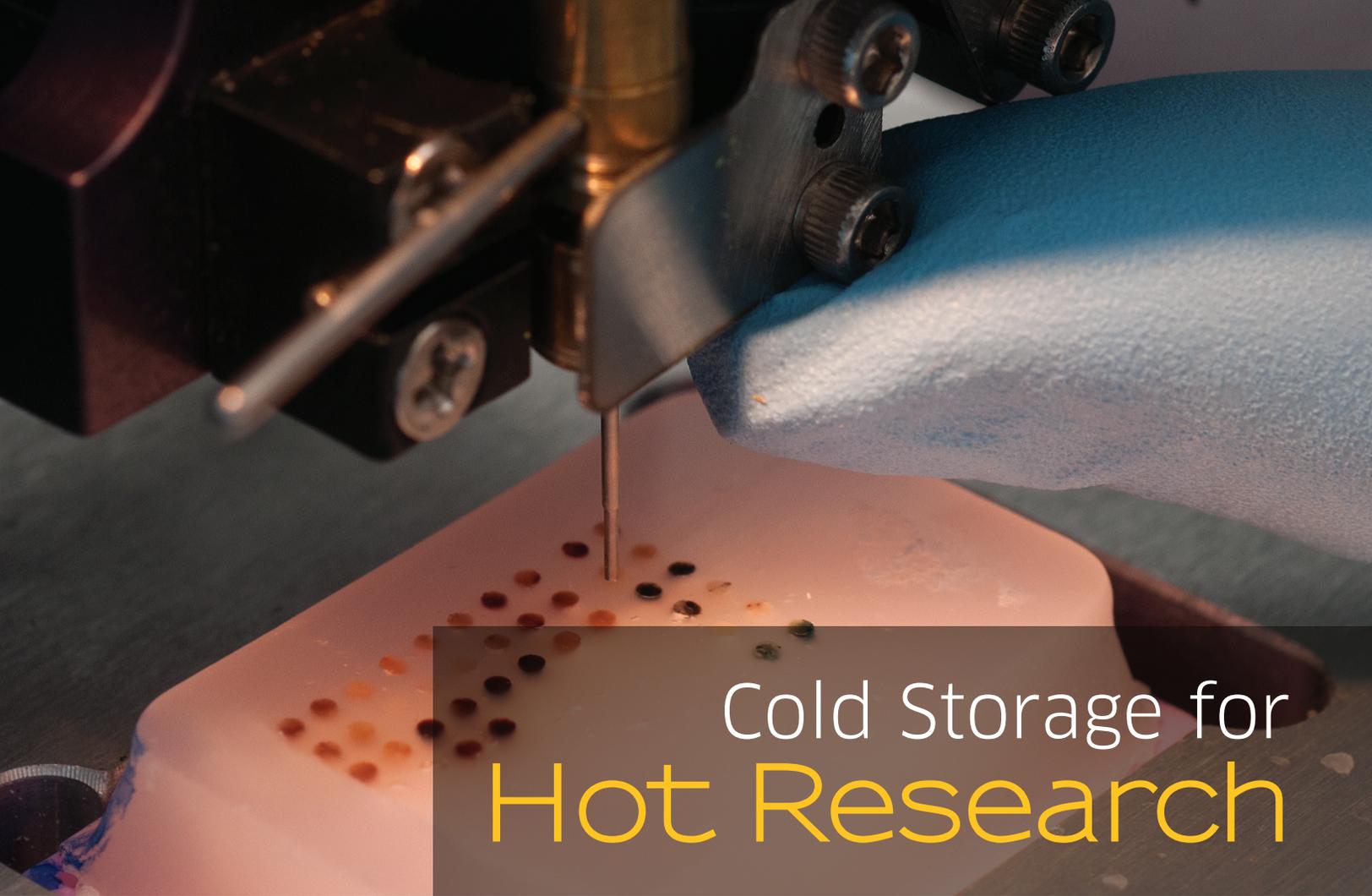
Lisa Mustone Alexander, Ed.D., M.P.H., PA-C, the PA program's current director, recalls being among that small minority of female PA students entering SMHS in 1977. "I felt incredibly intimidated by all of the men in my class, especially those who had served in Vietnam," she recalls.

"While women have rebalanced the early gender demographic of PAs," she adds, "this shift is merely representative of another social change that expanded opportunities for women across all professions. Everyone benefits when there is a healthy diversity of individuals serving our increasingly diverse patient population." ■

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Cold Storage for Hot Research

GW's School of Medicine and Health Sciences is Home to the East Coast AIDS and Cancer Specimen Resource Biorepository

BY KRISTIN HUBING

As with a bubbling cauldron of witches' brew in a performance of Macbeth, a cloud of vapor spills over the lip of the liquid nitrogen freezer as Morgan Boyer peers in at its contents. This eerie effect, however, isn't just for show. Boyer, M.P.H. '09, and her colleague Natalie Vajda, M.P.H. '12, both research assistants in the Department of Pathology at the George Washington University School of Medicine and Health Sciences (SMHS), are on call 24/7 to ensure that this and 11 other cryogenic freezers in a biorepository on the first floor of Ross Hall are in working order.

Their precious contents – more than 100,000 biological specimens – constitute the East Coast AIDS and Cancer Specimen Resource (EC ACSR). The EC ACSR is part of the National AIDS and Cancer Specimen Resource, a consortium established by the National Cancer Institute

(NCI) in 1994 that also includes biorepositories at the Ohio State University and the University of California at San Francisco.

"The National ACSR is the only resource of its kind in the world," says Sylvia Silver, D.A., professor of pathology and medicine, who also serves as director and principal investigator for the EC ACSR. Over the years the biorepository's inventory has included patient donations from around the globe.

The ACSR exists to collect, preserve, and disperse tissues, fluids, and clinical information from patients with HIV-associated malignancies. Thus, it is a valuable resource for researchers studying HIV/AIDS, cancer, virology, immunology, pathology, epidemiology, and tumor biology assay development.

The biospecimens in the GW biorepository come from as far away as Brazil, Thailand, and South Africa – and as near as GW Hospital. They are collected, processed, maintained,

and distributed under standard operating procedures in accordance with NCI best practices. The environments of the tissue blocks (fresh-frozen tissues and body fluids) are maintained and monitored for defined temperatures.

Some of the tumors have been processed to be stored as tissue microarrays (TMAs), a series of separate tissue cores arranged in rows to allow for simultaneous analysis and safely embedded in paraffin blocks. According to Arnold Schwartz, M.D., Ph.D., senior attending pathologist at GW Medical Faculty Associates, this is just one of the crucial elements that make the biorepository notable. "It's not only a library of tissue that is well scrutinized and well calibrated, offering a tremendous amount of retrieval ability, but it also processes tissue in a way that makes it exceedingly usable," he says.

On a summer afternoon, Boyer and Vajda were particularly excited about the TMAs they were in the process of creating from newly acquired tissue from about 200 South African patients with Kaposi's sarcoma, an AIDS-related malignancy. Vajda calls this tissue, which was donated by Stellenbosch University in South Africa, "an amazing find" for someone interested in researching the disease. As with all the other specimens in the biorepository, these TMAs are available to funded researchers at no cost.

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Louis DePalma, M.D., director of the division of clinical pathology at SMHS, recognizes the importance of the biorepository for pathologists as well. "Pathologists have always known that the material they accumulate could serve a purpose that goes beyond that of the immediate patient's disease," he says. "Academic pathologists in particular play a significant role in trying to determine causes and mechanisms of disease. The biorepository affords researchers unique material that allows them to investigate these causes and mechanisms."

In the 18 years since the ACSR's inception, scientific research that has been conducted using its specimens has led to hundreds of publications, many of which are available on the resource's website. "Biospecimen science and biorepositories are essential in the era of translational research," says Silver. "The scientific community is demanding verification of specimen integrity

from collection through storage, as can be seen in evaluations of publications by a set of guidelines called BRISQ – Biospecimen Reporting for Improved Study Quality." Thanks to these guidelines, researchers can now read a manuscript and determine the value of the research performed according to the kind of specimens used, how they were handled, what site they came from, how long they were out of their natural site until processing, the disease status, and the clinical characteristics of the patients. "We can see how the biorepository impacts science," Silver says.

DePalma notes that GW is well recognized for its active HIV/AIDS programs, as evidenced by its leading role in the District of Columbia Developmental Center for AIDS Research (DC D-CFAR), and can therefore benefit greatly from the repository's proximity. The DC D-CFAR aims to provide scientific leadership and institutional infrastructure to promote HIV/AIDS research in Washington, D.C., whose population has one of the country's highest rates of HIV/AIDS infection.

On the donor side of the equation, Boyer and Vajda see firsthand the interest that patients have in furthering the mission of the biorepository. The two research assistants are responsible for obtaining consent from donors,

often before surgery at the GW Hospital. "A lot of the HIV-positive patients that we 'consent' are altruistic," says Boyer, who has worked with the repository for five years.



Sylvia Silver, D.A., professor of pathology and medicine

"They want to do whatever they can to help advance research into HIV because they know that the more we know about HIV and AIDS, the better things could be for people infected with the virus," she adds.

Despite the vast number of specimens in the repository, the value of each individual donation is not lost on Boyer. "We're so grateful that they participate," she says as she double-checks the liquid nitrogen level in one of the freezers, ensuring that the storage conditions are perfect. "It's an amazing gift they are giving to research." ■



Getting a Handle on Hands-On Medical Training

BY KRISTIN HUBING

It's difficult to imagine the world of medical education feeling like the lawless Wild West, but at the close of the 19th century, when medical training was oriented more toward profit-making than academia, the analogy fit well.

But with the publication of the Flexner Report in 1910, Abraham Flexner's famed condemnation of the state of medical education, everything changed. Admission and graduation standards rose, the length and content of medical education were streamlined, and proprietary medical schools were closed or incorporated into existing universities.

It was a revolutionary period according to Matthew Mintz, M.D., clinical skills course director and associate professor of medicine at the George Washington University School of Medicine and Health Sciences (SMHS).

"In the past couple of decades, there has been a realization that we were training good scientists, but not very good communicators. Doctors were not seen as having much empathy or concern for patients, so the focus needed to shift to doctor-patient communication."

"Those changes were quite good and had a profound effect on medical education," says Mintz. "However, medical education hasn't really changed since. Now we're seeing health care change dramatically and we have to change the education system."

The change has begun, Mintz says, with the introduction of clinical skills courses that provide early clinical exposure during the first two years of medical school. "In the past couple of decades, there has been a realization that we were training good scientists, but not very good communicators," he says. "Doctors were not seen as having much empathy or concern for patients, so the focus needed to shift to doctor-patient communication."

And so it has. The clinical skills course at SMHS, which was introduced in 1993, is called the Practice of Medicine. By weaving a strong foundation of hands-on clinical training throughout the four-year curriculum, the program enables students to integrate basic science with clinical knowledge while developing their skills in scientific and clinical reasoning.

GW is not alone in this effort. Clinical skills courses go by a variety of names — Physical Diagnosis, On Doctoring, and

Introduction to the Patient, to name a few — but all Association of American Medical Colleges (AAMC) affiliated schools (133 at the time of a 2010 survey conducted by Mintz) now incorporate some form of clinical skills education into their early medical school curriculum.

Mintz recognized the widespread curricular changes of the preceding decades, but he also noticed the lack of standardization in the training or a forum for medical educators involved in clinical skills programs to think collectively about the direction of their field, a concern colleagues at other institutions shared. Shortly after conducting the 2010 survey, Mintz, in conjunction with Andrea Flory, M.D. '98, assistant professor of medicine, and Jim Blatt, M.D., director of the clinical skills center, formed the group Directors of Clinical Skills Courses (DOCS).

DOCS' mission is to build a cohesive national consortium of educators who direct clinical skills courses in order to promote scholarship, establish best practices, and encourage the exchange of ideas across the continuum of clinical skills education. The challenge is as straightforward as figuring out what to teach beyond basic interviewing skills and physical diagnosis. Often, says Mintz, many of these clinical skills courses

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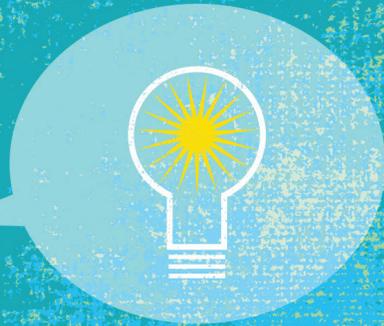
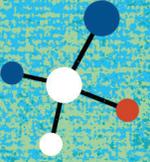
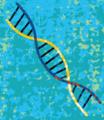
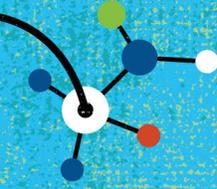
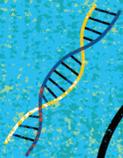
become a catch-all for other "doctoring" topics, such as ethics, professionalism, clinical reasoning, and health care finance.

Mintz' ambitious goals, including the creation of a clinical skills textbook that could someday be used nationwide to standardize course content, will require a lot of hard work and dedication in the years to come. But for now, he's thrilled to have growing support for the organization.

"Each school is going to do things differently," Mintz says, "but there are clearly ways that we can learn from each other so that we can take our own institution's assets and build upon them."

DOCS is now officially sponsored by AAMC, and held its second annual meeting at the AAMC conference that took place in November. ■

On Line for the Bottom Line



AN INNOVATIVE STUDY LED BY GW RESEARCHERS EXPLORES USING TELEMEDICINE TO IMPROVE BOTH CARE AND COSTS

BY HELEN FIELDS

In a second-floor room on GW's Foggy Bottom campus, a young woman is sitting at a desk with two monitors in front of her. On the wall above are two TV screens, each big enough to be a credit to any man cave. They're black, but on request she switches them on and a map appears, panning slowly around the globe. Red icons mark hospitals and remote research stations. Here and there in the water, a white anchor appears.

She's waiting for a call from one of those white anchors. The GW Medical Faculty Associates' telemedicine communications center, where she's waiting, has contracts to help people on research vessels, cargo ships, and fishing boats handle their health problems when the nearest doctor might be days away. "These people have no recourse — they're in the middle of nowhere," says Neal Sikka, M.D., associate professor of emergency medicine at the George Washington University School of Medicine and Health Sciences (SMHS) and the co-chief of the innovative practice section. The telemedicine center handles hundreds of cases each year. "We walk people through suturing. I've walked these guys through pulling a piece of metal out of someone's eye," Sikka says.

Now the telemedicine center is about to start helping a different group of people, much closer to home: people on dialysis. Specifically, GW doctors are collaborating to use telemedicine to reach patients who do peritoneal dialysis by themselves at home. The lessons learned from this project may help patients with all sorts of chronic diseases live better lives and waste less time getting to doctors' appointments or showing up in the emergency room with complications.

The new project is part of a three-year, \$1.9 million grant from the U.S. government's Center for Medicare and Medicaid Services' (CMS) Center for Medicare and Medicaid Innovation. The grants support projects that try out innovative ways to save money and improve patient outcomes, and might serve as models for the rest of the country. The program was created as part of the Affordable Care Act of 2010.

On the whole, people on dialysis are very sick and their care is very expensive. They have a lot of emergency room visits for problems related to kidney failure, such as electrolyte imbalance and shortness of breath, in addition to other health problems, like heart disease. People with end-stage renal disease make up about one percent of the Medicare population, but they consume six percent of the Medicare budget.

Patients on hemodialysis, the more common form of care, go to a dialysis center three times a week and spend four hours hooked up to a machine that cleans their blood. With two to three days between treatments, they can have large changes in their condition between visits — which means a lot of potential ambulance rides and emergency room visits.

Peritoneal dialysis patients, on the other hand, are generally better off. Rather than going to a dialysis center every other day, peritoneal dialysis patients draw excess fluids and toxins out of their bodies at home. Of the 300,000 Americans on dialysis, about 80,000 choose peritoneal dialysis.

Almost anyone who needs dialysis can choose to do peritoneal dialysis. Rather than having to get to a dialysis center three times a week, they can take care of themselves at home and go about their activities with the fluid in their bellies. "I think almost everybody is an ideal patient," says Susie Lew, M.D., a nephrologist and professor of medicine, who, along with Sikka, serves as a primary investigator on the project.

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"It's just that they have to want to do it." Lew encourages an unusually large number of her patients to try peritoneal dialysis at home. They get two weeks of training, and then they're on their own.

A peritoneal dialysis patient has a port installed in the wall of their belly. To clean the blood, the patient takes the sterile cap off of the port and attaches a bag of fluid. The fluid drains into the peritoneal space, where it sits, drawing water and waste products out of the blood vessels. Then the patient drains the fluid. The patient can either do this four times a day or use a machine that does the exchanges during sleep.

Even with the training, however, peritoneal dialysis patients still show up in the emergency room more than most people. They can experience electrolyte problems similar to hemodialysis patients and, like them, peritoneal dialysis patients often have other health problems. They are also prone to infections either internally or at the site of the port.



Susie Lew, M.D., professor of medicine and principal investigator of the Center for Medicare and Medicaid Innovation grant.

The project is aimed at helping patients take better care of themselves at home. “How can we make sure that our patients are doing what they’re supposed to do — and improve outcomes?” Lew says. The idea is to give patients a new way to get quick help and for nurses and doctors to be able to keep a closer eye on how they’re doing.

Peritoneal dialysis is a natural place to try using telemedicine with patients, because they’re already doing telemedicine in its most basic form. Patients are encouraged to call the peritoneal dialysis nurse whenever they have a problem or a question. “The phone is still one of the easiest ways to provide a service,” Sikka says. “You can do so much over the phone.”

But the project is adding newer technologies as well. Video calling, for example, which has gone from a space-age fantasy to something that’s routinely available for showing off Baby’s latest trick to the grandparents. Most of Lew’s

peritoneal dialysis patients already have computers, and those who don’t have webcams will receive them through the program. Patients without computers will be given some way to connect — most likely in the form of a tablet or a netbook computer. When patients call in, they can talk to a dialysis nurse on the phone, or if there’s something that would be better looked at, a rash or a suspected infection for instance, they can switch to video. If the nurse needs a doctor’s opinion, the telemedicine communications center can patch the video call through to a nephrology fellow or to Lew.

Patients will also get a suite of new monitoring tools: a weight scale, a glucometer, and a blood pressure cuff, all with Bluetooth technology that securely transmits the data to the telemedicine communications center. The idea isn’t to keep a Big-Brother-ish eye on every patient; the patient will have to initiate video calls, and they’ll be left alone most of the time. But someone reporting consistently high blood pressure or large weight gain, suggesting they aren’t removing enough fluid, might get a call from a nurse. Dangerously high blood pressure will trigger a more immediate call.

“Hopefully we’ll be able to monitor their blood pressure readings daily and detect readings outside of the desired

range. Therefore we hope to decrease emergency room visits and hospitalizations, because we’ll be able to take care of their medical issues earlier and as outpatients,” Lew says.

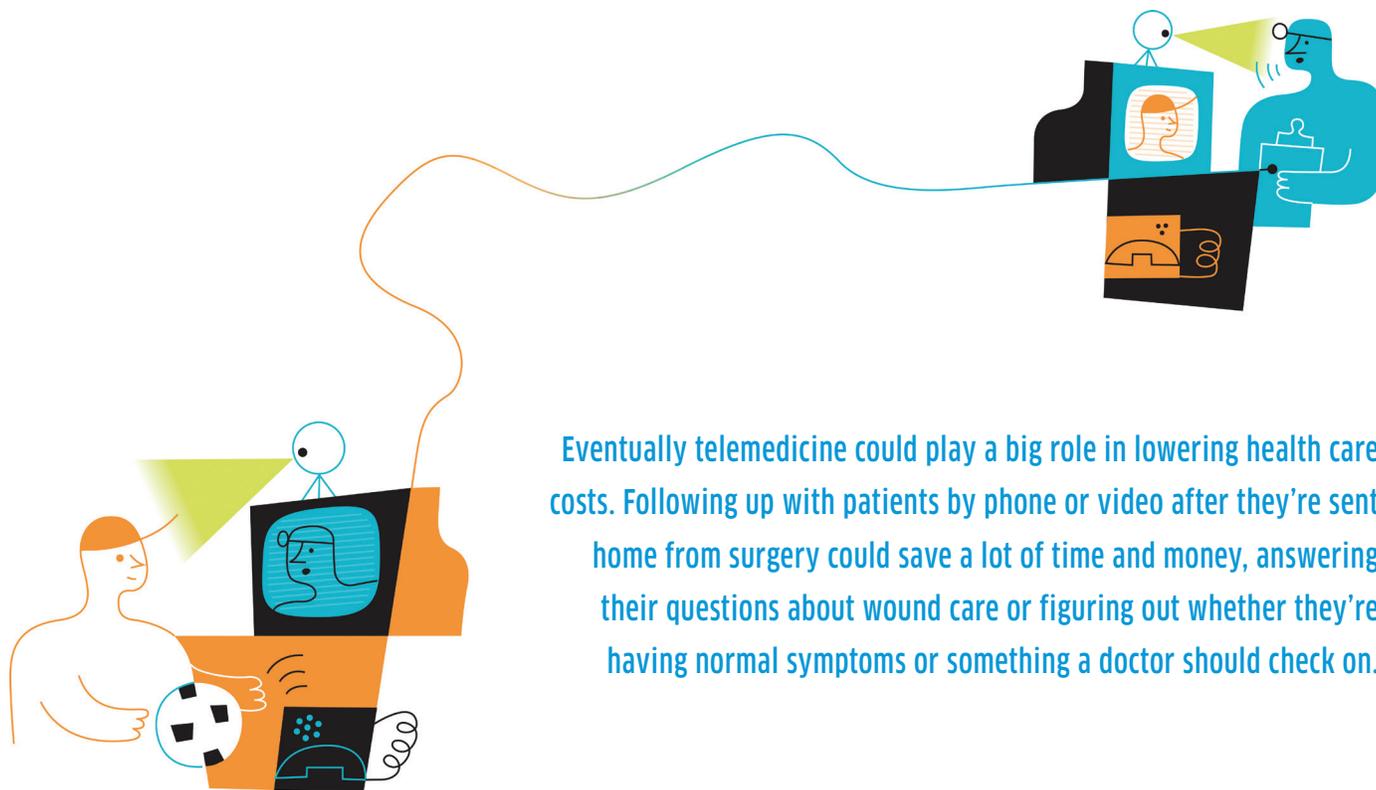
The study will start in January with 50 patients in Washington, D.C. Later, they plan to expand to Baltimore, Md. and to Winchester, Va., which will add patients who live in more rural areas. Telemedicine may be particularly useful in rural areas, where a patient might live an hour or more from the nearest doctor. If the doctor could look at the patient from afar and diagnose a mysterious rash as poison ivy, a lot of travel time could be saved. Travel can be challenging for urban and suburban patients, too. There’s no free parking at the dialysis center where Lew sees patients. It’s easily accessible using public transportation, but that can be a challenge for very sick or disabled patients. Transportation can be expensive, too as can lost work time.

Dialysis is a particularly good place to try out this kind of intervention because dialysis care already operates on a bundled model. Physicians like Lew don't get paid for every visit; they get paid a fee per month, so there are incentives to spot more affordable ways of caring for patients than having them make an appointment to visit the dialysis center. Many states also now require third-party payers to reimburse for video telemedicine as they would reimburse for an office visit.

Manya Magnus, Ph.D., M.P.H., is deputy director of the Center for HIV/AIDS, Epidemiologic, Biostatistics, and Public Health Laboratory Research at GW. An epidemiolo-

able to manage with fewer visits." Those patients often need another person to come with them, which makes care even more expensive.

Sikka is also talking with doctors in otolaryngology, neurosurgery, and other specialties about ways they can use telemedicine to expand their reach without having to be physically present. "It's the doctor's brain that needs to be there, but not the person," he says. "We call it a cognitive consult." A person having a stroke, for example, needs to have clot-busting drugs within three hours. But the drugs have serious side effects, so you don't want to give them if the person is actually just having



Eventually telemedicine could play a big role in lowering health care costs. Following up with patients by phone or video after they're sent home from surgery could save a lot of time and money, answering their questions about wound care or figuring out whether they're having normal symptoms or something a doctor should check on.

gist, she's a co-investigator and evaluator on the project and will work with the team in assessing it. She will survey patients and members of the health care team to find out how satisfied they are with the setup. She also will monitor patients' health outcomes — whether the telemedicine intervention does indeed result in fewer infections and fewer hospitalizations, and whether having wirelessly collected vital signs improves patient outcomes. "I personally think that telemedicine offers just an incredible strength, in terms of individual empowerment of people's care, decrease of complications, and improving adherence to treatment," Magnus says. "I think it's fantastic."

This technology could also help other patients, and not just patients on hemodialysis, Sikka says. "Dementia, Alzheimer's disease — all sorts of other chronic diseases that currently require fairly frequent visits to the doctor that we'd like to be

a migraine. A neurologist can help make that determination without being in the room.

Eventually, Sikka says, telemedicine could play a big role in lowering health care costs. Following up with patients by phone or video after they're sent home from surgery could save a lot of time and money, answering their questions about wound care or figuring out whether they're having normal symptoms or something a doctor should check on. It would be cheaper, for example, to spend a few hundred dollars on home monitoring equipment than thousands on readmitting a patient to the hospital. "If the health care system can come up with reimbursement models that incentivize patients, doctors, and hospitals to invest in really simple tools, we can probably improve a lot of health care and save costs," Sikka says. "The problem is, you've got to just figure out how to put it all together." With this project, the team is trying to make progress on that problem. ■

The Transformational Effects of Translational Science

WITH NIH BACKING, GW AND CHILDREN'S NATIONAL PUSH TO INVOLVE ALL PLAYERS
IN TRANSLATING DISCOVERIES INTO APPLICATIONS THAT IMPROVE HUMAN HEALTH

BY PETER SERGO

The George Washington University and Children's National Medical Center (Children's National) have reached the halfway mark in their partnered participation in the Clinical and Translational Science Institute at Children's National (CTSI-CN), a National Institutes of Health (NIH)-funded five-year program that provides \$20 million to its recipients to help speed the delivery of advancements in care to patients and the community.

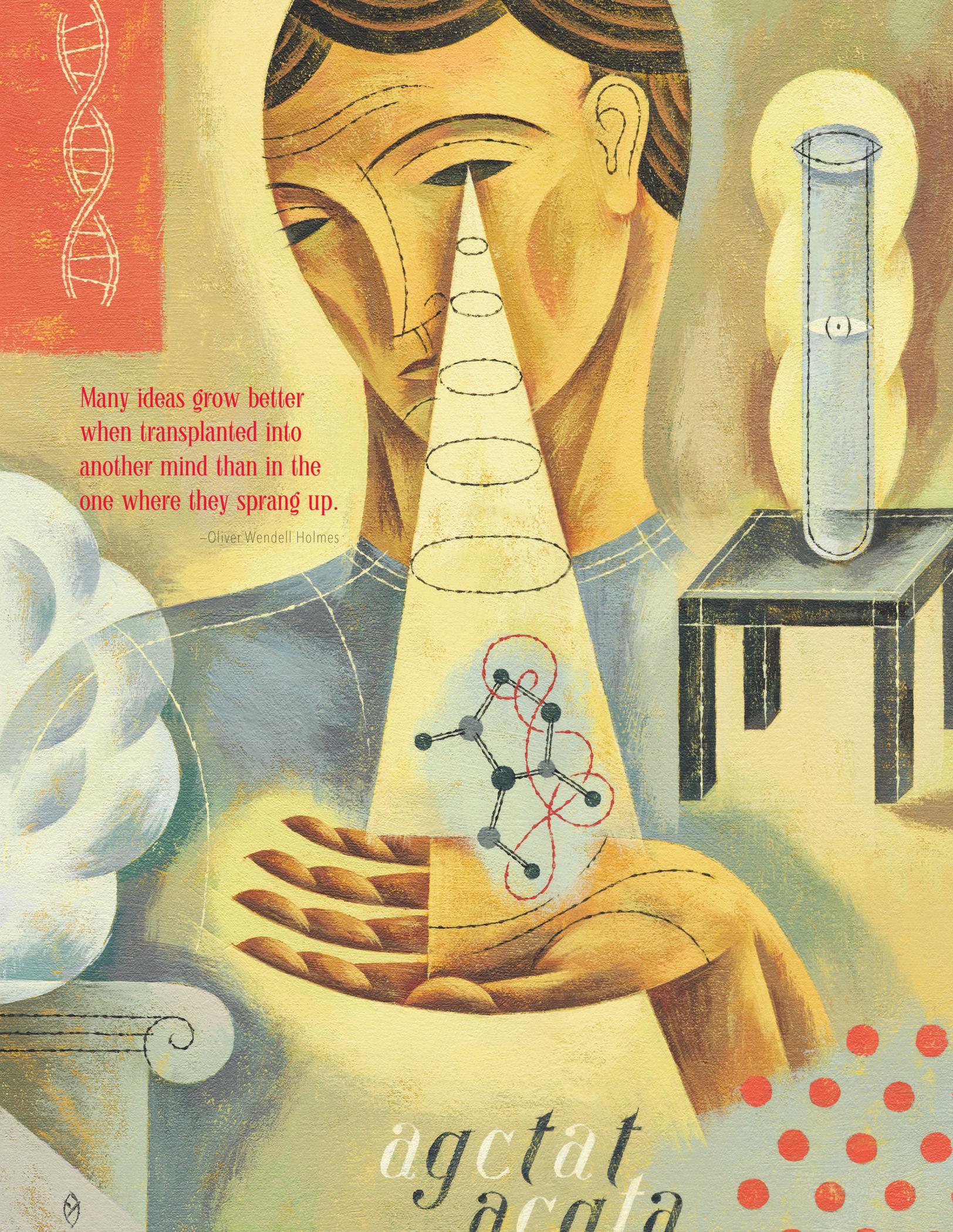
The CTSI-CN was funded through the prestigious Clinical and Translational Science Award (CTSA) program, which NIH began in 2006 and now includes 61 notable clinical research institutions around the country. In a sense, it is defined by the daunting challenges that burden clinical research. As noted by NIH Director Francis Collins, M.D., Ph.D., in the journal *Science Translational Medicine*, "Despite dramatic advances in the molecular pathogenesis of disease, translation of basic biomedical research into safe and effective clinical applications remains a slow, expensive, and failure-prone endeavor."

Production of effective pharmaceuticals, for example, involves potential drugs that go down the clinical testing pipeline with a failure rate of more than 90 percent; meanwhile, each drug demands a staggering average of \$1.2 billion in development costs. A 2003 study in the *Journal of Health Economics* calculated the time required for drug development from conception of clinical trials to license for use to be an average of 90.3 months (7.5 years), with a mean cost of \$100.4 million.

Lisa M. Guay-Woodford, M.D., principal investigator of the CTSI-CN and associate vice president for clinical and translational research at GW, says the CTSA is not a research grant in the typical sense. "It is not focused on a single disease or single age group," she explains. "It is really intended to be an infrastructure mechanism that is designed to address a pretty grand ambition: to transform the research environment in the award-receiving institutions and ultimately the [clinical research] environment across the United States so that we do more efficient, effective, and impactful human studies research."

DIFFERENT PARTS OF THE SAME PUZZLE

One way that the GW School of Medicine and Health Sciences (SMHS) and Children's National have adapted to this cultural shift in clinical research through the award is education. In 2011, shortly after



Many ideas grow better
when transplanted into
another mind than in the
one where they sprang up.

—Oliver Wendell Holmes

agctat
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the grant was funded, SMHS launched a masters program in clinical and translational research that challenges a cohort of students with varied research backgrounds — including medicine but also a wide range of other disciplines from statistics to computing to engineering to chemistry — to think collaboratively when considering complex health issues. “The focus of the program is less the nuts and bolts of research, such as study design and statistical methodology,” explained Jennifer Schuette, M.D., a pediatric cardiac intensivist who is part of the first cohort of students in the program and who works at the pediatric cardiac ICU at Children’s National. The CTSI-CN “is slanted more toward getting a better understanding of how to build and lead a multidisciplinary research team and cross over from the basic science area to the clinical area and then into the public health area and back again.”

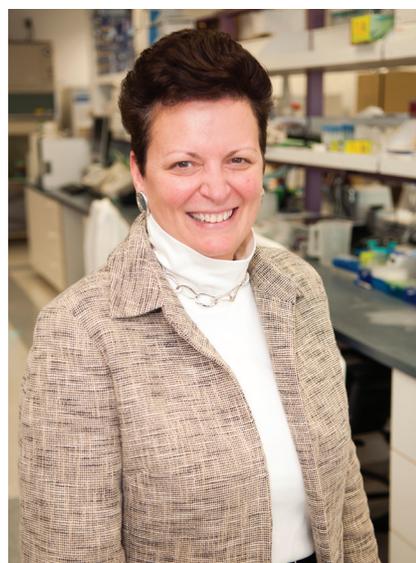
A COLLABORATION SUCCESS STORY

A technological example of fruitful collaboration and innovation is Bell Labs, which was a center for invention in the 20th century that produced, among many other notable things, the transistor, solar-powered devices, and fiber-optic cable systems; Bell Labs as a whole extended the boundaries of physics, chemistry, and astronomy in profound ways.

How did a relatively small group of scientists and engineers make such high-impact discoveries in a short period of time? Their success depended not only on having a critical mass of talented people who cultivated a constant exchange of ideas, but also on the proximity of experts with various backgrounds. The transistor project, for example, purposely mixed together physicists, metallurgists, and electrical engineers — that is, theorists, manufacturers, and experimenters. The productiveness



Research Laboratory Manager Chaozhe Yang, M.D., confers with Lisa M. Guay-Woodford, M.D.



As a physician who provides critical care, Schuette got the sense that “you can’t just be a clinical doctor,” she says. “There has to be another piece to you. I was always interested in clinical research but was never able to gain a good foothold in it.”

Part of earning the award is making educational adjustments that address the NIH’s concern about the silo effect that is apparent in clinical research: lab researchers, clinicians, and public health experts working on different parts of the same puzzle without communicating with one another, thereby missing opportunities to optimize the integration of knowledge and the transmission of discoveries from the bench to the patient. “The whole idea of ‘bench to bedside’ is interdisciplinary,” says Lisa Schwartz, Ed.D., assistant professor and director of the clinical and translational research programs. “None of the complex health problems can be tackled by a single researcher operating in isolation in their island of expertise.”

of the environment stemmed as much from the differences that existed between the varied scientific disciplines as from the knowledge that they shared; researchers brainstormed with developers, soloists divulged their theories to groups, and pure scientific understanding was suddenly understood in an applicable sense.

Representing a more basic research perspective, Vincent Chiappinelli, Ph.D., interim associate vice president for health affairs, associate dean of SMHS, and co-principal investigator of the CTSI-CN, appreciates how several minds approaching a problem from different angles can produce results. “Clinicians think about what they see in practice and diseases, which may have relevance that I might not be aware of,” he notes. “It’s always useful to have people with different perspectives in the same mix; it’s likely to move things forward quicker.”

The CTSI-CN pushes for this kind of interplay to happen across the entire research spectrum to catalyze change among

various disciplines “so that biomedical engineers are working with physicians or dentists,” Guay-Woodford explains, citing examples of collaborative efforts in materials science that could improve joint replacement devices, imaging technologies, and biomaterials. “[That] is something that has only recently started to happen,” she adds. “Dentists or biomedical engineers by themselves can’t do this. The partnership is greater than the sum of its parts.”

Another partnership that is greater than the sum of its parts is that of SMHS and Children’s National, representing the only CTSA recipient that was awarded to a freestanding children’s hospital as the primary awardee. These two organizations provide a research capacity to explore the life continuum of human health to understand how chronic diseases change over time, to learn how adult diseases have their harbingers, or even their initial manifestations, in childhood, and to identify genes that underlie single-gene disorders that can provide insight into pathways involved complex disorders.

IDENTIFYING THE ROADBLOCKS

In 2004, the NIH launched the Roadmap for Medical Research, which aimed to identify barriers to research and transform the way biomedical research is conducted by enabling the development of transformative tools and methodologies, fill fundamental knowledge gaps, and change the academic culture to encourage collaboration. The CTSI-CN research training programs at SMHS and Children’s National are focusing on such obstructions. “You definitely get the message that that is the point of the whole [program],” Schuette says. “There are dividing lines that have always, in the history of the whole gambit of research, caused unnecessary and artificial delays.”

Roadblocks in applying bench-to-bedside discoveries aren’t inherent just in research and development, but also in implementation. Guay-Woodford recalls her work as a nephrologist in Alabama where the hypertension rate is high, but only about 25 percent of patients were receiving treatment using the most effective and cost-efficient means. “Too many patients were being prescribed drugs that cost \$2 or \$3 a pill when in many cases [their condition] could be effectively managed with drugs that cost pennies a pill.” In those circumstances, she says, “they are left with the Faustian choice of knowing the consequences of uncontrolled hypertension, but not being able to afford expensive medications and pay their other bills.”

Community research and community engagement are essential initiatives to the success of the CTSI-CN. The overarching objective is to engage the larger community in health-related research as partners. “Helicopter researchers” is the term Guay-Woodford uses to describe an ineffective and often affronting research model that can yield good research in the lab, but poor results in the clinic. Investigators, she says,

swoop into a community to conduct research, but fail to educate and engage the members in dialogue about which health approaches and research studies hold the potential to change lives in a meaningful way. “The CTSI-CN endeavors to engage communities as partners in research” she adds. “It’s a better model, allowing us to identify needs, build research capacity, and establish trust so that together we can engage in projects that help treat disease when it occurs and ultimately, develop effective prevention strategies.”

THE CULTURE SHIFT IN HOW MEDICINE GETS DONE

Joseph Bocchino, Ed.D., M.B.A., interim senior associate dean for Health Sciences at SMHS, recognizes how the CTSI-CN is an indicator of the drastic changes that are bound to happen all across the board in health-related research. “My sense is we are going through ... a very big shift in orientation and culture when it comes to how health research is conducted,” he observes. To not only harness but also accelerate this shift, GW and Children’s National have turned to junior researchers to reorient those who have operated in a different paradigm. “We are doing our heaviest investing in our junior faculty who show promise in becoming future leaders in clinical and translational research,” he says.

Individuals who are in an earlier stage of their career and who express interest in approaching translational research with a broader perspective are encouraged to focus in an area

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of clinical research that has immediate relevance and possibly even bridges GW’s strong basic science research capacity in cancer, tropical medicine, infectious disease, and neuroscience with clinical patient care.

Overall, the involvement of SMHS and Children’s National in the CTSI-CN reflects the broad transformation taking place in medicine, akin to knocking down walls between various disciplines. “For us, the CTSI-CN reflects how we as a research community are evolving in our thinking about translating discoveries into health applications,” Guay-Woodford sums up. “We have streamlined, restructured when necessary, developed new programs when opportune, to be able to be as effective as possible in supporting clinical and translational research. The CTSI-CN is committed to increasing innovation, efficiency, and impact of clinical and translational research within our local partnership and with other CTSA partners across the national consortium.” ■



The Mark of a Menace

GW RESEARCHERS IDENTIFY A POSSIBLE
BIOMARKER FOR PARASITE-INDUCED CANCER

BY KRISTIN HUBING

There is something new dotting the landscape of Isaan, the northeastern region of Thailand. Something that Paul Brindley is seeing for the first time since his work began there in 2003; billboards bearing the universal “no” symbol — a red circle crossed with a diagonal line. Inside the symbol is a picture of a fish.

Uncooked cyprinoid fish, a member of the carp family, has been a staple of the Thai diet for generations. The problem? The fish is host to *Opisthorchis viverrini*, a tiny flat-worm associated with bile duct cancer in those it infects. It is an aggressive cancer with a poor prognosis — most victims live just four to six months after diagnosis. Thanks to

the work of Brindley and his colleagues, Thai public health officials have begun to take note. Bile duct cancer (cholangiocarcinoma) resulting from *O. viverrini* infection is the number one cancer in this region, overtaking in incidence even common cancers such as lung cancer in men and breast cancer in women.

Brindley, Ph.D., professor of microbiology, immunology, and tropical medicine at the George Washington University School of Medicine and Health Sciences (SMHS) and Jeffrey Bethony, Ph.D., associate professor of microbiology, immunology, and tropical medicine at SMHS, dedicate much of their research to studying the devastating effects of the parasite, also known as the Asian Liver Fluke, which infects an estimated 10 million people in Thailand alone, as well as an untold number in the neighboring countries of Laos and Cambodia. Along the Chi River, one of the major water sources running through Isaan, the prevalence of infection with liver fluke can reach 79 percent and up to five percent of those infected develop tumors.

Khon Kaen, a province in Issan with a population of about 2 million, has been the center of research operations for Brindley, Bethony, and their Thai colleagues. It is here that they developed the Khon Kaen Cancer Cohort (KKCC), a group of more than 10,000 liver fluke-infected persons participating in the five-year prospective study to determine the risk factors for developing bile duct cancer from eating this fish. The KKCC has been recruiting volunteers since 2007.

As they studied specimens from the cohort, Brindley and Bethony searched for an easily measurable biomarker to determine who was most likely to develop the cancer. “Something in their blood, feces, or urine that would be more indicative

“We’re very passionate about this. It’s rare that you get to see your research and the relationship it has to the population. But here, we do. We see that. And we’re dedicated to continuing this work.”

than an ultrasound,” said Bethony. “Something more accessible,” he adds, like the prostate-specific antigen that has revolutionized prostate cancer screening since its discovery in the late 1970s. When they began to recognize patterns of elevated plasma levels of Interleukin (IL)-6 in KKCC volunteers at greatest risk of developing bile duct cancer, they suspected they had found their biomarker. Recently, the Thai Ministry of Health has instituted population-based screening in Isaan for risk of bile duct cancer using the level of IL-6 as published in Brindley and Bethony’s May article in the journal *Public Library of Science (PLOS) Neglected Tropical Diseases*, “Plasma IL-6 and *O. viverrini*-Induced Pathogenesis,” which outlines some initial findings regarding the relationship between plasma IL-6 concentration and advanced fibrosis.

Brindley, Bethony, and their colleagues received a five-year Research Project Grant (R01) from the National Cancer

Institute (NCI) in 2011, which allows them to continue their biomarker research. Bethony says that the NCI considers infection-associated cancers to be “low-hanging fruit” since the greatest risk factor has already been established. “Not that it’s easy, but it’s easier than looking at something like prostate cancer or lung cancer. We know what’s causing this; it’s the parasite,” he says.

Over the summer, the team received two additional awards from NIH. The first is another five-year R01 grant from NCI for \$1.7 million for their project titled “Role of Live Fluke Granulin in Cholangiocarcinogenesis,” in order to investigate the role of a growth factor secreted by the parasite in the origins of bile duct cancer. Secondly, the site in Khon Kaen

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was deemed a prestigious Tropical Medicine Research Center (TMRC) by the National Institute of Allergy and Infectious Diseases – one of only seven such centers worldwide – with Bethony and Brindley as co-investigators. The objective of the TMRC award is to expand the number of participants and extend the duration of the cohort into the future. As Brindley notes, this impressive support from two separate institutes of the NIH likely indicates the agency’s excitement about the progress toward understanding how a neglected tropical disease pathogen such as the liver fluke can cause cancer.

Bethony and Brindley are grateful for the interest and support and are eager to test their novel biomarker approach in the study of other infection-related cancers, such as Burkitt lymphoma and nasopharyngeal carcinoma. “This has opened up a new area for us in general, and we think the tools we’ve developed here can be applied to other areas,” Bethony says. Brindley adds that they are interested in studying cancers that are prevalent in the developed world as well, such as AIDS-associated malignancies like Kaposi’s sarcoma.

In the meantime, Brindley, Bethony, and their team here at GW will continue to analyze the thousands of KKCC samples they have collected, in search of other potential biomarkers for this cancer that has ravaged parts of Thailand. Bethony recalls the first time he arrived at the hospital and saw dozens of families living on the grounds, cooking, praying, and passing the time as their loved ones were treated inside for parasite-induced liver cancers. “We’re very passionate about this,” he says. “It’s rare that you get to see your research and the relationship it has to the population. But here, we do. We see that. And we’re dedicated to continuing this work.” ■

Pathway to Finding the Right Residency

BY LAURA OTTO

Hope Jackson feels most comfortable in the operating room, where she can work with her favorite tool: her hands. “I enjoy working with my hands. I like the idea that I can use my hands to put into practice my knowledge and understanding of surgical conditions and the human body to make a patient feel better in a short time frame.”

Jackson, M.D. '09, a fourth-year surgical resident at the George Washington University School of Medicine and Health Sciences (SMHS) and winner of the 2011 Surgical ICU Resident of the Year award, is currently doing her first year of a surgical research fellowship. Jackson works at Children's National Medical Center, where she is focusing her research efforts on pediatric surgery. The pediatric surgeon with whom Jackson is working has a special interest in new treatment modalities for neuroblastoma, a rare type of childhood cancer that affects the nervous system of infants and young children.

An East Coast native, Jackson grew up in Manchester, Conn., and received her bachelor's degree from Emory University in Atlanta. GW's medical school was always a top choice for her, mainly because of its location in the nation's capital and the school's national reputation for training highly skilled clinicians. “I worked with a lot of physicians at Emory who said that the opportunities GW affords to its medical students are second to none,” says Jackson. “I knew by choosing GW, I would become a well-trained clinician.”

Selecting surgery for her residency was unexpected. As an undergraduate, she initially wanted to pursue pediatrics; later, during her first year of medical school, she shifted her focus to OB/GYN. It wasn't until Jackson's third year that she finally determined that surgery was what interested her most. As a third-year medical student, Jackson benefited from having a mentor who helped her define what she wanted her residency to focus on. Jackson credits her mentor, Juliet Lee, M.D.,



associate program director of the general surgery residency program and assistant professor of surgery at the GW Medical Faculty Associates, for helping her embrace her decision to become a surgeon. “Dr. Lee helped dispel a lot of myths I had heard about becoming a surgeon, like how difficult it would be to balance work and family,” says Jackson. Lee showed Jackson that female surgeons can be fulfilled at work, as well as at home. She was also instrumental in helping Jackson narrow down what kind of medicine she wanted to practice, define the types of patients she wanted to treat, and decide whether she wanted to be in the operating room. Jackson says it's important for third-year medical students to immerse themselves as best they can in each field when they are doing their rotations and approach each rotation as if that were their career choice.

Many students fear the transition from medical school to residency, but Jackson embraced it. For her, the transition was challenging but also exciting and rewarding. Longer hours were coupled with the opportunity to see a broader spectrum of patients with different ailments. According to Jackson, the biggest difference is the new level of responsibility that comes with having an M.D. after your name. “As a resident, you gain a new appreciation for things you didn't fully understand as a medical student,” says Jackson. “You have the opportunity to see the relevance of the lessons you learned in medical school.” ■



A Noteworthy Memo

BY KRISTIN HUBING

Guillermo Sanchez has a very clear idea of where he'd like to be in five years. Practicing medicine three days a week, teaching once a week, and researching once a week. Seasoned Physician Assistants (PAs) might scoff at the idea of a 26-year-old with a comprehensive plan so early in his career. But they haven't met Sanchez, PA/M.P.H. '13, a rising star at George Washington University's School of Medicine and Health Sciences (SMHS).

Sanchez, who was trained as a dietitian in Nevada and goes by the nickname "Memo," is not your average dual-degree student. He's published five original articles in peer-reviewed journals since 2011, he co-authored a book chapter in 2012, and he regularly updates his blog, Memo the Physician Assistant (www.memothepa.com), where he chronicles his experiences and challenges for the benefit of aspiring PA students.

"I started my blog because there wasn't a lot of information out there about what it's like to be a PA in public health," Sanchez says. Despite his busy schedule, his readers keep him motivated to continue writing. "It wasn't long ago that I was in

contest earned him the title of NEJM Scholar and participation in the prestigious "Dialogues in Medicine" symposium at Harvard University. His essay, titled "A Letter from the Year 2022," was a clever response to the question of how we can harness technology to improve health. Sanchez's letter to himself from the future warns of pan-resistant pathogens that could have been prevented with the use of social media to promote new antimicrobial development and reduce antibiotic misuse.

Sanchez says he was fascinated by epidemiology before he even knew what it was, and he plans to apply to the Epidemic Intelligence Service, a postgraduate fellowship in applied epidemiology, after graduation. "It's the nexus of everything I'm passionate about," he says. "Including medicine, public health, and microbiology and infectious disease."

Even more than his accolades and ambitions, Sanchez's intellectual curiosity is what makes him special, says James F. Cawley, M.P.H., PA-C, professor of PA studies at SMHS, and professor and vice chair of the Department of Prevention and Community Health at GW's School of Public Health and Health Services. "Memo is curious about a lot of things in medicine, but also a lot of things in general. He's going to have quite an interesting, successful career," Cawley says.

In Sanchez's ever-diminishing free time, he plays on a soccer team with SMHS classmates, "PA-C Attack," and trains for marathons. Although he won't deny being a competitive soccer player, Sanchez says his running is strictly for enjoyment. "It's about enjoying the run itself rather than obsessing about the finish line," he says. "Marathons take a long time, so I want to be sure I enjoy them. The people you train with are the best part."

It sounds a bit like the way he approaches his academic and clinical training. And so far, it's working for him. ■

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their shoes and I didn't know whether a degree in public health in addition to becoming a PA was the right fit for me."

Earlier this year, Sanchez's winning entry in the *New England Journal of Medicine's* (NEJM's) 200th anniversary essay

Healing and Hope for Haiti

BY LAURA OTTO



Nestled in the village of Marmont, in Haiti's impoverished Central Plateau, sits the adopted clinic of the George Washington University School of Medicine and Health Sciences (SMHS). Outside the clinic, long lines of Haitian men, women, and children have formed, waiting their turn to receive essential medical care and health education information from SMHS, the School of Public Health and Health Services, and the School of Nursing alumni, faculty, and students. During the seven-day medical mission, July 8–15, the team saw more than 1,100 patients and treated problems as varied as malnutrition and respiratory issues in children to adult diabetes, arthritis, and hypertension. The multidisciplinary team also performed examinations and administered much-needed medications. "These students practiced medicine entirely through interviews and physical examinations," says Jack Summer, M.D. '81, clinical associate professor of medicine at SMHS. "They were forced to rely on their hands and clinical skills to treat patients because medical tests and tools were scarce."

Summer, who has led the program since 2005, accompanied this year's group, which included Deborah Pulver, M.D., and Jeremy Kern, M.D., both from Children's National Medical Center; Margorie Graziano, R.N., Jacqueline Wavelet, R.N., and Erin Yealgey, D.N.P., from the GW School of Nursing; and six medical students, four public health students, three nursing students, and one pre-med undergraduate. For Amanda Eisenberg, M.S. IV, traveling to Haiti was a definite culture shock, from coping with the heat and humidity to witnessing firsthand the poverty that Haitians endure daily. "I was given the opportunity to treat and see many different medical conditions, such as a bowlegged 3-year-old boy with rickets, and a 40-year-old woman with a massive goiter," says Eisenberg.

The trip marks GW's eighth successful medical mission to Haiti since the International Medicine Program (IMP) established an affiliation with Project Medishare. The non-profit founded in 1995 is dedicated to sharing its human and

technical resources with its Haitian partners in an effort to achieve quality health care for all Haitians. In 2004, SMHS and Project Medishare teamed up to improve health services and education for the community of Thomonde in the Central Plateau of Haiti.

Over the years, Summer has seen an increase in GW's involvement in and commitment to the Haiti missions. "Along with the School of Medicine and Health Sciences and the School of Public Health, the School of Nursing is now very committed to this cause," says Summer.

Armed with the goals of establishing and funding sustainable programs in Haiti's rural communities; helping train Haitian physicians, community health workers, and nurses; and providing technology, supplies, and staff support for the Thomonde clinics, the team worked alongside Project Medishare's community health workers to better understand and help alleviate the severity of health problems in Haiti.

Zakiya Chambers, a second-year M.P.H. student with a concentration in community-oriented primary care, says that her experience in Haiti strengthened her ability to think outside the box. She witnessed the wide range of chronic conditions that plague this rural nation, which many people in the United States rarely think about. She adds that the experience "opened my eyes to how important public health really is."

Each mission to Haiti offers invaluable experiences that show the impact of sympathy and support on the success of treatment. "The Haitians were so grateful to have us in their community helping to provide medical care," says Eisenberg. ■

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Robert I. Keimowitz, M.D.

An Identity Tied to Medicine

BY KRISTIN HUBING

Halfway through his first year at the George Washington University School of Medicine and Health Sciences (SMHS), Jeffrey Syme, M.D. '81, began to question his commitment to becoming a physician. He felt despondent, overworked, and frustrated with his performance.

One morning, Syme visited Robert I. Keimowitz, M.D., then associate dean for student affairs and admissions, to tell him of his plans to leave school. Keimowitz cleared his schedule, ushered Syme into his office, and spent the morning delving into the student's academic and personal troubles. Keimowitz told Syme he was confident that he would make a fine physician and refused to accept his decision until the following day. By the end of the meeting Syme, who is now assistant clinical professor of family medicine at Brown University's Alpert Medical School, left feeling inspired by the dean's confidence in him. He returned the next day with renewed determination to complete medical school.

Keimowitz, who has been a member of the SMHS faculty since 1970, is professor emeritus and served as dean from 1989 to 1998. Like many other medical school deans, he had high expectations for his students. But his genuine respect and compassion — as well as his keen sense of humor — is what sets him apart.

Now, semi-retired at 73, Keimowitz is still an active member of the GW community. He supervises medical students in the clinical setting as a preceptor, sees patients at the GW Medical Faculty Associates one day a week, and spends another day at the Residences at Thomas Circle, an independent living facility in Washington, D.C.

When Keimowitz isn't seeing patients, he and his wife, Hazel, travel or spend time with their two daughters and four grandchildren. But it's difficult for him to stay away from medicine for long, and he has no intention of giving it up.

"My identity is completely tied to medicine," Keimowitz says. "In addition to filling my personal interest in helping people, it merges absolutely fascinating science and it's wonderful to watch the science advance. So I keep phasing out, but never completely stopping because I love it."

Keimowitz was born and raised in upstate New York and received his bachelor's, master's, and medical degrees in the 1960s from the University of Vermont — which explains his penchant for Lake Champlain Chocolates. He studied renal physiology at the National Institutes of Health (NIH) before joining the SMHS faculty.

A reputation for brashness and early success revamping the third-year medical clerkship earned Keimowitz a position on



the admissions committee at SMHS. The following year he became assistant dean for admissions, and by 1989 he advanced to dean for academic affairs and, later that year, dean of SMHS.

Keimowitz considers his greatest accomplishments at SMHS to be his overhaul of the admissions process and a curriculum revamp in 1993 that included the development of an innovative new program called "The Practice of Medicine." It integrated the building blocks of a traditional medical education — a strong foundation of basic and clinical sciences — with early exposure to patients. The program remains a crucial component of SMHS' medical curriculum today.

Jeffrey S. Akman, M.D. '81, G.M.E. '85, interim vice president for health affairs and dean of SMHS, has been both a student and colleague of Keimowitz. When Akman travels to meet with SMHS alumni, Keimowitz is a frequent source of conversation. "People have very fond memories of Bob," Akman says. "They ask me all the time 'How's Dr. Keimowitz doing?' 'He admitted me to med school,' or 'He gave me great advice.' Bob was a wonderful counselor."

In fact, Akman attributes his own decision to pursue psychiatry to Keimowitz. As a third-year medical student, Akman met with Keimowitz to discuss his next year's electives, which would determine his career path. He told the dean that he was considering internal medicine, pediatrics, or perhaps psychiatry. Keimowitz stopped him. "Psychiatry? Very few people come in here to talk about psychiatry, so let's talk about psychiatry." The next thing Akman knew, he was setting up electives in psychiatry.

Akman also credits Keimowitz with fostering the culture of diversity that continues at SMHS today. "I was openly gay and he appointed me as an assistant dean," Akman says. "That was a big deal. He was communicating to the students and faculty that this was either a non-issue or a good thing. And it wasn't just sexual orientation. It was race, it was gender. I'm not sure he's gotten the credit he deserves on these issues." ■

Leading the Lab



Marcia Firmani, Ph.D., M.S.P.H., understands the importance of mentorship for budding scientists. During her graduate training at the University of California – Berkeley (UC Berkeley), Daniel A. Portnoy, Ph.D., a professor of biochemistry, offered Firmani essential encouragement as she conducted her dissertation research. “He once told me that there are two kinds of scientists,” she recalls. “He said, ‘There are good scientists and bad scientists. Bad scientists try to prove themselves right, and

good scientists try to prove themselves wrong.’ Because of Dr. Portnoy’s influence and support, I knew that I wanted to pursue a career as a good scientist.”

And so she has. Firmani joined the Clinical Laboratory Science (CLS) program at GW’s School of Medicine and Health Sciences (SMHS), where she will serve as assistant professor and assistant program director for CLS. Her career has taken her from the genetics department at Yale University to the National Biodefense Analysis and Countermeasures Center (NBACC), with stops at Tulane University; UC Berkeley; the Louisiana State University; and the University of Wisconsin at Milwaukee. Now at SMHS, Firmani joins CLS as the program celebrates its 70th anniversary at GW.

According to Joseph Bocchino, Ed.D., M.B.A., interim senior associate dean for health sciences, Firmani brings new perspectives to GW, where the diversity of her background will facilitate her role in determining the future of the clinical lab sciences program. “She’s a very strong collaborator,” says Bocchino. “We’ll be looking to her to build bridges between the basic sciences and the clinical teams with which she operates.”

After two years at NBACC as a principal investigator for its bacteriology division, Firmani found herself yearning for the academic environment. She missed the interaction with students and the opportunity to be a mentor for a young scientist: “You do, every now and again, feel like you’re making a difference in someone’s life.”

Despite a demanding teaching schedule that includes courses in microbiology, molecular diagnostics, hematology, and laboratory operations, research remains Firmani’s passion, and she looks forward to beginning collaborations with other SMHS researchers. As program coordinator, she is responsible for coordinating all aspects of the program, including evaluating the local and national clinical affiliates where CLS students, whose course work is completed online, do their clinical rotations. “I’m eager to build relationships with those laboratories so that when our students are working there, I can truly advocate for them,” she says. ■

Joseph Giordano, M.D., Receives Alumni Achievement Award

Joseph Giordano, M.D., former chair of the Department of Surgery at the George Washington University School of Medicine and Health Sciences, received the Alumni Achievement Award from the Jefferson Medical College Alumni Association for his extraordinary 40-year career in trauma surgery. The Jefferson Medical College Alumni Association created the Alumni Achievement Award in 1964 to honor graduates who bring prestige to the school. The award, presented during an alumni awards banquet on Sept. 21, pays tribute to Giordano’s professional achievements, as well as to his character.

In 1976, Giordano joined the staff at GW where he spent the remainder of his professional career. While head of GW’s trauma team in 1981, he was credited with saving former

President of the United States Ronald Reagan’s life when he was shot after giving a speech to union representatives at a Washington, D.C. hotel. While this event is certainly one of the most memorable during his four decades at GW, Giordano is also credited with revolutionizing trauma care at GW.

After taking over the emergency department at GW, Giordano reorganized the department into a Level I Trauma Center, earning the American College of Surgeons certification three years later. He was named chair of surgery in 1992 and was later named the Lewis B. Saltz Chair of Surgery.

Having retired from surgery two years ago, Giordano now serves on the board of a humanitarian surgical program, Partner for Surgery, which arranges for surgical teams to provide care for rural Guatemalans. ■

Translating Kidney Stone Research into Faster Recovery, Fewer Complications

According to a recent study, in the United States one in 10 men and one in 14 women have had a kidney stone. Unless the kidney stone is too large to pass on its own, the treatment prescribed is usually plenty of fluids and pain killers while letting it pass over a period of several days. With the support of a four-year, \$4,198,046 grant from National Institutes of Health and the National Institute of Diabetes and Digestive and Kidney Diseases, Jeremy Brown, M.D., associate professor of emergency medicine, will explore a new way to treat kidney stones. His investigation, "Multi-Center Study of Tamsulosin for Ureteral Stones in the Emergency Department," will enroll patients with kidney stones in three emergency departments, including GW Hospital, and randomize them to an active medication called Tamsulosin, or a placebo. Brown believes treatment with Tamsulosin will help patients pass their kidney stones faster and with fewer complications. ■

Cardiovascular Disease in HIV Patients

Cardiovascular disease is a growing clinical problem for HIV patients. Many believe this is due to the adverse effects of prolonged use of anti-HIV drugs. Michael I. Bukrinsky, M.D., Ph.D., professor of microbiology, immunology, and tropical medicine and professor of biochemistry and molecular biology, believes that while drugs may contribute to this problem, HIV infection itself might also be a significant factor.

Bukrinsky received a supplemental grant from the National Institutes of Health and the National Heart, Lung, and Blood Institute to continue his third-year cardiovascular disease study of patients infected with HIV. Bukrinsky's project, titled "HIV Disease and Impairment of High Density Lipoprotein Metabolism," explores the effects of HIV infection on high-density lipoprotein (HDL), in hopes of finding a way to target and treat cardiovascular disease. The supplemental funding will be used to establish an animal model to study the mechanisms of HIV effects on HDL cholesterol. ■

Sorel Shares Expertise in International Health Care Systems

To celebrate the 130th anniversary of Romanian-American diplomatic relations, Eliot Sorel, M.D., clinical professor of psychiatry and behavioral sciences, convened the first meeting of The Black Sea & Caspian Sea Area Studies Network in July 2010. Since that time, he has been invited to share his expertise in international health care systems at conferences across the globe.

Sorel was invited to speak at the European Higher Education Area (EHEA) Ministerial Conference and Third Bologna Policy Forum in April 2012 in Bucharest, Romania. The conference was held as part of the Bologna Process, which aims to facilitate progress and find solutions for the challenges in European higher education. Sorel gave a presentation during the World Bank Parallel Session titled "Biological, Psychosocial, and Educational Antecedents/ Determinants of Sustainable Development." His presentation focused on the complex factors of human development and environment and how they relate to one's learning process, acquisition of sustainable skills and training for today's workforce.

In May 2012, Sorel chaired The American Psychiatric Association's 2012 Annual Meeting. He organized a symposium, titled "Integrating Primary Care, Mental Health and Public Health: European and American Perspectives," on the challenges and opportunities to strengthen global health systems. He shared his expertise on topics such as access, quality and costs of health care, as well as the lack of emphasis on primary preventive care in today's health systems in the European and American contexts. The integration of primary care, mental health, and public health was discussed as a solution towards diminishing health systems' fragmentation, to enhance access, quality, and diminishing costs and strengthen health systems' performance.

Sorel also recently published *21st Century Global Mental Health*, a textbook for graduate public health students, educators, and practitioners in low-, middle-, and high-income countries. This volume addresses populations' global mental health, progress made to date, and challenges remaining, in context, along with public health and primary care. ■

The Book on Spirituality in Medicine

In recent years the volume of articles in medical and health care journals on spirituality has grown rapidly, but there has been no attempt to publish a standard text on the subject. As a pioneer and leader in the movement to integrate spirituality into health care both in the clinical setting and in medical education, Christina M. Puchalski, M.D. '94, G.M.E. '97, founder and director of the George Washington University Institute for Spirituality and Health (GWish) and professor at the School of Medicine and Health Sciences (SMHS), saw that need for a textbook on spirituality and health care and filled it. Her new publication, *Oxford Textbook of Spirituality in Healthcare*, is the first comprehensive reference text to examine the growing area of study.

The book is poised to become the authoritative reference on this focus, providing unequaled coverage, critical depth, and an integrated source of key topics. Divided into six sections including practice, research, policy, and training, the book brings together international contributions from scholars in the field to provide a unique and stimulating resource.

Throughout her career, Puchalski has contributed groundbreaking work in the clinical, academic, and pastoral understanding of spiritual care as an essential element of health care. In 2009 she received the George Washington University Distinguished Alumni Award, and in 2011 the Outstanding Colleague Award



from the National Association of Catholic Chaplains. She is a fellow of the American College of Physicians and is also a member of the contemplative lay Carmelite community. ■

Examining Infections in HIV Patients

Imtiaz A. Khan, M.D., professor of microbiology, immunology, and tropical medicine, received a grant from the NIH and the National Institute of Allergy and Infectious Diseases to study the effects of microsporidia – opportunistic inter-cellular pathogens – that cause morbidity and mortality in HIV patients.

His project, titled "CD8+ T Cell Effectors Against Microsporidia," will study how to prevent microsporidia from causing complications in immuno-compromised subjects by regulating CD8+ T cells. Khan hopes to use his grant to find a way to detect agents that will generate an immune response against these pathogens, improving the mortality and quality of life of many HIV patients. ■

An Eye Toward Ending Corneal Erosion

Mary Ann Stepp, Ph.D., professor of anatomy and regenerative biology and of ophthalmology, received a \$2.25 million RO1 renewal from the National Institutes of Health for her longstanding research project, titled "Molecular Mechanisms of Corneal Recurrent Erosion Formation."

Corneal erosions can develop after ocular trauma and chronic inflammation of the eye surface interferes with the quality of life and productivity of millions of Americans. Corneal surface injuries are painful and expose the eye to infectious micro-organisms that can destroy vision. By characterizing immune-system proteins and the cells that prevent corneal wound healing, as well as those that promote resolution, Stepp and her team hope to gain the insight needed to improve the quality of life for those suffering from these conditions. ■

Gordin a Shepherd of Science

Fred Gordin, M.D., professor of medicine at the GW School of Medicine and Health Sciences (SMHS) and chief of infectious diseases and Medical Center epidemiologist at the Veterans Affairs Medical Center, Washington, D.C., received a 2012 Charles C. Shepard Science Award in the Prevention and Control category for his December 2011 *New England Journal of Medicine* article titled “Three Months of Rifapentine and Isoniazid for Latent Tuberculosis Infection.”

The article was based on research by the Centers for Disease Control’s TB Trials Consortium PREVENT TB Study

Team, and focused on the treatment of latent *Mycobacterium tuberculosis* infection. The current standard involves a nine-month treatment with isoniazid. Though it is effective, the medication is hampered by toxicity and low rates of treatment completion. Gordin and his 13 co-authors determined that using rifapentine in conjunction with isoniazid for a three-month period was as effective as using nine months of isoniazid alone in preventing tuberculosis and had a higher treatment-completion rate.

The award was presented during the annual Charles C. Shepard Science Awards ceremony June 27, 2012. ■

Carol Smith, Retires after 31 Years as Coordinator of Clinical Laboratory Science Program



In the fall of 1981, fresh from Virginia Commonwealth University, where she earned a Master of Science in Medical Technology degree, Carol Smith joined the faculty of the George Washington University School of Medicine and Health Sciences (SMHS) as the education coordinator of the Clinical Laboratory Science program. In addition to teaching a variety of courses, Smith has overseen the program’s daily operation for the past 31 years. With her retirement at the end of June, SMHS said goodbye to a stalwart faculty member who will be remembered as much for her conscientious nature as for her ability to connect with students.

“It’s difficult to imagine what this program would have been like without her as my partner,” says Sylvia Silver, D.A., director of the Clinical Laboratory Science program and professor of pathology and medicine, who calls Smith a hardworking individual with an easygoing teaching style.

Smith says that her first love has always been teaching – as indicated by her repertoire, which included courses in laboratory operations, urinalysis and body fluids, clinical chemistry, hematology, immunology, immunohematology, and clinical laboratory management. But she also recognized the importance of administrative tasks that kept the program running smoothly and stepped into that aspect of the coordinator role as Silver became more involved with research and the duties of her associate deanship.

In the fall 2012 semester, Smith continued to teach a pair of online courses, but looks forward to having more time to spend with friends and family. ■

Dominic Raj, M.D., Nominated to Prestigious NIH Integrated Review Group

Dominic Raj, M.D., professor of medicine, of epidemiology and biostatistics, and of biochemistry and molecular medicine at the George Washington University School of Medicine and Health Sciences (SMHS) and director of the Division of Renal Disease and Hypertension at the GW Medical Faculty Associates, has been nominated to be a standing member of the Clinical and Integrative Cardiovascular Sciences Study Section (CICS), a subcommittee of the Cardiovascular and Respiratory Sciences Integrated Review Group of the National Institutes of Health (NIH) Center for Scientific Review.

The 19-member study section is responsible for reviewing grant applications for patient-oriented research involving the cardiovascular system and related regulatory organ systems. Raj's main goal for his four-year term, which began

in June, is to ensure that kidney disease is integrated with the study of cardiovascular disease. "Kidney disease used to be a disease of the minority, but with the epidemic of obesity and diabetes, it is affecting the affluent as well," he says. "A lot of people focus on cardiovascular disease, but they do not realize that even a small decrease in kidney function is the strongest risk factor for cardiovascular disease."

Raj, whose own research on inflammation and cardiovascular disease in patients with chronic kidney disease has been funded by NIH, sees his nomination as recognition of GW as much as of himself. He stresses the value of the collaborations that GW fosters between renowned institutions and says it is "intimidating, but exhilarating" to work with physicians and researchers of such high caliber. "That's what makes the hard work worth it," he says. ■

Alexander Named to Head Top-Ranked Physician Assistant Program



The GW School of Medicine and Health Sciences (SMHS) selected Lisa Alexander, Ed.D., M.P.H., PA '79, to serve as the program director for the GW physician assistant (PA) program, one of the nation's leading PA programs, according to *U.S. News and World Report*.

Alexander has served in many leadership roles

within the school and PA program since joining GW in 1982. Her dedication to SMHS and to the field has had a major influence on the evolution of GW's PA program and the innovation of its curriculum. Alexander served as the director of the PA program from 1989 to 1997. This was followed by other leadership roles, including serving as director of

the GW/PA Distance Education program and director of the GW/D.C. Area Health Education Center. Outside GW, she has served as a consultant for International Relief and Development, Inc., and was a Fulbright senior specialist for the U.S. Department of State.

"For the past 30 years, Dr. Alexander has been a leader in the PA program as well as across the medicine and health sciences spectrum at GW. She is revered by her students and respected by the vast GW community," said Jeffrey S. Akman, M.D., interim vice president for Health Affairs and dean of the School of Medicine and Health Sciences. "She is the right person to lead and enhance the PA program in the years ahead."

Currently, Alexander also serves as assistant dean for community-based partnerships and interim chair of the Department of Physician Assistant Studies. She will retain these responsibilities, in addition to her new role as director.

To learn more about the GW Physician Assistant program, visit smhs.gwu.edu/pa ■

Identifying the Origins of Disorders of Cortical Connectivity

For the past nine years, Anthony-Samuel LaMantia, Ph.D., professor of pharmacology and physiology, has been investigating how behavioral disorders such as schizophrenia, autism, and attention deficit hyperactivity disorder (ADHD) arise during early brain development. The latest installment of his 10-year RO1 grant from the NIH and the Eunice Kennedy Shriver National Institute of Child Health & Human Development for his project, titled "Regulation of 22q11 Genes in Embryonic and Adult Forebrain," will allow him to further his exploration into pre-frontal cortex and

what he calls disorders of cortical connectivity.

Using animal models, LaMantia will study whether genetic mutations during the early development of the forebrain – the part of the brain that mediates learning, memory, language, and social interaction – create vulnerability for autism, schizophrenia, and related disorders. He hopes that by discovering more about these mutations, more specific physiological interventions may be developed to adjust deficiencies of those living with these behavioral disorders. ■

GW Professor Receives Grant to Study the Role of Genes in Drug Addiction



Norman H. Lee, Ph.D., professor of pharmacology at the George Washington University School of Medicine and Health Sciences (SMHS), received a \$405,001 grant from the National Institute on Drug Abuse (NIDA) to continue to study the correlation between genetics and susceptibility to drug abuse. The award will fund Lee's continuing investigation into drug addiction, titled "Conditional Dicer1 Manipulation to Study miRNA Involvement in Opioids Addiction," for the next two years.

Lee will act as co-principal investigator of the grant, using his expertise in genomics to collaborate with Gregory Elmer, Ph.D., behavioral geneticist at the University of Maryland School of Medicine. Their research will focus primarily on morphine addiction in mouse models. In previous research, the researchers placed mice in a self-administration chamber and taught them to press a lever a certain number of times to receive an injection of morphine, which stimulates the reward center of the brain. Whereas one group of mice eventually stopped pressing the lever, another group continued to work harder and pressed the lever many more times in order to receive an injection of morphine. They found that in this group of mice, there was a significant change in the expression of genes involved in the architecture of neurons in the brain, leading this group to abuse the drug.

"We are asking the question, 'What is it about the brain in certain individuals that's changing and leading them to become more susceptible to abusing drugs,

despite the adverse consequences?'" says Lee.

The researchers discovered that the changes occurring in the brain are due in large part to an enzyme called Dicer being turned on. This enzyme then turns on the expression of small RNA molecules, called micro-RNA (miRNA), which are important for gene regulation. The miRNAs in turn dampen or turn off genes, which Lee believes leads the mice to continue to self-administer and abuse morphine. With this grant, the researchers will be able to determine which genes the miRNAs are dampening or turning off and which are important for drug addiction.

By combining their expertise, Lee and Elmer hope to find a way to therapeutically target the genes being turned off in an effort to treat drug addiction.

Lee's grant application was chosen during a review process at NIDA, part of the National Institutes of Health. ■



Assad Meymandi, M.D. '62, Ph.D.

Photograph by James Clark

Humanism and the House of Meymandi

BY STEVE GOLDSTEIN

Gleaming copper platters, laden with steaming rice and succulent lamb, form a vision in Assad Meymandi's mind. It takes him back to his childhood as the youngest of nine children living in a large house built by his grandfather in the ancient Iranian city of Kerman. His mother, Kobra, called Janbibi (Lady of the World) by everyone who knew her, would bring the huge copper trays buckling under the weight of the food into the home's vast courtyard, where the poor of the village were waiting. They would eat well at the House of Meymandi.

"There were a lot of hungry mouths who would come around, and they were fed," recalls Assad Meymandi, M.D. '62, Ph.D. "There was no middle class, so it was up to the people of means to take care of those who were not. My mother taught us that if you had it, you shared it, and it was your responsibility. We were fortunate to be able to share."

The house, fittingly, now serves as an orphanage, home to more than 50 children. And it is where the life's work of Meymandi—psychiatrist, philanthropist, polymath, humanist—was born.

Meymandi, a Distinguished Life Fellow with the American Psychiatric Association, was inducted into the Raleigh (N.C.)

Hall of Fame Oct. 1. The state has hardly seen his equal as a philanthropist. He has endowed a professorship in psychiatry at the University of North Carolina, a fellowship at the National Humanities Center, and a nursing scholarship at Cumberland Community College in Fayetteville in honor of his late wife, Patricia. His \$2 million gift built the 1,700-seat Meymandi Concert Hall in Raleigh named in honor of his mother, and he gave another \$2.5 million to the North Carolina Museum of Art to establish the Meymandi Exhibition Gallery after his poet and philosopher father, Farajollah Meymandi.

Meymandi came to the United States in 1955 at age 20 to study biochemistry at Arizona State University. When he enrolled at GW he was prepared for a career in surgery, but began frequenting lectures by Winfred Overholser, M.D., the chair of the psychiatry department, who had once treated poet Ezra Pound. Meymandi was enthralled.

“Surgery kind of limited me, I felt,” Meymandi recalls. “It left me unfulfilled, as if I was not maximizing my abilities. Psychiatry gave me the opposite feeling. For me, it was the opportunity to be all I could be, to meet my maximum potential.”

The years in Foggy Bottom resonate. “It was a great learning experience: being scared, being gratified,” Meymandi says. “It was four years of delight, really; I treasure every moment of the time I spent there. Even as a youngster in medical school I was most impressed by the abundance of brainpower and clinical experiences that were available to us through other institutions like the National Institutes of Health, and all the adjunct professors who would come and enrich the landscape of our curriculum. I think many of those people had a great influence on me, my way of thinking, my professional conduct, and ultimately the germs of altruism, which I inherited through my parents. GW helped shape those.”

“Surgery kind of limited me, I felt. It left me unfulfilled, as if I was not maximizing my abilities. Psychiatry gave me the opposite feeling.”

While in medical school, Meymandi took some biochemistry courses at Duke University. Landing at Raleigh-Durham International Airport, a mere hangar building in those days, Meymandi spotted a sign featuring the state motto, *Esse Quam Videri*, “to be rather than to seem.” The message struck him as profound. He returned to Raleigh for his residency at Dorothea Dix Hospital and never left.

Meymandi doesn’t speak about his acquisition of wealth, other than to say it wasn’t attained through his practice of

medicine, but rather through some sound business investments. Yet he is free with his ideas for distributing largesse. “Philanthropy is really an attitude and a lifestyle,” he declares. “You don’t have to have millions to be a philanthropist. It’s the spirit of giving, of compassion, and I really believe it goes along with medicine, which I regard as a kind of priesthood. It’s a calling, an attitude of being compassionate and making a difference in others’ lives.”

Asking him to pick a favorite philanthropic endeavor is a bit like asking him to choose among his four children (his daughter Sheba, a cardiologist, graduated from the GW School of Medicine and Health Sciences [SMHS] in 1988). But he admits to a special affection for the National Humanities Center. Geoff Harpham, Ph.D., director of the center, which is located in Research Triangle Park, says the Meymandi fellowship “has been extraordinarily valuable to us, enabling us to bring to the center people such as Steven Pinker, Stephen Greenblatt, Wole Soyinka, Frans de Waal, Martha Nussbaum, Oliver Sacks, and E.O. Wilson.” Meymandi adds that the center is “a pulsating edifice of intellectual fervor. This is what nourishes my intellectual curiosity.”

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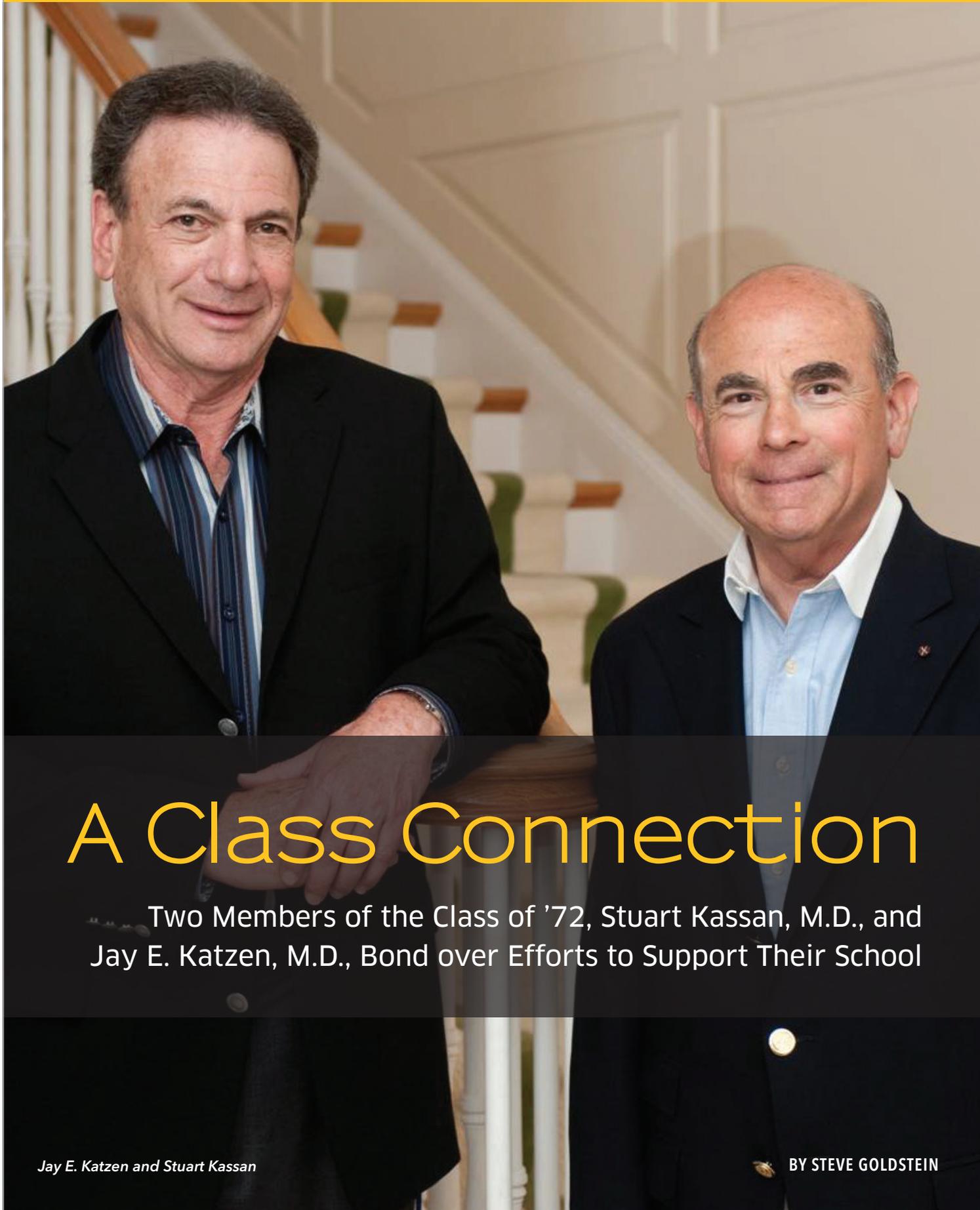


What factors enter into a decision to make a gift? “The most important thing for me is to bridge the gap between basic sciences and the humanities and the arts,” Meymandi says. “I see so many humanists who don’t know anything about science and so many scientists who know nothing about the humanities. I want to marry sciences with arts and humanities. This is the bottom line; this is what turns me on.”

When Jeffrey S. Akman, M.D. ’81, interim vice president for health affairs and dean of SMHS, invited Meymandi to lecture as part of a new visiting scholars program early in 2012, Meymandi recalls being flattered. Asked what course he might add to the school’s curriculum, he carefully ponders the kind of intellectual ferment he’d most like to stimulate.

“If I could add one course, it would be on what it means to be human,” Meymandi finally says. “It would be designed to explore who we are, how to reach our potential, and what we owe to this world.”

That is a lesson he learned early, delivered on a gleaming copper platter. ■



A Class Connection

Two Members of the Class of '72, Stuart Kassan, M.D., and Jay E. Katzen, M.D., Bond over Efforts to Support Their School

Jay E. Katzen and Stuart Kassan

BY STEVE GOLDSTEIN

In 1972, the Watergate scandal consumed Washington, eventually leading to the resignation of President Richard M. Nixon. That same year, Jay E. Katzen and Stuart Kassan earned their medical degrees from the George Washington University School of Medicine and Health Sciences (SMHS).

Although Kassan and Katzen were little more than classmates back then, their lives would soon become intertwined through alumni efforts they undertook for the school. And both were set on their career paths by the chance to take outside electives while at GW.

Today the two are good friends who see each other surprisingly often, especially when you consider that Katzen practices ophthalmology in Alexandria, Va., and Kassan, a rheumatologist, lives in Denver. They each serve on the University's board of trustees. The pair will play key roles in the University's comprehensive campaign, which is in a planning/assessment phase with a tentative public launch in about two years.

Despite their roll-call alphabetical proximity, Kassan and Katzen took different roads to their current leadership positions in the GW community.

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Kassan grew up in Westchester County in New York and earned his B.A. from Case Western Reserve University. He had family ties to GW; his father, the late Robert J. Kassan, graduated from the School of Medicine. Like his father, Kassan eventually went into rheumatology, but it wasn't until he reached Foggy Bottom that Kassan chose his specialty.

"Immunology was exploding around that time and scientific interest was increasing while I was in med school," Kassan recalls. "It was a very attractive area of study for me, and some of the best and brightest minds were going into immunology."

In the spring of 1972, Kassan was selected for an elective in immunology at the Clinical Center of the National Institutes of Health, a few miles away in Bethesda, Md. "My being a student at GW certainly [gave me] a leg up in being chosen for this honor as a result of GW's relationship with the NIH scientists," he says.

Kassan returned to do research at NIH after completing an internship and residency at Emory University. During a 1976–78 fellowship in rheumatic diseases at Cornell University, Kassan published a seminal paper on the treatment of

Sjogren's Syndrome, a complex rheumatic disease that typically affects multiple areas of the body. He moved to Colorado when he was offered an academic position to complement his private practice. He is the chief medical officer with RV Infusion Partners and has served as a clinical professor of medicine at the University of Colorado Health Sciences Center since 1994.

Katzen is a local boy who earned his B.A. from GW and then applied to the medical school. "It wasn't easy financially at the time, so it was better for me to go to a good local college that had a medical school," he explains. As a result of some summer research he did with a local ophthalmologist after he graduated from college, Katzen chose his specialization. "I liked both the medical and surgical aspects of ophthalmology," he says.

A fortunate turn of events occurred in Katzen's senior year when he was selected for an elective course with the renowned Lorenz Zimmerman, M.D., then head of ophthalmic pathology at the Armed Forces Institute of Pathology on the campus of Walter Reed Army Medical Center. "It was a tremendous opportunity and I really learned eye pathology," Katzen recalls. "I got to know Dr. Zimmerman, and his letters of recommendation helped me get my residency at the University Hospital in Baltimore. It was very hard to get a residency in ophthalmology, so being in D.C. really helped me."

Katzen has been in private medical practice since 1976, and is currently an ophthalmologist at the Eye Center in Alexandria. Meanwhile, Katzen's father, Cyrus, a dentist, had gotten into the real estate business and brokered important deals in the development of Tysons Corner and Crystal City. The elder Katzen gave \$10 million to GW to establish the Dr. Cyrus and Myrtle Katzen Cancer Research Center in honor of his first wife, Sylvia, who was treated for cancer at GW and died in 1980. The Katzens are perhaps the largest legacy family in GW history. Six members of the family have attended GW, including four who earned medical degrees.

Now Katzen spends 30 percent of his time treating patients and 70 percent managing the real estate interests left to him by his late-father. When he isn't working, he's following an interest in cosmology, which led him to a treasured meeting at GW with theoretical physicist Stephen Hawking.

Katzen and Kassan see each other regularly at the quarterly trustees meetings and at the summer retreat. Last June, the retreat was held in Williamsburg, Va. "Our wives made crab cakes together," says Katzen. They will likely link up again in November in D.C. when Kassan is inducted as a master in the American College of Rheumatology.

And then, of course, there's the Class of '72 scholarship campaign to run. ■

Affirming the Association

Annual Alumni Weekend Enables GW Medical Alumni to Reconnect with Classmates and the School that Shaped Their Careers

More than 300 GW medical alumni and guests, faculty, and staff were on hand for this year's School of Medicine and Health Sciences (SMHS) Alumni Weekend. In addition to the traditional slate of activities, this year's events included a contingent of medical school alumni who were inducted into a new society geared toward the school's most senior alumni.

The weekend opened Sept. 20, with the University's Distinguished Alumni Awards Ceremony. Distinguished Clinical Professor of Medicine at the University of Colorado Medical School Paul D. Miller, M.D. '70, M.S. '66, was among six GW graduates to receive 76th annual GW Alumni Achievement Awards.

The following day, former classmates reminisced about the "good old days" at GW, as SMHS honored the Class of '62 on their 50th reunion at a special luncheon at the Fairmont

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Hotel. Alumni toasted their golden-anniversary, shared their most memorable experiences from medical school, and marveled at the evolution of SMHS. "So much has changed at GW's medical school since I went to school here," said Richard Roberge, M.D. '62. "It's like comparing the Revolutionary War to World War II."

Jeffrey S. Akman, M.D. '81, G.M.E. '85, interim vice president for health affairs and dean of SMHS, welcomed the alumni and thanked them for their continued commitment to the GW medical community. The luncheon also served as the induction ceremony for the new H Street Society – a group named after the medical school's home prior to 1973, at 1335 H Street, N.W., and designed to offer older alumni a next step in their association with GW.



Addressing current medical students, alumni, faculty, and staff, John C. Pan, M.D. '70, G.M.E. '74, executive director and founder of GW's Center for Integrative Medicine, delivered the fourth annual Allan B. Weingold Lecture, titled "Integrative Medicine, Now and Beyond." He recalled his personal journey with integrative medicine, which began in 1998 when he took a bold step and left an established career as a gynecologist to practice integrative medicine. Pan defined the principles of integrative medicine, which focuses on whole-patient care and uses complementary and alternative therapeutics to achieve and maintain a healthy lifestyle. "You want to treat the patient who has a headache and not just treat the headache. That is what integrative medicine is all about," he said.

The weekend also served as the backdrop for the first annual Frank N. Miller Lecture, honoring one of the school's most influential faculty members. A panel of GW experts – moderated by Alan G. Wasserman, M.D., chair of the department of medicine and Eugene Meyer professor of medicine at SMHS – addressed the future of medicine. Panelists Ramesh Mazahri, M.D., assistant professor of medicine; Robert Zeman, M.D., professor of radiology; and Khashayar Vaziri, M.D., assistant professor of surgery, discussed the influence of innovation in medicine such as robotics as well as new frontiers in the exploration of cardiac catheterization and valve replacement, new technology in coronary computed tomography angiography, and advances in minimally invasive surgery. ■



Turning 40 Brings Physician Assistant Alumni Back to Celebrate Program's Sustained Success

GW School of Medicine and Health Sciences (SMHS) Physician Assistant alumni, many of whom were from the university's 1972 inaugural class, returned to campus in September during GW's annual reunion weekend to celebrate the program's 40th anniversary. The festivities highlighted the important strides that have been made in the PA field, and the important role that the GW PA program played in the evolution of the growing profession. It was also a great time for alumni to reconnect and for students to meet those who cut the path for the development of their future profession.

The weekend celebration opened with a keynote address by FitzHugh Mullan, M.D., professor of health policy in the School of Public Health and Health Services, and professor of pediatrics in the SMHS. Mullan regaled alumni and guests with a storied history of health professions that have grown from moments of need, including the inception of PAs into the health care arena.

The United States ranks among the top 50 nations in the world in terms of physicians per capita, yet that pool of physicians is insufficient to meet the primary care needs of all Americans by 2014, when the Affordable Care Act reaches full implementation. According to Mullan, non-physician clinicians will have to play a larger part in America's health care system in order to address the health care challenges that lie ahead. "The answer to the demand for health care is non-physician clinicians — Physician Assistants are the answer," said Mullan. He closed his remarks with a message for the PA students who were present, saying, "PAs have a bright future. Your patients are out there waiting for you."

To celebrate GW's role in the development of the PA profession, the program hosted the panel discussion, "Looking

Back: GW's Contribution to the PA Profession," highlighting many of the important people and moments from the past 40 years of the GW PA program. The panel, moderated by Bob McNellis, M.P.H. '91, PA, vice president of science and public health, American Academy of Physician Assistants, and featuring Thomas Piemme, M.D.; Mike McCally, M.D., Ph.D.; Tom Harward, PA-C; Lisa Alexander, Ed.D., PA-C; and Nicole Burwell, PA, discussed the growth and influence of the GW PA Program as well as current challenges including workforce issues, emerging roles for PAs, new educational models, and growth of international programs.

Following the panel, Joseph Bocchino, Ed.D., M.B.A., interim senior associate dean of Health Sciences, and Lisa Mustone Alexander, Ed.D., M.P.H., PA-C, director of GW's PA program, presented G. Thomas Harward, PA-C '76, with the first GW PA Program Public Service Award, for his years of service to his patients and to all West Virginia PAs. Harward, who is an advocate for the PA profession, has served as the sole medical provider in the rural town of Belington, W.Va. for more than 35 years. The town of 2,000 residents faced tremendous health care needs in the mid-1970s, so upon graduating from GW, Harward moved to this rural community where he has spent his entire professional career caring for its citizens.

The weekend concluded with a 40th anniversary celebratory dinner, where Jules Cahan, M.D. '53, B.A. '49, had the unique distinction of becoming the inaugural recipient of an award named in his honor, the "Dr. Jules Cahan Distinguished Teaching Award." GW established the award to honor the two-time alumnus who was granted professor emeritus status during university commencement ceremonies in 2012, in recognition of Cahan's 30 years of unwavering support for GW's PA students. ■

CLASS NOTES

1940s

LUTHER W. BRADY, M.D. '48,

Distinguished University Professor, Department of Radiation Oncology, Drexel University College of Medicine, recently received the G. Fred DiBona Jr. Individual Leadership Award from the Arts and Business Council of Philadelphia for his broad and visionary support of the region's arts and cultural organizations.

1960s

GEORGE L. LUCAS, M.D. '61,

has been appointed interim program director of Orthopaedic Surgery at the University of Kansas at Wichita, and also appointed to the ethics committee of the American Academy of Orthopaedic Surgeons.

ROBERT L. SAMPSON, M.D. '67, retired from his position as chief surgical services at the Maine VA Health Care Services on March 31, 2012.

1970s

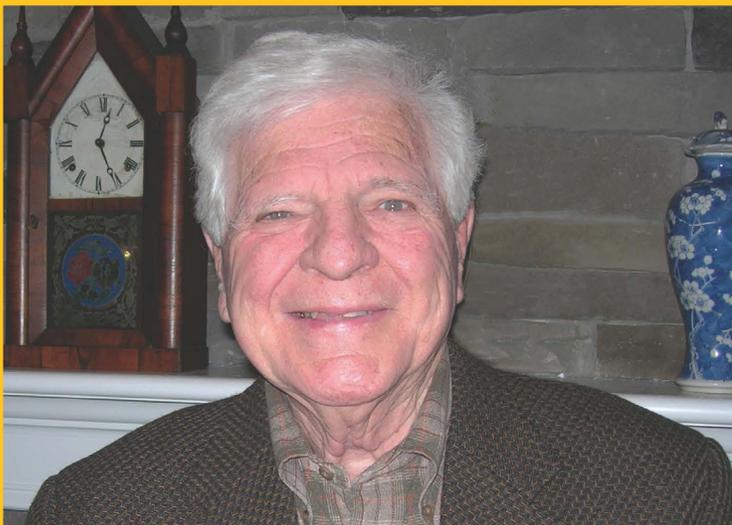
ROBERT C. BRANSFIELD, M.D. '72, was recently appointed president of the New Jersey Psychiatric Association and president of the International Lyme and Associated Diseases Education Foundation. He also presented "Can Infections and Immune Reactions to them Cause Violence?" at the 11th Psychoimmunology Expert Meeting in Gunzburg, Germany, in March 2012.

TERRY GARFINKLE, M.D. '77, was named vice president of medical affairs at St. Elizabeth's Medical Center, Boston, Mass. He previously served as medical director at the Mass General/North Shore Center for Outpatient Care in Danvers, Mass., and chief of head and neck surgery at North Shore Medical Center in Salem, Mass.

1980s

JOSEPH A. ALOI, M.D. '88, has been appointed chief of the division of endocrinology and metabolism and was recently awarded the Dr. Paul Florentino Volunteerism Award from the Virginia Chapter of the American College of Physicians.

MARY FRANCES CAMPAGNOLO, M.D. '82, B.S. '78, has been appointed president-elect of the Medical Society of New Jersey.



“ As I enjoy retirement, I continue to reflect on GW—the place where it all started. Through my estate planning, I’m doing my part to ensure that the dream I lived can be realized by others in the future.”

— George Ellis, MD '56

Dr. Ellis is supporting School of Medicine & Health Sciences with a gift of \$100,000 through his IRA. His estate will receive a significant tax deduction and GW will receive the designated portion of his IRA tax-free.

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DAR1039

JORGE L. CAMPANA, M.D., G.M.E. '84, completed his term as past president of the Northern Virginia Academy of Ophthalmology, and serves as a diplomate of the American Board of Ophthalmology, and clinical instructor in Ophthalmology at the Georgetown University Center for Sight.

JOHN F. THOMPSON III, A.S. '83, received his Doctor of Divinity (hon.) from International Seminary in Plymouth, Fla., in March 2012. He also is the founding president of the Apopka Pregnancy Care Center in Apopka, Fla.

ANNE KAZUE YANAGI, M.D. '85, was named a Woman of Distinction in the Northern Colorado Business Report, 2011.

1990s

LORENZ EVANS, CERT. '98, was elected to the Board of Governors as an associate member of Shriners Hospital for Children – Chicago.

RITU NAYAR, M.D. '96, professor of pathology and director of cytopathology, was appointed president of the American Society of Cytopathology and will serve from 2013 to 2014.

2000s

RACHEL M. BROWN, M.S. '11, joined the Rhode Island Hospital Emergency Department in April 2012.

MICHAEL RICHARD CANOS, M.D. '03, M.P.H. '98, M.SC., FACE, was named medical director of the University of Cincinnati – UC Health Diabetes Center in January 2012. He is also an assistant professor of Clinical Medicine at the University of Cincinnati College of Medicine.

NATALIE M. CURCIO, M.D., G.M.E. '05, M.P.H., a board-certified dermatologist, completed a fellowship in Dermatologic Cosmetic Surgery and Laser Surgery with Richard Glogau, M.D., at the University of California at San Francisco, and a fellowship in Procedural Dermatology/Mohs Surgery with Gary Monheit, M.D., in Birmingham, Ala. She will be joining the practice of Andrew Kaufman, M.D., in Thousand Oaks, Calif.

JASON GOLDBER, M.D. '10, was recently accepted to the Pediatric Cardiology fellowship at Baylor College of Medicine/Texas Children's Hospital.

NEHAL N. MEHTA, M.D. '01, director of the Inflammatory Risk Clinic at the University of Pennsylvania Perelman School of Medicine, has been appointed Lasker Clinical Research Scholar and head of the inflammation and cardiometabolic diseases laboratory, in the National Heart, Lung, and Blood Institute's cardiovascular and pulmonary branch at the National Institutes of Health.

PAMELA M. MCDANIEL, M.S. '08, launched the website www.reliableresearchresults.com, offering online continuing education to nurses and clinical research professionals.

ANTHONY FRANCESCO ORLANDO, P.A. '04, M.P.H., was recently appointed vice president of the New Jersey State Society of Physician Assistants.

MICHAEL C. TOUCHSTONE, B.S. '07, was recently accepted into the Naval Postgraduate School Center for Homeland Defense and Security's Master of Arts degree program in Homeland Defense and Security for the Spring 2012 cohort.

In Memoriam

George Washington University School of Medicine and Health Sciences (SMHS) Professor Emeritus of Neurological Surgery **NORMAN HORWITZ, M.D.**, died Oct. 2 at his home in Chevy Chase, Md. of complications from Parkinson's disease. He was 87.

During a career spanning five decades, Horwitz trained generations of neurosurgical residents through his affiliations with GW and MedStar Washington Hospital Center.

He was noted for his role on the surgical team that removed an explosive bullet from the neck of Officer Thomas Delahanty, who was shot while escorting President Ronald Reagan from the Washington Hilton Hotel during the 1981 assassination attempt.

His father, Alec Horwitz, was a former member of the GW Hospital surgical staff, and his mother, Jean Himmelfarb, was a prominent Washington lawyer.

Horwitz graduated from Woodrow Wilson High School in the District in 1942. He completed his undergraduate degree at Princeton in just two years and graduated from Columbia University College of Physicians and Surgeons in 1948.

He was a post-graduate research fellow in neurophysiology at Yale University. During the Korean War, Horowitz served in the neurosurgical unit at Lackland Air Force Base in San Antonio, Texas.

In 1956 he came to Washington, D.C. to start his private practice and accept a faculty appointment at SMHS. Horowitz served as an attending neurosurgeon at GW Hospital until his retirement in 1995, when he also retired as chair of neurosurgery at MedStar Washington Hospital Center.

Survivors include his wife of 62 years, Elinor Lander Horwitz; sister, Annetta Kushner; three children, Erica Horwitz, Joshua Horwitz, and author and Pulitzer Prize-winning journalist Tony Horwitz; and seven grandchildren.

In Memoriam

STEPHEN ROSENBLUM, M.D., professor emeritus of psychiatry and behavioral science, died Oct. 13 following a long battle with Waldenström's macroglobulinemia and a pulmonary lymphoma.

"Stephen was the backbone of the psychotherapy training program for our psychiatry residency," said James L. Griffith, M.D., professor of psychiatry and behavioral science, and of neurology, and interim chair and director of the psychiatry residency program. "He was the role model for many residents who witnessed both his psychoanalytic rigor and his profound kindness."

Rosenblum joined the GW School of Medicine and Health Sciences (SMHS) clinical faculty 1974, and served as coordinator of psychotherapy training for more than three decades. He was instrumental in developing a formal affiliation between the Washington Psychoanalytic Institute and GW's psychiatry and behavioral science department.

He earned his medical degree in 1967 from Columbia University College of Physicians and Surgeons, and, following a residency at the New York State Psychiatric Institute of Columbia University, Rosenblum completed psychoanalytic training at the Washington Psychoanalytic Institute. From 1971–73, Rosenblum served as a major in the United States Army and was Chief of the Outpatient Services at Fitzsimmons General Hospital, where he earned a Medal of Commendation. As a distinguished leader in the Washington psychoanalytic community, he served as president of the Washington Psychoanalytic Institute and received the prestigious Edith Sabshin Teaching Award from the American Psychoanalytic Association.

"Stephen Rosenblum was a talented and caring teacher; he served as one of the pillars of the Department of Psychiatry and Behavioral Science," recalled Jeffrey S. Akman, M.D. '81, G.M.E. '85, interim vice president for health affairs and dean, SMHS. "Psychotherapy training is frequently listed by resident applicants as the most important reason they chose to come to SMHS, and Dr. Rosenblum's leadership was a vital contribution toward the university's ability to offer such outstanding psychodynamic psychotherapy training to its residents."

In Memoriam

Alumni

HUGH W. IREY, M.D. '39
HARRY C. BATES JR., M.D. '43
FRANCES S. BARNES, M.D. '45
ANNE R. COOK, M.D. '46
WILLIAM E. CRISP JR., M.D. '49
WILLIAM M. HARDY, M.D. '49
JOHN MARSHALL MCCOY, M.D., G.M.E. '50
JULIUS S. PIVER, M.D. '52
ROBERT M. DELIMAN, M.D. '53
DAVID K. GINSBERG, M.D. '54
FREDERICK HENRY KUITEMS, M.D. '54
ROBERT F. DYER, M.D. '55
JOSEPH A. IONNO, M.D. '55
JAMES C. KIRBY JR., M.D. '55
MARIE A. HANACHE, M.D. '57
LOWELL R. DAINES, M.D. '58
PAUL YEN, M.D. '59
JOHN J. FREEMAN, B.S. '63
BRUCE ALLEN BERGHERM, M.D., G.M.E. '66
VERLA W. ROBBINS, M.D., G.M.E. '67
JULIAN M. LOUBE, M.D. '72
JOSEPH PAUL MCCORMICK, M.D. '74
DAVID E. CLAYDON, A.S. '76
WAYNE M. LEDNAR, M.D. '79
EMILY K. WHYNOT, PA '96
DENIZ F. BASTUG, M.D., G.M.E. '98
MONA K. KANDA, M.D. '05

In Memoriam

RANDI VEIE ROSVOLL, M.D. '57, died Aug. 19, 2012 at her home in Atlanta, Ga.

Born in Trondheim, Norway in 1928, she and her parents, Margit b. Næss and Alv Veie Rosvoll, and brothers Bjørn, Tor, and Odd lived through WWII and the postwar era. In 1949, Rosvoll was invited by relatives to stay with them in Washington, D.C. where she could attend college. She completed her bachelor's degree at American University with distinction, earned her M.D. at GW's School of Medicine and Health Sciences, and went on to specialize in pathology.

Following her residency and internship, she was hired by Emory University in 1963 as a pathologist at Grady Memorial Hospital. She worked the remainder of her career for the Clinical Laboratories at Emory University Hospital.

She is survived by her brother, Odd Veie Rosvoll, and 19 nieces and nephews.

Establishing the Network, Renewing the Bonds

More than 300 alumni of GW's School of Medicine and Health Sciences (SMHS) converged on the Foggy Bottom campus for the 2012 Reunion Weekend. Over the course of three days in late September, we heard and shared many stories, including long-ago memories from medical school and the early days of the Physician Assistant program and more recent ones from professional experiences. Everyone spoke of the pride of working in the health care profession and of the role of GW in the formation of physicians and health professionals.

SMHS continues to be a major factor in academic medicine and in the formation of the next generation of health care professionals. SMHS continues to reaffirm its position as a powerhouse in educating and training the best and the brightest for their future careers. Nearly 15,000 students from across the country applied for a spot in the medical school's Class of 2016. Our health sciences programs are recognized leaders in physician assistant, physical therapy, and clinical research education.

Our work in reaching out to alumni and friends of the institution is intended to advance the networks among those connected to the GW health community and to strengthen the professional and personal bonds attached to the profiles of great institutions. The fall's Alumni Weekend once again



showed that association with GW SMHS does not end with commencement. We invite you to become more closely involved both here in Washington and around the country.

A handwritten signature in black ink that reads "Dennis Narango".

DENNIS NARANGO
ASSOCIATE DEAN, SMHS AND ASSOCIATE
VICE PRESIDENT OF GW MEDICINE
DEVELOPMENT AND ALUMNI RELATIONS

School of Medicine & Health Sciences

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The Transformational Effects of Translational Science

As the Clinical and Translational Science Institute at Children's National reaches the halfway mark of its five-year National Institutes of Health-funded program, the partnership between the George Washington University and Children's National Medical Center is pulling together researchers from throughout the Washington, D.C. community to help speed the delivery of advancements in care to patients and the community. [Read more on page 20](#)