

EMORY | health

PATIENT CARE, RESEARCH, AND EDUCATION FROM
THE WOODRUFF HEALTH SCIENCES CENTER



Health services research has more than one answer for **reforming health care.** 2



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FROM THE EXECUTIVE VP



The goal of health services research is to mine through the mountains of available data to get better health outcomes at a lower price.

Mining health data

HEALTH SERVICES RESEARCH (HSR) IS ONE OF THE FASTEST GROWING RESEARCH AREAS HERE AT EMORY AND ACROSS THE COUNTRY. Its goal is to mine through the mountains of available data to get better health outcomes at a lower price. To do so, it cuts across disciplines ranging from economics and health policy to health delivery and education to consider a broad range of health issues, including chronic problems such as obesity and diabetes, as well as life-threatening cancers.

HSR studies at Emory number in the hundreds. To name just three, our researchers are analyzing Medicaid costs attributable to smoking during pregnancy and the cost-effectiveness of increased prenatal care. They are working to improve how biomedical research is conducted not only at Emory but also across the country. They also are developing and testing health biomarkers to predict disease and intervene early, using findings to develop personalized plans for optimal health.

A comprehensive listing of HSR studies at Emory and our

partners in the Southeast is available at hip.emory.edu.

In his editorial in this issue of *Emory Health*, Bill Bornstein makes an argument for more funding for and emphasis on HSR. Despite its focus on ensuring that patients receive evidence-based care reliably and safely, this area is dramatically underfunded nationally. As Dr. Bornstein points out, the White House FY2011 budget requested only \$611 million for health care delivery compared with \$32.2 billion for basic biomedical discoveries. Going forward, we will need both brilliant scientific discoveries and a better understanding of how to deliver those discoveries to patients in a cost-effective way. It will take both to reform our health system.

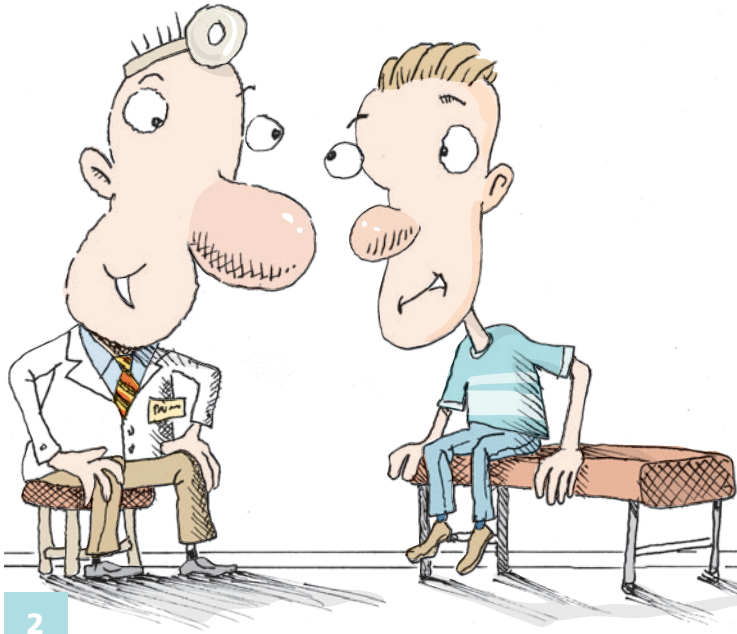
This idea of cross-pollination threads throughout all that we do in the Woodruff Health Sciences Center. In fact, it starts with our educational programs, where we are nurturing doctors, nurses, and other health care providers who not only are technically knowledgeable but also understand compassionate care. We want students to see that compassion goes well beyond simply sympathizing with a patient to using in-depth communication and active listening skills to understand what is really going on with that patient. And this compassionate care ultimately will lead to better patient outcomes and adherence to treatment regimens.

In closing, I'd like to take this opportunity to thank Thomas Lawley for his long service as dean of Emory's medical school. As one of the longest-serving medical deans in the country, Dr. Lawley will be leaving the deanship in August 2012, but fortunately for Emory, he will remain on our faculty. His leadership has helped make this academic medical center strong and positioned it as a place where compassion and science can come together for the greater good of our patients and our society.

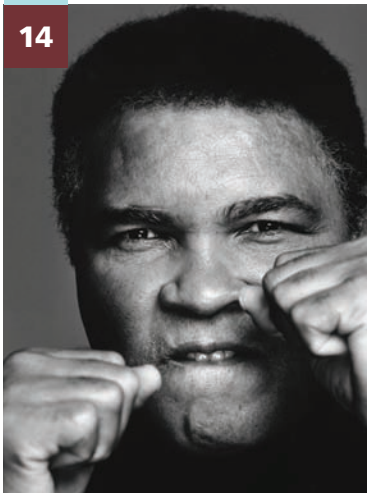
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“Some people reach 85 in very good physical and mental condition, while others have extensive cognitive and physical conditions by the age of 60, so a blanket approach to driving or not driving for seniors is not good.” —REBECCA DILLARD

What do you think? *Emory Health* welcomes your comments—pro or con—about topics and issues covered in this magazine. Please send comments, letters to the editor, address changes, and other correspondence to *Emory Health*, 1440 Clifton Road, 150M, Atlanta, GA 30322; email rhonda.mullen@emory.edu; or call 404-727-8166.

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"It was like the baseball movie, *Moneyball*," says Sweeney. "The economists threw out our preconceived notions and analyzed mountains of our data in whole new ways. They discovered things in mathematical trends that we couldn't see in any one patient."

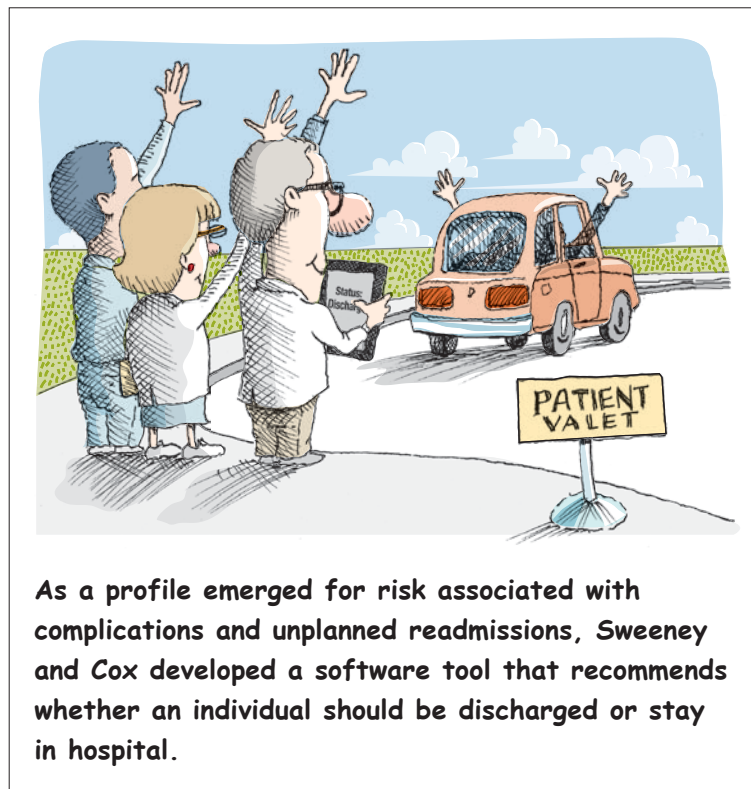
the quality card

The burgeoning area of health services research at Emory is tapping available decks of knowledge to get better health outcomes at lower costs.

By SYLVIA WROBEL • Illustrations by DON MORRIS

Traditional medical research develops a new drug, vaccine, treatment, or protocol, then tests whether it is effective. By contrast, health services research (HSR) looks at the broad picture of health outcomes,

delivery, policies, education, and practice. The basic HSR question is, *How can we craft real-world strategies that get the right care to the right people (including the most vulnerable) at the right time, and do it without breaking*



the bank? It combines clinical information with behavioral, cultural, economic, social, and other factors in health care processes and delivery systems. In an era of increasingly stringent cost

containment, this emphasis on the highest quality possible within a given amount of resources makes HSR one of the hottest, fastest-growing research areas not only at Emory but also in the nation.



Shaw's research analyzed data from more than 6,000 middle-aged and elderly men and women of diverse ethnicity from geographic regions across the United States.

WHAT WE KNOW ABOUT CARDIAC

SCREENING Cardiovascular disease (CVD) is the biggest cause of death worldwide, and it's a sneaky one. For most people, severe



Leslee Shaw

atherosclerotic plaque develops before any symptoms appear. For some, the first symptom is the heart attack that kills them. A number of tests are effective in detecting pre-symptomatic heart disease, but

routine testing beyond measures of blood pressure and cholesterol is currently not considered medically necessary and therefore not covered by Medicare or other payers.

Opponents of nationwide screening

worry that one test would lead to another, then another, creating needless anxiety and early, lifelong patterns of higher resource consumption. Put simply, the costs of screening asymptomatic individuals might well outweigh the benefits. Or not. Little meaningful information has existed on real-world resource consumption patterns and health care costs following CVD screening in people without symptoms. Until now.

It was a question made for Emory medicine professor Leslee Shaw, who co-directs the Emory Clinical Cardiovascular Research Institute. Funded by the National Heart, Lung, and Blood Institute, Shaw's research analyzed data from more than 6,000 middle-aged and elderly men and women of diverse ethnicity from geographic regions across the United States, who underwent different screening tests for CVD. (Like most HSR researchers, she seeks new information in the combination and re-analysis of pre-

existing studies, making HSR a funding bargain.)

First, Shaw looked at the cost and use of specific tests, projecting clinical outcomes and economic implications for screening all adults over 55. The test that provided the most information for the least amount of money was obvious, even if not what might have been expected, says Shaw. Inflammation has been getting much of the research buzz, recently. It accelerates atherosclerotic buildup, and several clinical trials have investigated the clinical benefit of statin drugs to reduce inflammation and thus risk. But as a one-time screening test, inflammation is problematic. Forty percent of adults have elevated inflammation, and levels can vary, temporarily rising, for instance, if one has a cold. Other non-cardiac specific tests, such as carotid artery thickness or peripheral artery blood pressure, also were less than optimal in identifying heart disease.

A simple coronary calcium scan proved to be the most effective in identifying cardiac risk in populations for the least amount of money. The scans look for calcifications (specks of calcium) in coronary artery walls, providing an early sign of plaque buildup and increased risk for heart disease over the next two to 10 years. The one-time, 10-minute test is relatively inexpensive, and it is noninvasive, requires no contrast dyes, and produces no more—and often less—radiation than annual environmental exposure.

Shaw's next action step is to present her findings to the U.S. Preventive Services Task Force, which sets the rules for what screening tests Medicare and other payers must cover.

LESSONS IN ECONOMICS

Kim Rask trained as an economist, first at her father's knee, then in college. As a medical student, she thought she'd put that expertise behind her. However, when she began practicing medicine, she saw economics everywhere—in barriers to access, decisions patients made about resource allocation, and how care was delivered, covered, and incentivized. She quickly realized that if she wanted to understand why she was getting specific



Kim Rask

results—and how she could improve them—then she had to understand all the cogs in an interlocking set of patients, physicians, structures, processes, and systems. She returned to

school for a doctorate in economics.

At Emory, Rask leads the Rollins School of Public Health’s Center for Health Outcomes and Quality. It tackles problems that extend across many areas, bringing together diverse

experts, many of whom Rask has recruited from across campus and beyond.

For Rask, “HSR is largely about improving the quality of health care by doing what we already know works. I spend a lot of time telling leaders what we know that can help them within the constraints of their world.”

For example, she currently advises the Alliance for a Healthier Generation, established by the American Heart Association and the William J. Clinton Foundation to reduce the nationwide prevalence of childhood obesity. An Alliance program offers obese children four sessions of physician-designed, insurance-covered nutrition counseling. Claims data suggested too few families took advantage of the service, and Rask’s team of multidisciplinary HSR

researchers examined the interlocking parts of the process to understand why. They discovered that although the counseling sessions were good, changes were needed in how sessions were promoted, how families enrolled and were pre-certified, the level of co-pays, and the training needed by staff responsible for coding the sessions for insurance purposes. After these changes were implemented, the program reported markedly improved outcomes.

On another front, Rask is working with Benjamin Druss, Rosalynn Carter Chair of Mental Health, to determine if having a mini-primary care clinic in a mental health facility will help patients get better medical care. They hope the approach can impact the dire statistic that people with severe mental



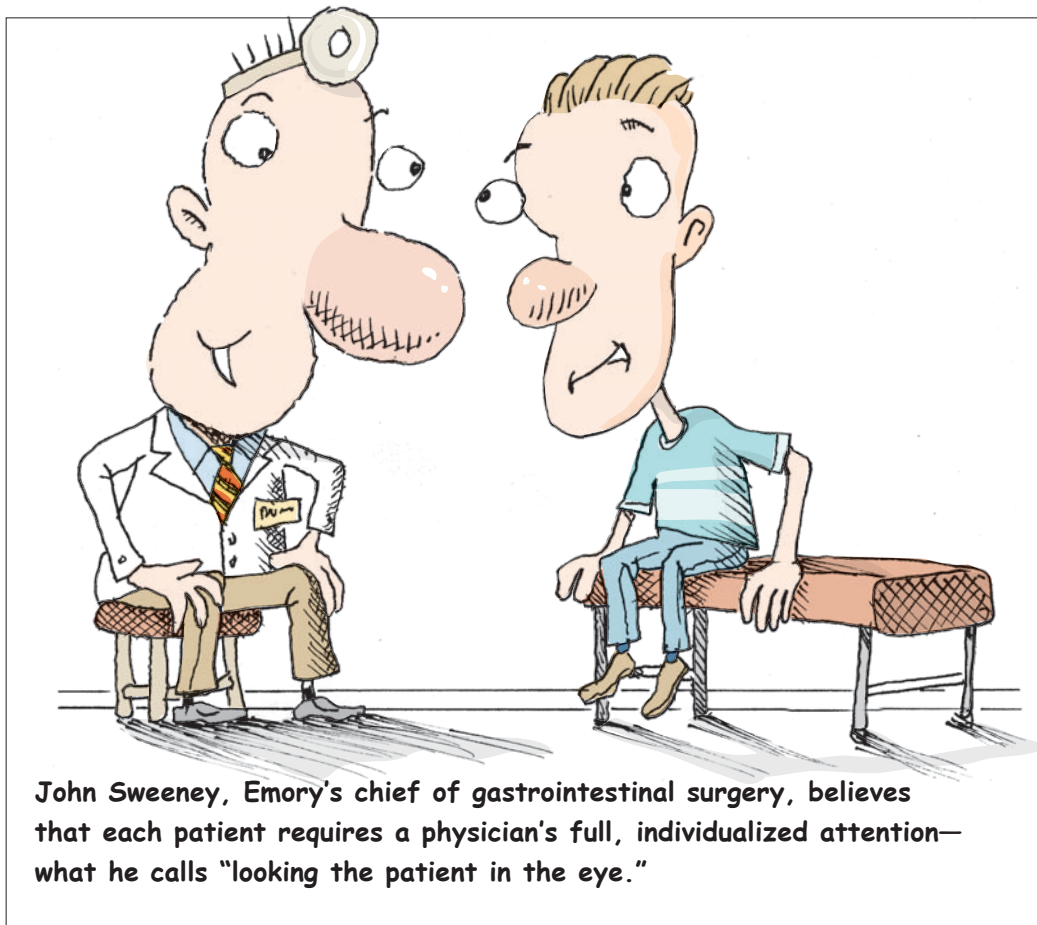
Kim Rask trained as an economist, first at her father’s knee, then in college. As a medical student, she thought she’d put that expertise behind her.



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John Sweeney, Emory’s chief of gastrointestinal surgery, believes that each patient requires a physician’s full, individualized attention—what he calls “looking the patient in the eye.”

illness die 25 years younger on average than those without, largely because of co-existing medical illness.

CULLING BEST PRACTICES TO REDUCE HOSPITAL READMISSIONS John Sweeney, Emory’s chief of gastrointestinal surgery, believes that each patient requires a physician’s full, individualized attention—



John Sweeney

what he calls “looking the patient in the eye.” Patients love his approach. But when surgery’s clinical quality and patient safety program wanted to understand why some surgery patients were readmitted within 30 days of discharge, Sweeney chose a research partner who never lays eyes on a patient: James Cox, Georgia Research

Alliance Eminent Scholar and director of the Experimental Economics Center of the Andrew Young School of Policy Studies at Georgia State.

Unplanned hospital readmissions are a big problem in health care, and not just for the patient. Although percentages differ, depending on conditions and hospitals, roughly six of every 100 patients discharged from hospitals nationwide find themselves back in the hospital within 30 days. Readmission for Medicare patients alone costs more than \$17 billion annually. Keeping patients in the hospital longer lowers risk of complications leading to readmission, but unnecessarily prolonged stays lower quality of care and precipitate higher costs.

Sweeney and his surgeons initially approached the problem by focusing attention on individual patients (*What went wrong?*) and on which operations most often required readmission (*those for pancreas, colon, and liver*). Then, encouraged by Chris Larsen—Whitehead Professor and Chair of Surgery, who himself is deeply

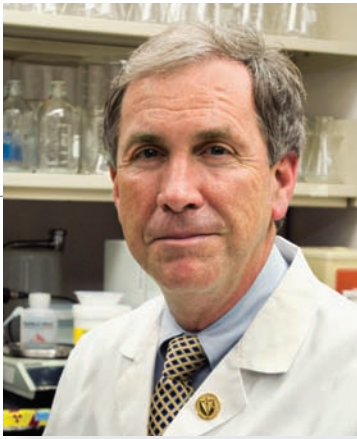
involved in HSR to understand and improve outcomes for post-transplantation patients—Sweeney met Cox, who went straight for the numbers. He and his team of experimental economists analyzed hundreds of thousands of observations on more than 3,000 Emory surgery patients. The team of economists delved through vital signs, laboratory values, number and type of X-rays ordered, and other data recorded several times a day throughout each hospital stay. They tracked underlying medical problems. They matched zip codes to census data to come up with median income and the number of people per household in the census tract in which the patient lived.

“It was like the baseball movie, *Moneyball*,” says Sweeney. “The economists threw out our preconceived notions and analyzed mountains of our data in whole new ways. They discovered things in mathematical trends that we couldn’t see in any one patient.”

For example, one of the traditional decisions for discharge depends on a normal white blood count the morning of release from the hospital. But the data showed that measuring *how long* the white blood count had been normal was important. The same with *how long* the patient had been following a normal diet.

And like all HSR research, the analysis went past clinical factors to look at behavioral, cultural, and social ones, such as whether patients had strong social support. Those who lived in census tracts with more people in each house were less likely to be readmitted.

As a profile emerged for risk associated with complications and unplanned readmissions, Sweeney and Cox developed a software tool that recommends whether an individual should be discharged or stay in hospital. Now in the process of being patented, the tool will be tried next year in simulated situations with medical students, residents, and attending physicians at Emory before a pilot project begins with patients. It’s not meant to replace the surgeon’s expertise, says Sweeney, but rather to provide more evidence to help surgeons make



David Stephens, VP of research, believes that collaboration is growing across the region that will allow researchers to more thoroughly understand available health data.



Fred Sanfilippo coordinates a virtual network that will connect the information, resources, and people involved in health services research throughout the Southeast.



Ken Thorpe analyzes costs and financing associated with chronic disease and obesity. See his blog at fightchronicdisease.org/blog/ken-thorpe.



Kathleen Adams, an Emory health economist, analyzes Medicaid costs attributable to smoking during pregnancy and the cost-effectiveness of increased prenatal care.

A full deck of health services research

Emory is a natural leader of health services research (HSR), says David Stephens, Woodruff Health Sciences Center (WHSC) VP of Research, for several reasons. One, it's connected to a large and integrated health care system, a broad base of investigators, education programs, and strong health-related partnerships. Two, diverse patient populations allow Emory researchers to study cultural differences and equity issues that are important to this emerging research area. And three, a growing culture of collaboration across campus and beyond local and state borders is building momentum to understand this data.

Current ongoing HSR inquiries cover a wide-ranging territory from economics to delivery to outcomes. They include studies to understand the costs associated with obesity or smoking during pregnancy, examine disparities in health care delivery in hospitals, evaluate the impact of training programs on quality in health care, identify predictors of diabetes, and develop personalized plans for optimal health.

An initiative that attempts to capture a full picture of HSR not only at Emory but also in the region is the Emory/Georgia Tech

Healthcare Innovation Program (HIP). Led by Fred Sanfilippo, former WHSC CEO, HIP is a virtual network that is connecting all of the information, resources, and people involved in health services research and education throughout the region to help facilitate health care innovation. Funded by the Woodruff Fund in the WHSC and the Atlanta Clinical & Translational Science Institute, HIP has an external advisory board of national experts—recognizing the growing importance of HSR to national health care challenges.

In December 2011, the program announced its first two seed grants for multi-investigator and multidisciplinary teams that are using innovative approaches to address issues of health care quality, costs, and access to care. One grant will support the development of a virtual reality simulator to supplement surgical training for medical residents, and the other supports studies of a device to diagnose pneumonia from coughed droplets. The program also is rolling out a quarterly health care innovation symposia series in 2012, and the first topic is no small one—fixing U.S. health care. For more information, see hip.emory.edu.

decisions quickly and accurately.

Emory GI surgeons have been following the research closely, and awareness is already having a positive effect. Reporting on a sample of 2,400 patients, Sweeney estimates that 70 to 100 complications were prevented, based on the number anticipated in such a patient group by the American College of Surgeons National Surgery Quality

Improvement Program. With complication costs running anywhere from \$5,000 to \$50,000 per patient, this represents a savings of \$1.5 to \$2 million for patients, the hospital, and payers (twice that if the findings are extrapolated to all surgery patients last year).

“HSR is improving our patients’ lives,” says Sweeney, “and it’s changing our culture,

including how our medical students and residents are learning to think about the care they provide and the system in which they provide it.”

WEB CONNECTION To see a sampler of health services research projects at Emory, visit bit.ly/healthservicesresearchsamplere.

The other side of the exam table

How Emory is fostering compassion in young doctors.

By KAY TORRANCE

In the late 1960s, William Branch arrived at a Boston hospital as a new resident. Bright-eyed and energetic, he walked through the front door, eagerly anticipating the challenging medical cases he would be asked to solve. He expected to work with an older, more experienced doctor—someone resembling Marcus Welby, the fictional TV doctor who was steady as a rock and loyal to his patients.

What Branch got instead was a rude awakening. Shifts that lasted 24 hours with little, if any, time to sleep. Being left overnight with a hospital ward of patients to tend on his own. And impatient doctors who were often indifferent to residents as well as patients.

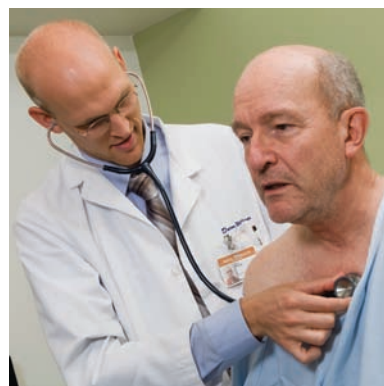
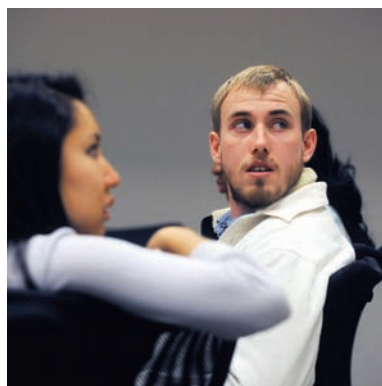
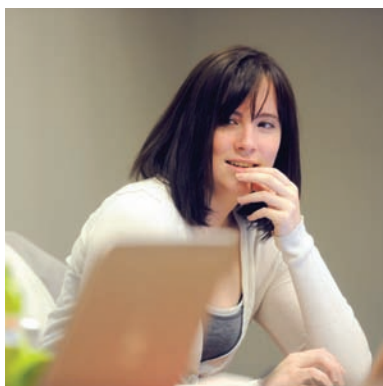
Marcus Welby was nowhere in sight.

“The system back then was inhumane,” Branch says. “Compassion was stamped out. The egregious stuff that happened in the 1960s—like people making comments about patients or calling them names—rarely happens today.”

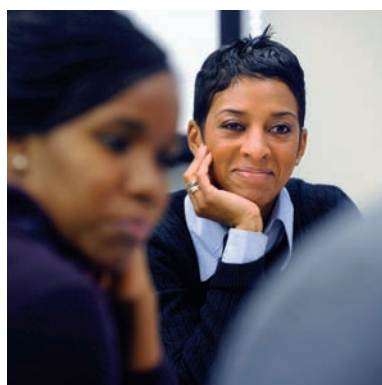
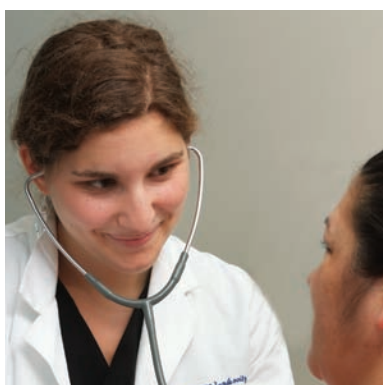
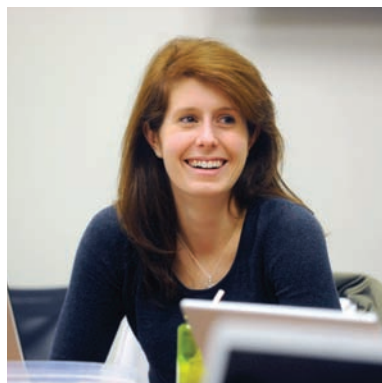
At times during his residency, his ability to be compassionate to patients sometimes took a hit, concedes Branch, now an Emory internist. To his dismay, he saw residents soaking up the bad behavior of some of the doctors and unconsciously replicating it.

Armed with a steely will not to repeat those behaviors, Branch entered academic medicine and spent the next 30 years teaching experienced and future doctors how to maintain compassion. His research has helped dispel the long-held myth that compassion and empathy are character traits—either a doctor has them or not. In fact, behavior that reflects compassion and empathy can be learned, and Emory’s new medical curriculum reflects that fact.

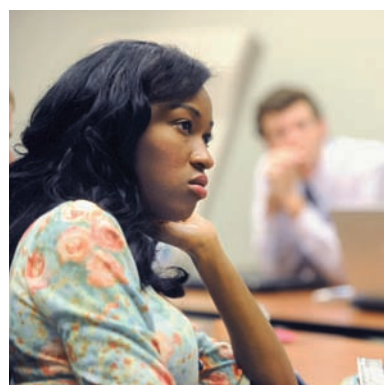
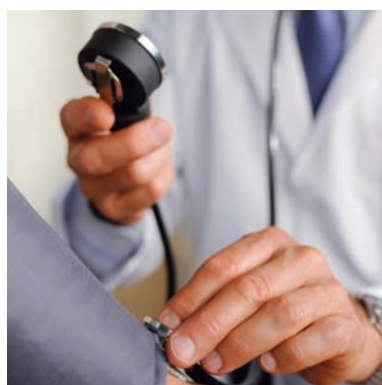
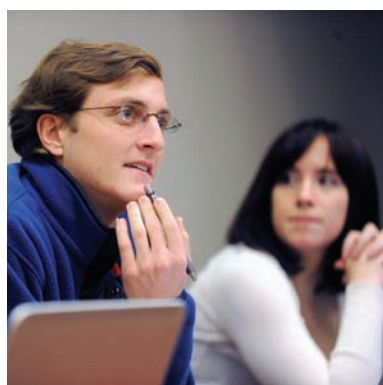
Teaching compassion begins on the first day of medical school at Emory. Students are assigned to small groups of no more than nine led by a faculty adviser, who will remain with them throughout their four years of school. The groups cover topics not frequently found in textbooks, such as doctor-patient communications. These interactions are key starting points to learn how to develop the behavior of compassion and empathize with patients’ experiences.



Emory internist William Branch (*left*) has helped debunk the myth that compassion and empathy are character traits rather than behaviors that can be taught to medical students.



Kimberly Manning (*left*) helps medical students and residents develop a habit of humanism. "I want them to habitually think about the other side of the story."



Oncologist Mary Jo Lechowicz (*right*) teaches students that explaining any procedure in detail, regardless of the patient's prior experience, helps build rapport and trust.





Medicine has learned that compassion and communication skills should—and need to—matter. Studies have shown that **compassionate care can lead to better patient outcomes and adherence to treatment regimens.**

Compassion 101

For decades medical schools and teaching hospitals focused on turning out superb technicians. Students and residents were expected to be well versed in the latest medical advances and knowledge about disease, but the advice they usually received on how to communicate with patients was to maintain emotional distance. As patients found out, good technicians didn't necessarily make compassionate clinicians.

Since then medicine has learned that compassion and communication skills should—and need to—matter. Studies have shown that compassionate care can lead to better patient outcomes and adherence to treatment regimens. And how doctors communicate to the rest of the care team also can affect patient outcomes, as well as work relationships and the culture of a health care system.

The behavior of established doctors also has a profound effect on another group—medical students. Medical students model themselves after the doctors they see in action and internalize the behaviors they witness. Medicine has long wrestled with ways to abolish what is referred to as “the hidden curriculum.”

“A great deal of what gets transmitted to students is from being around someone for those four years and what that person conveys,” Branch says. “A lot rubs off. Most students come in full of idealism and want to be compassionate. Whether it's pressure to memorize or pressure on the wards to get the job done, the compassion gets left behind. Our job is to keep that from happening. We want to help students develop compassion and empathy to their fullest extent.”

When Emory's medical school began revising its curriculum eight years ago, Branch and other faculty worked hard to better incorporate long-term mentoring into the student experience.

“In our minds, the most important thing was to incorporate mentoring into the curriculum—not just a hit or miss thing where students would have to schedule an appointment with an adviser,” says Monica Farley, an Emory infectious disease specialist who co-chaired a faculty committee that looked at ways to incorporate mentoring into the curriculum. “We wanted students to have much longer and higher-quality exposures to faculty and physicians so they could really model themselves after someone with whom they had worked for a long time. I think it's one of the biggest achievements of this curriculum.”

The day students enter the school, they are assigned to a small group of no more than nine students called a society. Each group spends all four years with the same faculty adviser, mirroring the longtime relationship that ideally a patient has with his or her doctor. The groups often function as a mini version of class, covering topics not usually found in a textbook, such as doctor-patient communication (for example, using open body language, breaking bad news, discussing the results of genetics tests, or talking about adherence to a medication regimen).

Do unto others

Tim Buchman, director of critical care at Emory Healthcare, calls himself a “recovering trauma surgeon.” He practiced that high-pressure specialty for more than 20 years and knows that surgeons have a reputation for being insensitive. After all, they often find themselves in situations where “command and control” communications are necessary to save a life. “Resuscitating a bleeding gunshot victim requires split-second decision making, along with the confidence that the team can and will follow orders,” he says.

Like many practicing doctors today, Buchman received no instruction during medical school and residency on the different styles of communication that are needed to be effective with patients and co-workers. Trainees mimicked their attending physicians, whose ineffective, even hurtful, communication styles passed from one generation of doctors to the next. “Task completion trumped civility in medicine, right up until the moment that it became necessary for health care to make a quantum leap toward delivery of consistent, high quality, high reliability service,” Buchman says.

A few years ago, when Emory's surgery department wanted to improve the flow of surgical patients, employees came back to the department chair and reported that they couldn't agree on how to improve any process because they didn't get along. The department then developed a covenant—an agreement among the professionals as to how they would communicate with, and treat, one another. The document proved so popular that other areas began using it, and last year, Emory Healthcare rebranded it as “The Pledge” and incorporated it into their operational plan.

Hundreds of Emory Healthcare employees—from doctors to nurses to financial analysts to housekeeping staff—have taken the pledge, which is optional, to treat others the way they would want to be treated.

“These are things we learned at age three,” says Doug Morris, director of the Emory Clinic and J. Willis Hurst Chair of Medicine. “But it's helpful to be reminded. This is about how you want to be treated and how you remind someone when they slip.”

When someone does slip, the health care system encourages a “cup-of-coffee” conversation, and it even offers workshops on the pledge to give employees examples of language to use to start such a conversation. *I'd like to talk to you about the interaction we had yesterday...*

“The more people who take the steps to have these conversations, the sooner this will become a part of our culture,” says Hal Jones, who leads the workshops as part of Emory's care transformation team. “The pledge is not enough—it needs people to practice and reinforce it.”

Breaking through the culture of medicine may be the biggest challenge in spreading the pledge, says Emory University Hospital's Chief Quality Officer Nathan Spell. Health care professionals tend to hold themselves up to the level of perfection. “We have to get doctors and nurses to admit they are human,” he says, “and then they can be more compassionate with themselves, each other, and patients.”

“These days patients are far more likely to be cared for by a doctor who doesn’t have a longtime relationship with them,” says Emory internist Nathan Spell. “So more than ever, we need a new skill set to be able to quickly step inside a role and form a trusting relationship with a patient.”

Compassion and communication

Emory oncologist Mary Jo Lechowicz walked into a classroom where her small society group was waiting for her on an early afternoon in mid-September. These brand new students were eager to get started. They had begun medical school less than two months earlier, and already they were learning the ins and outs of giving a physical exam.

This day the lesson focused on pelvic and breast exams, but the session’s goal involved much more than learning how to insert a speculum or use proper technique to detect lumps in the breast. It also concerned how to talk to a patient. *Always ask the patient about the experience of her last exam. Is there anything you’d like to discuss?* Such an opening can elicit important information, like past sexual trauma, explained Lechowicz.

This is the back of my hand on your inner thigh. Now you’ll feel my hand. Explaining any procedure in detail, regardless of the patient’s prior experience, helps build rapport and trust, Lechowicz told the class.

What may not be obvious at first to these students is that the communication lessons are designed to foster compassion. Emory’s medical faculty want students to see that compassion is much more than sympathizing with a patient’s medical issue or “being nice.” It’s about body language, allowing a patient to process difficult news, not just hearing what a patient says but *really listening*.

Expressing compassion is not something a medical student can learn overnight, says Lechowicz, but with practice, students can become more at ease with difficult conversations. Communication lessons are repeated throughout the four years of Emory’s medical

school to help students internalize this ability.

“The mistake in medicine in the past is that people thought you either had compassion or empathy or you didn’t,” she says. “I think there are tools that can be taught and used that can help enhance a physician’s natural wish to do the best for their patients.”

Expressing compassion is not something a medical student can learn overnight, but with practice, students can become more at ease with difficult conversations. Communication lessons are repeated throughout the four years of Emory’s medical school to help students internalize this ability.— Mary Jo Lechowicz



On this day, the male medical students got special attention in Lechowicz’s class. She had them put on a gown (pants remain on, of course), put their feet in stirrups, and slide all the way down the exam table, as she went over how to communicate with a patient during the exam.

“It’s a really vulnerable position, unpleasant,” student Michael LaRiviere says after his turn. “Even though I knew she wasn’t going to do an exam, I still felt I needed to trust her.”

The male students also realized the need for warm instruments, why the exam table should not face the door, and that the curtain should always be pulled in case someone accidentally walks in. Murphy’s Law, Lechowicz told the students, dictates that the door seems to fly open only during a testicular, rectal, or pelvic exam.

A student’s first patient

In many medical schools, a student’s first patient is, well, deceased. Human anatomy taught with the use of cadavers is often one of the earliest classes for a first-year student. Contact with living patients typically is confined to the second half of medical school.

When Emory’s medical school turned the old curriculum on its head five years ago, anatomy was delayed seven months. Now Emory students interact with real patients within several weeks of starting medical school. (As one faculty member says, “Emory believes your first patient should be a living one.”) Modules throughout the four years of medical school usually incorporate real patients so that students can experience what it’s like on the other side of the exam table.

For example, in a weeklong module on aging and geriatrics, students watch an actor age from 50, as she enters menopause, to 80, when she is dying of cancer. They hear from caregivers, who talk about their changing relationships with their loved ones and their



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Manning asks her residents to write about an experience—good or bad—that made a lasting impression on them. **By examining the experiences, they can become better doctors.** She calls the practice “habitual reflection” and believes it is vital to developing compassionate doctors. She also regularly writes a blog herself (see gradydoctor.com).

struggles to manage a dizzying array of doctors and medications. They also hear from patients in palliative care who are coping with their own mortality. Not only are the lessons of how to talk and listen to a patient repeated, but students also learn how to process their own feelings about death and dying so that they are able to open a similarly difficult conversation with a patient.

Practice and reflect

Fast-forward to 2015, and those students who are now in their first year of medical school have graduated and are in the throes of residencies. Long hours, the demands of patients, and impatient senior doctors take a toll on many residents. The eagerness and compassion with which they entered medical school have begun to drain away.

Humanistic training beginning in medical school and continuing into residency can help stop the erosion of compassion, say Emory faculty who teach the techniques. One Emory internist has seen a difference in recent graduates compared with those of years past. Kimberly Manning, who supervises residents at Grady Hospital and serves as an adviser to medical students, says the emails she received from the 2011 class are encouraging and suggestive of an evolution toward more humanistic behaviors in up and coming physicians.

One of her former students, who graduated last May, is an anesthesiology resident at a military hospital in Washington, D.C. Her recent email to Manning detailed how little she had previously thought about the sacrifices soldiers made during their service in the Middle East, and how now every day she sees men and women younger than her who are missing limbs. Her email barely mentioned her long hours or the other trials and tribulations of being a first-year resident, a significant change from what Manning herself would have even thought to share as an intern.

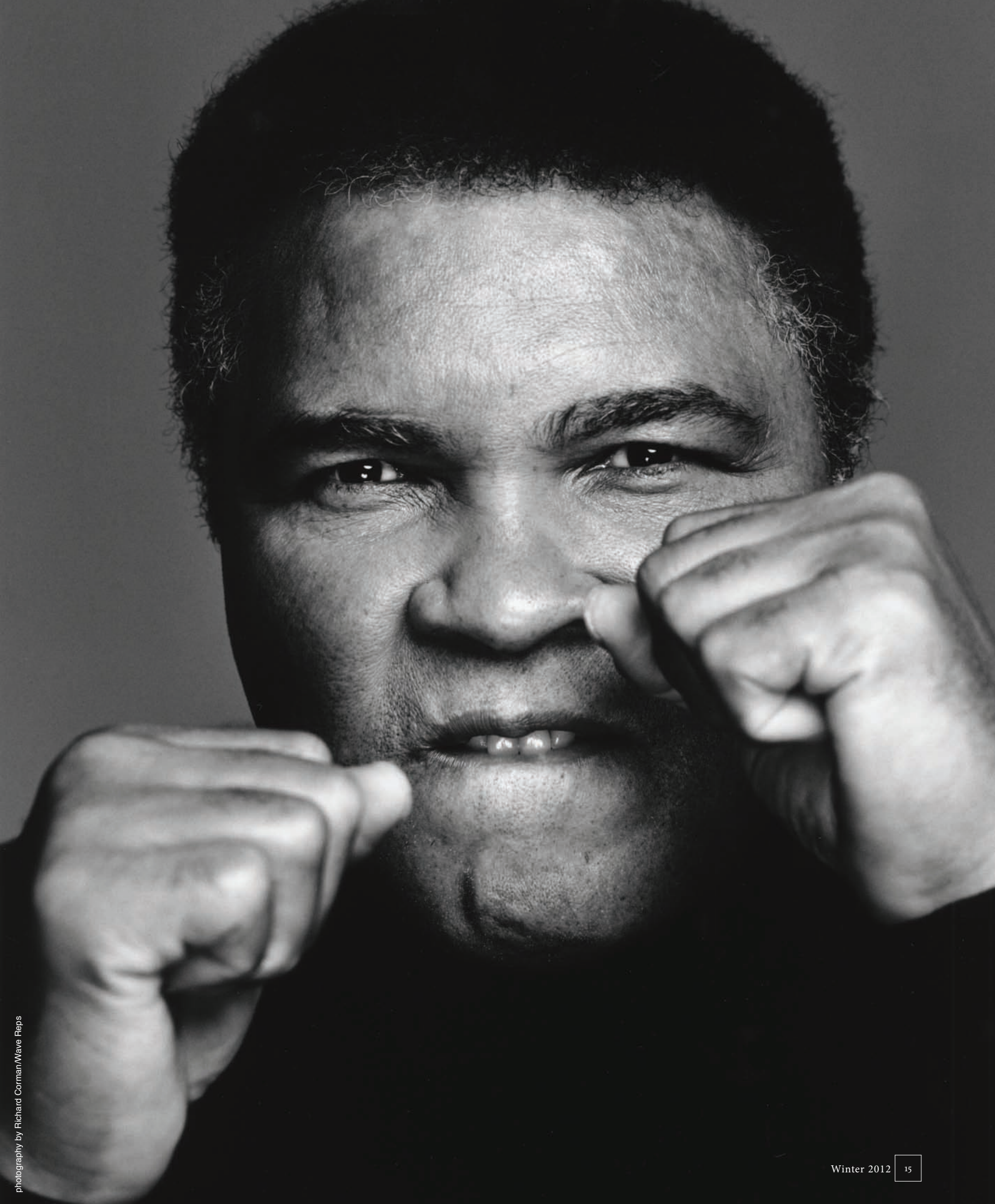
“We’re talking about things that we didn’t talk about before,” Manning says. “When I was a resident if I saw something happen that troubled me, I would talk to my classmates about it. It wasn’t the culture in medicine to talk about it up the chain. Now the culture is different. Things like dealing with difficult patients, noticing when someone is impaired—all the things that are humanistic have found a place at the table in the new curriculum. We humanize people now. We spend time talking about our experiences with patients.”

Manning asks her residents to write about an experience—good or bad—that made a lasting impression on them. By examining the experiences, they can become better doctors. She calls the practice “habitual reflection” and believes it is vital to developing compassionate doctors. She also writes regularly herself in a blog, *Reflections of a Grady Doctor* (gradydoctor.com).

“One of my goals when I’m working with residents or students is for them to develop what is referred to in the literature as a habit of humanism,” she says, “to habitually think about the other side of the story. In some of my most difficult situations as a doctor, falling back on humanism has helped me. When it becomes your default, you do it without thinking.

“I don’t try to teach morals or values. I just want people to think about what they are doing. We are not football players reviewing plays. We are dealing with humans. This will always be a profession that’s different from others because it’s about people.”

When Manning gives talks around the country to other doctors about humanistic behaviors and the teaching techniques that Emory’s medical school is using, she often sees them have an “a-ha” moment. She is glad to see medical schools and health care systems embracing this approach and placing more importance on humanism in medicine. ■



Muhammad Ali has faced some of boxing's toughest competitors—Sonny Liston, Joe Frazier, George Foreman. But who knew that he would face his toughest opponent more than a decade after his Rumble in the Jungle with Foreman? In 1984, Ali was diagnosed with Parkinson's disease (PD), a progressive neurodegenerative disease that affects an estimated 1 million Americans.

Ali is one of 10,000 patients treated each year at Emory for PD, which may cause slurred speech, tremors, and slowed movements. He is a long-time patient of Mahlon DeLong, William Timmie Professor of Neurology, who in the words of Lonnie Ali, wife of the celebrated fighter, "has been the best medical intervention in Muhammad's life."

PD is a complicated illness to treat. The interventions needed for comprehensive care are wide-ranging, and the number of specialists involved often necessitates a daunting schedule of appointments for patients and caregivers to navigate. DeLong, whose studies have led to the development of effective surgical approaches for the treatment of PD, is one of the many Emory providers who provide this complex care.

In addition to a movement disorders neurologist, patients with PD often need the help of a psychiatrist, neuropsychologist, physical therapist, geriatrician, sleep specialist, speech therapist, social services worker, and occupational therapist, among others. But making the rounds of all those professionals takes much longer than a boxing match.

"Arranging all the specialists a person with PD really should see could take six months to a year to schedule appointments and get a plan in place," says Stewart Factor, Vance Lanier Chair of Neurology. "Meanwhile, who knows how much the disease has progressed?"

Recognizing the need to get all of a patient's care efficiently in one place at one time, Factor and his colleagues in Emory's Movement Disorders Program set out to create a new strategy—one that is comprehensive and integrated.

ROUND 1: MAKING AN IMPACT

As the Emory team began making plans for a comprehensive approach to PD, Atlanta resident Merrie Boone was dealing with her own diagnosis of the disease. She and her husband, Dan, had visited centers all over the country to find the right treatment fit for her, but a consultation with a California specialist led them somewhere unexpected—back home. "We had flown to California to find out that the best care was in our own backyard," says Dan Boone.



Patient Merrie Boone and her husband, Dan, are helping Emory realize its vision to develop a comprehensive center for Parkinson's disease. "Once you're connected to Emory, you are eager to help with the research," says Dan Boone. "You want to help because you've gotten the help you need."

Not only did Merrie Boone become a patient at Emory, but the Dan and Merrie Boone Foundation also is helping Emory realize its vision for PD care. The Boones have pledged more than \$600,000 to accelerate Emory's development of a comprehensive center, and their gifts have allowed Factor to enroll up to four patients a month in the comprehensive care program. The program allows patients to see all the specialists that they need over the course of two days. A nurse coordinator manages the full spectrum of PD services to ease the burden on patients and families.

That condensed schedule is intense, but the result is a win-win. In most cases, the approach has increased patient satisfaction and fostered compliance to treatment regimens, and it has allowed doctors and other providers to work as a team to provide comprehensive care.

For the Boones, the goal is simple. "We wanted to do something

that improved the patient experience and their overall quality of life,” Dan Boone says. “We wanted to make an immediate but lasting impact.”

For Jimmy Long, they did.

ROUND 2: PERSONALIZING TREATMENT

After developing a telltale tremor in his left hand, Long was diagnosed with PD in his hometown of Augusta, Ga. At that time, he had one overriding fear. “My whole life I’d told myself I didn’t ever want to be in a wheelchair,” he says. “And I wasn’t for a while. Then, the Parkinson’s just really started working at me.”

In April 2011, Long visited Emory for the first time. He arrived in the PD center in a wheelchair, but two days later, he walked out on his own.

How did the turnaround occur? An Emory physical therapist worked intensely with Long, teaching him to take bigger steps. He was told to imagine following a straight line, to concentrate solely on walking rather than trying to walk and talk simultaneously. And it worked.

Friends back home told Long that he looked better than he had in years. And his wife, Faye, says, “Jimmy’s clinic visit was like a turning point for him. We assumed that he was going to be in a wheelchair from here on out. We learned more in our visits with Dr. Factor and the clinic than we did in all the years prior to the visit.”

Emory’s center also tackles another common—but often overlooked—symptom of PD: depression. Although up to 60% of Parkinson’s patients experience some form of depression, patients often choose to suffer through it rather than seek treatment. However, more than being a reaction to having PD, depression can be caused by PD itself when the disease impacts brain chemicals such as serotonin and norepinephrine.

“We have patients who have never seen a psychiatrist and insist that they don’t need to see one,” says Emory research nurse and comprehensive care coordinator Mary Louise Weeks. “So having a psychiatrist at the center allows us to find those patients who might not have ever sought help on their own.”

Emory also connects families with a social worker, who can lead caregivers to additional resources for helping a loved one manage PD. The social worker also can help families deal with conflicting feelings they may encounter in providing support. “In the time that caregivers spend with our social worker, they often find acceptance and leave better equipped to take on their loved one,” Weeks says.

The two-day center visit wraps up with a visit with Factor, who, based on a review of the notes from all the specialists, creates a plan to best care for each patient. The treatment plan might include adjusting medications, making referrals, or offering suggestions for follow-up care.

“This type of integrated care shows us the whole patient,” he says. “It allows us to offer patients a comprehensive and personalized plan.”

ROUND 3: GOING FOR THE WIN

Beyond making a positive change in the everyday care and quality of life for PD patients, Emory’s movement disorders teams haven’t given

up on the ultimate goal—finding a cure. And they are getting help from a variety of sources, including a recent \$4 million boost for PD research from Jean and Paul Amos as well as a NIH-funded Morris K. Udall Center of Excellence for Parkinson’s Disease Research. At Emory’s Udall Center, more than 45 faculty are pursuing research in PD, from anatomy and electrophysiology to pharmacology and toxicology. The clinical work by Factor and others helps the researchers identify patients who might be good candidates for participation in clinical trials.

Merrie Boone, whose original motivation in supporting Emory was to help patients understand and cope better with PD, now is encouraged by the longterm benefit to the research program.

And in another attempt to connect researchers and PD patients, a new collaboration between Emory and the Wilkins Parkinson’s Foundation is producing “PD Research—Sounds from Emory.” The series of podcasts—funded by the Atlanta Clinical and Translational Science Institute—will bring interviews with leading Emory PD researchers to a broad lay audience to disseminate relevant research findings in a timely manner on the foundation’s website. The podcasts will establish a more direct and personal link between Emory’s PD research program and the community.

Lonnie Ali hopes that all of these efforts will have a cumulative effect. “I believe with dedicated researchers, adequate funding, and well-equipped research facilities, our collective understanding of this disease will advance dramatically,” she says. Her wish not only for her husband but also for all PD patients is for better treatments that can improve their physical and mental health and increase their quality of life.

Additional resources

- ★ Emory would like to elevate the level of care of all patients with Parkinson’s disease by continuing to develop its comprehensive PD care center. If you would like to support that effort, contact Barry Steig at bsteig@emory.edu or call 404-727-9099.
- ★ To make an appointment with an Emory movement disorders specialist, call 404-778-3444.
- ★ For general information on PD, see emoryhealthcare.org/neurosciences/conditions/parkinsons-disease.html.
- ★ For the latest research information from the NIH, visit ninds.nih.gov/research/parkinsonsweb/udall_centers.
- ★ To hear future podcasts of Emory researchers discussing new findings about PD, visit the Wilkins Parkinson’s Foundation at Wilkins-PF.org.

When should mom give up the car keys? The answer is as varied as the people behind the wheel. By Rhonda Mullen

WHEN REBECCA DILLARD ARRIVED FOR A PRESENTATION ON SAFE DRIVING AT A LOCAL SENIOR CENTER, SHE FACED A TOUGH CROWD. “ARE YOU HERE TO TAKE AWAY MY LICENSE?” CAME THE FIRST QUESTION FROM THE AUDIENCE.

Dillard, assistant director of programs for the Emory Center for Health in Aging, had some explaining to do. No, she wasn't there



to strip anyone of a driver's license. What she was there to do was to raise awareness in this group of older adults about decisions they all eventually will face about driving.

If and when an older person should stop driving, is a loaded question. Just as teens are excited to get their hands on the car keys for the first time, seniors are equally reluctant to let go of those keys—and for legitimate reasons. For most people in the United States, especially those who live in areas that lack public transportation, the car represents independence. It is a way for seniors to get to the volunteer job, church, the doctor, or the house of a friend. Furthermore, some studies have shown that retiring from driving in general causes decreased overall health and increased frailty.

Still, some facts can't be ignored. With the U.S. population rapidly graying, one in five

drivers will be older than 65 by 2030. With age comes a natural decline in motor, visual, and cognitive skills—explaining in part why seniors are involved in a disproportionate rate of motor vehicle crashes compared with other groups. In Georgia, the second leading cause of unintentional related injury deaths for those over the age of 65 is motor vehicle accidents. Conservative estimates put the annual costs of these accidents at more than \$62 million, which doesn't account for associated costs, such as time lost from work or related expenses such as rehabilitation, home health, or long-term care.

Those reasons are why the Georgia Governor's Office of Highway Safety has funded an Older Driver Safety Program.

Managed by the Office of Injury Prevention in the Georgia Department of Public Health, it brings together close to 60 key stakeholders. Emory's Center for Health in Aging is an active member of the program and hosts the monthly meeting of the driving task force at its headquarters on Emory's Wesley Woods campus. A longtime member of the task force, Emory gerontologist Herb Karp, now in his 90s, still attends most meetings.

The primary goal of the driver safety initiative is to maintain the mobility and safety of older drivers, while making the roadways safer for all road users. It also seeks to reduce the number of injuries and fatalities experienced by older drivers, and where possible, to enhance mobility options for older adults.

Collaborations are the cornerstone of

the program, which draws in partners in transportation, health care, law enforcement, public health, senior advocates, and related areas. This type of comprehensive community planning is needed to bring the village to the challenge, says Dillard.

The Older Driver Safety Program has taken on a wide range of challenges, including educating physicians about how to broach comfortably the uncomfortable subject of safe driving with elderly patients, educating traffic engineers about how highway design can assist safety and mobility for older drivers, and teaching law enforcement to recognize a cognitive problem in an older driver.

On another front, the safe driving task force also considers the coordination of local public transportation routes to make them more convenient for seniors as well as transportation alternatives. In addition to official government options, these alternatives often exist informally in the community at churches, senior centers, or in naturally occurring retirement communities (NORCs). For example, the Toco Hill NORC—which abuts Emory and has one of the most concentrated populations of residents over the age of 65 in the metro Atlanta area—issues transportation vouchers for a driving service and helps coordinate carpools. The NORC frequently combines efforts with other partners, such as working with DeKalb County Senior Services to coordinate bus routes to serve NORC members' needs or partially reimbursing members for a taxi ride, thanks to a New Freedom grant from the Atlanta Regional Commission.

“Some people reach 85 in very good physical and mental condition, while others have extensive cognitive and physical conditions by the age of 60,” says Dillard. “So a blanket approach to driving or not driving for seniors is not good.”

Instead she and other members of

Peacetime preparations for a terrorism response

Georgia's driving program for seniors want to raise awareness among older adults of the need to self-regulate driving behavior. "I tell them, if you haven't driven in a while because you've been sick or in the hospital, maybe you should practice a little before getting back on the road." Dillard uses herself as an example. When she returned to the United States from graduate school in Germany, where she relied solely on public transportation, she was rusty and had to practice before easing back into driving.

By the end of Dillard's recent presentation to the skeptical seniors, she had covered the facts and nuances of driving as an older person, given them a list of resources for related agencies, and left them with informed ideas for how to evaluate their own driving. But did she make any headway in helping them think about the many issues around driving? "I think so," she says. "I think they felt better as soon as they heard I wasn't there to take away their licenses."

Additional resources for senior drivers

CarFit—ridesafageorgia.org

AARP—aarp.us/aarpdriving

Alzheimer's Association of Georgia—bit.ly/drivingassessment

CDC—1.usa.gov/adultdrivers

Older Driver Safety Awareness Week—bit.ly/olderdriverweek

Governor's Office of Highway Safety—bit.ly/gahighwaysafety

National Highway Traffic Safety Administration—1.usa.gov/gettingolder

Federal Highway Administration—bit.ly/olderfacts

AAA Foundation for Traffic Safety Senior Drivers—seniordrivers.org



Seconds after a terrorist detonates a bomb, bystanders freeze for an instant before running from the scene. But within moments, some return to help those who can't help themselves. For terrorism experts, this universal human response represents the beginning of a path to resilience. And resilience, says physician and terrorism expert Isaac Ashkenazi, is key to beating back terrorism.

Ashkenazi, a retired colonel in the Israeli Defense Force, was one of the speakers at "The Tale of Our Cities," a conference to plan for interdisciplinary responses to terrorism held in Atlanta in November.



Organized by the Emory Office of Critical Event Preparedness and Response, Georgia's Department of Public Health, Grady Hospital, the Emergency Medicine department in Emory's medical school, the U.S. Department of Health and Human Services, and the CDC, the conference drew together health care professionals, law enforcement personnel, and emergency management officials from around the world to share first-hand experiences in managing the aftermath of terrorist bombings and ideas for responding.

How well the situation after a terrorist attack is managed greatly influences the

public's resilience, he says. That's because terrorists do not target individual victims per se. Instead, they target the public as a whole with the aim of creating fear, anxiety, and chaos. Therefore, it's crucial for emergency responders to quickly quell the chaos, says Ashkenazi.

Simon Lewis, head of emergency planning and response for the British Red Cross, says that a prompt return to normalcy is important. "Don't underestimate recovery. It needs to start right away." Peacetime is the time to plan for the best possible disaster response, says Lewis, because when a disaster arrives, there's no time to learn.

Neurosurgeon Rashid Jooma was one of the physicians who responded to the 2008 bombing of the Islamabad Marriott Hotel. No matter the type of weapon used, most blast injuries include burns, crushed limbs, vascular damage from flying debris, and lung injury, he says. So emergency planners must have general, orthopedic, and vascular surgeons at the ready, as well as clinicians comfortable with treating extensive burns.

Implementing plans based on lessons learned from countries already affected by terrorism is a crucial way to reduce morbidity and mortality. But, says Ashkenazi, planners must remain vigilant when it comes to terrorism. Be ready, he says.

"Because when terrorism does happen, and it will, it will take you by surprise."

—Robin Tricoles

Honoring Miss Lillian



Emory nursing students now know what makes environmentalist Robert F. Kennedy Jr. a force for change. He doesn't ever STOP.

His energy and drive were evident as he spoke to nursing students and faculty during the 10th anniversary celebration of the Lillian Carter Center for Global Health & Social Responsibility. The night before, he had stayed up all hours on a business call to the Middle East before catching an early morning flight from New York to Atlanta. "There was lots of yelling," Kennedy joked to explain his hoarseness.

A strained voice didn't deter him from describing his experiences as a social activist or his admiration for Lillian Carter, the center's namesake. He met the former nurse and Peace Corps volunteer in 1978, when he and his Harvard roommate arrived unannounced on her doorstep in Plains, Georgia. They hoped that she and her son, President Jimmy Carter, could stop the execution of the roommate's father, the deposed president of Pakistan. Sadly, their efforts proved unsuccessful.

"Lillian Carter was very kind to me personally," Kennedy told nursing students last fall. "I am happy to be in a place that

bears her name."

It was October 15, 2001, when President Carter dedicated the center named for his late mother, who died in 1983 at age 85. While raising her young family, Miss Lillian worked as a registered nurse, caring equally for patients regardless of color in the days

before integration. In 1966 at age 67, she joined the Peace Corps to serve in India as a family planner and nurse in a rural clinic, where she saw suffering unlike any she had ever seen.

"Miss Lillian was known for her work as a public health nurse and advocate for social justice and health care," says Linda McCauley, dean of Emory's Nell Hodgson Woodruff School of Nursing. "Our center has stayed true to Miss Lillian's vision of caring for those in need."

For examples, faculty and students work with underserved populations in the Caribbean during winter break, assess the health of migrant farmworker families in South Georgia each June, and work with homeless populations and provide care to senior citizens in Atlanta throughout the year. Last summer, students partnered with Cabin Creek Health System in the coal-mining region of West Virginia. In Florida, the Dominican Republic, and

Africa, faculty and student researchers study how to improve the health of pregnant women, new mothers, and babies. In Kenya and Zimbabwe, nursing leaders collaborate with Emory faculty to build and sustain the health workforce.

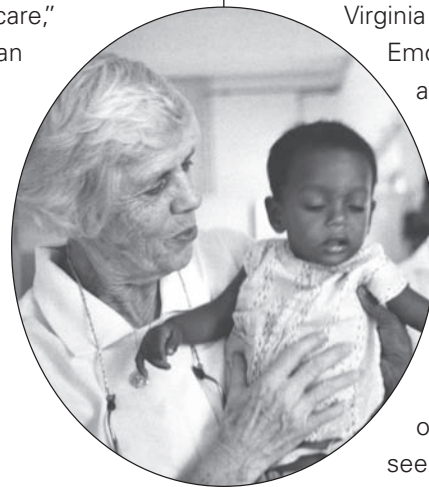
"I'm so impressed by the commitment of this school," Kennedy said during his visit to Emory. Today, he leads the Waterkeeper Alliance, an international network that protects the world's waterways. In 2010, Time.com named him as one of its "Heroes for the Planet" for aiding restoration of the Hudson River and the fishing economy of communities along its banks.

Shortly after his visit, Emory students viewed *The Last Mountain*, an award-winning documentary featuring Kennedy that chronicles the fight of West Virginians to halt coal strip mining in their community. The film premiered in southern West

Virginia last June, the night before Emory nursing students arrived to work with patients served by Cabin Creek Health System.

The film, coupled with Kennedy's visit, demonstrated to students what it takes to move mountains to protect the health of communities. Nurses see firsthand how the environment affects people with asthma, allergies, cancer, and other illnesses. They also play a critical role in debates about the future of the country.

"Get involved in the political process," Kennedy urged the Emory students. "The only thing that can save our environment is democracy." —Pam Auchmutey



A yellow-brick path to lung cancer

Did they get everything? That's often the question on patients' minds following cancer surgery. But the answer isn't always clear. Distinguishing cancer cells from healthy ones during surgery can prove difficult, if not impossible. Sometimes lesions are detected only postoperatively, leading to more surgery down the line.

Currently, surgeons rely on vision and touch to detect tumors during surgery. "There is still no good way to determine a tumor's margins," says Shuming Nie, director of cancer nanotechnology programs at Emory's Winship Cancer Institute. "It's still guesswork."

But Nie and colleagues at the Emory-Georgia Tech Nanotechnology Center and the University of Pennsylvania are hoping to take the guesswork out of identifying cancer cells while the patient is still in the operating room. In ongoing research—recently bolstered by a \$7 million, five-year grant from the NIH—they have developed fluorescent nanoparticle probes that make it possible to detect the tumor margins of lung cancer cells during surgery.

A lung cancer cell is about 10 to 15 micrometers, too small to be seen with the naked eye. But when the nanoparticle probes bind to cancer cells, the cells glow. Surgeons can then detect the light they emit by using a handheld device (called a SpectroPen) coupled to an imaging system. The device detects fluorescent dyes and light-reflecting nanoparticles.

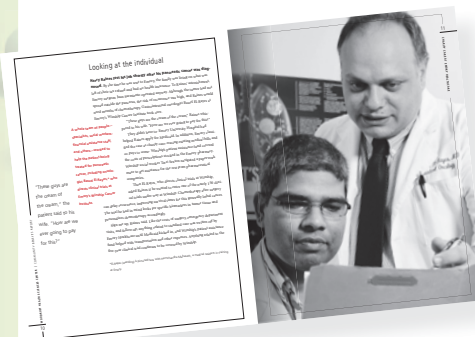
Developed by Nie, these particles consist of polymer-coated gold, which is bound to a dye and an antibody, causing them to stick better to the outside of tumor cells than to healthy cells. The gold amplifies the signal from the dye, which is then picked up by the SpectroPen.

Specifically, the approach will help surgeons distinguish tumor margins, identify diseased lymph nodes, and pinpoint cells that have spread beyond the original tumor.

"Having these capabilities can make a major impact on reducing recurrence rates of cancer after surgery," says Nie.

The technology may be effective in identifying many types of solid tumors, such as breast lesions, but the researchers chose to focus first on lung cancer because of its low survival rate. Already, they have shown that SpectroPen in combination with the gold nanoparticles works well to detect lung cancer tumors in mice. The grant will allow them to test the nanotechnology and cancer detection instruments on dogs with naturally occurring tumors at the University of Georgia and eventually in humans in a first-ever clinical trial for patients with lung cancer at the University of Pennsylvania. —Robin Tricoles

Looking at the individual



Harry Raines (not his real name) lost his job shortly after his pancreatic cancer was diagnosed. By the time he was sent to Emory, the family was living on what was left of their tax refund

and had no health insurance. To

Raines' astonishment, Emory surgeon Juan Sarmiento operated anyway. Although the tumor had not spread outside the pancreas, the risk of recurrence was high, and Raines would need months of chemotherapy. Gastrointestinal oncologist Bassel El-Rayes (above, right) at Emory's Winship Cancer Institute took over.

"These guys are the cream of the cream," Raines whispered to his wife. "How are we ever going to pay for this?"

They didn't have to. Emory University Hospital had helped Raines apply for Medicaid. In addition, Emory classified the case as charity care, erasing existing medical bills and co-pays to come. Winship's patient assistance fund covered the costs of prescriptions stocked in the Emory pharmacy. Winship social worker Terri Sexton navigated a paperwork maze to get assistance for the rest from pharmaceutical companies.

Then El-Rayes, who directs clinical trials at Winship, asked Raines if he wanted to enter one of the nearly 150 clinical trials under way at Winship. Chemotherapy after surgery can delay recurrence, improving survival times for this generally lethal cancer. The trial he had in mind looks for specific biomarkers in tumor tissue and personalizes chemotherapy accordingly.

Sign me up, Raines said. Like the costs of surgery, emergency department visits, and follow-up, anything related to standard care was written off by Emory Healthcare until Medicaid kicked in, and Winship's patient assistance fund helped with transportation and other expenses. Anything related to the five-year clinical trial continues to be covered by Winship.

WEB CONNECTION *This story is excerpted from the Community Benefits report for 2011, Extraordinary people: caring every day. The report features stories of Emory's impact on the community and examples of charity care provided by Emory Healthcare. According to the report, Emory's economic value to the community totaled \$425.1 million in fiscal year 2010-2011, including charity care, financial aid for students, investments in teaching and research, and unreimbursed care at Grady Hospital, among other benefits. To read more patient stories from the report, visit bit.ly/communitybenefits2011.*



Running the dream

When Darlene Goode returned to see Emory spine specialist John Heller for a one-year follow-up, she gave him reason to smile when she handed him a photo that showed her crossing the finish line at the Boston marathon.

Goode, 49, had originally seen Heller about severe back and shoulder pain. She had been running for nearly 10 years when numbness and pain set in. "Back in 2008 while I was training for the Jacksonville marathon, my left hand was going numb, and it was much colder than the right," says Goode. "That was my very first inkling something was wrong."

In 2009, after trying for eight years, Goode finally qualified for the Boston marathon. But by year's end, the numbness in her hand had spread to pain in her shoulder and

back. The discomfort worsened to the point that she stopped running, biking, and swimming. Although she tried several nonsurgical treatments to beat the pain, nothing worked. Then an MRI showed significant degenerative disc disease in her cervical spine, in the vertebrae and discs that span from the base of the skull to the chest.

"A disc is a combination shock absorber and universal joint that connects vertebrae," says Heller, the Michael and Laura Baur Professor of Orthopaedics. "As we age, we can end up with shrinking discs and bone spurs, which can compress the spinal cord or nerve roots. Probably 90% of what we take

care of here is wear and tear disorders of the spine. People can wear out their parts."

When conservative methods, such as anti-inflammatory medicine and physical therapy fail to ease the symptoms, surgeons may recommend removing the worn out discs, then rebuild and fuse the spaces between the vertebrae. In Goode's case, Heller recommended what's known as a multi-level cervical discectomy and fusion.

A discectomy involves removing one or more damaged disks. To keep the vertebrae from collapsing onto one another after discs are removed, surgeons fill the space between the vertebrae with a bone graft, which allows the vertebrae to grow together (fuse). In turn, fusion facilitates spinal stability, with reduced degrees of flexibility. "In essence, the patient is trading a certain

amount of motion in their cervical spine for relief of their problem,” says Heller.

Goode’s surgery involved four of her seven cervical vertebrae. The more vertebrae involved, says Heller, the higher the chances are that surgery won’t be fully successful.

Still, Goode felt comfortable with the risk and agreed to it—on one condition. “I told Dr. Heller it was crucial that if I had this surgery, I’d have to be back to running within a certain period because I absolutely had to run the Boston marathon in April 2011,” she says. “And I knew I was going to need at least six months to get ready.”

Heller says successful surgical outcomes depend on a variety of factors, including a highly motivated patient who wants to get well and do her part to make it happen. “That’s the secret sauce,” he says.

Goode was highly motivated. Three months after surgery, she hit the road running. “My first run after the surgery was exhilarating because for the first time I was pain free,” says Goode. Six months later, right on schedule, she headed to Boston.

“I ran Boston to thoroughly take it in and enjoy every mile,” she says. “There was a little girl on the course who ran out and handed me a Twizzler. I thought, I’m going to stop and eat my Twizzler because this isn’t about the race. This is about the journey of getting here. And when I get home, I’m going to see Dr. Heller and say, ‘You know what, we did this together.’”

Goode’s next stop? An ironman triathlon in Panama City, Florida. —Robin Tricoles

WEB CONNECTION To see a video of Goode talking about her running career and surgery, visit bit.ly/goodemarathon.

Help in a hurry

In a move to enhance the community’s health and access to care, Emory Healthcare (EHC)

physicians will now serve as medical directors of MinuteClinic locations throughout Atlanta. MinuteClinic, the retail health care division of CVS Caremark, offers walk-in medical clinics that are open seven days a week inside 31 CVS pharmacy stores in the metro area. These clinics are staffed by nurse practitioners, who provide treatment for common illnesses and administer wellness and prevention services.

Under the new clinical affiliation between EHC (Georgia’s most comprehensive hospital system) and CVS Caremark (the nation’s largest pharmacy provider), nurse practitioners in select MinuteClinic locations can call on Emory doctors for help with diagnosis and treatment. In addition, MinuteClinic and EHC staff will collaborate on wellness education and disease management initiatives. And the two organizations plan to integrate their electronic medical records systems with patients’ permission to streamline communication around all aspects of each patient’s care.

Why is that good for patients? Care at retail walk-in clinics typically costs less than similar quality care at a doctor’s office or urgent care center and is much less expensive than a trip to a hospital emergency department. Emory’s affiliation with MinuteClinic will allow patients ready access to outstanding care right in their own neighborhood.



Order up

I’d like the pecan-crusted tilapia with a side salad, Thousand Island dressing, asparagus, and a roll. Oh, and some apple cobbler for dessert.

Patients at Emory University Hospital Midtown (EUHM) can place such an order from 6:30 am–7 pm in a new room service dining program that will deliver meals of patients’ own choosing to the bedside. EUHM is the third Emory hospital to offer fresh-to-order meals from a restaurant-style menu, allowing patients to choose what and when they are served.

Although the room service model costs more than traditional inpatient dining, it reduces food waste and supplies.

Even better, patients with access to room service dining tend to eat better in the hospital when they can select their own meals based on how they feel and when they are hungry.

They can schedule meals around tests and procedures, allowing them to avoid missing a meal or having to eat cold food delivered while they were out.

The dining staff at EUHM expect to deliver more than 300 meals during any given mealtime throughout the day.

The ultimate goal for the new room service program is a higher level of patient satisfaction.



Informed care



In today's ever-changing health care environment, it's no longer enough to keep on providing yesterday's good care. Getting the best clinical outcomes—and the most patient and family satisfaction—requires caring and then some. Today Emory nurses still bring the cool touch to the fevered brow, but more than tradition, their practice patterns are based on evidence—gleaned from scientific literature or their own research.

Shifting focus. As one example, the nursing literature has shown that outcomes improve when patients and families feel involved in the care plan, but it has offered few roadmaps for how to achieve that result. Emory nurses found a way to enhance patient/family involvement during the change of shift. Traditionally, nurses going off duty have met in a conference room or hallway to update the nurses coming on shift about the patients' conditions. At Emory, however,

these shift reports are done at the bedside, giving patients and families the chance to listen in and add their own comments.

Emory nurses Michelle Gray and Carolyn Hill pioneered bedside shift reporting in the ICU at Emory University Hospital. Building

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on feedback they got from patients, they wrote evidence-based, standardized guidelines for what nurses should discuss at the bedside and how to do it. Outcomes during their study in the ICU, especially measures of patient satisfaction, improved so much that Emory implemented bedside shift reporting throughout all its hospitals. And the Agency for Healthcare Research and Quality has

made a video of the Emory program available to its nurse members nationwide.

Preventing falls. Patient falls make up the single largest category of reported incidents in U.S. hospitals. Emory recently made a series of good-sense moves to reduce falls in its hospitals: replacing all patient beds with new ones that can be lowered closer to the floor, investing in special gel mats to create a soft, bouncy 4-foot radius around the bed of at-risk patients, and creating special “catch a falling star” signage to indicate a patient's fall risk to anyone who enters the room, from nurses to visitors to maintenance staff. Additionally, nurses regularly visit patient rooms to scan for fall-inducing hazards like a blanket or cord on the floor.

They based a second change on evidence from the scientific literature and Emory's own records. For example, one study showed that bathroom urgency was a leading cause of patient falls, and another demonstrated that hourly rounds could decrease the number of falls. Emory's database recorded the frequency and timing of falls in individual units. Based on all the information, administra-

tors instigated hourly nursing rounds, which included “intentional toileting” (not “would you like to ...?” but rather “let me help you to the bathroom now”). The rounds were timed to anticipate peak fall times, and as a result, falls—especially serious hip-breaking, head-hitting falls—are declining. Plus, patients seem to enjoy the regular contact.

Removing restraints. Some improve-

ments reported in the literature are so obviously a good fit for Emory's strides to improve quality that the decision is to "just do it," says Sharlene Toney, Emory Healthcare's executive director for professional nursing practice.

How, for example, to avoid using physical restraints on confused patients who persist in ripping out IV tubes? Recent studies suggested that special aprons with zippers, buttons, and tags work for patients with "active hands" and that tubing or monitor wires can be run under special skin-colored sleeves where they won't be visible to easily distracted patients. After Emory implemented the devices, along with other changes, the need for restraints plummeted.

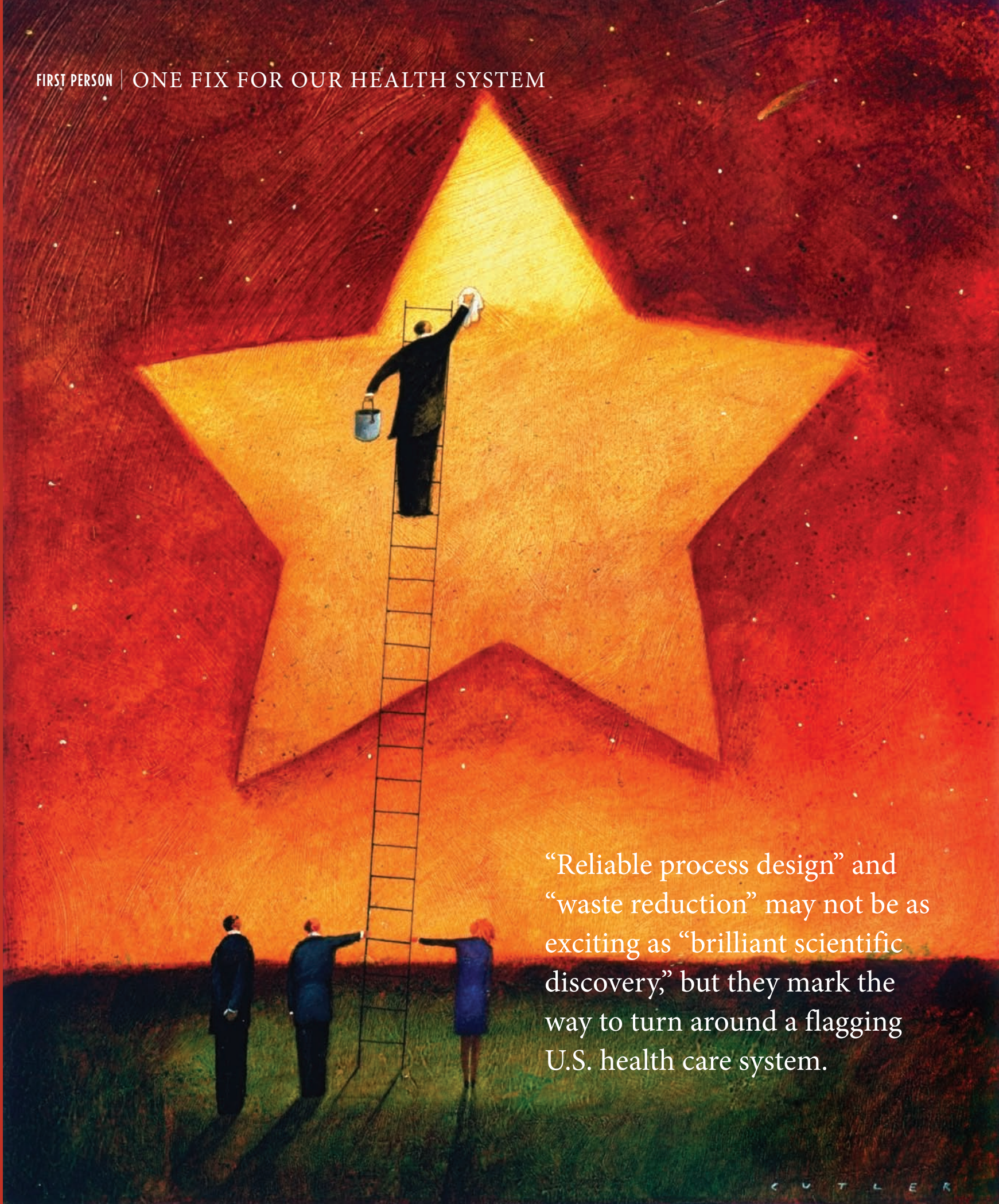
Fine-tuning dialysis. The acute hemodialysis units at Emory University Hospital (EUH) and EUH Midtown differ slightly in the time that elapses between end of a dialysis session and blood glucose testing for diabetic patients. When Emory nurses wanted to optimize treatment, they wondered what should be the standard of care? Finding no answers in the literature, they made calls to other hospitals, turning up a range of waiting times, none of which was based on clinical evidence. With help from the Emory Atlanta Clinical and Translational Science Institute, Emory nurses designed their own study—now under way—with a grant from the American Nephrology Nurses Association. Three additional clinical nursing research studies at Emory are generating information on patients ranging from newborns to older adults. The goal of all of these evidence-based initiatives is improved patient outcomes and quality of care, says Susan Shapiro, who oversees nursing research for Emory Healthcare. —Sylvia Wrobel

Chatting up health: Do you want to discuss your training schedule for next year's Peachtree Road Race with Emory orthopedist Amadeus Mason? Are you a smoker who would like to ask Emory oncologist Taofeek Owonikoko about the best screening for lung cancer for those in a high-risk group? Are you a woman who wants to ask Emory cardiologist Ijeoma Isiadinsio how heart disease symptoms differ from men to women?

Now patients don't have to wait for their next appointment to talk with an Emory physician about a health topic of concern. Emory Healthcare is offering live web chats to allow community members opportunities to interact in real time on the web with Emory doctors. The chats cover a range of topics, from heart health to cancer to musculoskeletal questions.

To preview upcoming live chats or for transcripts of past chats, visit emoryhealthcare.org/doctor-chats/index.html. Patients also can suggest their own topics at emoryhealthcare.org/doctor-chats/request-topic.html.





“Reliable process design” and “waste reduction” may not be as exciting as “brilliant scientific discovery,” but they mark the way to turn around a flagging U.S. health care system.

C U T L E R

The value proposition

By WILLIAM BORNSTEIN • Illustration by DAVE CUTLER

The tipping point for the “quality movement” in U.S. health care began in 1999. At that time, Americans generally referred to their health care system as “the best in the world.” In truth, there was much to be proud of. Truly breathtaking advances had been achieved over the preceding decades. The human genome was on the verge of being completely sequenced. Remarkable advances had occurred in pharmaceuticals, imaging, and minimally invasive surgery as well as on many other fronts. U.S. health care had led the world in achieving the bulk of these advances. For most Americans, these advances were ample evidence of the extraordinary quality of American health care.

On the other hand, evidence had been quietly accumulating that all was not well with our health care system. A number of studies published prior to 1999 had begun to make the case that in the midst of these advances, problems of safety and quality were rampant. The Institute of Medicine (IOM) published a pivotal report, *To Err is Human*, in 1999. While most IOM reports are for the most part known only among those in scholarly circles with interest in a related area, this one turned out to be a blockbuster. By all accounts, it was so by explicit design. The headline, based on inferences from previously published studies, was that medical errors occurring in American hospitals were resulting in 44,000 to 98,000 deaths per year, making hospital errors the eighth leading cause of death in the United States. The IOM followed *To Err is Human* with *Crossing the Quality Chasm* in 2001, again making similar dramatic points about the unsatisfactory

state of health care quality in this country. Both reports stressed that the issues that had been uncovered were not the result of a lack of highly motivated, highly qualified, highly trained, hard-working health care workers but rather were due to a lack of emphasis on systems design to achieve quality and safety. Moreover, these issues were more problematic in the United States than in most other developed countries.

So, how does one reconcile the apparent paradox of a health care system that has led the way in achieving remarkable advances that have improved the quality of life of millions around the world with major deficiencies in basic quality and safety? I think the issue can best be summarized by what I refer to as “the brilliant versus the routine.” In the process of achieving remarkable advances, our health care system had focused on innovation and individual excellence while failing to apply the same vigor to measuring and

improving the more routine aspects of care (including the translation of innovations into standardized and reliably implemented processes of care). Some measure of this imbalance has been reflected in the staggering gap between the U.S. funding of basic biomedical research targeted at developing such innovations and the funding of “health services research,” which focuses on how to best deliver care—in other words, how to ensure that patients receive evidence-based care reliably and safely. We can see one crude estimate of this imbalance by comparing the funding of the Agency for Healthcare Research and Quality (AHRQ), which focuses on health care delivery, with that of the NIH, which emphasizes basic biomedical discovery. When *To Err is Human* was published, the predecessor of AHRQ was funded at a level of \$171.055 million. That same year, the NIH’s budget was \$15.6 billion. By 2011, the gap was narrower but still enormous,

with President Obama's budget for FY 2011 requesting \$611 million for AHRQ and \$32.2 billion for NIH.

Meanwhile, the costs of U.S. health care have been rising considerably faster than the gross domestic product and are adding to the present U.S. economic crisis and imperiling future American prosperity and competitiveness. While considerable progress has been made in improving many of the measures of quality and safety illuminated by the IOM and other reports, progress has not been fast enough—despite the staggering costs of U.S. health care and the unsustainable rate of increase of those costs. Since the work of collecting, analyzing, and reporting data and improving performance has added to the costs of care, one could wonder whether we can afford to continue to expand these activities, which currently are in many ways still rudimentary.

I think we have, indeed, reached a pivotal moment for our health care system. While the details will continue to be battled over in Washington and elsewhere, we can be confident that health care providers that thrive in the future will be those who can provide patients and their insurers with better outcomes for lower costs (loosely described as better “value” in health care reform lingo). This will be a sea change from our present system, which largely ignores outcomes and rewards interventions, whether effective or not and whether successful or not. Thriving—and indeed surviving—as health care providers will require a new expertise in reliable process design and waste reduction. The lament that health care is different because each patient is unique in no way diminishes the importance or feasibility of such approaches. Indeed, many industries unassociated with health care have achieved “mass customization” through targeted and selective standardization, which paradoxically facilitates appropriate individualization.

Health care came late to the party in recognizing that the “how” of designing and implementing reliable and efficient processes requires training and sophisticated expertise. So does knowing “what” care to implement,

which has been the focus of traditional medical education and training. Going forward, modern improvement strategies such as Lean and Six Sigma will be essential components of the toolsets of health care providers.

Emory Healthcare (EHC) has made substantial commitments to improving quality over the past several years. Setting ambitious goals is perhaps the single most important step to achieving breakthrough improvements, and in 2006, the EHC board



William Bornstein is chief medical officer and chief quality officer of Emory Healthcare. An internist and endocrinologist, he continues to care for patients in addition to leading the quality efforts for Georgia's most comprehensive health system.

challenged leadership to achieve top 10 status by 2012, as judged by the University HealthSystem Consortium Quality & Accountability Scorecard (considered the best overall quality benchmarking system). The year that goal was set, Emory University Hospital (EUH) and EUH Midtown were in the bottom half of the pack in that scorecard. But in 2011, both met their goals, achieving 10th and 11th place rankings, respectively, out of 101 ranked hospitals.

So how did the EHC make the unparalleled tandem improvements to get to these ranks? It built on the cultural foundation of the EHC care transformation model, which puts patients and families at the center of care decisions along with the attributes of a fair and just culture, transparency, cultural competency and diversity, and shared decision-making. The model's goal is to offer a promise of quality to patients that they will receive impeccable outcomes and excellent service. To do so, it also drew on the educational infrastructure of the EHC Quality Academy, which has received national recognition. And it made targeted investments in health care information technology, along with many other specific initiatives.

The challenge for the system now is accelerating these improvements even more while at the same time cutting costs. The Emory Clinically Integrated Network (CIN), which we are currently building, is a network of providers who share data sets to improve care. It will provide a platform for Emory providers to collaborate more effectively with community partners to achieve these quality goals. Health care information technology—leveraging the EHC Health Information Exchange (HIE)—will be an important asset for achieving these goals. The HIE will facilitate the sharing of electronic information between EHC and private practice physicians who participate in the CIN to provide data for improvements in quality and value. However, the most important ingredients will be having the commitment and confidence to set ambitious goals and then to relentlessly pursue those goals through the application of the most effective available tools.

U.S. health care providers, led by our academic medical centers, must continue to lead the world in the development of new diagnostic and therapeutic interventions. At the same time, we must apply the same intellect, talent, and spirit of innovation to the pressing problems of improving the reliable and safe delivery of care. By enhancing value, we can afford to provide care for all citizens without undermining national economic vigor. In fact, we can't afford not to do it. ■



ask Stacey

Need an appointment for an Emory doctor quick? Interested in registering for a prenatal class? Want to learn how to protect yourself and your family from flu? Stacey Hammett can help you with that and more.

Hammett is one of the 14 registered nurses who answer 16 phone lines at Emory Healthcare's HealthConnection. A one-stop shop for patients and referring physicians, HealthConnection is available 7 a.m. to 7 p.m. each weekday. **What would you like to know?**

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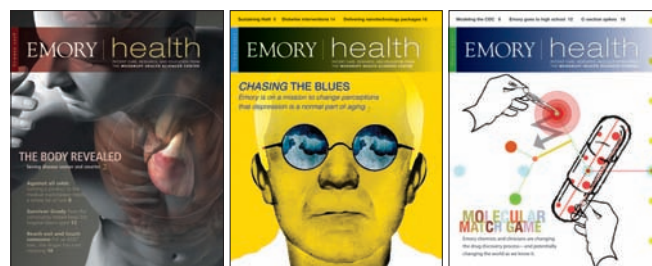
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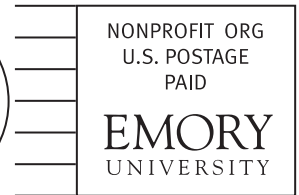
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Have a plan.

ANN HASTINGS defines *survivor*. She beat lung cancer and is in remission from non-Hodgkin's lymphoma. In the midst of her own battles, she lost her beloved husband, Paul, to bile-duct cancer in 2006.

To keep cancer at bay, Hastings makes bimonthly visits to Winship Cancer Institute, where doctors and staff treat her as family. The warmth, compassion, and expert care she receives at Winship sustain her and have compelled her to make "this little jewel" a beneficiary of her life insurance. "Any way I can, I will give back to fight this horrific disease," she says.

Learn how you can fight disease by including Emory in your estate plans. Call the Office of Gift Planning at 404.727.8875, email giftplanning@emory.edu, or visit www.emory.edu/giftplanning.

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