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ANNUAL REPORT

2012

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Health care faces numerous and major transitions, and with a passing of the torch in deanship, Emory's medical school faces transitions of its own. In this season of change, the school has never **been stronger or better positioned** to seek answers and provide solutions for the months and years ahead.



EMORY  
UNIVERSITY  
SCHOOL OF  
MEDICINE

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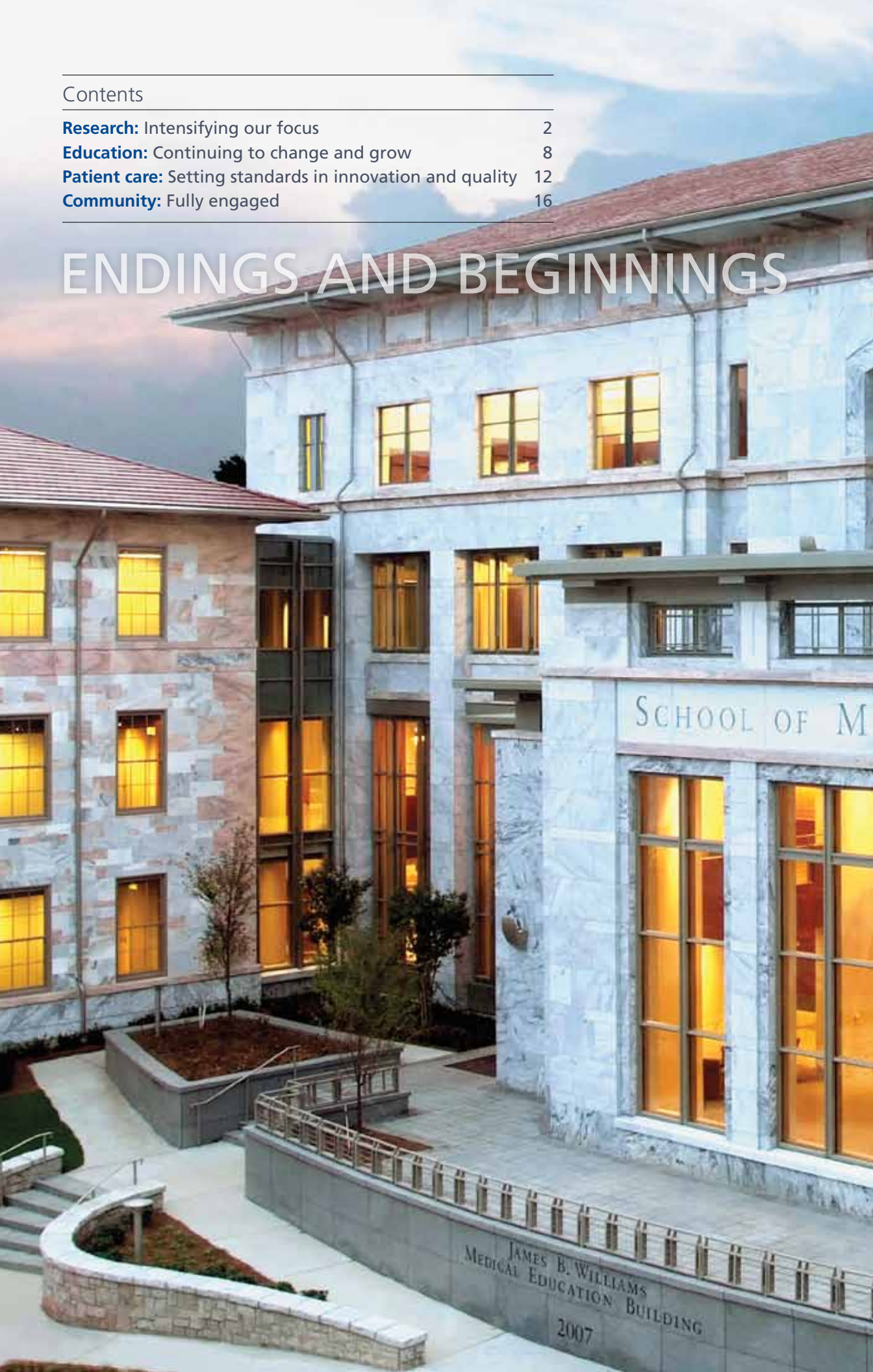
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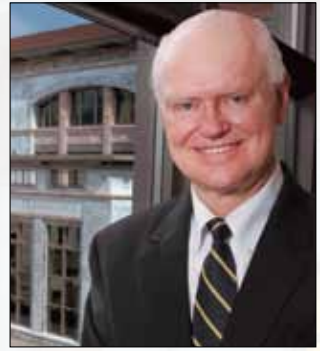
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# ENDINGS AND BEGINNINGS





## FROM THE DEAN

**I will step down as dean this year, after 16 years in office, following eight years here at Emory as dermatology chair. During this time, I have watched—and have been proud to be part of—the transformation of a very good school into an outstanding one, great in accomplishments, great in heart.**

I have had opportunities most deans could only dream of. Research buildings rose in rapid succession during the largest construction boom since the medical school joined Emory University in 1915. We were able simultaneously to design a new curriculum and new medical education building. Clinical and research partnerships have strengthened and allowed the school to grow and serve in unprecedented ways. In everything we did, we have had the support and vision of university and Woodruff Health Sciences Center leaders and of the Woodruff family of foundations and other generous donors.

As I pass the torch this fall, the school has never been stronger, never better positioned for future achievements. None of this would be true without our faculty. Having helped recruit and retain many of them is the thing of which I am most proud in my tenure as dean. Watching what they will achieve going forward will be my greatest joy as emeritus dean.

After a year's sabbatical, I will be back on campus, seeing more patients, teaching, working on some of the issues that face medical education. In other words, I will be faculty. I can't think of anything more exciting.

With gratitude to all who have supported the school and me,

**Thomas J. Lawley, MD**

Dean, Emory University School of Medicine  
Timmie Professor of Dermatology

**Intensifying our focus** The medical school finds itself well positioned to address some of the nation’s most challenging research issues: How to take up the growing slack in drug discovery and get new therapies and technologies to patients. How to produce better health outcomes at lower costs. How to advance care for big global killers like heart and infectious disease. Much of the fivefold growth in Emory’s research portfolio during the past 16 years has been centered on these areas.

**DRUG TESTING AND DEVELOPMENT**

As the pharmaceutical industry narrows the focus of its own discovery engines, it is turning increasingly to academic medicine for collaboration in drug testing and development. Emory and Bristol-Myers Squibb, for example, recently formed a partnership in which investigators from Emory and affiliated institutions will conduct clinical trials in metro Atlanta to support

*Emory offers would-be entrepreneurs a six-week course on how to start and run a business, from market analysis to identifying and working with investors.*

development of investigational medicines from across Bristol-Myers Squibb’s portfolio, particularly in oncology, metabolics, hepatitis C, and immunoscience. The agreement builds on recent experiences between the two organizations in conducting clinical trials in organ transplantation and cancer.

Meanwhile, the Emory Institute for Drug Development (EIDD) is collaborating with Scynexis, Inc., to develop the first antiviral drug for mosquito-borne dengue fever, which infects 50 million people a year worldwide, including recent cases in Florida. Drugs already exist for tuberculosis, another EIDD focus, but the six- to nine-month treatment course leads to poor compliance, allowing the bacterium to rebound, producing drug resistance. EIDD is searching for a compound that

would cut treatment regimens to a more workable two or three weeks. A partnership with GlaxoSmithKline gives EIDD a head start: access to more than 600 patents for drugs.

**Helping investigators take the next step**—Emory’s technology transfer office manages more than 1,000 Emory-invented technologies. Management of inventions has led to formation of 63 new companies and introduction of 50 new products to market, with royalties earned from sales of new products by Emory licensees used to subsidize research and education. To help grow the number of new biotech companies in Georgia, Emory recently teamed up with the University of Georgia to offer 22 budding entrepreneurs from Emory, Georgia Tech, Morehouse School of Medicine, and UGA a six-week course on how to start and run a business, from market analysis to identifying and working with investors.

**Brain tumors: a new direction for progesterone**—Based on Candler Professor Don Stein’s pioneering research, medical centers across the country have been conducting an NIH-sponsored, Emory-led phase 3 clinical trial of progesterone for acute traumatic brain injury (TBI).



**Ignacio Sanz**, a Georgia Research Alliance Eminent Scholar and an expert on lupus and other autoimmune diseases, is the new director of the Kathleen and Mason Lowance Center for Human Immunology.



Pharmacology and neurology researcher **Ellen Hess** has developed a drug-screening program to identify new drugs to treat dystonia.



**William Mahle** co-leads a core site (collaboration of Emory and Children's Healthcare of Atlanta) in NIH's Pediatric Heart Network.

In other studies in the lab, Emory researchers have noticed an additional apparent benefit of progesterone besides that for TBI: In mice the hormone not only protected healthy neurons but also caused tumor cells to die. As they reported in *Molecular Medicine*, high doses of progesterone kill neuroblastoma cells—the most common cancer in very young children—while leaving healthy cells unscathed. Progesterone cut tumor growth in half, decreasing proteins produced by tumor cells to attract blood vessels for nourishment and invasion of nearby healthy tissues. The scientists now are determining optimal dosage, length of treatment, and combination with radiation or chemotherapy, before moving to human clinical trials.

**New stroke drugs**—Compounds called prostaglandins have been found in animal research to protect the brain from damage following stroke, and Emory pharmacologists have identified other compounds that enhance these protective effects. They believe drugs targeting a specific prostaglandin receptor, if given in the ICU, could lower risk of a repeat stroke.



# FRUITFUL PURSUITS

*Researcher **Lawrence Boise** partners with oncologist **Sagar Lonial** to improve drug treatments that disrupt multiple myeloma cells' ability to dispose of their own waste products. Both work at Winship Cancer Institute, which recently received five-year renewal as a National Cancer Institute-designated cancer center, the only one in Georgia.*



*Georgia Research Alliance Eminent Scholar **Eric Hunter** co-directs Emory's Center for AIDS Research, which recently received five-year renewal from the NIH.*



*Pharmacologist **Haian Fu** heads the NIH-funded Emory Molecular Interaction Center for Functional Genomics, studying protein-protein interactions, which often get rewired in cancer.*

Creating and developing such a drug will move more rapidly, thanks to the new NIH Blueprint for Neuroscience Research, which selected Emory as one of seven teams nationwide to develop these compounds, providing unprecedented access to pharmaceutical and biotechnology industry consultants to assist throughout the drug-development process.

**Translating cancer genome data into therapies**—The new Emory Molecular Interaction Center for Functional Genomics (MicFG) focuses on protein-protein interactions that often get rewired in cancer, driving tumor development and progression. MicFG's goal is to map these interactions and identify molecular targets where "pathway-perturbing" drugs could disrupt them. The center's team has extensive experience in genomics data mining and analysis in the technology-rich Emory Chemical Biology Discovery Center, which tests compounds for use as potential drugs to target these protein-interaction pathways. Meanwhile, researchers in Emory's Winship Cancer Institute are working to translate MicFG discoveries into patient therapies. Funded by \$4.3 million from the National Cancer Institute, MicFG is the only southeastern center selected for the NCI's nine-member Cancer Target Discovery and Development network.

## **HEALTH SERVICES RESEARCH**

In an era of increasingly stringent cost containment, emphasis on providing the highest quality of care possible within a given amount of resources makes health services research (HSR) one of the fastest-growing research areas nationwide. Emory has a natural advantage in the hot new field, thanks to a large health care system and strong clinical partnerships with access to diverse patient populations and lots of patient data. The Emory/Georgia Tech Healthcare Innovation Program ([hip.emory.edu](http://hip.emory.edu)), a virtual network, exemplifies the growing culture of HSR collaboration throughout the region, while individual research projects illustrate the breadth and power of HSR. For example, Emory University Hospital's chief of gastrointestinal surgery joined forces with Georgia State University's director of experimental economics to understand why roughly six of every 100 surgery patients nationwide are readmitted within 30 days. The team of economists examined hundreds of thousands of



**David Stephens**, VP for research in health sciences and Schwarzmann chair in medicine, leads the Atlanta Clinical and Translational Science Institute (ACTSI), a research partnership focused on speeding translation of research into benefit for patients. Funded by NIH, the ACTSI recently received five-year grant renewal.

observations on 3,000 Emory surgery patients. Results: a software risk profile, now being tested, that recommends whether a patient be discharged or stay in hospital.

## HEART RESEARCH

**Identifying “vulnerable” plaque**—Most heart attacks or strokes occur when unstable arterial plaque causes a clot. Being able to predict where such instability is most likely to occur would give clinicians a new way to intervene. In the largest published investigation of shear stress (a measure of how hard blood tugs on arterial walls) and plaque progression in humans, Emory clinicians and Georgia Tech experts in fluid mechanics were able to predict which areas of the coronary arteries develop more atherosclerotic plaque before and after six months of statin therapy. Some plaque develops in steady progression and other plaque, even in the same patient and same artery, develops in fits and spurts. The team found that plaque formed in steady progression is more stable, whereas plaque that develops in fits and spurts is more likely to rupture. The work appeared in *Circulation*.

**Regenerating damaged hearts**—Earlier work at Emory demonstrated that high doses of a patient’s own bone marrow cells can improve blood flow and help heal injury caused by heart attack. Now Emory is heading a multi-institution clinical trial to establish bone marrow cells as a therapeutic option. All 160 patients receive angioplasty and stents. Half have 10 million bone marrow cells infused into the coronary artery where blockage caused the heart attack; the other half receive placebo. Effectiveness is assessed by SPECT imaging of blood flow beginning six months after treatment and continuing 36 months.

**Understanding causes of ischemia**—Insufficient blood flow to the heart triggered by psychological stress produces higher risk of adverse cardiac events, even death, than ischemia brought on by physical stress. With an \$11 million NIH grant, Emory cardiologists are working with heart patients to understand these differences. Studies focus on genetics and variations in response to stress of the brain and heart (as measured by PET scans) and the vascular system. For example, ischemia caused by mental stress occurs in different areas of the heart from that caused by physical stress. Hormones secreted during excitement or stress cause arteries and vessels to dilate in most people, but in other people these same chemicals cause constriction.

**Finding power in numbers**—The Emory Center for Heart Failure Therapy and Transplantation was selected as one of nine members of the National Heart, Lung and Blood Institute’s heart failure clinical research network. Member institutions combine patient populations and jointly design and conduct clinical trials for all forms of heart failure.



## VACCINES

**HIV prevention**—An HIV/AIDS vaccine developed at the Emory Vaccine Center, Yerkes National Primate Research Center, and GeoVax Labs protects nonhuman primates against multiple exposures to simian immunodeficiency virus (SIV), the nonhuman primate version of HIV. In clinical trials supported by the NIH HIV Vaccine Trials Network, an earlier generation of the new vaccine produced excellent vaccine responses in more than 400 uninfected people, setting the stage for this new, second-generation vaccine to move into safety and efficacy human trials later this year in participants at high risk of exposure to HIV. The new vaccine regimen, designed for a version of the virus prevalent in the Americas, includes a DNA prime vaccine that co-expresses HIV proteins and a granulocyte-macrophage colony-stimulating factor (GM-CSF) that promotes the initiation of immune responses and thus enhances the ability of the vaccine to elicit blocking antibodies before the virus enters cells.

In other work, the Emory Vaccine Center, along with Yerkes Research Center, recently received two grants to participate in large, concerted HIV vaccine efforts. One is to conduct studies on CD4+ T cells as part of the NIH's new Centers for HIV/AIDS Vaccine Immunology & Immunogen Discovery. The other, from the Gates Foundation, is focused on inducing optimally effective anti-HIV antibodies. Both will use an Emory-developed technology using virus-mimicking nanoparticles to stimulate long-lasting immune responses.

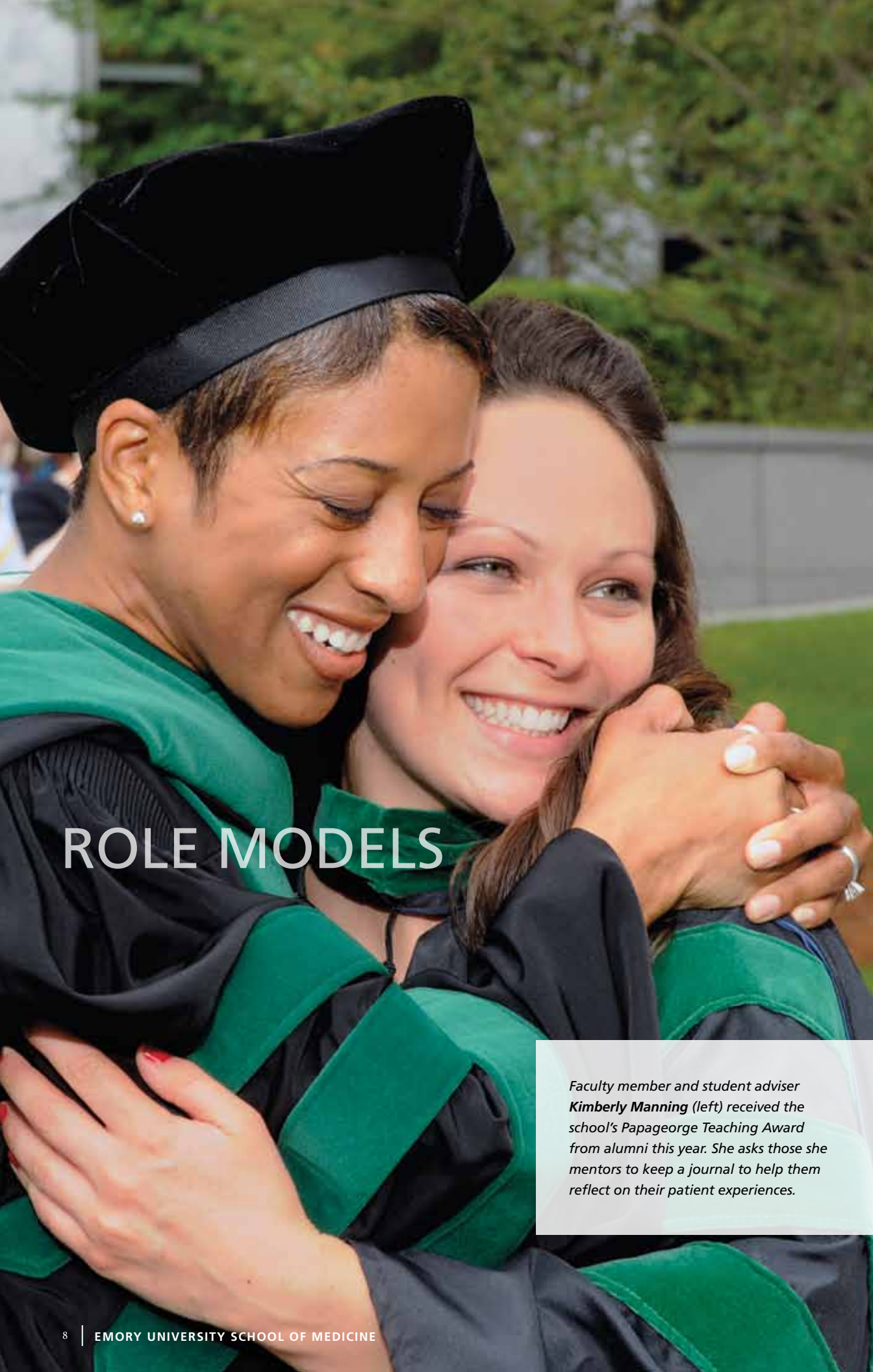
**Global collaboration**—The medical school, through the Emory Vaccine Center, is the only U.S. medical school represented among 42 global partners in a new collaborative research program, Advanced Immunization Technologies, designed to accelerate human vaccine development. Led by Novartis, the partnership was launched with 4 million euros from the European Union and collaborating organizations, with the World Health Organization as a senior partner.



*Winship Cancer Institute researcher **LaTonia Taliaferro-Smith** is working to address the dearth of biopsy samples from African American women, who are disproportionately affected by triple-negative breast cancer, which lacks three biomarkers that make other breast cancers vulnerable to standard drugs.*



*Gynecologic oncologist **Kevin Ault** is leading a trial to assess whether the vaccine for human papillomavirus (HPV) provides long-term immunity. HPV is the most common sexually transmitted infection in the country, with 6.2 million persons newly infected each year.*



## ROLE MODELS

*Faculty member and student adviser **Kimberly Manning** (left) received the school's Papageorge Teaching Award from alumni this year. She asks those she mentors to keep a journal to help them reflect on their patient experiences.*

**Continuing to change and grow** No longer “new,” the medical curriculum that debuted at Emory in 2007 is now fully implemented and has hit its stride. But the preparation of young doctors continues to broaden, sometimes in ways that surprise the faculty and always with the promise of changing how the next generation views their patients and provides them care.

#### WHEN NOT GRADUATING ON TIME IS A GOOD THING

If the goal of a mandatory five-month “discovery” phase was to pique students’ curiosity, it is succeeding. Almost a fourth (33) of the 138 students in the class of 2012 were delayed in receiving their MD degree. Many paused their medical studies to complete a master of public health (MPH) degree. Several completed a master’s of science in clinical research, a highly competitive program in the multi-institutional Atlanta Clinical and Translational Science Institute. Two studied at the London School of Hygiene and Tropical Medicine. And two coordinated a clinical trial for flu vaccine and helped start an evidence-based medical course for physicians in Mali, West Africa.

Providing such opportunities requires commitment from faculty who carve out time and provide funds to train, supervise, and mentor young students in their labs.

The payoff is visible in the achievements of students like Ryan Summers, now an Emory pediatrics resident. As a medical student, Summers spent his discovery phase in the lab of

*The curriculum is designed to make sure students develop and retain compassion and empathy to their fullest extent, no matter the exigencies of time and technology.*

hematologist Pete Lollar, a Hemophilia of Georgia Research Chair in Hemostasis. Two months before receiving his MD, Summers was already first author of a cover article in *Blood* describing a previously uncharacterized mutation related to hemophilia A.

#### OUTPATIENT, IN THE COMMUNITY

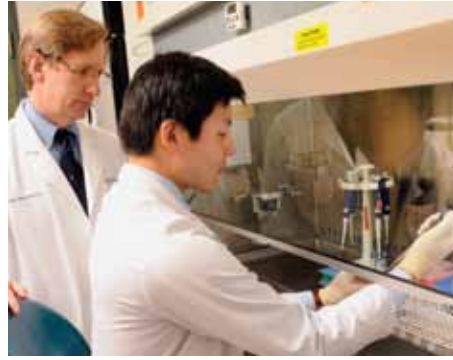
The sheer logistics of teaching students in hospitals are much simpler than teaching in outpatient settings, but hospitals are not where students best learn prevention, longitudinal care, and maintenance of long-term, sometimes intergenerational relationships with patients.

Early in their education, during their “foundations” phase, Emory students begin interspersing time in classrooms, labs, and dissecting rooms with what they fondly call OPEX (outpatient experience). For many, these half-day, every-other-week interactions are a reminder of why they chose medicine. For a growing number, it’s the first step on a path toward a career in primary care, a track whose growth is sorely needed across the country.

Experience in outpatient care continues after students complete foundations. The next phase, “applications,” includes a three-month block of ambulatory care in which students see outpatients four days a week, both adult and pediatric, general and specialized, and return to campus on Fridays for classes that pull the experiences together. This unprecedented amount of time spent in outpatient care would be impossible without the support of dozens of community volunteer faculty physicians across Atlanta.



Students **Evan and Laura Orenstein** spent 10 months in Bamako, Mali, coordinating a clinical trial examining the efficacy of flu vaccine in mothers and their infants.



Transplant specialist and Georgia Research Alliance Eminent Scholar **Allan Kirk** mentors students like **Steven Kim** during their discovery phase.

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## LEARNING HOW TO HANDLE GENETIC INFORMATION

More than 1,600 genetic tests are now available commercially. By the time today's first-year medical students enter practice, reading an individual's entire genome will cost less than \$1,000. But they'll be ready. In their first year, before students begin to confront the genetics integrated in almost every unit over the next four years, they take a two-week module that provides a firm grounding in ethics and principles of working with patients on genetic issues, such as how to approach testing and diagnosis and how to talk about difficult topics that affect not only patients but also family members.

**New training in genetic counseling**—This year, Emory's Department of Human Genetics inaugurated a master's program in genetic counseling, the first in Georgia, to address a national shortage of board-certified genetics counselors to help clinicians and patients interpret genetic information related to risk.

## UNDERSTANDING PATIENTS' LIVES OUTSIDE THE MEDICAL ENCOUNTER

**Social medicine**—A month-long elective includes weekly lectures on how economic, social, and cultural conditions affect health and health behaviors. But the meat of the course is in individualized firsthand exposures to challenges faced daily by many patients. Students visit low-income communities where jobs don't exist and the nearest grocery store is miles away. They visit homeless shelters and nursing homes. They accompany Meals on Wheels drivers to patients' homes. They tour the local jail. After spending hours in line in the Grady Hospital pharmacy for indigent patients, they better understand that cost is not the only barrier to taking medicines. The course also covers legislation affecting health care.

**Compassion 101**—It's not really a course, but the curriculum is consciously designed to make sure students develop and retain compassion and empathy to their fullest extent, no matter the exigencies of time and technology. For starters, small groups of eight or nine students spend all four years with the same faculty adviser, enabling students to model their own behaviors on someone they know well. The small groups also explicitly cover topics not usually found in textbooks, such as how to break bad news or the importance of body language. Communication lessons are repeated throughout medical school: talking to patients in a way that elicits important information; explaining procedures in detail, with no surprises; respecting privacy (exam tables should never face the door); allowing patients to process difficult news; really listening. Students also gain empathy from presentations by patients and from their own experiences, such as male students who are told to place a gown over their pants, put their feet in stirrups, and slide down the exam table as the professor explains how to communicate with a patient during a pelvic exam.

through  
human genetics  
research

## GUIDING PRINCIPLES

*Cecelia Bellcross directs the school's new master's degree in genetics counseling, the first in Georgia.*



# NEW POSSIBILITIES

*Neurosurgeon **Costas Hadjipanayis** is leading a phase 2 trial of 5-ALA (Gliolan), which is absorbed by malignant gliomas and helps the surgeon visualize tumor margins to differentiate tumor from surrounding normal brain tissue.*

## Setting standards in innovation and quality

Emory medical faculty provide care in the largest, most comprehensive health system in Georgia and in affiliate hospitals that include Grady Memorial Hospital, Children's Healthcare of Atlanta, and the Atlanta VA Medical Center (see page 21). As practitioners in academic medicine, they are charged simultaneously with developing and testing new drugs and procedures and finding new ways to improve quality and decrease costs—all while treating the sickest of the sick who routinely are referred and entrusted to their care. Following are some examples of ways they are meeting this charge.

### FLUORESCENCE-GUIDED BRAIN TUMOR REMOVAL

One difficulty in removing glioblastoma tumors is that tumor cells often look like normal tissue. Emory is the first site in the U.S. to test a drug, widely used in Europe, that lets neurosurgeons clearly see the difference. Before surgery, the patient swallows the drug Gliolan, which is absorbed by malignant tissue. Under a blue light operative microscope, tumor cells glow bright

*The University HealthSystem Consortium (UHC) ranked Emory University Hospital and Emory University Hospital Midtown second and sixth, respectively, for quality this year. Among UHC-ranked hospitals, Emory University Hospital has the highest case-mix index.*

violet-red. Ability to visualize clearly defined margins permits more complete tumor removal. Following this study of 33 brain tumor patients, Emory researchers plan a multi-center phase 3 randomized clinical trial that could lead to FDA approval of Gliolan.

### REPAIRING FORMERLY IRREPARABLE ANEURYSMS

Patients with large, wide-necked brain aneurysms once deemed untreatable now have a therapy option. Emory neuroradiologists are first in Georgia and among the first in the U.S. to use a pipeline embolization device. Connected to a catheter, the device redirects blood flow away from the aneurysm, causing

blood that remains in the aneurysm to form a clot to prevent rupture. More invasive procedures have greater risk for complications, making them inapplicable in medically fragile patients.

### SPARING THE KNIFE

To combat esophageal cancer or the premalignant Barrett's esophagus that can progress to cancer, Emory gastroenterologists increasingly use minimally invasive approaches. With endoscopic mucosal resection, for example, a band is applied around the area containing premalignant cells. This band bunches the tissue into a kind of polyp, which can be removed by radiofrequency ablation, cryotherapy, or other endoscopic methods, leaving deeper esophageal



*Hematologist **Jacques Galipeau** directs the Emory Personalized Immunotherapy Center (EPIC). Galipeau's team has developed methods of producing extra-high-quality mesenchymal stromal cells and has received FDA approval to test such patient-derived cells to treat Crohn's disease in children.*



*Pediatric gastroenterologist and Marcus Professor **Subra Kugathasan** is principal investigator of a clinical trial for Crohn's disease using patient-derived cells produced in the Emory Personalized Immunotherapy Center.*

tissue intact. To remove tumors, Emory gastroenterologists and surgeons teamed up to develop an approach combining thin laparoscopic instruments and flexible endoscopes. They recently reported success in five of seven patients: complete removal of tumors without open incisions or major surgical resection.

### **OVERCOMING TYPE 1 DIABETES**

Patients with severe type 1 diabetes are discovering how good it feels when their own body regains the ability to maintain healthy blood sugar levels. No more precipitous drops in blood sugar, loss of consciousness, or wild mood swings. The Emory Transplant Center, the only program in Georgia with islet cell transplantation experience, is participating in a multi-year national study. After patients complete a course of immune suppression, interventional radiologists access a vein in the liver, and transplant surgeons infuse islet cells harvested from an organ donor's pancreas. The transplanted cells then begin producing insulin, reducing or eliminating the need for insulin supplement, at least temporarily.

### **CONTROLLING HYPERTENSION WITHOUT MEDICATION**

For patients whose blood pressure remains high even though they take three or more medications to lower it, there's new hope. The Emory Heart & Vascular Center is the first in Georgia to offer a minimally invasive procedure in which a tiny catheter device delivers low-power radiofrequency energy to deactivate overactive nerves in the arteries leading to the kidney. When working correctly, these nerves signal the kidney to regulate the body's water and salt balance. When overactive, they ramp up blood pressure. The procedure is part of a 60-institution phase 3 clinical trial. Earlier studies in Europe and Australia found safe, significant, and sustained reductions in blood pressure, on average more than 30 mmHg, following deactivation.

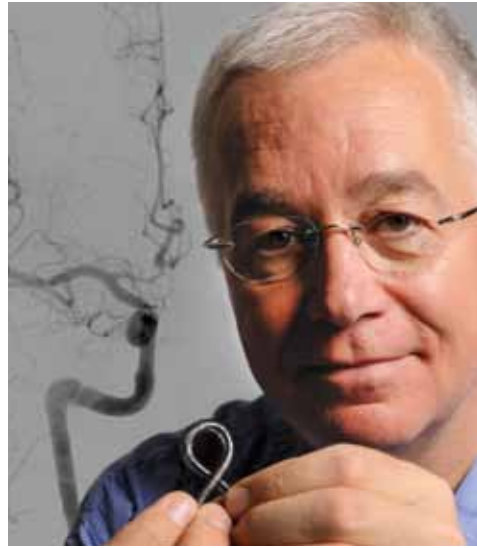
### **PALLIATIVE CARE—NOT JUST FOR THE DYING**

Emory's Palliative Care Center is leading an initiative to increase palliative care in emergency departments nationwide, a sometimes underappreciated site for seriously ill patients to receive





*Emergency medicine physician **Tammie Quest** directs Emory's Palliative Care Center and is leading a new national initiative to integrate and increase the use of palliative care for seriously ill patients in the emergency department.*



***Jacques Dion**, director of interventional radiology at Emory, is among the first physicians in the country and the first in Georgia to use a pipeline embolization device to treat large wide-necked carotid aneurysms that formerly were deemed untreatable.*

specialized care focused on relief from symptoms, pain, and stress. Emory emergency medicine is already a leader in palliative care, and leaders of the IPAL-EM initiative (Improving Palliative Care in Emergency Medicine) hope Emory's experience will help promote more palliative care in emergency departments nationwide, improving symptom control, reducing anxiety, making care plans more realistic and consistent with patient preferences, lowering conflicts about use of life-sustaining treatments, and enabling earlier transitions to appropriate settings.

#### **A NEW TAKE ON AUTOIMMUNE DISEASE**

There's only one mesenchymal stromal cell for every 100,000 cells in human bone marrow, but thousands are growing like weeds in a new research core facility, the first to be shared between the medical school and Emory Healthcare, with additional collaboration and funding from Children's Healthcare of Atlanta. Hematologist Jacques Galipeau established the Emory Personalized Immunotherapy Center (EPIC) based on research showing that the rare stromal cells, once multiplied, become potent weapons against many autoimmune diseases. Since cells come from the patient, immune incompatibility isn't a problem. Since the cells go to work only if they recognize a problem, there are virtually no side effects. A clinical trial began this year at Emory for their use in patients with Crohn's disease. This study, led by pediatric gastroenterologist Subra Kugathasan, is only the first of a series planned to develop personalized cellular therapies for patients facing catastrophic autoimmune and other diseases.

#### **AN "EXECUTIVE SUMMARY" OF THE GENOME**

Emory Genetics Lab is gearing up to offer whole exome sequencing as a clinical diagnostic service. Faster and cheaper than sequencing the entire genome, this "executive summary" technique is efficient for reading the parts of the genome believed to be the most important for diagnosing disease. Most disease-causing mutations (about 85%) are believed to be located within the regions of the genome that encode proteins, the workhorse machinery of the cell. Whole exome sequencing reads only the parts of the human genome that encode proteins, leaving the other 99% unread.

**Fully Engaged** Emory faculty, students, and residents engage the community in a variety of creative and important ways. They interact with students in local schools to interest them in careers in science or health care. They care for patients in local clinics for the poor and indigent and in the publicly funded Grady Hospital in downtown Atlanta. They help improve medical training in Ethiopia. They help alleviate suffering in Haiti. Most important, they benefit from lessons to be learned from serving those most in need.

**LIFT YOUR VOICES AND SING**

Coan Middle School in downtown Atlanta may have lost funding for a chorus teacher, but a partnership between the Emory Voice Center and the Atlanta Opera is providing the school's choral students the knowledge and skills they need to care for their voices. Emory voice specialists teach students basic vocal anatomy, physiology, and pathology as well as proper singing and speaking techniques. Atlanta Opera singers work with Coan teachers to provide choral training—and prepare the students to perform as a group in the lobby before an Atlanta Opera performance.

*Researchers in medicine and public health joined forces this year with Sophie's Voice Foundation to launch an international research and prevention center with the goal of preventing almost all cases of spina bifida by 2022 and to improve the lives of millions already coping with the disease.*

**ENGAGING FADING MINDS**

The Emory Alzheimer's Disease Research Center, in partnership with Emory's Carlos Museum, has launched Museum Moments, a program for people in early stages of Alzheimer's. Together with their caregivers, they take art tours led by specially trained educators, during which they are invited to share their thoughts and memories. The program is the creation of an Emory medical student who found in her research growing evidence that keeping people with memory loss

engaged in social activities is key to improving quality of life and stimulating cognitive function. Participating caregivers report seeing new levels of excitement and engagement in their loved ones, even of hearing stories that had never surfaced before.

**THE NEW HOUSE CALL**

Two Emory geriatricians and a nurse practitioner make the rounds at 11 assisted-living facilities throughout Atlanta, armed with a black bag and a laptop with each patient's electronic medical record. This domiciliary care, as it's called, is an Emory outreach program that allows health providers to follow more than 200 elderly patients annually in the context of where they live and to address the small things that help keep them healthy and out of the hospital. They also help patients and families plan for and deal with end-of-life issues.



# LIFE LESSONS

*Emory medical and physician assistant students have opportunities each month to volunteer at a nonprofit clinic for the needy. Students take patient histories, perform exams, and present cases to supervising physicians.*



*Emory geriatrician Louise Horney recently helped launch a domiciliary care program in which she and other colleagues see elderly patients during regular rounds at assisted-living facilities rather than having the patients come to them.*



*Emory's Allen Dollar heads cardiology at the publicly owned Grady Hospital for indigent patients. He also helps supervise medical students who coordinate medical clinics for the homeless and travels annually to developing countries to provide short-term medical care.*

## THE MEDICAL SCHOOL'S ROLE AT GRADY

Emory doctors (faculty, residents, and fellows) provide 85% of physician care at publicly funded Grady Memorial Hospital in downtown Atlanta, which serves a large indigent patient population. Each year, they provide tens of millions of dollars in uncompensated care for these patients. When Grady patients do have coverage, all payments for Emory services go to the Emory Medical Care Foundation, which invests any proceeds in salaries and other operating expenses to support Emory's mission at Grady.

## SERVING THE UNDERSERVED IN DEVELOPING COUNTRIES

**Haiti**—Each year, groups of Emory medical students and faculty make trips to Haiti as part of Emory Medishare, a branch of the nonprofit Project Medishare, which advances community health in one of the poorest countries on earth. Emory students and faculty typically see 400 to 500 patients in week-long general medicine or gyn-ob clinics, while Emory surgeons perform procedures often otherwise unavailable in the country. In recent months, Emory Medishare's student-led efforts focused on developing an electronic medical record and referral system in a country without a reliable method to track needed follow-up care. The team uses an iPad and mobile printer to print forms that patients can carry to subsequent visits.

**Ethiopia**—More Ethiopian doctors practice in the U.S. than in all of Ethiopia, where there is one doctor per 35,000 people. In its growing involvement with Ethiopia, Emory tries to address that dearth, with a medical exchange program with Addis Ababa University (AAU), Ethiopia's largest medical school. The training helps clinically but is also a powerful tool in encouraging Ethiopian physicians and faculty to seek advancement in their own country. Emory is developing a curriculum for a gynecology-oncology fellowship at AAU, focusing on issues like cervical cancer, a big problem in a country without Pap smears or sufficient doctors prepared to treat advanced cases. Other Emory programs include infectious disease, pulmonary medicine, general medicine, cardiology, radiology, and pathology. Additionally, beginning in 2013, Emory will send some of its surgery residents to a hospital in Soddo, Ethiopia, for a six-week rotation, offering young American surgeons new insights into advanced and unusual disease states not often seen in the U.S.



*Emory faculty like geriatric specialist Wilson Holland provide the majority of care at the Atlanta VA Medical Center. Holland organized a project to get WWII veterans to write down their memories of that experience. "Their memories give us and the young doctors we train more insight into their lives and another way to honor their service," says Holland.*

## NEW INSIGHT

From the executive vice president

## REAPING BENEFITS FOR YEARS TO COME

**I came to Emory 22 years ago, recruited by the then new dermatology chair. I had worked with Tom Lawley at the National Cancer Institute, where he headed a highly regarded lab in dermatologic immunology, and I jumped at the chance to join the department he**



**was building, almost from scratch. Under his leadership, Emory dermatology became one of the nation's best, most impressively going from zero research funding to the third highest of any dermatology department in the nation.**

When he took the deanship 16 years ago, no one was surprised to see the medical school quickly move forward on all counts. The number of faculty has doubled, to more than 2,000. A world-class curriculum attracts the nation's most promising students—and visitors from other medical schools to see how we are preparing them. More than a million square feet of new clinical, teaching, and research space have been added during his watch, including the James B. Williams Medical Education Building. Research funding has increased five-fold. More important, our faculty has discovered and developed numerous new ways to diagnose, treat, and prevent disease.

Tom himself is quick to credit the faculty for these and other achievements, and it is true that one of his greatest gifts has been the ability to identify and bring on board amazing men and women. Faculty, however, credit the dean for his vision, his steadfastness, his integrity (often the first word used to describe him), and the way in which he models and inspires collegiality and cooperation.

This most recent report, for all its achievements, can only hint of Tom Lawley's legacy. We'll be seeing and living it for decades to come. Thank you, Tom, from all of us.

### **Wright Caughman, MD**

Executive VP for Health Affairs

CEO, Woodruff Health Sciences Center

Chairman, Emory Healthcare

# Emory's Woodruff Health Sciences Center

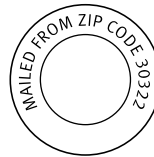
- **Emory University School of Medicine**
- **Nell Hodgson Woodruff School of Nursing**
- **Rollins School of Public Health**
- **Yerkes National Primate Research Center**
- **Winship Cancer Institute**
- **Emory Healthcare**, the largest, most comprehensive health care system in Georgia
  - **Emory University Hospital**, 579 beds, staffed by Emory physicians
  - **Emory University Hospital Midtown**, 511 beds, staffed by Emory and community physicians
  - **Emory University Orthopaedics & Spine Hospital**, 120 beds, staffed by Emory physicians
  - **Emory Johns Creek Hospital** (jointly owned), 110 beds, staffed by Emory and community physicians
  - **Saint Joseph's Hospital** (jointly owned), 410 beds, staffed by Emory and community physicians
  - **The Emory Clinic**, 1,600 physicians, nurse practitioners, physician assistants, and other providers
  - **Emory Specialty Associates**, an outreach physician practice organization with locations throughout the city and state
  - **Emory Clinically Integrated Network**, a network of physicians and hospitals formed to improve care coordination and quality outcomes as well as control costs for patients and the community
  - **Wesley Woods Center of Emory University**
    - **Wesley Woods Hospital**, 82 acute geriatric care beds, 18 long-term acute care beds
    - **Wesley Woods Clinic**, outpatient primary care for geriatric patients
    - **Budd Terrace**, a 250-bed skilled nursing care facility
    - **Wesley Woods Towers**, a 201-unit residential retirement and personal care facility
    - **Wesley Woods Health Center** (includes Center for Health in Aging, Fuqua Center for Late-Life Depression, geriatric dental services)
  - **Emory-Children's Center**, the largest pediatric multispecialty group practice in Georgia (joint venture with Children's Healthcare of Atlanta)
  - **Emory-Adventist Hospital** (jointly owned), 88 beds, staffed by community physicians

## HOSPITAL AFFILIATES

- **Grady Memorial Hospital**, 953 licensed beds, staffed by Emory faculty, residents, and fellows in collaboration with Morehouse School of Medicine, with Emory providing 85% of care
- **Children's Healthcare of Atlanta**
  - **Children's at Egleston**, 255 beds, Emory campus, staffed by Emory and community physicians, with Emory providing 80% of care
  - **Children's at Hughes Spalding**, 24 beds, Grady campus, staffed by Emory, Morehouse, and community physicians, with Emory providing 66% of care
  - Some Emory pediatric faculty also teach and have admitting privileges at Children's at Scottish Rite, 250 beds
- **Atlanta Veterans Affairs Medical Center**, 178 hospital beds, 50 nursing home beds, 12 psychiatric residential rehab beds; staffed by 250 Emory physicians



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