



“This is serious,” he said.
“You need to be in treatment *now*.”
Looking back, she knows she should have gone,
but she had other problems.
No insurance, no savings...



EMORY
UNIVERSITY

Woodruff Health
Sciences Center

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Patient stories throughout this book are real, but patients' names and identities have been changed to protect their privacy. Cover: Patient story continued on page 8



Putting service first. For some fortunate Georgians, the economic picture has brightened. As of mid-2012, the state had replaced a third of the jobs lost in the recession, with possible full recovery of lost jobs projected as early as 2016.¹ The plodding recovery has not changed



Georgia's fifth highest-in-poverty rank in the nation, however, and the percentage of those without health coverage remains stubbornly high, at 18.4%.²

The impact of federal legislation to address insurance coverage will be more clear only with time, as will the effect of new care models at Emory and elsewhere

to increase accessibility and affordability of care. What does seem certain at present is that many hospitals will continue to refer patients with the most complex and challenging conditions to Emory, knowing that Emory has not only the expertise to care for them but also a long tradition of putting service ahead of reimbursement. The stories in this book illustrate that tradition.

S. Wright Caughman, MD

Executive Vice President for Health Affairs, Emory University
CEO, Woodruff Health Sciences Center
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This report includes community contributions of faculty, staff, and students throughout Emory's Woodruff Health Sciences Center (WHSC). WHSC encompasses Emory School of Medicine, Nell Hodgson Woodruff School of Nursing, Rollins School of Public Health, Emory Healthcare, Winship Cancer Institute, and Yerkes National Primate Research Center. See page 33.

1. Humphreys J: The slow recovery. *Georgia Trend*, Dec 2012.

2. Hess AEM, Sauter MB, Frohlick TC: States with the worst health coverage. *USA Today*, Sept. 30, 2013.

See <http://www.usatoday.com/story/money/business/2013/09/30/states-with-the-worst-health-coverage/2898803/>.



Charity care in Emory Healthcare In fiscal year 2012-2013, Emory Healthcare provided \$80,276,319 million in charity care, an increase of 11.4% over the previous year, itself an increase of 4.9% over the year before.

Charity care has a very precise definition: It encompasses indigent care for patients with no health insurance, not even Medicaid or Medicare, and no resources of their own. It also includes catastrophic care for patients who may have some coverage but for whom health care bills are so large that even if it were possible to pay them, doing so would leave their lives further shattered.

The box at left details the charity care provided at individual Emory Healthcare facilities. Not included are the enormous amounts of uncompensated care provided by Emory physicians who practice at Grady Memorial Hospital and other hospitals and in clinics where many volunteer during their free time.

Charity care totals

Fiscal year 2012-2013

| | |
|--|---------------------|
| Emory University Hospital and Emory University Orthopaedics & Spine Hospital | \$26,848,014 |
| Emory University Hospital Midtown | 19,405,018 |
| Emory Saint Joseph's Hospital | 9,017,645 |
| Emory Johns Creek Hospital | 3,114,148 |
| Emory Clinic, Emory Specialty Associates, pediatric outpatient care, and Saint Joseph's Medical Group | 21,104,833 |
| Emory Wesley Woods Center | 786,661 |
| Total | \$80,276,319 |

The \$80.3 million total above represents the unreimbursed cost of providing charity care, based on actual expenses to Emory Healthcare. Cost reporting is standard for calculating charity care totals, as required by the Internal Revenue Service and advocated by the Centers for Medicare and Medicaid Services and the Catholic Health Association.

In addition to charity care, Emory Healthcare provides numerous other services with the goal of improving access to care, advancing medical knowledge, and relieving or reducing dependence on taxpayer-funded community efforts. In fiscal year 2012-2013, this total for Emory Healthcare was \$86,099,578. Following are examples of what this total includes:

- **\$7,105,364** from the community benefit inventory for social accountability (CBISA). Significant CBISA dollars include activities such as the following: discounted/free prescription drug programs; programs and contracted services for indigent patients; in-kind donations to organizations such as MedShare; transportation services; flu shots; blood drives; subsidized continuing care, nursing home care, and home care; sponsorship of selected charity health awareness events; and educational programs for the public, future health professionals, and patients

- **\$55,583,112** shortfall between Emory Healthcare's cost to provide care to Medicaid patients and reimbursement from Medicaid
- **\$23,411,102** costs to Emory Healthcare for the Georgia provider tax

When watch and wait is the only option

The hospital wrote off the patient's *ICU stay and rehab* as charity care, and social workers helped his family with housing and travel expenses so they could be near their son.

In his mid-20s and physically fit, Adrian Duffy had every reason to think his three-day headache was a fluke, except for the numbness in his face and fingers and some double vision. Imaging done at a nearby hospital found a cavernous malformation, a collection of abnormally dilated veins, filled with blood slowly leaking into the brain. Duffy was transferred to Emory University Hospital (EUH), the only facility in north

Georgia with specialists to treat this form of angioma. More imaging, more tests.

Neurosurgeon Michael Cawley (at right) has seen a lot of cavernous malformations but never one as large or as dangerously positioned as Duffy's—it was in the middle of the brain stem, which regulates cardiac and respiratory function. The only treatment for cavernous malformations is surgical removal, but in Duffy's case that would mean cutting into normal brain stem tissue with irreparable consequences. The good news is that, unlike aneurysms, which run the risk of exploding, cavernous malformations tend to hemorrhage slowly, and then stop, allowing the blood to be reabsorbed.

After discussion with the Duffy family, the decision was made to wait unless an emergency dictated otherwise. Duffy would stay in Emory's neuro-ICU, recovering under close observation of Cawley and a team of round-the-clock neuro-intensivist physicians and specially trained nurse practitioners. Cawley's hope was that Duffy's bleeding episodes would be small and few and far between—or that the malformation would migrate to the outer edge of the brainstem, allowing for easier removal. After two weeks, a greatly improved Duffy was referred to the Emory Center for Rehabilitation Medicine for physical and occupational therapy to help him recover from the deficits caused by his initial hemorrhage.

Such care is complex and costly. Duffy had been employed but had no health coverage. After his weeks in the ICU and more time in rehab, his hospitalization costs had climbed to more than \$230,000. EUH wrote it off as charity care, meaning he is not expected to pay. In fact, social workers also have helped his family with housing and travel expenses to be near their son. In the weeks ahead, as Duffy's medical situation progresses, Cawley will talk with Duffy and his parents about how to proceed. If the best path at the time appears to be removal of the malformation, the costs of the surgery, intensive care, and rehab will dwarf the charity care already provided. "But if he needs it and we think it will work," says Cawley, "then we will make it happen."





A gift of time

“I know we sent this baby home with a better chance to be happy and function normally. That’s worth a lot to us and to society.”

Pregnant with twins, Sunny Jones kept every doctor appointment and took every vitamin that her Medicaid pregnancy benefits would cover. Those babies were in a hurry, however. At 24 weeks, Jones underwent emergency caesarean at Emory University Hospital Midtown (EUHM). First to arrive was a girl weighing just 21 ounces. She was silent and unmoving, her heart barely beating. Neonatologist Ann Critz (at left, in green) was pres-

ent at the birth. The second twin, even smaller, his lungs and kidneys even less ready for life outside the womb, died that night.

A barrage of tests uncovered one problem after another with the surviving twin. Placed on a ventilator, with round-the-clock nursing care, baby Marisha was given surfactant to keep her undeveloped lungs from collapsing. Emory pediatric cardiac surgeon Paul Parker repaired her walnut-sized heart, operating at EUHM instead of Children’s Healthcare at Egleston so she would not have to be transported. A pediatric ophthalmologist performed laser surgery for retinopathy of prematurity, the abnormal growth of blood vessels in the eye that can cause blindness if untreated. After almost four months in the neonatal ICU, Marisha “graduated” from ventilator to CPAP, the continuous positive airway pressure machine often used for sleep apnea, and portable oxygen delivered through tubes in the nostrils. A feeding tube ensured she would keep growing. Medically, she was ready to go home.

“With preemies like Marisha,” says Critz, “the outcome from here on depends on the family.” She believed Jones was up to it. For months, Jones had cleaned apartments all day, brought expressed breast milk to the hospital, held her daughter as long as she could, then took a long bus ride home to her other two children. Social worker Nattasha Charania (at left, in black) worked with vendors to get Marisha the oxygen and other medical paraphernalia she would need at home, and the nursing team educated the mother on how to operate it and care for the still fragile infant. Charania also helped Jones apply for continued Medicaid coverage (Medicaid pregnancy benefits had expired after 60 days, and Jones had no other insurance) and connected her with medical and support resources in her community, for herself as well as the baby.

“As clinicians,” says Critz, “we never know patients’ financial status or if Emory Healthcare will be reimbursed for all or any care. But in Marisha’s case, I know we sent her home with a better chance to be happy and function normally. That’s worth a lot to us and to society.”

Found for follow-up

Whatever happened in Harriet’s life, it took *five months* before she showed up in oncologist Christopher Flowers’ office at Winship.

When Harriet’s cough wouldn’t go away, some friends took her to the emergency room at Emory University Hospital. Maybe the doctors would give her something to make her feel better. Instead, the doctor admitted her overnight, did a series of tests, and made an appointment for her to come back when biopsy and other results were ready. He made it sound so urgent, but then doctors always do. Even

though she agreed to return, she never did. She had enough things to worry about without trying to get her mind around “a suspicious mass.”

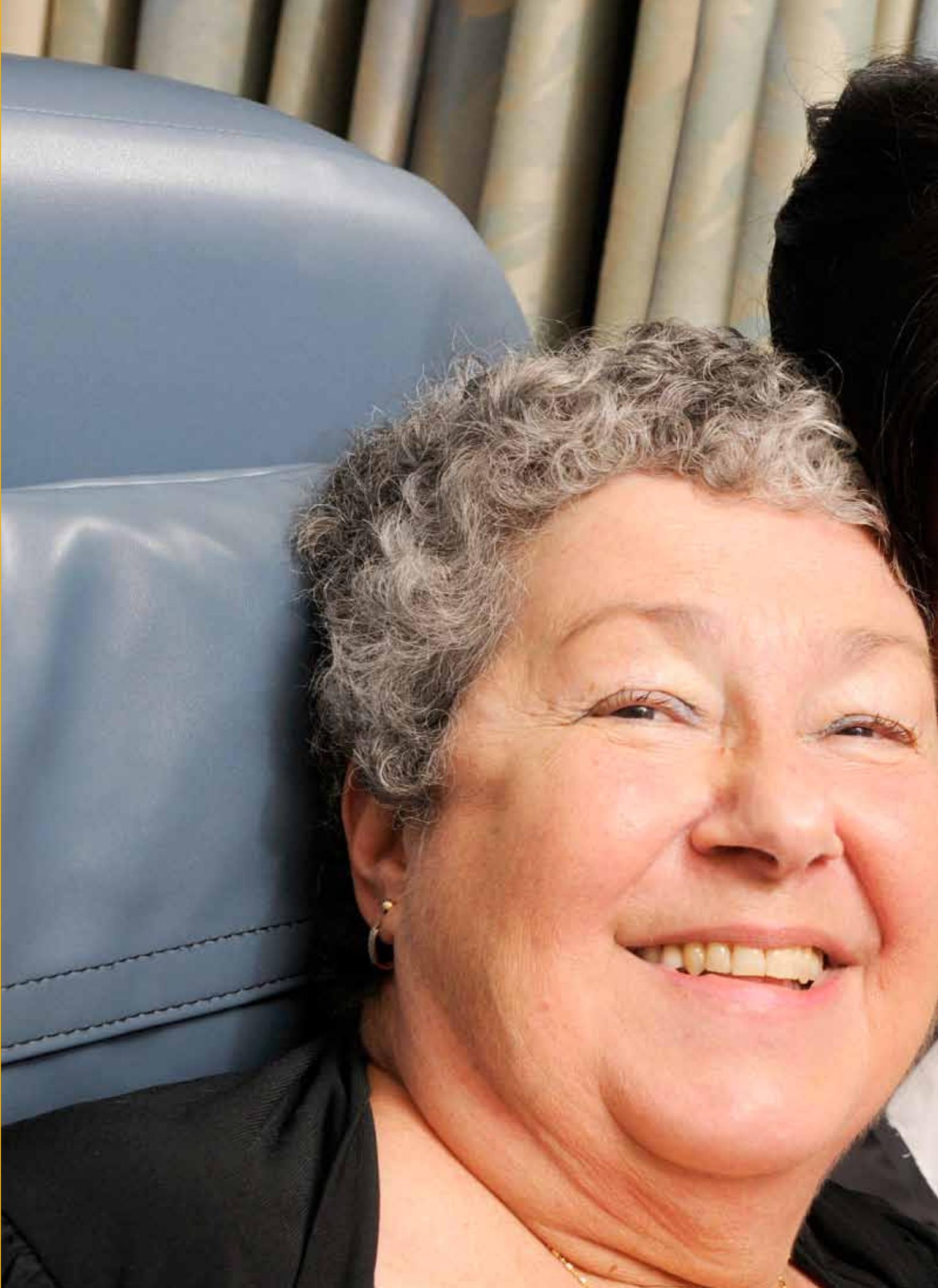
But a month later, her chest hurt worse, and a knot had started to grow under her armpit. This time her friends took her to the Grady Hospital ER, but the doctor there was just as urgent sounding as the first one. “This is serious,” he said, looking at papers with her name on them. “You need to be in treatment *now*.” Looking back, she knows she should have gone, but she had other problems. No insurance, no savings. She would have had to take off work and for what? Her aunt had gone through chemotherapy, lost her job and hair, and then died anyway.

In health care, what happened next is described as “lost to follow-up.” Whatever happened in Harriet’s life, it took five months before she showed up in the office of oncologist Christopher Flowers (at right) at Emory’s Winship Cancer Institute, where he discussed treatment options for her Hodgkin’s lymphoma. For young patients with this rare cancer of the lymphatic system, the standard of care is a combination of four chemotherapy drugs all given on the same day. Since Harriet had received no treatment as her disease progressed, aggressive action was needed.

A group in Germany is the leader in clinical trials for her rare cancer, and Flowers was able to get her enrolled. The trial covered the cost of many of her medicines and the care provided by Flowers related to the protocol. In the meantime, social worker Joy McCall (at right) worked with Emory Healthcare financial counselors to get all her other costs declared charity care, meaning she would not have to pay them. McCall also helped Harriet apply for Social Security disability benefits, helped her navigate the processes to get medicines not covered by the trial, and stood by her side as the young woman dealt with the complexities not only of care but also of finances. She continues follow-up at Winship.

This year Emory’s Winship Cancer Institute was renewed as Georgia’s only National Cancer Institute–designated cancer center. The reviewers rated Winship as outstanding. NCI designation recognizes not only strong research programs and access to clinical trials but also the center’s broad commitment to the community.







WINSHIP CANCER INSTITUTE **In addition to providing traditional care in traditional settings, clinicians at Winship go out into the community to provide patient education and conduct free screenings for breast, head and neck, skin, and other cancers.**



Helping a dream stay on track

After weeks of rehab,
Martinez was able
to walk out of the
hospital and is back on
the road to being able
to work again.

Juan Martinez was putting shingles on a new house when his hand seemed to let go of the hammer of its own volition and he began to slide down the slanted roof. A co-worker caught him before he fell, but he still seemed confused. His right side didn't work. He could talk but it didn't sound right somehow. Someone—maybe the frightened crew boss—drove him to nearby Emory Saint Joseph's Hospital (ESJH), pausing only to tell the emergency department team that he didn't know Juan's age, medical history, or exactly where he came from, just that he was

hard-working, reliable, and good at what he did. Martinez's own words to the clinicians were scrambled but urgent, focused on the hopes that had brought him to this country. *Cómo puedo trabajar así?* How can I work like this? He could raise neither his leg nor arm on his right side. Help me, *por el amor de dios*, help me.

A Spanish-speaking nurse told Martinez he had had a stroke, *un derrame cerebral*, that he was in good hands and that no, no, please, he shouldn't worry about his lack of money, only about lying still while the doctors examined him and began infusion of a drug that could dissolve the clot causing his symptoms. By the time his friend arrived, a Spanish-speaking American from his church, Martinez was sleeping in the ICU, connected to monitors and drips.

Martinez was 45, or something like that, said the man. He had seemed healthy and sometimes played baseball with the church team on Sunday afternoons if there was no work. He lived in an apartment with his brother and three or four other men from his village in Mexico, saving every penny, watching TV at night to learn English. Insurance? The American smiled sadly.

After he had spent several days in ESJH, Martinez's confusion cleared, and his speech improved. But regaining use of his arm and leg, especially the fine motor skills needed for construction work, would require acute inpatient rehabilitation: hours of daily physical and occupational therapy, like that provided at Emory University Hospital's Center for Rehabilitation Medicine. Social worker Karen Weaver (at left) and care coordinator Susan Freed discussed Martinez's case with hospital CFO Kevin Brenan (at left), who approved the charity care needed for Martinez. Recovery took weeks of work on Martinez' part and tens of thousands of dollars in charity care, but he was able to walk out of the rehab center into his brother's arms. He's recovering, and he is back on the road to being able to work again and keep his dream for a better life intact.

Sending Jason home

While looking for a job,
he had tried every way
he could to keep costs down,
not even seeking
medical care
until his symptoms
scared him into it.

Jason Smith agreed with the urgent care physician that he should go to the nearest emergency room.

He disagreed that he needed to go by ambulance. Since losing his health insurance, he weighed such options carefully. A little dizzy, he navigated the 12 miles to Emory Johns Creek Hospital (EJCH), where he fell flat on his face in the parking lot, fracturing bones in his cheek and spine. In the hospital's emergency department, a team of white coats diagnosed severe congestive heart failure and atrial fibrillation: chaotic, irregular heart rhythms.

When Smith was admitted to EJCH, Emory hospitalist Mohamad Moussa (at right) became the doctor who coordinated his care.

There was a lot to address. Treatment of fractures and contusions from the fall. Monitoring and correcting arrhythmias. Medicines for congestive heart failure and the shortness of breath and swelling of legs that had bothered Smith for months now. Echocardiograms, cardiac catheterization, and other tests that showed his aortic artery to be constricted and his ejection fraction, the amount of blood the heart pumps out with each beat, less than half of normal. If the parking lot episode had occurred five minutes earlier, says Moussa, Smith might well have died or been involved in a serious highway accident.

And another attack could happen anytime. The cardiologist Moussa consulted recommended strongly that Smith not leave the hospital unless he were wearing a portable defibrillator, a vest that detects any dangerous change in heart rhythm and shocks the heart back into a normal pattern—marvelous technology that could protect Smith until he was well enough to have a permanently implanted defibrillator. But there was a catch. Smith had neither insurance nor resources. While looking for a job, he had tried every way he could to keep costs down, not even seeking medical care until his symptoms scared him into it. EJCH had declared his hospitalization as charity care: almost \$40,000 for which neither the hospital nor the doctors would be paid. But once he left the hospital, who would pay the \$3,000-per-month cost of the vest?

The medical team turned to social services for help. After research and numerous calls by patient advocate Carole Freeman and social worker Cathy Crumrine, a solution emerged. EJCH would pay the first month of costs and the vendor the second and third. An immensely proud man, Smith is determined that by the time he needs the implanted defibrillator he will have a job and insurance. Moussa, Freeman, and the team at EJCH hope for his sake that all that works out, but even if it doesn't, they are committed to getting him the care he needs.



The life vest portable defibrillator is normally worn under clothing.



Facilities at Emory Wesley Woods Center

- **Emory Wesley Woods Hospital**, 100 beds, including psychiatric, rehabilitation, and long-term acute care beds for geriatric and other adult patients
- **Emory Clinic at Wesley Woods**, outpatient primary care for geriatric patients
- **Budd Terrace**, 250-bed skilled nursing care facility
- **Wesley Woods Towers**, 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)

A wake-up call that worked

She was able to start him on pureed and then chewable foods.

At the same time, she taught him *what and how much* he should eat.

At almost 600 pounds, Max Durant was not the largest patient that nutritionist Francoise Maillet (at left) had worked with in her career, but he was by far the most motivated. Durant had spent much of recent years in a big chair in the house he shared with his brother. Then he had a terrifying episode, with dizziness, confusion, and shortness of breath. It was acute hypercapnic

respiratory failure, the doctors later explained. His lungs couldn't exhale enough carbon dioxide to make room for oxygen. And yes, it was related to his obesity.

He was rushed by ambulance to his local hospital and eventually transferred to Emory Wesley Woods Hospital (EWWH). On a ventilator and feeding tube, he was unable to talk or swallow and could barely nod his head or lift his arm. It took four people to move him into a specially constructed hospital bed.

For Durant, the experience was a wake-up call. At EWWH, he found a team free of judgment and ready to help. Successfully weaned from a ventilator to a breathing tube, Durant mouthed his first words in weeks. After the tube was removed, a speech therapist helped him strengthen his speaking and swallowing muscles. Now Maillet could step up the pace. She had overseen his tube feeding, carefully calibrating nutrition according to his weight, diabetes, hypertension, and other problems. Now, she was able to start him on pureed and then chewable foods. At the same time, she taught him what and how much he should eat. A diabetes educator joined in. As Durant's strength improved, his physical and occupational therapy became more intense, including helping him relearn how to stand up, take sponge baths, comb his hair, and put on socks. "Mr. Durant was eager to learn and do everything he could," says Maillet.

After three months, Durant went home. More than 100 pounds lighter, he now could get out of bed on his own and use a walker. Thanks to Maillet, he knows how to shop, read nutrition labels, and judge how much food should be on a plate. His family, who also worked with Maillet, is fully on board.

Durant is among a growing number of patients for whom reimbursement falls far short of the actual costs of providing services. In this case, more than \$55,000 remained as unreimbursed. But a man once imprisoned in his body has started to break free, and the hospital team counts it as a success.

Like Durant, many patients at Emory Wesley Woods Hospital have complex, often overlapping health problems. Many also have exhausted their financial resources. During fiscal year 2012-2013, expenses at Emory Wesley Woods exceeded revenue by \$5 million.

Helping preemies thrive

“Our goal is to support parents and help them recognize and maximize their child’s potential while the developing brain is most malleable.”

Emory neonatologist Ira Adams-Chapman (at right) first met Andrew and Axel almost three years ago when the twins were transferred to Children’s Healthcare of Atlanta at Egleston.

Born four months prematurely, the palm-sized boys faced life-threatening complications. Adams-Chapman and a team of other clinicians oversaw their care. When the babies left the hospital after three months, the good news was that they had a good chance to live. But

preterm birth is a leading cause of long-term neurologic disabilities. Problems like cerebral palsy and developmental delay manifest as preemies grow into toddlers, a fact underscoring the importance of continued evaluation and follow-up for all extremely premature babies.

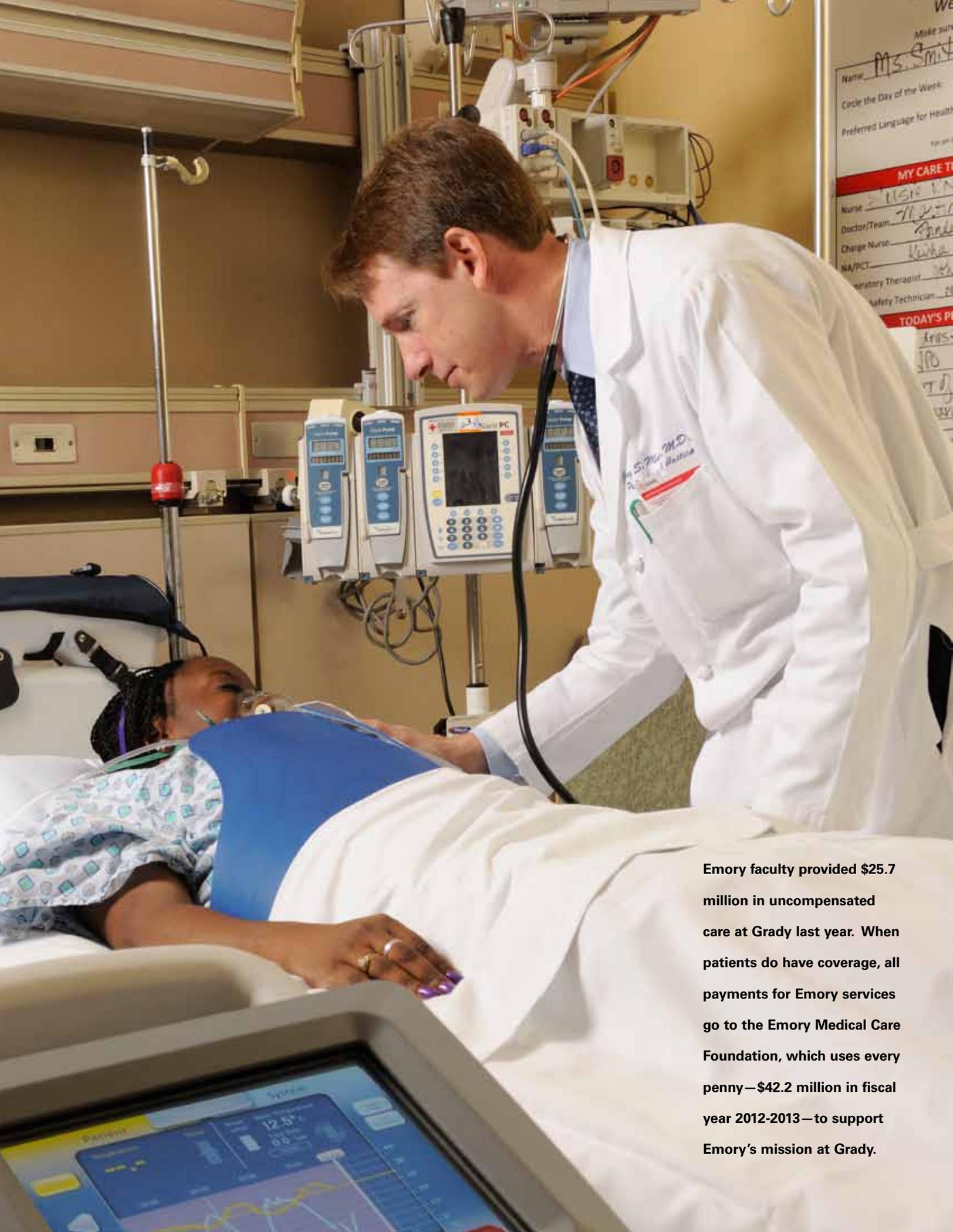
Thanks to the Developmental Progress Clinic (DPC) on the Emory campus, with a branch at Hughes Spalding Children’s Hospital on the Grady Hospital campus, Adams-Chapman can continue to work with the twins and with hundreds of other at-risk “graduates” from the Emory Regional Perinatal Center’s neonatal intensive care units (NICUs) throughout Atlanta and North Georgia. She, another neonatologist, a general pediatrician, and a team of pediatric nurse practitioners, psychologists, physical therapists, social workers, and nutritionists annually conduct more than 1,200 developmental, cognitive, and behavioral evaluations. Developmental evaluations are performed twice each year until the age of 2, then once annually through age 5.

The team tries to address medical and neurologic issues affecting each child’s development, then makes recommendations for follow-up and therapy. It connects parents with community resources and suggests interventions and activities families can do at home. “Parents are doing a Herculean job,” says Adams-Chapman. “Our goal is to support them and help them recognize and maximize their child’s potential while the developing brain is most malleable.”

It’s a Herculean task for the team too. Limited funding comes from the Georgia Department of Community Health and from Medicaid and other insurance programs. But reimbursements never cover expenses. Last year the shortfall was more than \$500,000, which Emory picked up. Adams-Chapman says, “Thankfully, Emory recognizes that caring for these infants extends well beyond hospital discharge. This clinic is an investment in the entire child and family.”

Emory pediatricians serve as part of the safety net to get Georgia’s children the care they need. Emory offers pediatric care in collaboration with Children’s Healthcare of Atlanta as well as high-risk perinatal and neonatal care at Emory University Hospital Midtown and at Emory Johns Creek Hospital.





Emory faculty provided \$25.7 million in uncompensated care at Grady last year. When patients do have coverage, all payments for Emory services go to the Emory Medical Care Foundation, which uses every penny—\$42.2 million in fiscal year 2012-2013—to support Emory’s mission at Grady.

Code ICE

The temperature of Sandra's IV fluids was lowered. Then her chest, belly, and thighs were wrapped in *high-tech cooling pads* that quickly lowered her core body temperature.

tory and other responses in the hours after restoration of blood flow.

Based on information from the emergency medical technicians, a code ICE sounded in the emergency department, bringing a special team running to meet the ambulance. Their first task was to decide if the girl was a good candidate for a new protocol in which a patient's body temperature is systematically lowered by roughly six degrees. The procedure, called therapeutic hypothermia, slows metabolism and protects the brain from damage from the restored blood flow.

Sandra was admitted by Emory physician Greg Martin, director of Grady's medical and coronary intensive care units and head of the team that developed and maintains the ICE protocol. After a rapid-fire series of tests, Sandra was found to be a perfect candidate. She was placed on a mechanical respirator and given medications to keep her comfortable and prevent seizures. The temperature of her IV fluids was lowered. Then her chest, belly, and thighs were wrapped in high-tech cooling pads that quickly lowered and carefully monitored her core body temperature. Just 24 hours later, the team began to return Sandra to her normal temperature. Waking up, she seemed groggy and confused. But the next day she was better, and better again the day after that, then better yet every day. After six days, she was sent to Children's Hospital of Atlanta at Egleston for correction of the problem that had caused her erratic heart rhythms.

The cost of Sandra's six days at Grady exceeded \$100,000. Like all Emory faculty at Grady, Martin never knows if patients have insurance coverage or whether the services he provided as her attending physician were ever reimbursed. He only knows that his new protocol returned a teenager to her normal life, starting with the prom.

Life was good. Sandra Schwann had the perfect dress for the prom, she was excited about taking swimming lessons, and school was going well. Then the 16-year old collapsed in class, her heart in cardiac arrest. In the ambulance headed to Grady Hospital, electroshock restored her heart rhythms, but she was still in danger. Of the small percentage of Americans who survive cardiac arrest, many suffer brain damage from the initial lack of oxygen or from the cascade of inflamma-

Emory physicians provide 85% of the care at publically funded Grady Hospital. Grady patients receive extraordinary care, often in Emory-led programs not widely available elsewhere in the region, including centers for high-risk mothers and babies, burns, poison control, HIV/AIDS, and groundbreaking programs in stroke, cancer, diabetes, and sickle cell disease.

Mapping independence

The three-dimensional model of the hospital was a little like his grandson's globe, but instead of mountains and lakes, the raised parts were *hallways and doors*.

After diabetic retinopathy turned everything blurry, Ralph Potter had reluctantly given up his car keys. As his vision continued to deteriorate, the 75-year old Korean War veteran gave up leaving the house unless his wife went with him. One day, while waiting for Ralph at the Atlanta VA Medical Center (VAMC), Potter's wife picked up a brochure describing various research studies under way. Two days later, Potter was undergoing an intensive assessment by neurologist Krish Sathian (at right) and

his team in the Center for Visual and Neurocognitive Rehabilitation. Potter was already being treated for hypertension, high cholesterol, and diabetes, but the test also showed mild cognitive impairment, probably exacerbating Potter's growing isolation.

You used to navigate from place to place, using maps in your head, Sathian told Potter, maps you unconsciously built using visual cues. Now that you don't see as well, we need to teach you different strategies to build maps like that. We'll start, he said, by teaching you how to find your way around the VAMC. But what you learn will help you build maps to get from any point A to point B.

Potter was dubious. He had been to the VAMC many times. He couldn't picture himself getting anywhere in that shadowy maze without his wife. But on the computer-generated, three-dimensional tabletop model of the hospital, he could feel the route. It was like his grandson's globe, but instead of mountains and lakes, the raised parts were hallways and doors. And he could hear where he was going. Running his hand down the map activated sounds. A voice counting 20 footsteps from the door. Echoes in a big space—a lobby?—of people talking as they moved about. Elevator buttons ringing. After a number of "walk-throughs" with the table map, he did the real thing accompanied by a therapist. And did it again and again, until to his surprise there did seem to be a map in his head, guiding him with previously unnoticed distances and sounds.

It won't happen overnight, Sathian told him, but you are rebuilding your map-making ability. The next step for Potter was to get back into his own neighborhood.

The center Sathian leads has 20 investigators, mostly Emory faculty, with others from Georgia Tech and Georgia State University. The map-building study is one of many to help visually or cognitively impaired veterans function better and re-integrate into society.

Since their partnership began in 1946, Emory and the Atlanta VAMC have shared both a backyard and a mission to care for veterans. Because many patients are elderly, care and research focus on memory problems, low vision, diabetes, cancer, and other aging-related disorders.

Atlanta VA RR&D



CC 19
Rehabilitation
Research
Center

HELPING NEIGHBORS

Serving in varied capacities

Faculty, staff, and students in Emory's Woodruff Health

Sciences Center are continually seeking new ways to help people in both the local and global community to get the care and information they need to live healthier lives.

Over the past year, hospitals within Emory Healthcare have gathered extensive data about the needs of the communities they serve to be able to focus resources where they are needed most.



Donating cord blood to save lives:

Instead of discarding umbilical cord blood, mothers who give birth at Emory University Hospital Midtown (EUHM) can now donate it to a public cord blood bank based at the Cleveland Cord Blood Center in Ohio. Umbilical blood cells have

the capacity to grow into new bone marrow cells, which can be used in life-saving transplants for patients with leukemia, sickle cell disease, and other blood disorders. Because of Atlanta's diverse population, the EUHM program is expected to make more diverse transplant options possible.



Teaching healthy living: In a new collaboration, Rollins School of Public Health (RSPH) students are paired with pre K-12 teachers in Teach for America, the national program that places college graduates in classrooms in underserved areas. The partnership deepens teachers' understanding

of how health affects the lives of their students and how to teach them critical health skills. The students also are helping create a database teachers can use to develop lessons on nutrition, mental health, reproductive health, and other topics.



Growing the VA nursing workforce: Emory's Nell Hodgson Woodruff School of Nursing was one of six nursing schools nationwide selected this year to partner with the U.S. Department of Veterans Affairs to train nurses to help address an anticipated nursing shortage in veterans care, which is expected to grow to 1 million RNs by 2025. The partnership funds additional faculty members and will increase Emory's undergraduate nursing class by 100 students over a five-year period. Students will participate in clinical rotations at the Atlanta Veterans Affairs Medical Center and will engage in specialized training in

mental health, traumatic brain injury care, home-based health care, palliative care, women's health, homeless care, and more.

Increasing diabetes self-management: Thanks to a new partnership with Emory and other members of the Emory-led Atlanta Clinical & Translational Science Institute (ACTSI), the Big Bethel AME Church on Auburn Avenue now has more than 20 members trained and certified as health coaches. The coaches have already helped more than 100 fellow congregants with high-risk diabetes improve their diabetes-related self-management skills and behaviors. The health coaches helped congregants use a health skills web portal and social networking forum as well as a community-access kiosk to enhance health literacy. The coaching program is only one component of the ACTSI effort to work with the large church to provide a sustainable community-based resource for diabetes consultations, health screenings, and clinical research.



Engaging kids and teachers in research:

Emory's Yerkes National Primate Research Center partnered with other researchers at Emory and Georgia State University to offer the 2013 Institute on Neuroscience for local high school students and middle and high school teachers.

Three students and two teachers spent six weeks this past summer in neuroscience labs at Yerkes under the mentorship of Yerkes researchers. Participants had the opportunity to present their findings at the end of the program.

Navigating the role of caregiver:

The Emory Alzheimer's Disease Research Center and the Emory Center for Health in Aging partner with the Fulton-DeKalb Hospital Authority in the annual Registry for Remembrance, a community forum for family members of patients with Alzheimer's. Participants learn about community resources, ways to reduce caregiver stress, and new technologies to make patients' lives better.



Getting kids excited about reading:

Education, beginning with early childhood literacy, is a direct predictor of health, says Veda Johnson, executive director of the Emory Pediatrics Urban Health Program (UHP). Because low-income parents are less likely to read to their children, Johnson and

colleagues like academic success coordinator Rhonda Hudson (pictured) are working with Reach Out and Read to distribute age-appropriate books at clinical and community sites in Atlanta's poorest neighborhoods. Improving academic success for Georgia's underserved children got another boost from the UHP this year, with creation of three new school-based health programs, bringing the total to nine, thanks to a grant from Healthcare Georgia Foundation. The school-based clinics improve children's health and school performance while reducing costs to the health care system.

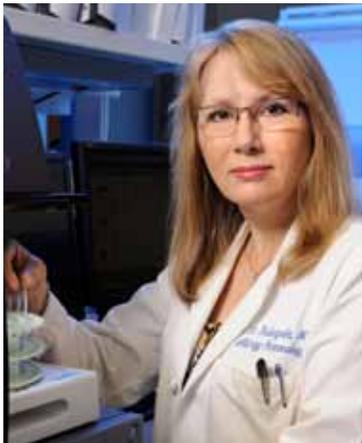
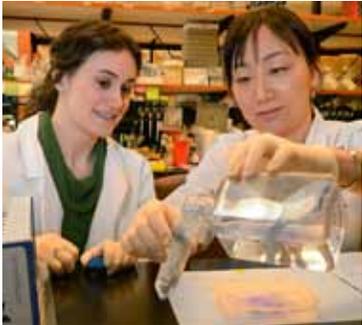
HELPING OUR NEIGHBORS **Emory students and faculty have long been involved in helping Haiti. Nursing faculty member and alumna Hope Haynes Bussenius, for example, recently accompanied students on a service-learning trip to Haiti, where she, her mother, and sister, alumnae Twilla Haynes and Angela Haynes, founded an orphanage and have provided nursing care to the medically fragile since 1993.**





RESEARCH

Supporting investment in discovery



Last year, the Woodruff Health Sciences Center's total investment in research costs unrecovered from sponsors was approximately \$107.3 million.

Research to explore new ways of preventing and treating disease continues to pay off in big ways, saving both lives and dollars. While costs of doing research are covered in part from agency and foundation grants, the Woodruff Health Sciences Center (WHSC) underwrites many of the facility and infrastructure expenses related to research. Last year, for example, the WHSC invested approximately \$107.3 million in research costs that were unrecovered from research sponsors. Such shared investment benefits society at large and creates jobs in the community in the process.

In fiscal year 2012-2013, research awards in the WHSC totaled \$474.4 million. Examples include \$20 million to support development of better transplant drugs to avoid organ rejection and drug toxicity; a contract of up to \$19.4 million for research to develop malaria drugs and vaccines; \$11.9 million to study HIV in women; \$9.5 million to study brain chemistry involved in bonding and attachment, which is thought to be relevant to autism spectrum disorder and schizophrenia; \$6 million for AIDS vaccine research; \$5.5 million to establish a functional glycomics center to shed light on the role carbohydrates play in disease; \$4 million to increase the number of nurses available in coming years to treat veterans, and \$1.5 million to help nurses and physicians collaborate to refine inpatient care models that improve quality of care while reducing costs.

Training tomorrow's health professionals

In fiscal year 2012–2013, Emory Healthcare invested \$85.8 million in the Woodruff Health Sciences Center's teaching and research missions.

New opportunities in training throughout the health sciences reflect continually changing needs of learners. The Nell Hodgson Woodruff School of Nursing has launched a new master's degree in health systems leadership and is currently accepting applicants for a new doctor of nursing practice degree. Emory School of Medicine is implementing new areas

of measurement to assess students' communication skills and the quality of faculty role modeling. With increasing emphasis on the need for learning in teams across disciplines, the school is also assessing team members' understanding of their individual roles and personal responsibility.

For the second year in a row, the Rollins School of Public Health had the largest number of applicants in the country for the master's in public health (MPH) degree and this year has its largest MPH class ever. All three schools in health sciences—medicine, nursing, and public health—implemented dual degrees in bioethics this year, in collaboration with Emory's Center for Ethics and Laney Graduate School.

Meanwhile, there were new opportunities for learning and skill enhancement on the job—Emory Healthcare opened a new simulation lab where nurses and other providers can get hands-on practice with various procedures in a safe, no-risk environment.

Training tomorrow's health professionals is a costly endeavor for schools and students alike. The Woodruff Health Sciences Center invested 22.6% of its tuition income last year in financial aid for its students, an amount totaling \$19.4 million.



Students and trainees in health sciences:

Emory University School of Medicine

- 550 medical students, including 82 MD/PhD students
- 1,205 residents and fellows
- 521 students in allied health training, such as physical therapy and physician assistant programs

Rollins School of Public Health

- 1,061 master's and 152 PhD students

Nell Hodgson Woodruff School of Nursing

- 298 bachelor's, 172 master's, 21 PhD students

FINANCIAL IMPACT

Economic engine

A new nonprofit company is expected to speed development of new drugs and generate income that can be reinvested in research, education, and care.

The Woodruff Health Sciences Center (WHSC) stimulates the local and state economy in many ways.

Expenditures: Based on annual expenditures alone (\$3.5 billion in 2012-2013), the WHSC's overall annual economic impact on metro Atlanta is estimated at \$6.8 billion.

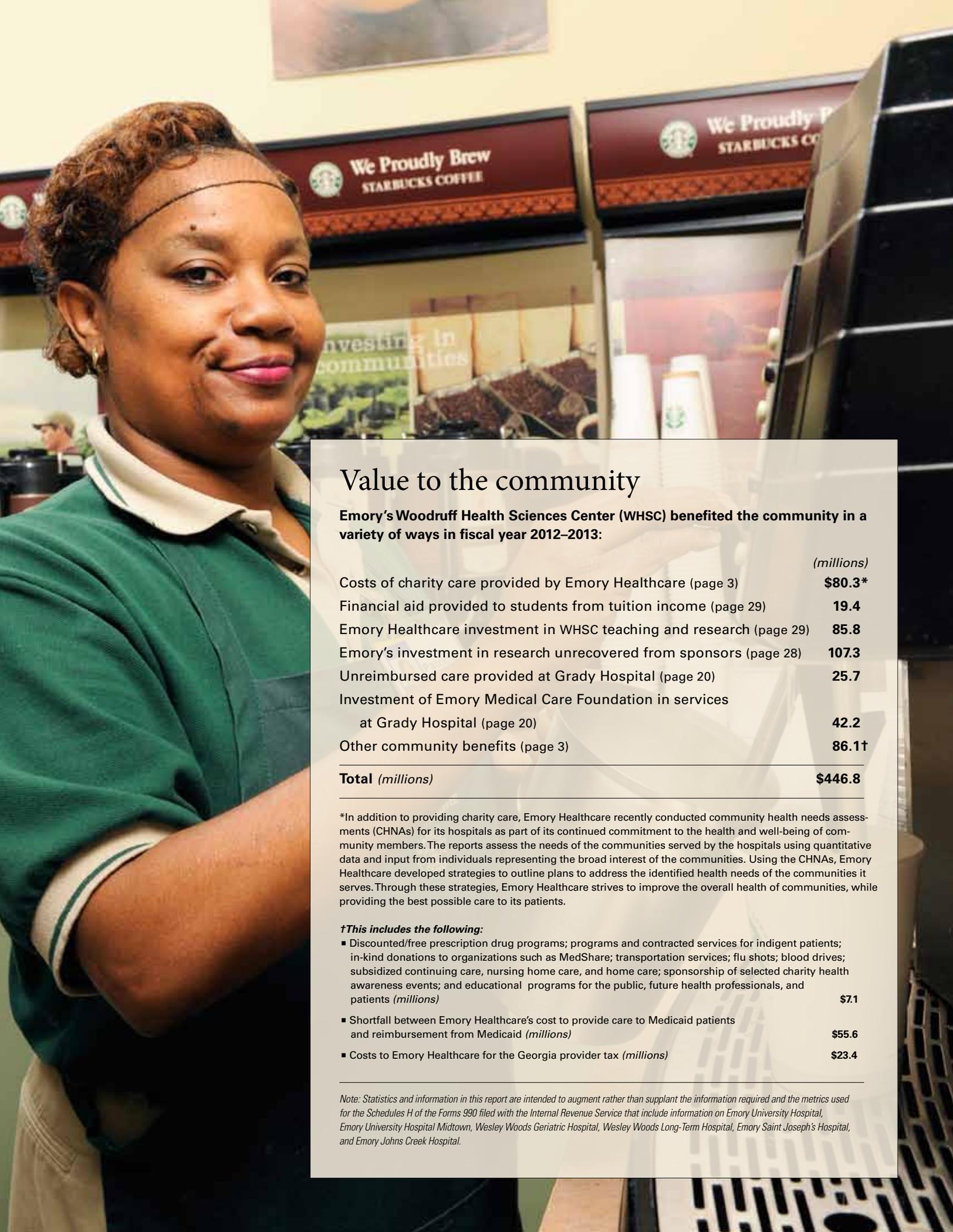
Jobs: In addition to the WHSC's own 22,500 employees (making Emory University the third largest private employer in metro Atlanta), the WHSC helps generate jobs through research grants secured by its investigators, with an estimated 19 jobs generated for every \$1 million in research income.

Construction: During the past year, the WHSC opened a \$90 million Health Sciences Research Building (at bottom left) that will hold 500 researchers and staff. The WHSC also opened two facilities at Yerkes National Primate Research Center, including a new \$15 million building for 60 researchers and a three-story neurosciences building addition whose primary occupant is the Emory Institute for Drug Discovery. Emory Healthcare continued extensive renovations to clinic facilities, completed an expansion and redesign of the emergency department at Emory University Hospital (EUH), and continued site preparation for construction of a new EUH wing expected to open in 2017. Emory Healthcare also will manage the \$200 million Emory Proton Therapy Center–Winship Cancer Institute currently being built by Advanced Particle Therapy. Expected to open in 2016, the center will treat about 2,200 patients a year and employ about 150 proton therapy professionals.

Innovation: To bring new inventions to market, Emory entrepreneurs work with the Office of Technology Transfer, which in the past 10 years alone has helped with the creation of 37 start-up companies, including 23 in Georgia. This past year, Emory created a new not-for-profit company, Drug Innovation Ventures at Emory (DRIVE), to help move new drug candidates through the arduous early phases of pre-clinical testing (often called the “valley of death” because so many projects die there) and into proof-of-concept clinical trials. DRIVE is expected to facilitate and speed development of promising new drugs and generate income that can be reinvested in research, education, and patient care at Emory.

The Woodruff Health Sciences Center employs more than 22,500 people in a wide range of positions: Robin Brown-Haitcho (top left) is director of staff support in the Center for Pastoral Services. Pat Pierce (right) is a cashier in the bakery at Emory University Hospital (EUH). Radiation oncology faculty members Ian Crocker and Tim Fox (second from top) check out the site of the new Emory Proton Therapy Center, being constructed by Advanced Particle Therapy. Derrick Smith (third from top) is an electrician in facilities management at EUH.





Value to the community

Emory's Woodruff Health Sciences Center (WHSC) benefited the community in a variety of ways in fiscal year 2012–2013:

| | <i>(millions)</i> |
|--|-------------------|
| Costs of charity care provided by Emory Healthcare (page 3) | \$80.3* |
| Financial aid provided to students from tuition income (page 29) | 19.4 |
| Emory Healthcare investment in WHSC teaching and research (page 29) | 85.8 |
| Emory's investment in research unrecovered from sponsors (page 28) | 107.3 |
| Unreimbursed care provided at Grady Hospital (page 20) | 25.7 |
| Investment of Emory Medical Care Foundation in services at Grady Hospital (page 20) | 42.2 |
| Other community benefits (page 3) | 86.1† |
| Total (millions) | \$446.8 |

*In addition to providing charity care, Emory Healthcare recently conducted community health needs assessments (CHNAs) for its hospitals as part of its continued commitment to the health and well-being of community members. The reports assess the needs of the communities served by the hospitals using quantitative data and input from individuals representing the broad interest of the communities. Using the CHNAs, Emory Healthcare developed strategies to outline plans to address the identified health needs of the communities it serves. Through these strategies, Emory Healthcare strives to improve the overall health of communities, while providing the best possible care to its patients.

†This includes the following:

| | |
|--|---------------|
| <ul style="list-style-type: none"> ■ Discounted/free prescription drug programs; programs and contracted services for indigent patients; in-kind donations to organizations such as MedShare; transportation services; flu shots; blood drives; subsidized continuing care, nursing home care, and home care; sponsorship of selected charity health awareness events; and educational programs for the public, future health professionals, and patients <i>(millions)</i> | \$7.1 |
| <ul style="list-style-type: none"> ■ Shortfall between Emory Healthcare's cost to provide care to Medicaid patients and reimbursement from Medicaid <i>(millions)</i> | \$55.6 |
| <ul style="list-style-type: none"> ■ Costs to Emory Healthcare for the Georgia provider tax <i>(millions)</i> | \$23.4 |

Note: Statistics and information in this report are intended to augment rather than supplant the information required and the metrics used for the Schedules H of the Forms 990 filed with the Internal Revenue Service that include information on Emory University Hospital, Emory University Hospital Midtown, Wesley Woods Geriatric Hospital, Wesley Woods Long-Term Hospital, Emory Saint Joseph's Hospital, and Emory Johns Creek Hospital.





Woodruff Health Sciences Center of Emory University

- **Emory University School of Medicine**
- **Nell Hodgson Woodruff School of Nursing**
- **Rollins School of Public Health**
- **Yerkes National Primate Research Center**
- **Winship Cancer Institute of Emory University**
- **Emory Healthcare, the most comprehensive health care system in Georgia**
 - **Emory University Hospital, 579 beds**
 - **Emory University Hospital Midtown, 511 beds**
 - **Emory University Orthopaedics & Spine Hospital, 120 beds**
 - **Emory Saint Joseph's Hospital** (jointly owned), 410 beds
 - **Emory Johns Creek Hospital** (jointly owned), 110 beds
 - **Emory Clinic, 1,800 physicians, nurse practitioners, physician assistants, and other providers**
 - **Emory Specialty Associates, outreach physician group practice organization with locations throughout the city and state**
 - **Emory Clinically Integrated Network, network of physicians and hospitals formed to improve care coordination and quality outcomes as well as control costs for patients and the community**
 - **Emory Wesley Woods Center**
 - **Emory Wesley Woods Hospital, 100 beds, including psychiatric, rehabilitation, and long-term acute care beds for geriatric and other adult patients**
 - **Emory Clinic at Wesley Woods, outpatient primary care for geriatric patients**
 - **Budd Terrace, 250 beds, skilled nursing care facility**
 - **Wesley Woods Towers, 201 units, 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-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 private practice physicians, with Emory providing 80% of care**
 - **Children's at Hughes Spalding, 24 beds, Grady campus, staffed by Emory, Morehouse, and private practice 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, 217 hospital beds, 60 nursing home beds, 12 psychiatric residential rehab beds; staffed by more than 250 Emory physicians, who provide virtually all physician care**



EMORY
UNIVERSITY

Woodruff Health
Sciences Center



SUSTAINING A VISION
FOR THE COMMUNITY

Robert W. Woodruff—the health sciences center’s namesake and longtime leader of The Coca-Cola Company—dedicated his life to supporting the community, at Emory, in Atlanta, in Georgia, and beyond.

For more information, please contact Health Sciences Communications: 404-727-5686 ■ emoryhealthsciences.org

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