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Woodruff Health
Sciences Center

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Here in the moment

COMMUNITY BENEFITS REPORT | 2015

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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 29.

Patient stories throughout this book are real, but patients’ names and identities have been changed to protect their privacy (except in cases where patients wished to share their identity along with their story).

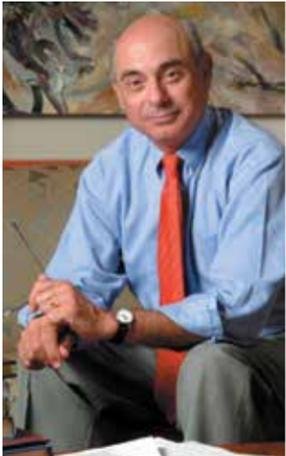
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SUSTAINING A VISION FOR THE COMMUNITY

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.

Responding



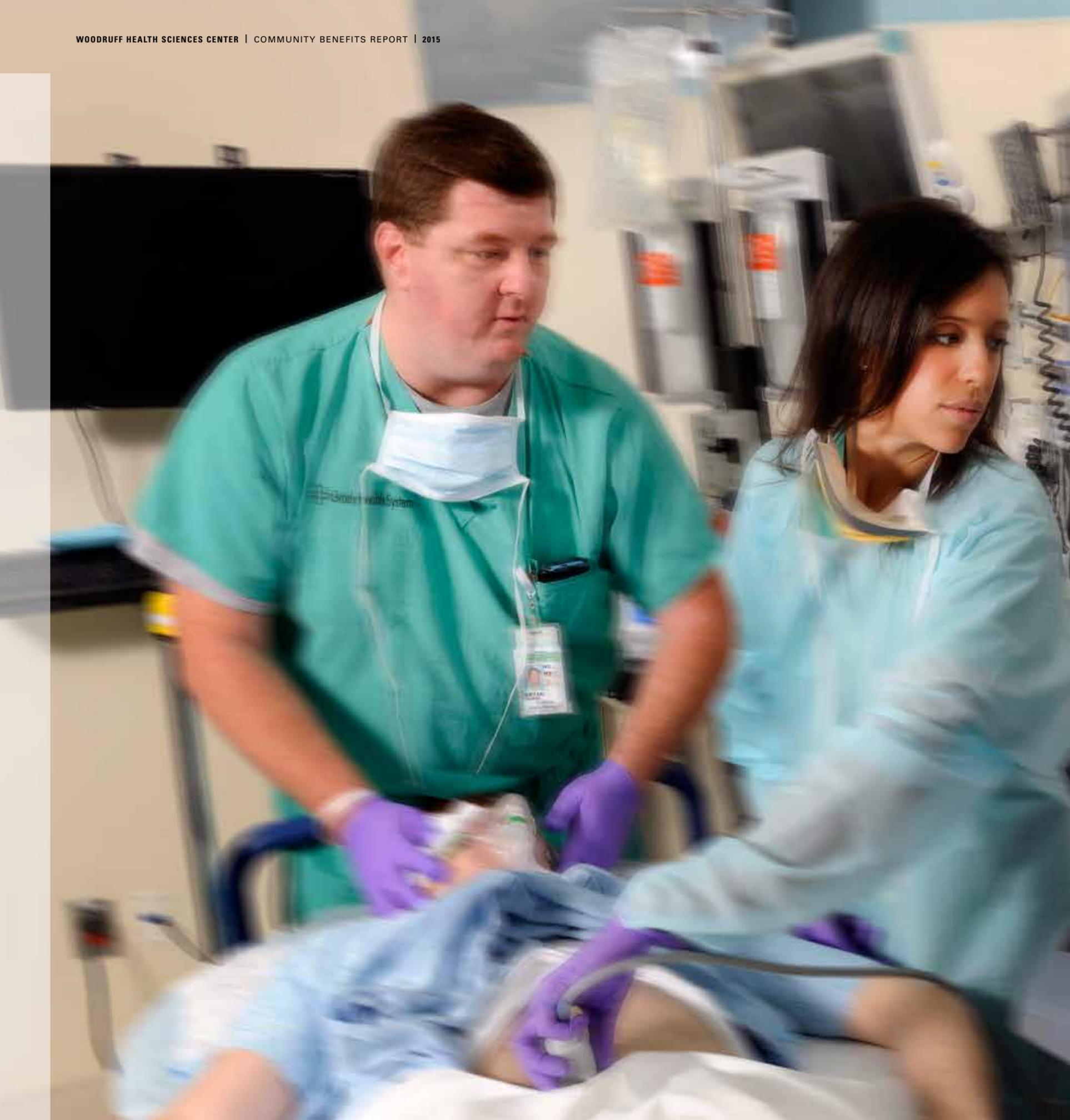
Sometimes we all need understanding, support, help, or hope. And when that happens, what a comfort it is to know that help is here—exactly when you need it and exactly where you need it. For the thousands of people who turned to Emory’s Woodruff Health Sciences Center in their time of need in 2015, that was precisely their experi-

ence. When they needed us, we were here.

We were here with the most compassionate and innovative patient care, with the latest lifesaving discovery, with peerless educational programs across the health professions, and with a deep commitment to making people healthy.

You’ll see that commitment reflected again and again throughout this year’s Community Benefits Report. The stories in this year’s report represent just a few examples among thousands we see each year, and we’re grateful to all the faculty and staff, students, and friends who make it possible for us to be right here, right now, for all the people we serve.

Michael M.E. Johns, MD
 Executive Vice President for Health Affairs, Emory University
 President, CEO, and Chairman of the Board, Emory Healthcare



Charity care in Emory Healthcare In fiscal year 2014-2015, Emory Healthcare provided \$67.4 million in charity care.

“Charity care” is defined as unreimbursed expenses incurred during care for individual patients and falls into two categories: (1) indigent care for patients with no health insurance, not even Medicaid or Medicare, and no resources of their own and (2) catastrophic care for patients who may have some coverage but for whom health care bills are so large relative to their financial situation that paying them would be permanently life-shattering.

The box below details the charity care provided at individual Emory Healthcare facilities. Included elsewhere in this book are amounts of uncompensated care provided by Emory physicians who practice at Grady Memorial Hospital and at other hospitals and clinics where many volunteer during their free time.

In addition to charity care, Emory Healthcare provides numerous other services to help improve access to care, advance medical knowledge, and relieve or reduce dependence on taxpayer-funded community efforts. In fiscal year 2014-2015, this total for Emory Healthcare was \$52,652,820. Following are examples of what this total includes:

- **\$7,672,201** from the community benefit inventory for social accountability (CBISA). Significant CBISA dollars include activities such as 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

Charity care totals

Fiscal year 2014–2015

Emory University Hospital and Emory University Orthopaedics & Spine Hospital	\$ 16,943,531
Emory University Hospital Midtown	15,674,117
Emory Rehabilitation Hospital	4,575,177
Emory Saint Joseph’s Hospital	8,618,378
Emory Johns Creek Hospital	2,014,609
Emory Clinic and Emory Specialty Associates	19,105,656
Emory Wesley Woods Center	488,253
Total	\$67,419,721

The \$67.4 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.

- **\$20,939,775** shortfall between Emory Healthcare’s cost to provide care to Medicaid patients and the Medicaid reimbursement

- **\$24,040,844** costs to Emory Healthcare for the Georgia provider tax, which supports the Medicaid budget and helps maintain payment levels for all Medicaid providers

EMORY UNIVERSITY HOSPITAL

A word not lost in translation

AFTER FLEEING PERSECUTION IN HIS NATIVE LAND, ABDUL AMIN AND HIS BROTHER HAD LIVED FOR YEARS IN A CAMP IN A NEARBY COUNTRY. When the U.S. accepted them as refugees in an Atlanta resettlement program, Amin, who spoke little English, may have thought at first that his nausea, inability to eat, and increasing emaciation were related to stress. Eventually, he sought medical attention, and a doctor at a nearby hospital diagnosed a gastric stricture and referred him to Emory University Hospital for Jahnvi Srinivasan's surgical expertise in the condition.

Srinivasan did not believe the malnourished man could withstand surgery. Ordinarily, patients go home with a feeding tube to help them gain sufficient strength for surgery. Not Amin. The period of support from the resettlement agency was over. His brother, perhaps overwhelmed himself, declined to help. Srinivasan had little choice but to keep Amin in the hospital for preoperative nutritional support.

A month later, he had successful surgery. Since Amin's only resources as an official refugee were a small Social Security check and limited Medicaid coverage, his medical care thus far was mostly unreimbursed. Post-surgical care required another two months of hospitalization and a concentrated effort from a team of physicians, nurses, technologists, and experts in metabolic nutrition support for Amin to improve. He still required tube feeding, but his intestinal system began to re-learn to manage food.

When it did, case manager and discharge planner Mackenzie Moore set about to find a place for Amin to live. Not a single person had come or called during Amin's hospitalization. Eventually, his brother agreed to take him in. Moore worked out transportation, home health care, and help with Amin's tube-feeding formula, none of which was covered by Medicaid.

The return home has not been easy for him, but he is growing stronger. And he now has one word of English he uses whenever he returns for a clinic visit. **Thanks.**

The return home has not been easy for him, but he is growing stronger. And he now has one word of English he uses whenever he returns for a clinic visit. **Thanks.**

IN THE MOMENT

The patient had no home to go to, and the doctor had no choice but to keep him hospitalized until he was well enough for surgery.



Surgeon Jahnvi Srinivasan with Mackenzie Moore, case manager and discharge planner for general surgery

Social worker Daryl Morgan made all the difference for a stroke patient when he showed her she had the health care team's support.



EMORY UNIVERSITY HOSPITAL MIDTOWN

From discharge to recovery

WHEN MONEY GOT TIGHT, CONSTANCE JORDAN STOPPED TAKING HER BLOOD PRESSURE MEDICINES. Why not, she figured, since not taking them didn't seem to make a difference. She felt fine.

Then the headache began, the loss of appetite, dizziness, tripping over nothing. She did not feel fine. An ambulance took her to Emory University Hospital Midtown, where she was admitted immediately. As the medical team worked to lower her sky-high blood pressure, she suffered a stroke.

After Jordan had spent three weeks in the hospital, the doctors told her that she was ready for discharge. But she didn't want to go. What if it happened again? How would she get her medicines? Who would help her get from home to her clinic appointments, from bed to the bathroom? Why did no one understand that she needed to stay in the hospital where the nurses were so helpful? She was scared and frustrated.

Then, working with social worker Daryl Morgan and team, she gradually realized all that the health care team was doing for her. Financial counselors helped her apply for Medicaid and disability. Emory wrote off as charity care all her previous hospitalization and medical care—care she had no ability to pay for—and provided her a wheelchair, walker, four months' of medicines, several home health care visits, and taxi fare to a series of clinic visits, also declared charity care.

She grew more calm. She saw hope in the support and encouragement of the Emory team. She would not give up on herself, anymore than they had given up on her. God will get me through this, she said.

Jordan has been able to stay home, requiring neither admission to a nursing home nor readmission to the hospital. She's proud of herself. On her last follow-up visit, she promised Morgan that she would be well soon and the hospital could take back the wheelchair and walker in order to help the next patient.

IN THE MOMENT

When the doctors told her she was ready for discharge, she didn't want to go. What if it happened again? Who would help her? She was scared and frustrated.

EMORY REHABILITATION HOSPITAL

Keep getting better. . .

WHEN YONG SUN YI CLOSED HER BEAUTY SUPPLY STORE AND MOVED IN WITH HER DAUGHTER'S FAMILY, IT WAS WIN-WIN FOR EVERYONE, ESPECIALLY THE GRANDKIDS. But soon, Yi developed a bad headache. She had right-sided weakness, vomited after eating, and tripped sometimes, but that was no reason, she argued stubbornly, to bother a doctor.

When her mother's speech slowed, daughter Marsha Marie ignored these objections. In the emergency department at Emory Saint Joseph's Hospital, a CT scan showed a brainstem lesion and swelling. After Yi had spent a week on continuous antibiotics, a second CT scan showed that the mass had doubled, and she was transferred to Emory University Hospital Midtown for emergency brain surgery.

A month later, Yi was well enough to transfer to Emory Rehabilitation Hospital. She spent a month in rehab, a month at home receiving home health care, and a month back at Emory Midtown after an allergic reaction to her antibiotics. Stabilized

again, she spent another month at Emory Rehab and two months more in the hospital's day rehab program.

At home, Marie and her husband were living a different saga. How would they pay for all this care? Her mother had no insurance, and Marie had given up her own job when her mother became ill. Marie had applied for emergency Medicaid on her mom's behalf—but the 63-year-old's Social Security suddenly increased enough to cross the \$741 monthly income limit to make her ineligible to receive Medicaid.

Social worker Dorothy Reed at Emory Rehab has been helping Yi apply for a different form of Medicaid. In the meantime, Yi's care has been deemed charity care, and even her walker, antibiotics, and home health care were provided at no cost to Yi.

Yi now makes her own lunch, plays with the kids, and reads her Bible. Yi loved her care team at Emory Rehab, and she laughs when her six-year-old granddaughter copies their stern voices telling her to stand up straight and to keep getting better. It took six months of intensive medical care and rehab, says Marie, but my mom now has her life back.

IN THE MOMENT

Yi developed a special relationship with her physiatrist and therapists. They knew when to laugh with her and when to insist that she push forward.

In working with patients like Yi, physiatrist Samuel Milton collaborates with an extensive team of rehabilitation therapists.



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Susan Freed (left), director of care coordination, and Sister Rosemary Smith, chief mission officer, helped get Lawrence's medications paid for through the hospital's Compassionate Care Fund.



EMORY SAINT JOSEPH'S HOSPITAL

Arranging the long journey back

TOM LAWRENCE, A FLIGHT ATTENDANT, HAD FLOWN INTO ATLANTA EARLY THAT MORNING, WATCHING OVER SOME 200 SLEEPY PASSENGERS. Now he was getting ready to work the return flight to home base New York. Nothing was out of the ordinary, except why did he suddenly feel a little dizzy, unsettled, an invisible belt tightening around his chest?

He got to a nearby clinic, and someone called an ambulance. He was rushed to Emory Saint Joseph's Hospital, where he underwent emergency open-heart surgery. Always healthy and active, he had not expected a heart attack and certainly not the post-operative complications that left him breathless and barely able to walk. He also had expected that his health insurance would take care of whatever came.

It didn't. But the hospital did.

Life-saving surgery is often just the first step in getting patients back into life. Lawrence's insurance covered five days of hospitalization. He needed—and got—25. Also not covered were physical and occupational therapy to maximize his mobility.

Once he no longer required oxygen, he could be discharged. But how would he get back to New York, as weak as he was? He had no family. His doctors, physician assistant, case manager, and therapists were in constant communication. Social worker Karen Weaver turned to Southwest Airlines (not the small airline for which Lawrence worked), which sometimes provides free tickets for patients and their families and, in this case, for a friend who offered to help Lawrence navigate the trip home.

Weaver and fellow social worker Jessica Weinstein also asked vendors to donate a walker, wheelchair, and other equipment. Care coordinator Susan Freed and Sister Rosemary Smith, the hospital's chief mission officer, got Lawrence's medications

(also uncovered) paid through the hospital's Compassionate Care Fund. The biggest challenge came when Lawrence got home, however: finding and helping him pay for the uncovered private duty home care he needed and a home health agency that would work with his limited insurance. The team succeeded.

IN THE MOMENT

He had not expected a heart attack and certainly not post-operative complications that left him breathless and barely able to walk.

EMORY JOHNS CREEK HOSPITAL

*A lot to sing about***ALWAYS RESPONSIBLE, BETH SMITH DIDN'T SHOW UP TO CLEAN HER REGULAR TUESDAY HOUSE AND THEN DIDN'T SHOW UP AT CHOIR PRACTICE THAT NIGHT.**

Her sister found her in bed, her body so lifeless she thought she was dead. She called for help, and Beth was rushed, sirens wailing, to Emory Johns Creek Hospital.

The 60-year-old had diabetic ketoacidosis, a condition in which the body can't get energy from glucose and begins breaking down fat, releasing toxic ketones into the blood. No one, including Smith, had realized she had diabetes. The ketoacidosis left behind numerous medical problems, requiring a host of medical specialists: an endocrinologist for diabetes, a urologist for acute kidney failure from dehydration during her coma, a hematologist for abnormal blood values, an infectious disease physician for fever, a pulmonologist for pneumonia, and hospitalists to coordinate this care.

Smith had no insurance. She was an independent laborer, too young for Medicare, outside Medicaid's categories, and had not applied for coverage.

At first, when social worker Cathy Crumrine offered to help Smith apply for disability and Medicaid, she was reluctant. "I'll be back working soon," she said.

The medical team knew she had a long way to go. Once she was medically stable, the hospital's physical, occupational, and speech therapists began their work. As Smith progressed, the therapists argued that she needed rehabilitation services beyond those available in a general hospital. Without insurance, no facility would take her.

Emory Johns Creek transferred her to Emory's Budd Terrace skilled nursing facility for rehab, with her care continuing to be covered by Emory.

Eventually, the paperwork may go through to get Smith on Medicaid to cover ongoing (but not past) care. In the meantime, Crumrine is working on Smith's transition back into the community, making sure she gets the care, medicines, and help she needs. At this writing, Emory Johns Creek already had covered substantial costs for her hospitalization and four weeks of rehabilitation as well as a cane, glucometer, and medication.

It's slow going, but Smith expects to get back to the choir soon. She has a lot to sing about. Her sister tells everyone at the hospital, "You performed a miracle."

IN THE MOMENT

When her sister called for help, Beth's body was so lifeless that her sister thought she had died.



Hospitalist Seham Haddad (left) oversaw Smith's care when the team pulled the 60-year-old back to life. She is consulting here with hospitalist Sasi Ponnambalam.

WINSHIP CANCER INSTITUTE

Precious time

WHEN IT RAINS, IT POURS. Just ask Rachel Stepp. The 46-year-old from south Georgia had to give up her job as a cashier in the local grocery store—a job she loved—when her husband’s Parkinson’s progressed to the point that he needed her to be at home. His sister helped, but she had health problems of her own. The Stepps’ only son was in Iraq. Little wonder that Stepp felt stomach discomfort and loss of appetite. When her doctor told her he suspected pancreatic cancer, her first thought was that she did not have time for this.

In fact, she had neither time nor money. The only money coming into the household was her husband’s disability check. At least Medicaid covered his doctor visits and medicines. Who would cover hers? She was supposed to be the well one.

Winship Cancer Institute doctors confirmed her doctor’s fears. Advanced pancreatic cancer. The doctors didn’t seem to care about her lack of coverage, only about getting her treatment under way, and fast. Surgical oncologist David Kooby removed as much cancerous tissue as possible. Medical oncologist Bassel El-Rayes started chemotherapy. Radiation therapist Jerome Landry added radiation.

Social worker Carol Rivera tackled the financial issues. Stepp’s care was deemed charity care. Since she lived hours from Atlanta, Rivera arranged for her to stay in the Hope Lodge on Emory’s campus, an American Cancer Society home away from home for patients undergoing chemotherapy and radiation. Winship’s patient assistance fund paid for Stepp’s other medications. Rivera also helped the overwhelmed woman apply to Social Security to receive her own disability check. That check, added to what her husband received, pushed their income over the limit for her to be eligible for regular Medicaid coverage. Rivera helped her apply for a different form of Medicaid, for persons who can document huge ongoing medical bills.

Meanwhile, Winship continues to write off the thousands owed after Medicaid pays its part.

The cost to Winship over the past two years has been substantial, but it has given Stepp time to say goodbye to her husband, who recently lost his battle with Parkinson’s. It has also given her time to see her son come home and meet her new granddaughter.

IN THE MOMENT

At least Medicaid covered her husband’s doctor bills. Who would cover hers? She was supposed to be the well one.

David Kooby, who is expert at laparoscopic removal of pancreatic tumors, was part of a team of specialists treating Stepp at Winship.

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GRADY MEMORIAL HOSPITAL

Tracking down TB

MANY DOCTORS IN THE U.S. HAVE NEVER SEEN A CASE OF TUBERCULOSIS.

Doctors at Grady Hospital diagnose a case per week, more than the total diagnosed in some states in a year. It's not that Atlanta has more TB than other large cities, says Susan Ray, chief of Emory's infectious disease service at Grady. It's that Grady doctors know when to screen for TB—and how to recognize it when it isn't obvious.

That expertise saved Carlos Flores. When Flores' headache and cough wouldn't go away, leaving him progressively weaker and thinner, his girlfriend persuaded him to go to Grady.

The first shock was being told he was HIV-positive. An HIV diagnosis both raises the risk of TB and changes how it behaves. His previous doctor thought Flores had a bad cold, perhaps because the simple TB skin test misses a third of active cases and Flores had no coverage for other tests. At Grady, X-rays showed enlarged lymph nodes in his chest, but sputum smear test results were negative. It took bronchoscopy, with use of a molecular probe, to confirm TB.

The second shock for Flores was learning not only that he had TB but the extent of its invasion. Hidden away, his TB had traveled stealthily through his lymphatic system, affecting nodes in the spinal cord and brain. As treatment began, his immune system fought back with inflammation and swelling, leaving him temporarily unable to walk.

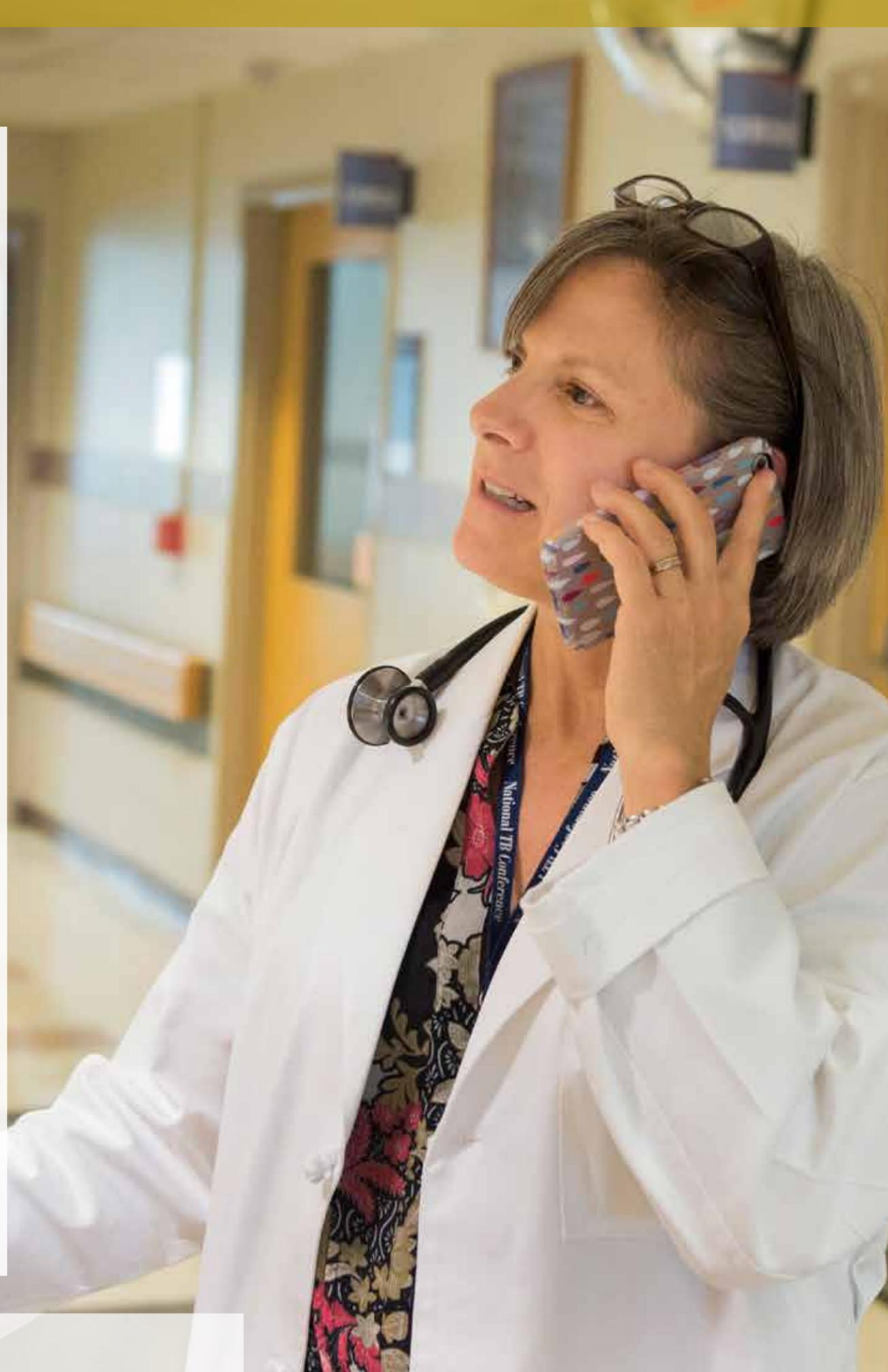
Steroid therapy slowly resolved the swelling. If Flores had not had TB, he would have been sent to a nursing home to recover. Instead he spent six weeks in the Grady ICU. Today, months later, his HIV is under control, thanks to care from other

Emory infectious disease specialists at Grady's Ponce de Leon Center, and he is no longer contagious for TB. He is back home and back to work in a local restaurant.

While the cost of uncompensated care in such cases is always high, finding and wiping out this patient's TB was worth every penny, says Ray, both to him and to others at risk for spread of the disease.

IN THE MOMENT

The disease had traveled stealthily through his lymphatic system, affecting nodes in the spinal cord and brain.



Sooner or later, every single case of diagnosed or suspected tuberculosis at Grady is referred to Susan Ray. As hospital epidemiologist, the Emory medical professor helps Grady maintain its nationally recognized ability to prevent the spread of TB and other infectious diseases. As state TB consultant, Ray also makes sure new TB patients are referred to their local health department and, for patients who are HIV positive, linked to good HIV care.

Emory faculty and residents provide 85% of the care at the publicly funded Grady Hospital, where patients receive extraordinary care, often in Emory-led programs not widely available elsewhere in the region, including poison control, high-risk pregnancy, burns, HIV/AIDS, stroke, cancer, diabetes, and sickle cell disease.

Emory faculty provided \$25.4 million in uncompensated care at Grady in fiscal year 2014-2015. All payments for Emory services for patients who do have some coverage go to the Emory Medical Care Foundation, which uses this revenue—\$45.4 million last year—to support Emory's mission at Grady.

ATLANTA VETERANS AFFAIRS MEDICAL CENTER

Helping patients through research

VETERAN MIKE PAFFORD CAME EARLY FOR THE APPOINTMENT with his diabetes doctor at the Atlanta VA Medical Center, just so he could have lunch on the sunny terrace. When he suddenly fell off his chair, unconscious, his wife screamed for help.

A nurse's aide nearby knew exactly what to do. Following policy, all nonphysician staff have been trained and empowered to respond to cardiac emergencies: If you see the emergency first, you begin CPR, no waiting around for someone else. Minutes and seconds count. A nurse called code 99—*patient with no pulse*—and joined the CPR effort. Members of the code 99 team arrived quickly and took over.

In the cardiac ICU, Pafford remained comatose. More than an hour of CPR and repeated defibrillations for an unstable heart rhythm had brought back his pulse. But could he be brought back to the life he had before?

Since 2011, under the direction of Emory cardiologist Maziar Zafari, who is chief of cardiology at the Atlanta VAMC, the hospital has been one of relatively few to use near-infrared spectroscopy to monitor the amount of oxygen-carrying blood reach-

ing the deep brain during CPR and post-cardiac arrest in cases like Pafford's. Zafari has shown that the test, which is noninvasive and relatively inexpensive, may be effective in monitoring survivors of cardiac arrest to avoid invasive and ineffective procedures.

Pafford's readings indicated that he was neurologically intact and that he would benefit from further therapy. He was taken immediately to the cardiac cath lab, where the interventional cardiology team opened his blocked vessel. To prevent brain damage,

the team induced mild hypothermia, lowering the oxygen demands of the brain.

Two weeks later, Pafford left the hospital, fully functional, with no cognitive deficits.

Zafari sees cases like Pafford's over and over at the VAMC. Pafford's records, with his permission, are now part of a cardiovascular biobank that Zafari and his colleagues are building—with more than 6,000 cases—to determine genetic markers and other factors contributing to heart disease, its severity, response to treatment, and related problems like mental stress and depression.

Outcomes for sudden cardiac arrest have always been dismal, even for those occurring in medical settings. Maziar Zafari's research changed outcomes for cardio-pulmonary resuscitation at the Atlanta VA Medical Center, improving survival so much that his strategies were copied by other VA facilities across the country and have been referenced in the American Heart Association's CPR guidelines.



IN THE MOMENT

When Pafford suddenly fell off his chair, unconscious, a nurse's aide nearby knew exactly what to do.



Emory and the Atlanta VA Medical Center have been affiliated since 1946. In addition to a backyard, they share a mission to care for veterans and to conduct research that will continually improve this care.

Emory investigators contribute to a diverse spectrum of research at the Atlanta VA that brought in more than \$13 million in VA and \$11 million in non-VA funding last year.

LOCAL AND GLOBAL WORK

Collaborations in the community

Serving others is a fundamental part of the culture for those who teach, learn, and work in Emory's Woodruff Health Sciences Center.



Sharing knowledge about Ebola:

Based on experience in treating four Ebola patients in 2014, Emory Healthcare clinicians posted treatment protocols online and continue to publish ongoing findings in journals, conduct research on treatments and vaccines, and partner with the CDC to providing training, educational resources, and consultation for the 50+ U.S. medical centers designated as Ebola treatment centers.



A day in the life: Angela Bush (right) teaches chemistry, anatomy, and AP biology at Benjamin E. Mays High School in Atlanta. This past summer, she worked with neuroscientist Maria Alvarado as a participant in the Institute on Neuroscience (ION) offered by Emory's Yerkes National Primate Research Center in collaboration with Georgia State University. The six-week ION offers middle and high school teachers and high school students exposure to neuroscience research.



Responding to needs of Ebola survivors in Africa: Physician Ian Crozier (back row, second from right) was one of four Ebola patients treated last year at Emory. After being discharged, with blood tests showing he was virus-free, he later experienced severe pain and fading vision in his left eye, and his ocular fluid tested positive for Ebola. He recovered following treatment and accompanied a team from the Emory Eye Center in April to help establish an eye clinic for Ebola survivors at ELWA Hospital in Monrovia, Liberia.



Public health in practice: Rollins School of Public Health recently signed a partnership agreement with Atlanta's Consulate General of Mexico for Rollins faculty, staff, and students to provide consulate visitors with health education and service linkage

through a program called Ventanilla de Salud (VdS), or Window to Health. On average, more than 1,000 people visit the consulate each week to renew passports and other personal documents. This summer, students from public health, nursing, and the National Institute of Public Health in Mexico did practicums at the consulate to provide health education and referrals for clinical services and sources for health insurance.



Nursing care for veterans:

Emory's Nell Hodgson Woodruff School of Nursing is partnering with the Atlanta VA Medical Center in a VA-funded program to help stem the nursing shortage at VA facilities. In May, the first group of students

participating in VANAP (VA Nursing Academic Partnership) received their nursing degree. In addition to other courses and rotations in the school, the students received specialized training in mental health, traumatic brain injury, home-based health care, palliative care, women's health, and homeless care at the Atlanta VAMC, and many of these graduates plan to work at this facility after completing residency training.

In the field, literally: The Woodruff Health Sciences Center (WHSC) provides financial support to the Volunteer Medical Interpretation Services (VMIS) program, which is run by students throughout WHSC and Emory University. VMIS works in a variety of settings, including Grady Hospital, and provides interpretation services for the medical and nursing schools each July when students and faculty spend two weeks in south Georgia providing health care to migrant farmworkers and their families, many of whom have never had a medical exam.



Improving survival in cardiac arrest:

Emory and CDC established CARES (Cardiac Arrest Registry to Enhance Survival) in 2004 to help communities identify when and where cardiac arrest occurs, which elements of their emergency medical services (EMS) system are functioning properly, and what changes are needed to improve outcomes. Currently, more than 800 EMS agencies and 1,300 hospitals in 36 states representing a population footprint of 80 million people participate in the program. A recent Institute of Medicine report recommends establishment of a national registry to track out-of-hospital cardiac arrests, and CARES is well positioned to serve in this capacity because it already covers about 25% of the U.S. population.



Atlanta Better Buildings Challenge: Emory University Hospital Midtown has been a partner in the Atlanta Better Buildings Challenge since 2012, with the goal of reducing energy and water use by 20% by 2020. According to Sarah Peek, assistant director of facilities management at the hospital, the hospital has made substantial progress toward this goal by installing variable frequency drives on chillers in its medical office tower and replacing more than 500 lighting fixtures in the parking deck. “Reducing our energy consumption helps us be a good neighbor and allows us to focus more resources on our main mission of helping our patients,” says Peek.

EDUCATION

Populating the health professions



The Woodruff Health Sciences Center invested 22.8% of its tuition income last year in financial aid for its students, an amount totaling \$23 million.

TRAINING TOMORROW'S HEALTH PROFESSIONALS REQUIRES CREATIVE AND ONGOING RESPONSE TO CHANGING NEEDS AND DYNAMICS:

Emory School of Medicine, for example, perpetually scrutinizes its curriculum with an eye toward educating not just the most knowledgeable but the most compassionate clinicians, who can lead and implement measures to improve effectiveness and value of care. The school has implemented seminars for students and faculty that have been shown scientifically to enhance compassion and listening skills and is increasing opportunities for learning in interprofessional teams, both in simulated and real clinical settings.

Emory's Nell Hodgson Woodruff School of Nursing is one of 25 schools nationwide with a grant from the Robert Wood Johnson Foundation to increase the number of nurses holding PhDs. This initiative is in response to recent Institute of Medicine recommendations that the country double the number of nurses with doctorates, to address a shortage of nursing faculty and increase opportunities for nursing research.

Faculty in the Rollins School of Public Health recently co-directed a Coursera course, "Ebola: An Evolving Epidemic," which is useful to those interested in working or doing research in this area. The course discusses the state of global public health prior to the 2014 epidemic, the etiology of Ebola and other hemorrhagic fevers, and the epidemiology of the 2014 epidemic. Offered initially last spring, the cost-free course remains online at coursera.org/learn/ebola-virus.

Students and trainees in health sciences:

Emory University School of Medicine

- 562 medical students, including 91 MD/PhD students
- 1,238 residents and fellows
- 524 students in allied health training, such as physical therapy and physician assistant programs

Rollins School of Public Health

- 1,131 master's and 169 PhD students

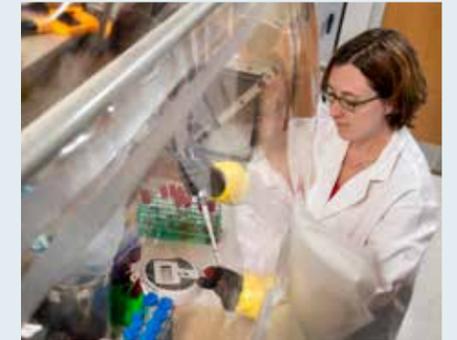
Nell Hodgson Woodruff School of Nursing

- 322 bachelor's, 194 master's, 29 PhD students

Emory Healthcare is a major supporter of teaching and research endeavors in the Woodruff Health Sciences Center, providing \$81.3 million in funds for these missions in fiscal year 2014-2015.

RESEARCH

Making research possible



THE COSTS OF DOING RESEARCH ARE COVERED IN PART FROM AGENCY AND FOUNDATION GRANTS, BUT THE WOODRUFF HEALTH SCIENCES CENTER UNDERWRITES MANY OF THE FACILITY AND INFRASTRUCTURE EXPENSES RELATED TO RESEARCH. Last year, for example, the WHSC invested more than \$120 million in research costs unrecovered from research sponsors. Research benefits the community at large and creates thousands of jobs but also requires sustained, dedicated support.

In fiscal year 2014-2015, research awards in health sciences totaled \$537.1 million. Examples of these awards include the following:

The Gates Foundation committed an initial \$73 million to create the Child Health and Mortality Prevention Surveillance network aimed at preventing childhood mortality in developing countries, with Emory's Global Health Institute serving as lead partner. The Defense Advanced Research Projects Agency awarded \$10.8 million over three years for an Emory-led, 10-institution team to determine if antibodies and immune cells from the blood of Ebola survivors could help fight infection in others. The NIH renewed a \$15 million grant to Emory's Center for Systems Vaccinology and selected an Emory-led partnership as one of four components of a national network of Tuberculosis Research Units, with a seven-year grant totaling \$18.7 million. The NIH also renewed Emory's National Fragile X Syndrome Research Center grant, with \$9 million over five years to study fragile X-associated disorders and develop effective treatments. Meanwhile, the CDC awarded \$7.4 million to the Hubert Department of Global Health in the Rollins School of Public Health to implement a global health security program to improve preparedness and response to health threats in low-income countries, with a focus on West Africa. And NASA awarded \$1.5 million over three years to researchers at Winship Cancer Institute to study contributors to radiation carcinogenesis.

Last year, the Woodruff Health Sciences Center's investment in research costs unrecovered from sponsors totaled \$120.4 million.



Among universities around the world that received U.S. utility patents in 2014 for a variety of biomedical technologies, Emory ranks 58.



Emory's Woodruff Health Sciences Center provides thousands of jobs—both for employees and contractors—and attracts hundreds of millions of dollars in research investment. Its estimated economic impact on metro Atlanta is \$7.2 billion each year.

FINANCIAL IMPACT

Contributing to the economy

THE WOODRUFF HEALTH SCIENCES CENTER (WHSC) IS A MAJOR FORCE IN BOTH THE METRO AND STATE ECONOMY, EMPLOYING THOUSANDS OF PEOPLE AND ATTRACTING MILLIONS OF DOLLARS IN RESOURCES AND INVESTMENT.

Partnerships: Relationships with various academic, health care, business, and government institutions translate into shared grants and expertise for the area. In collaboration with the CDC and other entities, for example, Emory is the lead coordinator of the National Ebola Training and Education Center, funded for \$12 million over five years. Emory and Children's Healthcare of Atlanta, which together manage the second largest population of cystic fibrosis patients in the country, are partners with Georgia Tech in a \$1.8 million grant from the Cystic Fibrosis Foundation to fund a new research and development program. With the Georgia Research Alliance (GRA), Emory and Children's also jointly sponsored recent recruitment of a new GRA Eminent Scholar in cystic fibrosis.

Technology transfer: Over the past three decades, Emory has helped create 72 start-up companies—31 in drug discovery/pharmaceuticals, 17 in medical devices, six in diagnostic technologies, nine in software, and nine in other fields—which collectively have received \$1 billion in private investment capital, \$314 million in public investment capital, and \$13.5 billion from mergers and acquisitions. Emory currently is ranked No. 58 in the world among universities granted U.S. utility patents in 2014, according to a new report released by the National Academy of Inventors and the Intellectual Property Owners Association. The 35 patents Emory was granted last year covered a variety of biomedical technologies—a medical device to treat kidney failure, an apparatus for surgeons to practice delicate throat surgery, computer displays to improve patient care, and manikins to better train CPR. The patents address treatment options for hepatitis C, HIV, diabetes, and various cancers.

Jobs and expenditures: The WHSC employs more than 23,000 people, making Emory University the largest employer in DeKalb County and the second largest private employer in metro Atlanta. The WHSC influences local employment figures in other substantive ways as well. WHSC annual expenditures in fiscal year 2014-2015 totaled \$3.7 billion, for example, which translates into an estimated economic impact on metro Atlanta of \$7.2 billion.

Value to the community

Emory's Woodruff Health Sciences Center (WHSC) benefited the community in a variety of ways in fiscal year 2014-2015

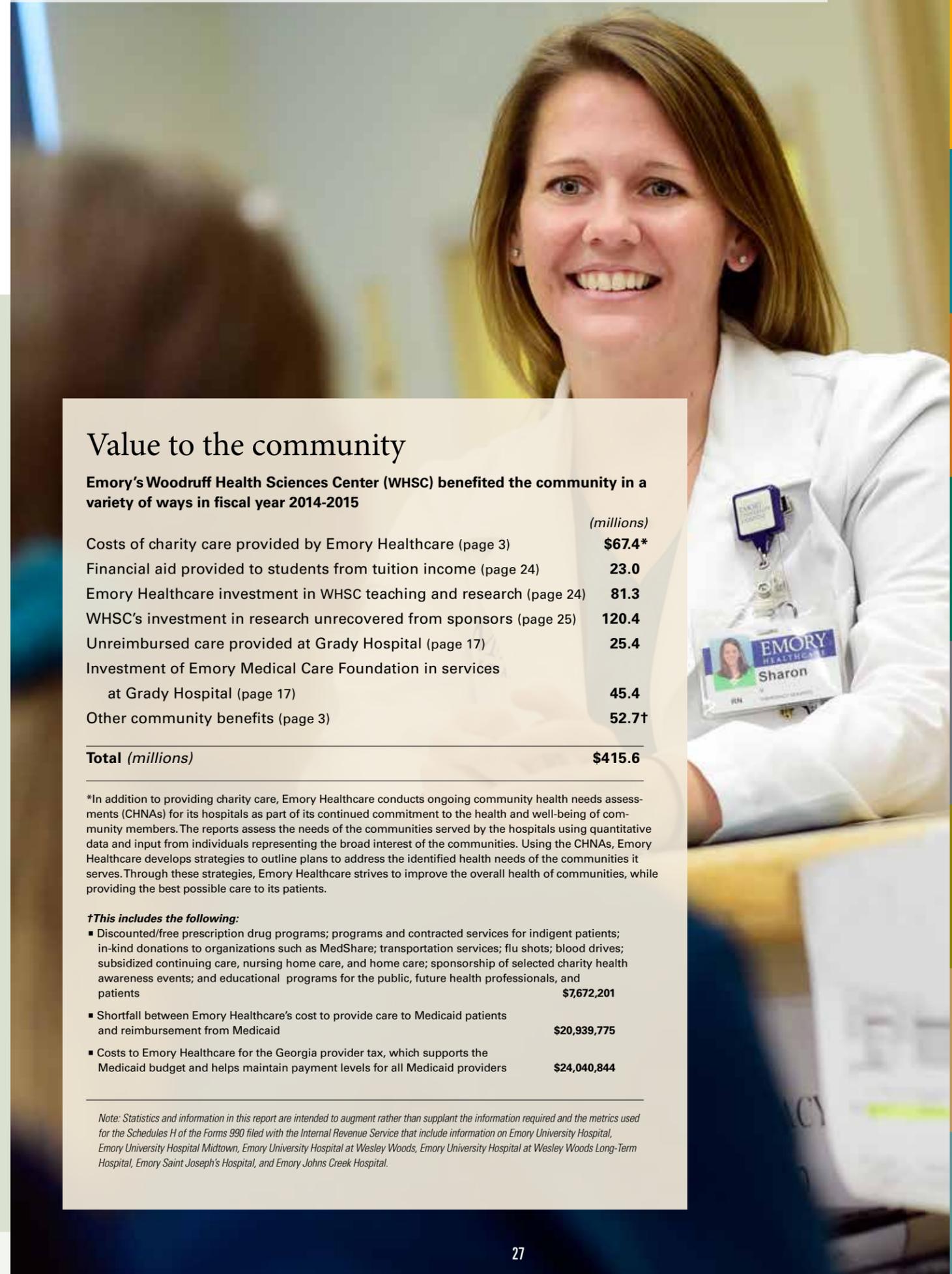
	<i>(millions)</i>
Costs of charity care provided by Emory Healthcare (page 3)	\$67.4*
Financial aid provided to students from tuition income (page 24)	23.0
Emory Healthcare investment in WHSC teaching and research (page 24)	81.3
WHSC's investment in research unrecovered from sponsors (page 25)	120.4
Unreimbursed care provided at Grady Hospital (page 17)	25.4
Investment of Emory Medical Care Foundation in services at Grady Hospital (page 17)	45.4
Other community benefits (page 3)	52.7†
Total (millions)	\$415.6

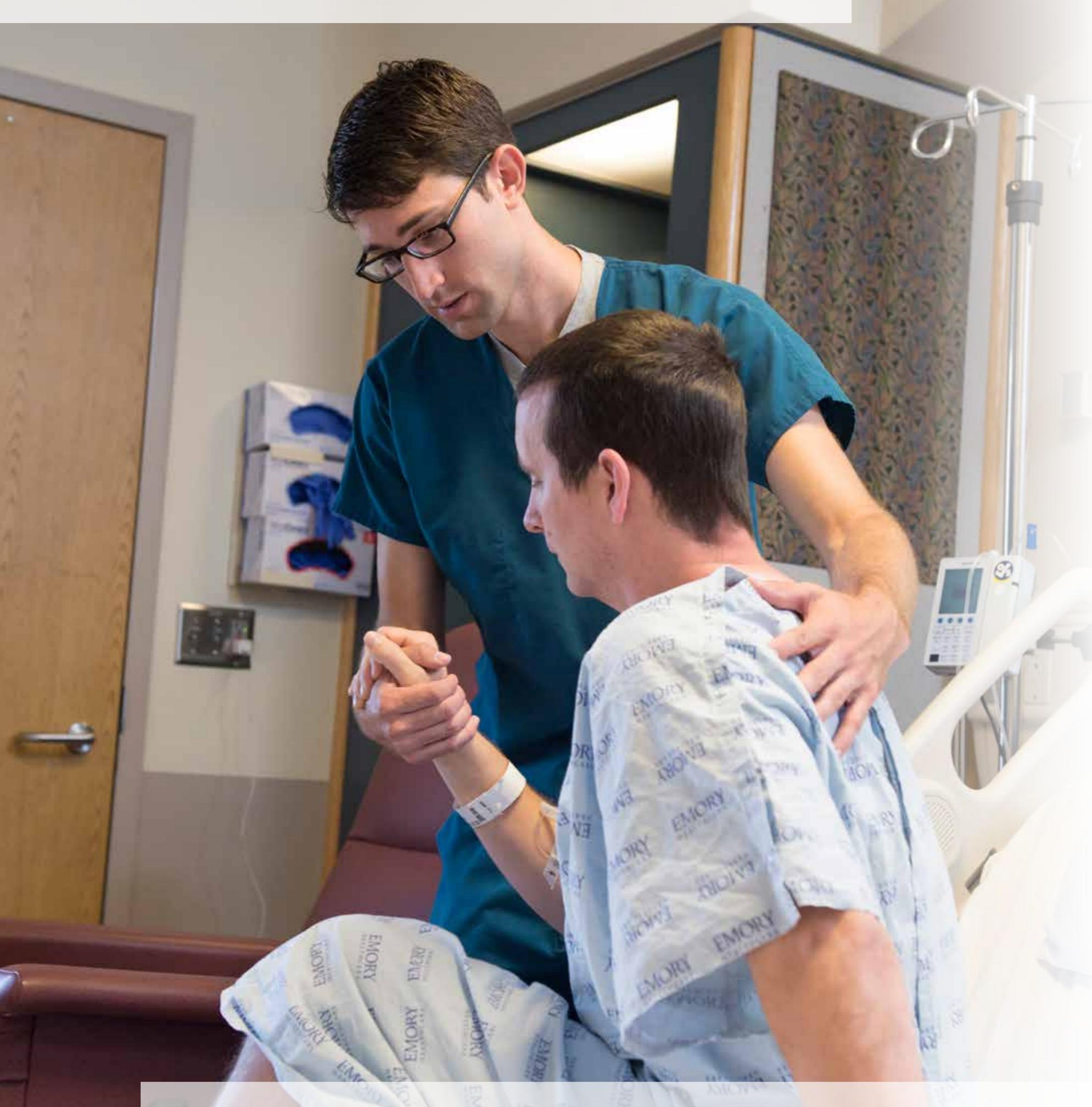
*In addition to providing charity care, Emory Healthcare conducts ongoing community health needs assessments (CHNAs) for its hospitals as part of its continued commitment to the health and well-being of community members. The reports assess the needs of the communities served by the hospitals using quantitative data and input from individuals representing the broad interest of the communities. Using the CHNAs, Emory Healthcare develops 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:

- 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 **\$7,672,201**
- Shortfall between Emory Healthcare's cost to provide care to Medicaid patients and reimbursement from Medicaid **\$20,939,775**
- Costs to Emory Healthcare for the Georgia provider tax, which supports the Medicaid budget and helps maintain payment levels for all Medicaid providers **\$24,040,844**

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, Emory University Hospital at Wesley Woods, Emory University Hospital at 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** (includes EUH at Wesley Woods), 605 beds
 - **Emory University Hospital Midtown**, 511 beds (includes 30 LTAC beds*)
 - **Emory University Orthopaedics & Spine Hospital**, 120 beds
 - **Emory Rehabilitation Hospital**, in partnership with Select Medical, 56 beds*
 - **Emory Saint Joseph's Hospital**, 410 beds
 - **Emory Johns Creek Hospital**, 110 beds
 - **Emory Clinic**, 1,800 physicians, nurse practitioners, physician assistants, and other providers
 - **Emory Wesley Woods Center** (geriatric care)
 - **Budd Terrace**, 250 beds, skilled nursing care facility
 - **Wesley Woods Towers**, 201 units, residential retirement and personal care facility
 - **Emory Specialty Associates**, outreach physician group practice organization with locations throughout the city and state
 - **Emory Healthcare Network**, network of physicians and hospitals formed to improve care coordination and quality outcomes as well as control costs for patients and the community

**For rehabilitation medicine and long-term acute care (LTAC), Emory Healthcare has a joint venture with Select Medical, with 88 LTAC beds in three hospitals.*

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**, 278 beds, Emory campus, staffed by Emory and private practice physicians, with Emory providing 95% of care
 - **Children's at Hughes Spalding**, 24 beds, Grady Hospital campus, staffed by Emory, Morehouse, and private practice physicians, with Emory providing 75% of care
 - **Children's at Scottish Rite**, 273 beds, staffed by Emory and private practice physicians
- **Atlanta Veterans Affairs Medical Center**, 445 hospital beds, including 120 nursing home beds, 12 psychiatric residential rehab beds, and 40 domiciliary beds; staffed by 250 Emory physicians, who provide virtually all physician care



EMORY
UNIVERSITY

**Woodruff Health
Sciences Center**

Last year, Emory Healthcare clinicians saw almost 600,000 patients and provided \$67.4 million in charity care.



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

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