Albert Einstein College of Medicine is at the forefront of bridging divides: between laboratory breakthroughs and innovative therapies, between disease and health, between lack of care and compassionate care—all in the interest of preventing illness and promoting healing.
A new liver can mean the difference between imminent death and decades more of life. Accurately predicting that breast cancer will not spread could spare women treatment that is costly, exhausting and unnecessary. Understanding how cells die during heart attacks and their aftermath can reveal strategies for keeping cells alive. Einstein researchers are identifying new ways to combat disease and improve health by turning laboratory discoveries into new treatments for patients in our community and throughout the world.
From diabetes to drug addiction, daunting health challenges confront Bronx residents, many of whom are poor and medically underserved. Albert Einstein College of Medicine—the borough’s only medical school—takes its responsibility to be a good neighbor seriously. From a new and comprehensive cancer prevention program to an innovative effort that recruits minority students for health-care careers, Einstein is serving the Bronx community in many different ways.

Because it is our home.

Bronx resident Ismael Santos with his twin 16-year-old daughters, Janine, left, and Janice, who have cerebral palsy. The family has received treatment and support at the Children’s Evaluation and Rehabilitation Center on the Einstein campus since the girls were 6 months old. “We’ve had the same team of excellent doctors all these years,” says Mr. Santos. “All the therapies my daughters need are here.”
Beyond our neighborhood and nation, people are suffering from diseases that are treatable or preventable. Einstein scientists partner with colleagues and institutions worldwide to alleviate this suffering and improve lives. One of these Einstein initiatives is in Uganda, where children are succumbing to malnutrition diabetes, a lethal and little-understood disease. Other Einstein clinicians are working on better ways to treat drug-resistant tuberculosis and to prevent the transmission of AIDS.

BECAUSE IT IS

OUR MISSION.

The photo at right was taken last August in Kampala, Uganda, during a two-and-a-half-day diabetes conference organized by Einstein’s Meredith A. Hawkins, M.D. The College of Medicine sponsors numerous initiatives worldwide, including clinical and research programs in Argentina, Bangladesh, Brazil, Ethiopia, Guatemala, India, Nigeria, Rwanda, South Africa, Uganda and Vietnam.
What will health care in the United States look like 10 or 20 years from now? Will all Americans have access to the care they need? Will breakthroughs minimize the death toll from heart disease and cancer? The answers aren’t known, but the students and scientists who will influence them are right here on the Einstein campus. As they look to the future, they will also be grounded in the traditions—compassion, collegiality, humanism and the zealous pursuit of knowledge—that have made Einstein a premier institution where leadership in medical education and research advances go hand in hand.

**BECAUSE WE ARE**

Cara Chrisman, a graduate student who assists in the lab of Arturo Casadevall, M.D., Ph.D., the Leo and Julia Forchheimer Professor of Microbiology & Immunology, will graduate this spring. She may then pursue a postdoctoral degree or go into scientific policy-making or science writing—all doors that are open to her thanks to her Einstein education. Cara also serves in several student government organizations and has received the Graduate Student Council’s Student Service Award.
THE CHAIR

When I became chairperson of the Board of Overseers of Albert Einstein College of Medicine in 2007, I was very excited about the vision projected by our (then) new dean, Allen Spiegel, and the goals that he, together with the Einstein faculty and administration, set for the medical school. Two and a half years later, this team has achieved several key goals and is on course to accomplish many others. They range from exciting new research in areas such as heart disease and cancer, to the recruitment of new faculty, to the expansion of Einstein’s work overseas—all described in this Annual Report. I think I can speak for the entire Board of Overseers when I say that we are all thrilled and proud to be part of the Einstein community.

From the time Einstein was created, the brilliance, dedication and collegiality of its faculty have been legendary. Now these scientists are pressing forward, intent on seeing their discoveries result in the cure or elimination of diseases that besiege us all. Always a giant in basic research, Einstein continues to develop new ways to translate its findings to meet challenges to the health of people across the globe.

Einstein has long been a leader in medical education and insists on providing the latest and most timely training to make today’s medical students the compassionate and expert physicians of the future. Our students gain a wealth of experience serving the health needs of people from myriad backgrounds in the Bronx and New York City, as well as in underserved areas in many countries around the world.

Einstein’s continued excellence in research and education is possible thanks to the philanthropic investments of our friends and alumni. On behalf of the entire Einstein community and our dedicated Board of Overseers, let me express our most sincere appreciation to everyone whose generosity makes the mission of Einstein possible.

Sincerely,

Ruth L. Gottesman, Ed.D.
Chair, Einstein Board of Overseers

THE DEAN

“In theory, there is no difference between theory and practice. In practice, there is.”

— YOGI BERRA

In the quote above, the legendary Yankee catcher was probably distinguishing between the advice offered to a hitter by his batting coach and the batter’s actual experience trying to hit a 95-mile-per-hour fastball. As it turns out, Yogi’s aphorism aptly describes what is known as the translational block: the divide between obtaining meaningful laboratory findings and putting them into practice in the “real world.” This year’s Annual Report is all about bridging that divide.

Robust and sustained support for research is critically important, enabling investigators to make discoveries that address the many unmet challenges in medicine. But research results alone do not translate into improved health. For example, completion of the human genome sequence in 2000, while certainly a landmark achievement, will not by itself usher in an era of genomic, personalized medicine. Likewise, meaningful health-care reform, by which I mean achieving universal access to quality care at an affordable and sustainable cost, will not by itself eliminate health disparities in our own country, much less resolve the global health problem of neglected diseases.

Bridging the divide between research and practice requires new ways of teaching our students to practice the medicine of the future and new ways of training the clinical investigators who move research results from the lab to the clinic. Overcoming health disparities and addressing global health challenges require new models for community-based research and care, locally in our own Bronx neighborhoods and globally in developing countries. Translating research results into new methods of diagnosing, treating and preventing disease—and then merging those advances into routine practice—requires new types of research partnerships among basic scientists, epidemiologists, clinical investigators and community practitioners.

This year’s Annual Report clearly illustrates the many ways in which Einstein is successfully bridging the divide in each of these areas. Einstein faculty and students can take pride in the significant accomplishments described in these pages. To our many supporters—members of the Einstein Board of Overseers, our alumni, foundations, corporations, our Women’s and Men’s Divisions, and our many other donors who recognize Einstein’s unique commitment to scientific excellence and humanism—I offer sincere gratitude.
Wilf Team Spirit Creates a New Home for Cardiovascular Research at Einstein

Collaboration—key to many successful enterprises and a hallmark of medical research at Einstein—has played a pivotal role in the life of Einstein overseer Zygmunt “Zygi” Wilf. Mr. Wilf hails from a family of leading New York–area philanthropists.

“I learned from my dad and my Uncle Harry that philanthropy allows our family to use our time and resources to help those in need,” explains Mr. Wilf, who is an active supporter of numerous Jewish and other charitable organizations.

In 2003, Mr. Wilf and his wife, Audrey, became Benefactors of Albert Einstein College of Medicine. That same year, Mr. Wilf joined Einstein’s Board of Overseers and now serves as a vice chairperson.

“My involvement with the medical school is extremely rewarding,” he says. “It helps me understand how our family’s support can advance Einstein’s mission—to improve human health through medical research and discovery. It’s very fulfilling to know we can make a difference.”

His zest for life and for taking on tough challenges, along with lessons learned from his family about the value of hard work, perseverance and the Jewish tenet of tikkun olam (“repair of the world”)—all drive Zygi Wilf’s philanthropic vision. They explain, in part, his family’s decision to donate $10 million to establish the Wilf Family Cardiovascular Research Institute at Einstein.

Born in Germany in 1950, Zygi Wilf emigrated to the United States in the early 1950s with his parents, Joseph and Elizabeth Wilf, both Holocaust survivors. The family settled in New Jersey.

Mr. Wilf learned about teamwork early in life by watching how his father and his late uncle, Harry Wilf, build—virtually from the ground up—a highly successful real estate development business, Garden Homes and Garden Commercial Properties. After briefly practicing law, Zygi Wilf joined the family business. He is now president of Garden Commercial Properties.

An avid sports fan, Mr. Wilf fulfilled a childhood dream in 2005 when he became a principal owner of the Minnesota Vikings football team, leading a group of investors that includes his brother, Mark, and his cousin Leonard Wilf. Soon after he assumed ownership

BRIDGING THE CARDIOVASCULAR DIVIDE

“Heart” is at the center of the Einstein motto, “science at the heart of medicine.” Now, heart research is the focus of the new Wilf Family Cardiovascular Research Institute, made possible by a generous gift from a distinguished philanthropic family with a talent for teamwork.
“Medical research can be slow and painstaking, and it requires great resolve and tenacity to be successful. Collaboration with others and the support of an exceptional partner and quintessential team builder like Zygi Wilf can be indispensable.”

—RICHARD N. KITsis, M.D.
The Dr. Gerald and Myra Dorros Professor of Cardiovascular Disease
Director, Wilf Family Cardiovascular Research Institute

The most basic decision that any cell can make is to divide, differentiate or die. Dr. Kitsis’ laboratory studies how and why cells die and how cell death influences health and disease. At left, Richard N. Kitsis, M.D., and cardiology fellow Lina Restrepo, M.D.

of the Vikings, a New York Times story noted that he “won over fans and players by swiftly addressing significant issues.”

“The owner has to be there for the players and for the staff, and it’s important they see you have the passion for what they’re doing,” said Mr. Wilf in describing his role with the Vikings.

The same holds true for Mr. Wilf’s role as an investor in Einstein. His family’s gift will have a significant impact on advancing cardiovascular research at the College of Medicine, and he has great respect for the researchers carrying it out, chief among them Richard N. Kitsis, M.D.

CHOOsING THE diRECtoR
Dr. Kitsis, the Einstein physician-scientist tapped to become director of the new Wilf Family Cardiovascular Research Institute, is eminently qualified for the job. A professor in the departments of medicine (cardiology) and cell biology, Dr. Kitsis is an internationally recognized expert on cell death. He came to Einstein in 1989 as a postdoctoral fellow in microbiology & immunology following clinical training in internal medicine and cardiology. Dr. Kitsis was formally invested as director of the Wilf Family Cardiovascular Research Institute at Einstein’s Academic Convocation in October 2009.

To devote his time to developing and leading the new institute, Dr. Kitsis chose to step down as chief of cardiology at Einstein and Montefiore Medical Center. He has begun hiring for the cardiovascular institute, which ultimately will be staffed by more than 40 physicians and researchers.

BUILDING THE TEAM

Einstein has a long tradition of excellence in cardiovascular research. Among the giants in the field who have worked at the College of Medicine was the late Edmund H. Sonnenblick, M.D., chief of the division of cardiology from 1975 to 1996. Dr. Sonnenblick launched modern cardiology when he recognized that the heart is a muscle and behaves like one; his research also helped lead the way to angiotensin-converting enzyme (ACE) inhibitors—one of the main classes of antihypertensive drugs.

One of Dr. Sonnenblick’s colleagues, Leslie A. Leinwand, Ph.D., a molecular biologist at Einstein in the 1980s and early 1990s and a professor in the departments of microbiology & immunology, genetics and medicine, was a founder of the field of molecular cardiology—the cornerstone of basic cardiovascular research today. Dr. Kitsis’ desire to pursue cardiovascular research was sparked by the work of Dr. Leinwand, who became his mentor.

Not surprisingly, the Wilf Family Cardiovascular Research Institute will be home to clinicians who specialize in heart problems—pediatric cardiologists and cardiothoracic surgeons, for example. But in addition, there will be scientists from the 11 basic science departments at Einstein as well as specialists in medical areas including endocrinology, radiology and nuclear medicine. Population scientists will be recruited from the department of epidemiology & population health at Einstein.

“We’ll be working on understanding, diagnosing and treating cardiovascular disease from a broad perspective,” says Dr. Kitsis. He notes that heart disease, stroke and other cardiovascular problems can result from defects, deficits and faulty connections affecting many different organs, tissues and cells. To understand these problems requires contributions from a diverse group of basic scientists, clinical scientists and population scientists.

CULTIVATING A COLLABORATIVE RESEARCH ENVIRONMENT

The Wilf Family Cardiovascular Research Institute will emphasize interdisciplinary programs—a growing trend in biomedicine. “The tradition of collaboration at Einstein is extraordinary, and we’d like to further expand it to help translate research into clinical practice,” says Dr. Kitsis. “As institute director, I will be making sure that researchers and clinicians from different specialties cross paths and cross-pollinate. In time, I expect they’ll reach out to one another on their own. Just imagine the multiplicative effects we can achieve!”

In addition to carrying out his duties as director, Dr. Kitsis will continue his own research. “I am interested in the most fundamental mechanisms that determine if a cell lives or dies,” he says. Why this “morbid obsession,” as Allen M. Spiegel, M.D., the Marilyn and Stanley M. Katz Dean, humorously described it when honoring Dr. Kitsis at Convocation? “Because understanding how to keep cells alive requires that we understand the mechanisms through which cells die,” says Dr. Kitsis.

One form of cell death, called apoptosis, has already been widely explored and is largely understood. It turns out that other, poorly understood cell-death processes are operating as well. “We are trying to create a ‘wiring diagram’ to explain how these various death processes integrate,” says Kitsis. He notes that cell death processes have important

Zygi Wilf with Minnesota Vikings star defensive end Jared Allen (photo courtesy of Minnesota Vikings).
implications, ranging from normal life processes to heart attacks, stroke, cancer and diabetes. “A true understanding of this fundamental area of biology will tell us a lot about ourselves and how we evolved,” says Dr. Kitsis. “Moreover, this information will probably provide opportunities to devise new therapies for the most common and lethal diseases.”

“Sometimes even a modest advance may be of great help to an individual who is suffering,” he adds. The ultimate goal of the Wilf Family Cardiovascular Research Institute, he says, is “to translate biological understanding into novel treatments to relieve suffering and improve health.”

Gifts such as the Wilf family’s, says Dean Spiegel, “allow Einstein faculty to go forward doing the work they love, that they are passionate about and that will benefit the community and the world.”

**A UNIQUE AND ENDURING RELATIONSHIP**

For nearly 40 years, the name Wilf has been closely linked with that of Yeshiva University. The University’s main campus bears the name of this distinguished philanthropic family, which for decades has been a pillar of the Jewish community from New York to Israel and beyond. Joseph Wilf, the family’s patriarch, and his son Zygi are longtime members of the YU Board of Trustees. Now entering its third generation of support for YU, this singular clan proudly embodies the American dream. Joseph Wilf, his wife, Elizabeth, and his brother, Harry, survived the Holocaust, transplanted themselves in America and went on to create a thriving business. Each phase of their odyssey was guided by their strongly held values: love of family, passionate commitment to strengthening the Jewish community and concern for humanity.

They identified Yeshiva University as the perfect conduit to give expression to their values and began investing in scholarships to support the development of new generations of Jewish leaders. Thus began the special relationship between the Wilf family and the first American Jewish university. The family long ago attained Benefactor status at the University for its distinguished support; the University named its Washington Heights campus the Wilf Campus in 2002, in recognition of the family’s philanthropic leadership.

In 2007, Joseph Wilf, together with other Wilf family members and YU staff, began to consider ways to build on the Wilf-Yeshiva partnership. After careful study and evaluation by Zygi Wilf, the family determined that Einstein—the first medical school in America established under Jewish auspices—would be an appropriate new focus for its philanthropy.

Two years later, in 2009, the Wilf family announced its most recent commitment: $25 million to Yeshiva University, of which $15 million was designated for YU undergraduate scholarships and $10 million to establish the Wilf Family Cardiovascular Research Institute at Einstein.

The Wilf family’s extraordinary gift is a testament to the vision and foresight of Joseph Wilf and his loved ones, and to the special bond that exists between a remarkable family and the institution whose mission they have embraced as their own.

“A success, whether in business, in sports or in medical research, usually doesn’t happen without teamwork. It takes a dedicated team to make important medical discoveries. The Wilf family’s relationship to Einstein is more than a partnership—we’re playing on the same team. Together, we’re going to achieve great things.”

– ZYGUNMT “ZYGI” WILF

Einstein Overseer and Benefactor

“Success, whether in business, in sports or in medical research, usually doesn’t happen without teamwork. It takes a dedicated team to make important medical discoveries. The Wilf family’s relationship to Einstein is more than a partnership—we’re playing on the same team. Together, we’re going to achieve great things.”

– ZYGUMNT “ZYGI” WILF

Einstein Overseer and Benefactor

Allen M. Spiegel, M.D., the Marilyn and Stanley M. Katz Dean, presented Zygi Wilf with a plaque recognizing the Wilf family and their gift establishing the Wilf Family Cardiovascular Research Institute at Einstein. “Thanks to the extraordinary vision and generosity of Zygi Wilf and his family, Einstein will have a new institute targeting the number-one killer of Americans,” says Dean Spiegel.

“The Wilf family is a shining example of YU’s mission to ennoble and enable,” says Yeshiva University President Richard M. Joel, pictured here with Zygi Wilf. “Quietly performing their good deeds under the radar, never seeking publicity, the Wilfs have had a profound impact on the growth and development of the University and on the advancement of the Jewish people and humanity.”
Typically, many years elapse before laboratory findings culminate in useful therapies. The aim of translational research is to shorten that time lag—to build bridges between basic and clinical research that will speed knowledge “from bench to bedside.” All across the Einstein campus, translational research collaborations are paving the way for new therapies that will benefit patients as quickly as possible.

It starts right here, on the Einstein campus: A physician-scientist finds that transplanted liver cells survive longer when pretreated with a certain drug, or a researcher observes cancer cells moving from tumors to blood vessels for the first time. But from there, where?

At Einstein, such basic research findings are fast-tracked from the lab and onto a developmental speedway that transforms them into diagnostic tests or therapies to improve human health. This emphasis on moving from science to medicine is what translational medicine is all about. “Every advance in medical care that you’ve ever heard of—all of the important steps in treating heart disease, cancer, diabetes and other major medical challenges—came from basic research in places like Einstein,” says Harry Shamoony, M.D., associate dean for clinical and translational research and director of the Einstein-Montefiore Institute for Clinical and Translational Research (ICTR).

It usually takes a team effort to shepherd a basic research discovery all the way to clinical practice. Fortunately, collegiality and collaboration—two traditional strengths at Einstein—have resulted in a number of translational medicine success stories.

**EINSTEIN’S COMMITMENT TO TRANSLATIONAL MEDICINE**

The College of Medicine has reached some notable benchmarks in translational medicine in the past decade.


2006: Allen M. Spiegel, M.D., became Einstein’s Marilyn and Stanley M. Katz dean after a distinguished career at the National Institutes of Health (NIH), where translational research is strongly encouraged.

2007: Dean Spiegel issued the strategic research plan, which made translational research at Einstein a priority: “Basic science research remains the main engine for discovery and innovation,” the dean wrote in his introduction to the plan, “but translation of basic science discoveries to benefit human health is critical if the public’s investment in research is to be sustained.”

2008: The Michael F. Price Center for Genetic and Translational Medicine/Harold and Muriel Block Research Pavilion was formally dedicated, and the NIH granted a coveted Clinical and Translational Science Award to Einstein and to Montefiore Medical Center. The five-year, $24 million grant supported the new ICTR. “Researchers and clinicians don’t necessarily speak the same language,” said Dr. Shamoony. The ICTR’s mandate was to act as matchmaker, bringing together people who could catalyze each other’s work.

2009: Dean Spiegel signed an affiliation agreement with Steven M. Safyer, M.D., president and chief executive officer of Montefiore, ensuring that the research partnership between the two institutions, dating from the 1960s, would continue for the next decade. “By combining Einstein’s strengths in translational research and technical expertise with Montefiore’s stellar reputation in patient care and clinical investigation, the agreement helps to ensure that collaborations will flow smoothly,” said Dean Spiegel. In addition, said Dr. Shamoony, “faculty members can now see the scientific expertise and research projects available at Einstein in real time on our website [www.einstein.yu.edu/erp]. This offers investigators an easy way to make research connections.”
A few years ago, John S. Condeelis, Ph.D., codirector of Einstein’s Gruss Lipper Biophotonics Center, was looking at his laser-illuminated videos of living breast tumor tissue when he observed something amazing: cancer metastasis in action. Cells from the tumor were on the move, migrating toward clumps of white cells, known as macrophages, perched on blood vessels. The macrophages seemed to be luring the motile tumor cells toward them.

In metastasis, cancer cells spread from the primary tumor and travel in the bloodstream to other parts of the body, where they develop into secondary tumors. This phase of cancer is arguably the most crucial, since metastasis is what usually kills cancer patients. But to actually witness metastasis was unprecedented. "People had never seen cancer cells move to blood vessels before," says Dr. Condeelis, a breast cancer researcher who is professor and cochair in the department of anatomy and structural biology.

The microscopic region where blood vessels, tumor cells and macrophages interact is called “the tumor microenvironment.” The notion that this microenvironment spawns metastasis was recently called “the hottest idea in cancer research.” In their pioneering microenvironment research, Dr. Condeelis and his team are deciphering the chemical signals that transform stationary tumor cells into motile metastatic killers. They hope to develop therapies for blocking those signals so that metastasis can be prevented or halted.

Burton and Judith Resnick’s major gifts have played a vital role in important medical advances at Einstein—past, present and future.

Cancer. Dr. Condeelis, inaugural holder of the Judith and Burton P. Resnick Chair in Translational Research, is an internationally recognized microscopist and cell biologist. Dr. Condeelis’ pioneering investigations into the way cancer spreads hold major implications for cancer treatment. (See pages 21-22 to learn more about Dr. Condeelis and his work.)

Alzheimer’s disease. A research team led by Peter Davies, Ph.D., the Judith and Burton P. Resnick Professor of Alzheimer’s Disease Research, identified a key missing protein in the brains of Alzheimer’s patients—a breakthrough that has influenced all subsequent Alzheimer’s disease research.

Leukemia. The Judith and Burton P. Resnick Chair in Cell Biology is currently held by Arthur Skoultchi, Ph.D., chair and professor in the department of cell biology. Dr. Skoultchi has identified a gene that causes red blood cells to stop developing and to multiply uncontrollably. His work could lead to new therapies for the treatment and prevention of leukemia.

“Through their steadfast leadership and philanthropic vision, Burt and Judy Resnick have helped set the stage for groundbreaking scientific discovery at Einstein.”

— Allan M. Spiegel, M.D.

The Marilyn and Stanley M. Katz dean

Using an advanced imaging system like the one shown above in his laboratory, Dr. Condeelis was able to see cancer metastasis occurring in living tissue.

“Detecting Breast Cancer’s Spread

DETECTING BREAST CANCER’S SPREAD

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We’re fortunate to live in an era of medical advances that our parents could only dream about,” observes Mr. Resnick. “Judy and I are interested in results. After meeting with Dr. Condeelis and learning firsthand about the rapid progress he and his team are making in shedding light on metastasis, we were convinced. We decided to help ensure that the resources are there to keep the momentum going for Dr. Condeelis and for future Einstein investigators.”

Predicting the spread of breast cancer

As his research progressed, Dr. Condeelis found evidence for what he called a tumor microenvironment for metastasis, or TMEM, a location where three types of cells are present: endothelial cells (which form the inner lining of blood vessels); perivascular macrophages (a type of immune cell found near blood vessels); and tumor cells that produce a protein called Mena (which enhances a cancer cell’s invasiveness). The more TMEMs in a tumor specimen, Dr. Condeelis predicted, the greater the likelihood that metastasis would occur. His prediction was confirmed in a study published in the April 2009 issue of Clinical Cancer Research.

In this study, Dr. Condeelis collaborated with pathologists at NewYork-Presbyterian Hospital in examining 60 breast tissue biopsy samples: 30 from patients with advanced metastatic cancer and 30 from patients with localized breast cancer. The researchers had developed a tissue test that used dye-carrying antibodies to stain all three cellular components of a TMEM, thereby revealing the presence and density of TMEMs in the samples.

The resulting immunostains were evaluated by two pathologists who were not aware of the patients’ clinical outcomes. Their analysis confirmed that TMEM density was significantly higher in patients who had metastatic cancer than in those who had localized disease. “TMEM is the first marker that reliably predicts whether a tumor is likely to metastasize,” says Dr. Condeelis. He notes that the test could rule out exhausting and expensive chemotherapy or radiation for women whose tumors are not destined to metastasize, and could save the lives of other women by correctly identifying metastatic disease. Dr. Condeelis and his colleagues are now working on a blood test that would measure the same markers and that might be available in five years.

New Women’s Division Initiative Supports Research in Women’s Cancers

The National Women’s Division of Albert Einstein College of Medicine has launched a fundraising initiative to support research on women’s health and cancers. The division seeks to raise $3 million over the next three years for cutting-edge basic and translational studies focusing on cancers that specifically affect women, including breast cancer and gynecological (ovarian, cervical and uterine) cancers. Leading scientists from virtually all disciplines and academic departments at Einstein who are members of the Albert Einstein Cancer Center are conducting the collaborative research studies that will benefit from the new initiative. Under the leadership of I. David Goldman, M.D., the Susan Resnick Fisher Professor and director of the Cancer Center, the investigators are working to find new and innovative treatments, prevention strategies and, ultimately, cures for women’s cancers. They hope to develop personalized treatments that will eliminate the need for patients to undergo therapies that may be unnecessary or ineffective.

The National Women’s Division has raised millions in support of medical research and education programs at Einstein since 1953. Above right, top left to right, Joskie Harris-Vochberg, president of the New York chapter; Denise Rothberg, president of the Westchester/Fairfield chapter, and Kathy Weinberg, president of the National Women’s Division. Above right, bottom: At the division’s annual Spirit of Achievement luncheon on April 28, left to right, Spirit honoree Robert W. Marion, M.D., director of the Children’s Evaluation and Rehabilitation Center, Marcia Galan, whose daughter, Alena, receives services from CERC, Einstein Overseer Rita Rosen, former National Women’s Division president, current board chair of the division’s Westchester/Fairfield chapter and a board member of its New York chapter; Alena Galan; and Bambi Felberbaum, immediate past president of the National Women’s Division. Above left: Young participants in the division’s 20th Annual Family Day “Wild, Wild West Carnival,” held on August 9. The popular event is attended each year by families who summer in the Hamptons.
the College of Medicine has received a $10.2 million bequest from the estate of Gertrude E. Reicher in memory of Eleazar and Feige Reicher. A portion of this remarkable gift has been used to endow the Eleazar and Feige Reicher Chair in Translational Medicine, named for the parents of the late Jacob Reicher, M.D., who was interested in medical research. The inaugural holder of the Reicher Chair is Sanjeev Gupta, M.D., professor in the departments of medicine and of pathology. Dr. Gupta is pioneering efforts to treat liver disease through “cell therapy”—transplanting stem cells or other cells that multiply and restore lost or diseased tissue.

Soon it may be possible to treat liver disorders without replacing the entire organ, thanks to the efforts of Sanjeev Gupta, M.D., the first Eleazar and Feige Reicher Chair in Translational Medicine and professor of medicine and of pathology. Dr. Gupta is pioneering efforts to treat liver disease through “cell therapy”—transplanting stem cells or other cells that multiply and restore lost or diseased tissue.

Another portion of the Reicher bequest has been used to help renovate the Gruss Magnetic Resonance Research Center at Einstein.

“The Reicher bequest exemplifies the selflessness of philanthropically minded individuals who, knowing they will not receive recognition in their lifetimes, simply wish to leave the world a better place,” said Allen M. Spiegel, M.D., Einstein’s dean. “Einstein is fortunate to be the beneficiary of this extraordinarily generous gift, which will have a significant impact on key areas of biomedical research.”

NEW LIVER, NEW LIFE
In the autumn of 2008, the first liver transplant program in the Bronx opened at Montefiore Medical Center—part of a collaboration between Montefiore and the Einstein Liver Center. “We’ve done 11 transplants since then,” says Milan Kinkhabwala, M.D., chief of transplantation and director of abdominal organ transplantation at Montefiore. The program has special significance for the Bronx, a region with one of the nation’s highest rates of cirrhosis, hepatitis and other liver diseases.

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Coming soon to the Bronx is a cell therapy technique in which healthy liver cells are separated from donor livers and then injected into patients’ livers. “We’re now transplanting liver cells into animals and trying to understand how these cells become a part of the body, grow, and take over the function of diseased liver cells,” says Dr. Gupta. “We’re also looking at what drugs or other treatments would encourage liver cells to engraft and proliferate. Over the last 10 or 15 years we’ve established a research base and can now begin approaching clinical studies.”

Dr. Gupta is optimistic that Einstein and Montefiore may perform their first human liver cell transplants in the near future. However, because cell therapy is regulated by the U.S. Food and Drug Administration, “we will need to develop the necessary procedures for generating suitable cells, banking them, characterizing them, and understanding whether they’re viable, safe and effective,” he notes.

Meanwhile, Dr. Gupta is also developing strategies for turning human embryonic stem cells into fully functional liver cells that could be transplanted into the body—no liver donor required.

Translational research is usually assumed to run just in one direction—from the laboratory to the clinic. But as Dr. Kinkhabwala observes, findings from the clinic can provide important information for laboratory researchers. For example, he notes, “We recently set up a tissue-banking protocol so that basic scientists can access diseased liver tissue—or whole livers—from surgical specimens for molecular analysis.”

Student Profile
ALEXANDRA OGORODNIKHOVA
Obesity tends to increase the risk for a slew of health problems. But not always.

“Some obese people don’t have the complications we expect to see, such as diabetes, heart disease and hypertension,” says Alexandra Ogorodnikova (above, at right), the first student enrolled in the ICTR’s new five-year Ph.D. track in clinical investigation. “I’m looking into why these obese people stay healthy.”

Now in her third year of the program, Alexandra is working on epidemiologic research projects with Rachel P. Wildman, Ph.D. (at left above), associate professor in the department of epidemiology & population health.

“Learning how certain obese individuals manage to avoid health problems may allow us to help the general obese population,” says Alexandra. “Our goal is to find interventions for obese patients who develop diabetes, heart disease and other complications that increase their risk for heart attack and stroke.”

In her free time, Alexandra maintains her own cardiac health by participating in the Einstein Dance Club.

Reicher Estate Bestows Generous Gift on Einstein
Academic Convocation, October 12, 2009.

Executive Director of the F. M. Kirby Foundation, at the

At right, R. Suzanne Zukin, Ph.D., with S. Dillard Kirby,

The effects of stroke.

the goal of this research is to pave the way for innovative treatments to ameliorate ischemia. The mission statement of the F. M. Kirby Foundation has been a longtime supporter of neurological research at Einstein. The venerable family foundation has awarded $300,000 over three years to Dr. Zukin in support of her neuroscience research, in collaboration with John Greally, M.B., B.Ch., Ph.D., associate professor of genetics and of medicine, into epigenetic remodeling of neuronal genes in global ischemia. The goal of this research is to pave the way for innovative treatments to ameliorate the effects of stroke.

F. M. Kirby Foundation Endows Chair in Neural Repair and Protection

“History demonstrates time and time again that when people are united in a charitable cause, which is right and good, the impossible becomes possible.” These inspirational words are from the mission statement of the F. M. Kirby Foundation. The venerable family foundation has been a longtime supporter of neurological research at Einstein.

Most recently, the foundation pledged $2 million to endow the F. M. Kirby Chair in Neural Repair and Protection. The inaugural holder of the Kirby Chair is R. Suzanne Zukin, Ph.D., professor in the Dominick P. Purpura Department of Neurosciences and director of Einstein’s Neuropsychopharmacology Center.

During her 30-year career at Einstein, Dr. Zukin has carried out pioneering research on the receptors on the surface of nerve cells to which the neurotransmitter glutamate binds. Her work has helped reveal how these receptors are involved in medical conditions such as schizophrenia, Huntington’s disease and stroke.

In 2001, the foundation established the F. M. Kirby Program in Neural Repair and Protection at Einstein’s Rose F. Kennedy University Center for Excellence in Developmental Disabilities Education, Research and Service. That gift was preceded by a generous contribution from the foundation in support of the neuroscience program based at the Kennedy Center.

ROGER AND CAROL EINIGER: A FAMILY TRADITION OF SERVICE TO EINSTEIN COMES FULL CIRCLE

“Our family has always been committed to supporting medical research because of its power to transform so many lives,” says Einstein Overseer Roger Einiger. Mr. Einiger joined the Einstein Board of Overseers in 2005. He currently serves as the Board’s treasurer, chair of the budget and finance committee and a member of the executive committee.

In 2008, he joined the finance and investment committees of the Yeshiva University Board of Trustees. The University recognized Mr. Einiger for his dedicated service by awarding him an honorary Doctor of Humane Letters degree at its annual Hanukkah Dinner in December 2009.

The Einiger family’s involvement with Einstein began with Mr. Einiger’s parents, Glory and Jack, who were among the medical school’s earliest supporters and members of its Society of Founders. Glory Einiger also played a leadership role in Einstein’s National Women’s Division until her husband died suddenly in 1964. The responsibilities of raising two children and running her late husband’s business forced Mrs. Einiger to cut back on her volunteer activities at Einstein. “For me,” says Roger Einiger, “it’s been great to reconnect with Einstein decades later and see the enormous progress that has been made.”

Although Einstein receives funding from the NIH, additional support is needed to fully fund the training of Einstein’s research physicians. Recognizing this critical need, Mr. Einiger and his wife, Carol, recently made a commitment to support the career development of physician-scientists—clinically trained M.D.s who are involved in translational research studies.

“Carol and I are very pleased to help Einstein realize the enormous potential of translational research. It’s great to have the opportunity to serve on the Einstein Board and continue the good work my parents started so many years ago.”

–ROGER EINIGER
Einstein Overseer

THE ELLISON MEDICAL FOUNDATION

The Ellison Medical Foundation continues to recognize the outstanding accomplishments of Einstein faculty members in aging research. The foundation’s most recent commitment is an award of up to $982,000 to support the work of Aviv Bergman, Ph.D., professor and founding chair, department of systems & computational biology and professor of pathology and of neuroscience. Other current recipients of multiyear grants include Jan Vigg, Ph.D., chair and professor, department of genetics; Claire Bastie, Ph.D., assistant professor, department of medicine (endocrinology); Marion Schmidt, Ph.D., assistant professor, department of biochemistry; and Erik Snapp, Ph.D., assistant professor, department of anatomy and structural biology.
COMBATING INFERTILITY

The female sex hormone progesterone creates the right chemical environment for a fertilized ovum to be implanted in a woman’s uterus. “Without it there would be no life,” notes Jeffrey W. Pollard, Ph.D., the Louis Goldstein Swan Chair in Women’s Cancer Research and professor in the departments of developmental and molecular biology and of obstetrics & gynecology and women’s health.

“We’ve made major advances in understanding how the actions of hormones contribute to diseases of the uterus.”

But progesterone serves another useful purpose. The hormone estrogen stimulates division of endometrial cells that line the uterus. Progesterone, because it neutralizes estrogen, helps rein in endometriosis—the wild and often painful proliferation of endometrial cells outside the uterus that causes scarring and can lead to infertility. Progesterone also helps combat uterine cancer, another estrogen-fueled disorder. The most effective treatment is hysterectomy, which leaves a woman unable to bear children.

“Over the last five years, we’ve made major advances in understanding how the actions of hormones contribute to diseases of the uterus,” says Dr. Pollard. For the first time, Dr. Pollard and colleagues are studying the opposing effects of progesterone and estrogen in living human tissue by implanting human endometrial cells in mice. These studies have revealed two new molecular pathways through which estrogen delivers its hormonal message telling endometrial cells to divide. Armed with this knowledge, scientists may be able to interrupt estrogen’s message earlier in the disease process or develop an alternative to progesterone, which becomes ineffective over time.

Because of these advances, the NIH in 2009 awarded Dr. Pollard a $7.5 million grant to create a Specialized Cooperative Center Program in Reproduction and Infertility Research at Einstein—one of just 13 such centers funded nationwide and the only one in New York State. The grant supports the translation of lab breakthroughs into clinical practice and laboratory follow-up on questions that arise in the clinic.

Researchers at Dr. Pollard’s new center will also investigate the mechanisms by which obesity and diabetes cause infertility in women. This research will be especially relevant to Einstein’s Bronx community, where obesity and diabetes are prevalent.

FROM BEDSIDE TO BENCH AT GRUSS MRRC

Two scientists could hardly be better suited to collaborate than Craig A. Branch, Ph.D., and Michael L. Lipton, M.D., Ph.D.

Dr. Branch directs the Gruss Magnetic Resonance Research Center (MRRC) and is a magnetic resonance imaging (MRI) physicist. Dr. Lipton, the center’s associate director, is a physician. “We bring two points of view to the work,” says Dr. Branch.

In a twist on the usual bench-to-bedside direction of translational research, studies in the Gruss Center typically start with clinical mysteries in need of scientific explanation. Take head injuries, for example. “A standard MRI may show nothing abnormal, but there’s clearly something wrong—maybe the person can’t do his job or interact with people the way he did,” says Dr. Lipton. In 2009, Drs. Branch and Lipton and their colleagues published a study of concussion patients in the journal Radiology. The study used a new imaging technique, diffusion tensor imaging (DTI), that measures the diffusion of water in the brain’s white matter.

“DTI proved to be a powerful tool for detecting subtle brain damage associated with concussions,” says Dr. Lipton, who is also an associate professor of radiology and of psychiatry and behavioral sciences at Einstein. Adds Dr. Branch, “For the first time, we appear to be able to provide researchers with a target for therapies to reduce or eliminate the damage of concussion.”

In addition to head injury, research at the Gruss Center involves areas as diverse as cancer, cardiology, diabetes, obesity and hematology. The center’s imaging capabilities got a big boost in June, when a brand-new 3.0 Tesla MRI and spectroscopy system was hoisted from a truck in the Einstein courtyard and gently lowered into its new home on the first floor. “Instead of scanning from the usual two points, our new system allows us to use a technology called parallel imaging that picks up signals from 32 different sensors,” says Dr. Branch, who is also an associate professor of radiology at Einstein. “These images reveal much greater detail than we’ve been able to attain previously, and in half the time.”

Pictured above at the Gruss Magnetic Resonance Research Center: Einstein overseer Evelyn Lipper, M.D. ’71, with Michael Lipton, M.D., Ph.D., left, and Craig Branch, Ph.D. Dr. Lipper, an Einstein alumna and former faculty member, is a trustee of the Gruss Lipper Family Foundation, which established the center in 2000 with a generous gift to Einstein. “Drs. Lipton and Branch are a dynamic team,” says Dr. Lipper. “Their vast breadth of knowledge and vision for the future will greatly amplify the Gruss Center’s impact on biomedical research and on the education of Einstein students.”
Einstein Overseers Kathy and Samuel G. Weinberg have made a commitment in support of translational research at Einstein. In recognition of their generosity, the third-floor lounge in the Price Center/Block Research Pavilion will be named in honor of the Weinberg family. The lounge includes the magnificent spiral staircase that is visible from both inside and outside the Price Center/Block Research Pavilion. Its double-helix design represents DNA—the key molecule of life that is featured on the Einstein logo. This spiral staircase is an architectural symbol of the new research facility’s mission of scientific excellence and innovation.

SALUTING JACK RUDIN AND THE RUDIN FAMILY FOUNDATIONS

Jack Rudin loves young people, and he loves the field of medicine. So it’s no wonder that he has taken a keen interest in supporting the medical education of Einstein students.

Mr. Rudin is chairman of the Rudin Management Company, one of New York City’s leading real estate firms. He also serves as chairman of the May and Samuel Rudin Family Foundation and the Louis and Rachel Rudin Foundation, named for Mr. Rudin’s late parents and grandparents, respectively. The Rudin Family Foundations exemplify the family’s long and distinguished tradition of philanthropy in New York City.

Since 1973, the Rudin Family Foundations have contributed generously to the support of nearly 900 Rudin Scholars at Einstein. In addition, they have provided funding for research on Alzheimer’s disease, cancer, AIDS, glaucoma and reproductive health at the College of Medicine.

Jack Rudin was instrumental in establishing the Rudin Scholars Program at Einstein.

Lisa McReynolds, M.D., Ph.D. ’09, a former Rudin Scholar, met Mr. Rudin at a reception held in his honor on the Einstein campus in 2006. “He was truly interested in my work and listened carefully as I explained my thesis research project,” recalls Dr. McReynolds.

“Jack Rudin gives with an open hand, but he is also discerning,” says Dr. Norman Lamm, chancellor of Yeshiva University, which in 1995 awarded Mr. Rudin an honorary doctorate in recognition of his long-standing friendship and support. “When it comes to Einstein,” says Dr. Lamm of his friend of many years, “Mr. Rudin is greatly impressed with how hard the students work. Knowing that the fruits of their labor will benefit humanity is very important to him.”

SAMUEL G. AND KATHY WEINBERG: A HISTORY OF SERVICE TO EINSTEIN

For Einstein Overseers Kathy and Samuel G. Weinberg (see facing page), the College of Medicine is a “labor of love.” Mrs. Weinberg serves as president of the Einstein National Women’s Division; Mr. Weinberg is a member of the Board of Overseers’ executive committee and cochairs its facilities and planning committee.

“A great institution is not made up of buildings alone,” observes Mr. Weinberg. “One only has to visit Einstein to see that its spirit and uniqueness come from its exceptional faculty and students. It’s an honor to support them in their efforts to make the world a healthier place.”

Service to Einstein is a family tradition. Mrs. Weinberg’s father, Matthew Kornreich, served on the Board of Overseers; her mother, Susanne Kornreich, was a member of the Women’s Division’s National Board and a vice president of its Westchester/Fairfield chapter. Lisa Weinberg, Samuel and Kathy’s daughter, serves as an assistant vice president of the Women’s Division’s New York chapter; their son, Andrew Weinberg, is active in the Einstein Men’s Division.

“My parents were passionate about Einstein’s mission to change the world through medical research,” says Kathy Weinberg. “They were proud to be a part of the medical school’s illustrious past. Sam and I, and our children, are proud to be a part of its future.”

The Weinbergs recently made a generous gift in support of genetic and translational research at the Michael F. Price Center for Genetic and Translational Medicine/Harold and Muriel Block Research Pavilion. With this new commitment, they join a distinguished group of individuals and foundations designated as Benefactors of the College of Medicine.
Bad behaviors cause bad diseases. Overeating, smoking and alcohol abuse are among the prime causes of illness and death nationwide. Einstein researchers have responded. They are taking simple, safe and relatively inexpensive interventions to the streets of the Bronx to improve the health of its medically underserved population.

RESEARCH AT CERC: A NEW BEGINNING
Over the last half century, the Children’s Evaluation and Rehabilitation Center (CERC) has helped thousands of children who have serious developmental problems. But the need to provide clinical care had compromised CERC’s ability to conduct research.

Now, for the first time, CERC will have a full-time research director: neuroscientist John J. Foxe, Ph.D. Dr. Foxe was recruited from the City University of New York, where he currently directs the Ph.D. program in cognitive neuroscience and codirects its Children’s Research Unit. Many of his projects—and about 25 members of his Children’s Research Unit team—will accompany him to Einstein.

“CERC serves about 7,000 children yearly and is an incredible resource for recruiting patients for clinical research,” says Dr. Foxe. He expressed gratitude to Einstein’s National Women’s Division, which recently completed a three-year, $3 million fundraising initiative to establish CERC’s clinical research program.

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**Ralph and June Adorno**

Ralph and June Adorno have made a gift of a fully paid $500,000 life insurance policy in support of the new Marilyn and Stanley M. Katz Comprehensive Cancer Prevention and Control Program at Einstein. “We have long admired Marilyn and Stanley Katz’s commitment to cancer research at Einstein,” says June Adorno. “After meeting with Dr. I. David Goldman, director of the Albert Einstein Cancer Center, and some of the researchers—and seeing for ourselves the incredible work they’re doing—we decided it was time to get more involved.”

Supporting the program established by the Katzes was “a great opportunity to do something for the good of society that would help save lives,” adds Ralph Adorno.

**SNUFFING OUT CANCER IN THE BRONX**

Smoking is the leading cause of preventable death and disease in the United States and the Bronx. Bruce D. Rapkin, Ph.D., director of Einstein’s new Marilyn and Stanley M. Katz Comprehensive Cancer Prevention and Control Program, wants to snuff out smoking all over the Bronx, but especially among those most endangered by the habit.

“About 18 percent of Bronx adults are smokers,” says Dr. Rapkin. “All too often, those most resistant to quitting are people whose health is already precarious—particularly individuals with substance abuse or mental-health problems or who are HIV-positive. They haven’t benefited from conventional antismoking campaigns, so we’ve created a Tobacco Prevention and Cessation Think Tank to understand the nature of their addiction.”

Think-tank members come from half a dozen Einstein departments, including family and social medicine and psychiatry. They meet monthly to devise smoking-cessation programs geared toward recalcitrant smokers. They are also applying for grants to help them reach this population. “Our mission at Einstein extends from community prevention and early detection all the way to support for cancer patients, survivors and their families,” Dr. Rapkin says of his ambitious agenda.

Dr. Rapkin was recruited to Einstein from Memorial Sloan-Kettering Cancer Center, where he worked for 16 years—the last six as director of the Community Health and Health Disparities Laboratory.

Some of the innovative projects that Dr. Rapkin started at Memorial Sloan-Kettering have become part of his new Einstein program. Queens Library HealthLink is an especially notable success story.

“The philosophy behind Queens Library HealthLink is to let each community find its own best path to overcome health disparities,” he says. Key to this project’s achievements are its Cancer Action councils—groups of dedicated volunteers who meet monthly at 14 Queens libraries to discuss expanding access to cancer screening and treatment services in their communities.

In Flushing, a neighborhood with many immigrants who speak little or no English, the local Cancer Action Council drew up cancer-resource guides and other outreach materials in Spanish, Chinese and Korean.

“I speak five languages and joined this group because I want to use my language skills to help save lives,” says volunteer Mabel Narbutt. She visits restaurants and beauty parlors in flushing, talking to people in Mandarin and Taiwanese about the group’s events and distributing its resource guides.

“Most of these people don’t have health insurance and appreciate learning things such as where they can get free mammograms,” she adds.

The Cancer Action councils identify community needs and plan programs with help from Dr. Rapkin’s team at Einstein. These programs, which also include smoking-cessation workshops and cancer support groups, have so far reached more than 4,000 Queens residents. And participating in this sort of grassroots effort also benefits Dr. Rapkin and his colleagues.

“There are lots of things we learn by working with partners in the community—even setting the research agenda together—that you don’t get to learn in a carefully controlled lab or clinic setting,” says Dr. Rapkin. “You get new insights into the barriers and motivations that affect people.”

Plans call for establishing Cancer Action councils in the Bronx over the coming months, adapting the successful Queens program to the patient population of the local community.

In developing Bronx-based programs, the new Einstein cancer prevention team takes a special interest in the psychological toll that cancer takes. For that reason, Dr. Rapkin is working with Alyson Moadel, Ph.D., associate professor of medicine and of epidemiology & population health at Einstein, to create a new Psycho-Oncology Translational Research Clinic.

Dr. Moadel and her colleagues will develop and study psychological and behavioral interventions for cancer patients and their families—addressing, for example, sexual-health issues in couples after cancer surgery or helping head and neck cancer patients quit smoking.

“There are lots of things we learn by working with partners in the community that you don’t learn in a lab or clinic setting.”

“We want to determine the kinds of programs that would be most useful and adapt them to people in the Bronx,” says Dr. Rapkin. “I’m excited about this because there hasn’t been enough research on psychological or behavioral care for cancer patients of color or who speak Spanish or have limited resources.”

Dr. Rapkin and his team will continue forming new partnerships with community-based organizations and to seek their input as they roll out more programs. They are now talking with Bronx agencies serving low-income populations about creating a breast cancer screening program aimed at reaching women who are not getting mammograms on a regular basis.

“They need these community partnerships to reach the people who might otherwise fall through the cracks,” says Dr. Rapkin.

**AUTISM SPEAKS**

Autism Speaks has contributed $150,000 as part of a multiyear commitment to support a research study led by Thomas V. McDonald, M.D., professor in the departments of medicine and of molecular pharmacology, using the Drosophila (fruit fly) model to identify possible drug treatments for autism spectrum disorders.
HEALTH-CARE CAREERS

Lyne M. Holden, M.D., is cofounder of Mentoring in Medicine (MIM), an Einstein/Montefiore partnership that introduces minority students to careers in health care. “We wanted to help kids who have a dream but don’t have role models they can emulate,” says Dr. Holden, associate professor of clinical emergency medicine at Einstein.

Since helping form MIM in 2006, Dr. Holden and her team have recruited 500 volunteer mentors—physicians, paramedics and others—who talk to students about the rewards of health-care careers and help them apply to schools that train health professionals.

Nearly 6,500 students have participated in MIM programs, including after-school clubs and an internship in which they volunteer in Montefiore’s emergency department. Eighteen MIM participants are now studying to be physicians, physician assistants, nurses, pharmacists or public-health professionals.

In October, Dr. Holden was named a Robert Wood Johnson Foundation Community Health Leader for her work with MIM. “The entire Einstein community is tremendously proud of Dr. Holden,” says Edward R. Burns, M.D., Einstein’s executive dean. “Her work with MIM is an innovative way to increase the diversity of the country’s health-care workforce and, ultimately, reduce health disparities.”

NEW TREATMENT FOR HEROIN ADDICTS

In 2002, an alternative to methadone called buprenorphine received approval for treating opiate addiction. Chinazo Opia Cunningham, M.D., M.S., associate professor of medicine at Einstein, is now conducting an innovative program in the South Bronx that uses buprenorphine to help people stop using heroin. She was motivated by the tremendous growth in opiate abuse in the area, the limited options for drug treatment and the benefits that buprenorphine provides.

Compared with methadone, buprenorphine has a better safety profile, as it is less likely to be misused or diverted and less likely to result in an overdose. As a result, the treatment is approved for use in primary-care settings, such as Dr. Cunningham’s Bronx facility. And it is convenient as well: After a couple of initial office visits, patients return only every four to eight weeks to get their supply of buprenorphine tablets.

“This program has helped hundreds of drug users in the Bronx,” says Dr. Cunningham. “Our patients are saying things like, ‘You really saved my life’ and ‘I never thought I would be clean this long.’”

To expand buprenorphine’s use within the Montefiore/Einstein system, Dr. Cunningham offers seminars to physicians and to residents who care for hospitalized patients. She wants them to refer patients to her program and receive the necessary training to prescribe buprenorphine themselves.

JUDY R. ROSENBERG’S LASTING LEGACY OF SUPPORT FOR DIABETES RESEARCH

Diabetes is another health problem that is especially prevalent in the Bronx. With the help of its donors, Einstein has launched programs to combat this worsening epidemic.

Judy R. Rosenberg was one of a pioneering group of women who, beginning in 1953, helped turn the dream of a medical school at Yeshiva University into reality. A passionate supporter of the College of Medicine until her death in 2008, Judy served on the Einstein Board of Overseers for 30 years and was a founder of Einstein’s National Women’s Division.

Judy and her husband, Alfred, were Benefactors of Einstein’s diabetes research center. The Rosenberg Chair is currently held by Jeffrey E. Pessin, Ph.D., of the Diabetes Research Center.

THE ROBERT WOOD JOHNSON FOUNDATION

The Robert Wood Johnson Foundation has committed $409,543 to support the research of Einstein scientists, including a multiyear grant of $299,999 for a study led by Alain Harris Utstein, M.D., M.S., M.P.H., associate professor of clinical medicine and of clinical psychiatry and behavioral sciences. The study involves treating people in methadone clinics who have hepatitis C.

THE JONAS EHRlich CHARITABLE TRUST

The Jonas Ehrlich Charitable Trust has pledged $160,000 to support a collaborative research project to identify the underlying causes of autism and other developmental disorders. The study is being conducted by basic scientists at the Price Center/Block Research Pavilion together with clinical experts at Einstein’s Children’s Evaluation and Rehabilitation Center.

Jeffrey E. Pessin, Ph.D., the Judy R. and Alfred A. Rosenberg Endowed Professorial Chair in Diabetes Research, at work in his lab. Dr. Pessin is a professor in the departments of medicine and of molecular pharmacology at Einstein and directs its Diabetes Research Center.

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For the first time in its 50-year history, Einstein now has a dedicated center on campus where—before they actually see patients—medical students can master the skills they’ll need to become competent and compassionate physicians.

Philanthropy plays a vital role in improving medical education at Einstein, as the recently opened Ruth L. Gottesman Clinical Skills Facility illustrates. The new facility is named for the current chair of the Einstein Board of Overseers, who also served on the Einstein faculty for more than three decades. Its $3 million cost was covered by part of a $25 million gift from Ruth and her husband, David Gottesman, that also supports stem cell and epigenomic research at Einstein.

The College of Medicine is indeed fortunate that a number of donors in addition to the Gottesmans have generously supported the teaching side of its mission over the past year. Their gifts have met a wide range of educational needs, from renovating laboratories to funding scholarships.

The Clinical Skills Facility was created by renovating a 23,000-square-foot space in the eight-story Van Etten building—a step toward fulfilling the College of Medicine’s Campus Master Plan, in which Van Etten plays a key role (see page 41). And the facility immediately enhances the quality of medical education at Einstein.

**THE GOTTESMAN CLINICAL SKILLS FACILITY**

Until the Ruth L. Gottesman Clinical Skills Facility opened in September, Einstein lacked a location on campus dedicated to teaching students the skills essential for becoming well-rounded, compassionate physicians. Instead, Einstein students had to travel to other medical schools to be evaluated and get feedback on their mastery of those important skills.

At the heart of the Einstein facility are 23 rooms that can simulate physicians’ examining or hospital rooms. They can also function as classrooms and are equipped with examining tables and standard medical instruments for checking the eyes, ears, throat and nose and taking blood pressure.

First- and second-year medical students take part in the Introduction to Clinical Medicine program. Here they learn basic clinical skills and knowledge needed for their initial encounters with real patients. For first-year students, the rooms of the Clinical Skills Facility function as small classrooms for mastering communication skills—how to develop rapport for a good doctor-patient relationship and how to interview patients or actors trained to portray “standardized patients” (people with a certain set of symptoms). Second-year students use the rooms primarily as places for practicing physical examination skills on one another.

During their third year, students come to the center to participate in the Clinical Skills Assessment Program. In this program the standardized patients assess students’ skills during eight patient encounters. “The program aims to ensure that our students have adequate clinical skills and to give them feedback on their strengths and weaknesses,” says Felise Beth Milan, M.D. ’88, director of the Clinical Skills Assessment Program as well as the Introduction to Clinical Medicine course at Einstein. The program also preps them for the Clinical Skills Board Exam (Step 2 CS), which students must pass to graduate from Einstein and receive their medical licenses.

“A big improvement in teaching these skills is in having the actual equipment,” says Mimi McEvoy, M.A., C.P.N.P., a codirector of the second-year Introduction to Clinical Medicine Program at Einstein. The program also preps them for the Clinical Skills Board Exam (Step 2 CS), which students must pass to graduate from Einstein and receive their medical licenses.

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Einstein’s new Clinical Skills Facility was made possible by the generosity of Ruth L. Gottesman, Ed.D., left, chair of the Einstein Board of Overseers. She and Felise Beth Milan, M.D. ’88, director of the Clinical Skills Assessment Program, are shown in one of the facility’s fully equipped practice rooms.
BEING IN A REALISTIC LEARNING ENVIRONMENT BEFORE THAT, WITH ALL THE CUES, REMOVES SOME OF THE ANXIETY."

– JONATHAN PELED, CLASS OF 2010
Medical Scientist Training Program

"The ability to easily do video recording of students as they hone their clinical skills is huge. You can spot mistakes, and you can review the video with the learners."

video cameras on tracks in the ceiling, to help professors observe students as they interact with fellow students and actual or standardized patients.

"The ability to easily do video recording of students as they hone their clinical skills is huge," says Dr. Milan. "You can spot mistakes, and you can review the video with the learners."

BUILDING A BETTER TRAINING CENTER
While the clinical training facility was in the planning stages, Dr. Milan toured similar facilities along with project manager Chris Cimino, Senior Facilities Director Sal Ciampo and their architects. "We went to the new facilities at Thomas Jefferson and Drexel in Philadelphia, to the University of Medicine and Dentistry of New Jersey's center in Newark, and to Weill Cornell in Manhattan," Dr. Milan says. "We took lots of notes about what we liked and what we didn’t like. The result? The new Einstein Clinical Skills Facility is one of the largest and best equipped in the country.

"Our primary goal was to make sure we had enough rooms," says Dr. Milan. "We also wanted these rooms to be flexible, equipped with easily reconfigured furniture so we can quickly transform them from teaching physical diagnosis, for example, into assessment rooms housing the latest in audiovisual equipment."

Technology will also figure prominently in the 1,800-square-foot Simulation Center, soon to be built in the facility’s Wing B. The center will house surprisingly realistic mannequins and computerized devices for teaching and testing essential clinical skills such as intubation, resuscitation and pelvic exams.

Dr. Milan hopes to broaden the scope of the Clinical Skills Facility to include even more educational programs for enhancing medical skills—not just for medical students but for residents and practicing physicians as well. "With techniques for diagnosis and therapy improving all the time," says Dr. Milan, "this facility can help specialists keep up with the constantly changing medical landscape."

The Van Etten building, which houses the Clinical Skills Facility, will assume an even bigger role as the Einstein campus evolves in the coming years.

WELCOME TO EINSTEIN'S FUTURE
The 2007 strategic research plan laid out an ambitious future for Einstein: "a state-of-the-art research environment that will foster scientific investigation at all levels from the bench to the bedside and from the clinic to the community."

The visionary yet pragmatic road map for realizing that goal is Einstein’s Campus Master Plan. Rather than emphasizing new construction, the plan offers strategies for optimizing what is now available: reconfiguring and connecting buildings via walkways; consolidating certain departments and relocating others; and opening up interior spaces and corridors to the outdoors. The result will be a more efficient, convenient and pleasant environment that draws people onto the campus.

"The beauty of the Master Plan is its flexibility," says Allen M. Spiegel, M.D., the Marilyn and Stanley M. Katz Dean. "It offers the College of Medicine room to grow through changes that can be implemented on an incremental, as-needed basis depending on available funding. All these changes promote the major objective of our strategic research plan—to create a collaborative, state-of-the-art environment that will attract and retain the best and brightest students and scientists."

The Master Plan’s first priority is to make the most effective use of existing facilities—and fully occupying the Van Etten building is crucial to that effort. Constructed as a 500-bed tuberculosis sanatorium in the early 1950s, the eight-floor, 360,000-square-foot Van Etten building was recently leased to Einstein by Jacobi Hospital.

This fall’s opening of the new Ruth L. Gottesman Clinical Skills Facility on the second floor marks Einstein’s official arrival in Van Etten. The Master Plan envisions relocating other existing clinical education programs as well as clinical facilities to Van Etten, including the Children’s Evaluation and Rehabilitation Center, Aging Studies and the Anatomy Labs. In addition, to accommodate a desired increase in on-campus housing, selected wings of Van Etten will be converted to some 200 studio apartments for medical and doctoral students.

"If you’re a second-year student learning to do physical exam skills in a more real situation, the leap to the clinical is going to be much smaller."

– JESSICA SCHREIBER-ZINAMAN
CLASS OF 2010
Teaching Assistant in Clinical Skills

At left, Einstein students hone their clinical skills under the supervision of Martin N. Cohen, M.D. Above: the Van Etten building as envisioned in the Campus Master Plan.
SCHOLARSHIPS HOLD THE KEY

Private philanthropy plays a vital role in supporting Einstein’s outstanding research programs. In addition, our donors provide funding for scholarships that are crucially important for Einstein medical students. Scholarships allow many students to pursue their dream of a career in biomedical research or clinical practice. Through scholarship support, donors are investing in talented Einstein students and in the future of American health care.

Gerald H. Levine Scholar
Rachel E. Louie, Class of 2010

Rachel Louie, above, always dreamed of becoming a pediatrician. After earning her bachelor’s and master’s degrees in biology from the University of California, San Diego, she applied to 15 medical schools. She chose Einstein because of “the impressive opportunities it offers for students interested in primary care.”

Her avid interest in health-care delivery, both in the United States and abroad, led Rachel to Einstein’s Global Health Fellowship Program. During the summer following her first year of medical school, she spent four weeks in Guatemala, living with a host family, attending Spanish classes and volunteering at a local clinic.

Rachel hopes these experiences “will help me evolve into a more open-minded physician and develop stronger relationships with my patients while helping me address problems of access to care in my own country.”

The issue of health-care access, particularly for the very young, is Rachel’s passion. “If all children were followed regularly by a pediatrician,” she says, “they’d be more likely to receive early interventions that could prevent complications from health issues such as obesity.”

In 2009, Rachel received a scholarship from the Gerald H. Levine Endowed Scholarship Fund. “This generous award not only contributes to my medical education,” she says, “but it will contribute to my career, my future and my dreams.”

Gift Agreement Initiated by Richard Netter Supports Medical Education at Einstein

A commitment of $500,000 will support and endow an Einstein assistant deanship at Beth Israel Medical Center, Manhattan Campus, one of Einstein’s five affiliate teaching hospitals. The joint gift consists of two separate contributions of $250,000 from the Robert Blauner Testamentary Trust and the Herbert and Nell Singer Foundation. It was arranged by the late Richard Netter, Esq., who was a longtime board member of Beth Israel and an established donor to Einstein.

The assistant dean oversees the clinical training of Einstein students during their third- and fourth-year clinical rotations at the hospital. The two gifts fostered by Mr. Netter exemplify the strong working relationship between Einstein and Beth Israel.

“These commitments reflect Mr. Netter’s keen understanding of how Einstein and Beth Israel collaborate to produce outstanding doctors,” notes Stephen Baum, M.D., senior associate dean for students, who was instrumental in obtaining the pledges.

This is Mr. Netter’s second gift to Einstein. The “Thanks to Scandinavia” educational scholarship fund, cofounded by Mr. Netter in gratitude for the heroic efforts of Scandinavian people to save Jews during World War II, has provided support since 1993 for post-doctoral fellows at Einstein who come from Denmark, Finland, Norway and Sweden.

SOL AND DOROTHY SMOLEN ENDOWED SCHOLARSHIP FUND

The College of Medicine has received a $150,000 contribution from the Sol and Dorothy Smolen Endowed Scholarship Fund. The late Sol and Dorothy Smolen, who passed away in 2004 and 2005, respectively, were longtime supporters of many Jewish and other charitable organizations. The couple established visionary endowments under their wills, including the Sol and Dorothy Smolen Endowed Scholarship Fund, which will provide vital scholarships over the course of 30 years to deserving students at Einstein.

Lawrence Schleifer: Helping Students In Need

“I’m Jewish,” says Lawrence Schleifer, “and my responsibility is to help people.” Mr. Schleifer and his late wife, Friedericka Steinbach Schleifer, M.D., decided to leave their joint estates to Einstein to support scholarships for needy medical students. Recently, Mr. Schleifer, who is 95, decided to make an “advance” on their legacy by giving $100,000 to Einstein and $1 million to an Einstein charitable remainder trust.

“Albert Einstein College of Medicine is a very special place for me and especially for Friedericka,” he says. Friedericka Steinbach Schleifer graduated from medical school in Vienna in 1937—a year before the Nazis invaded. She did her residency in Nazi-occupied Austria, desperately seeking visas so that she and her parents could flee to the United States. By sheer luck she was able to obtain a visa, but only for herself. Friedericka wasn’t allowed to take any money with her and arrived in New York with only her furniture and her microscope. After the war, she discovered that her parents had perished in an extermination camp.

The Schleifers were married for 39 years. Lawrence Schleifer began his career as a pharmacist, then worked for a pharmaceutical company. A scholar by nature, he later earned a master’s degree in history and taught high school and college students. Today, Lawrence Schleifer shares his vast knowledge of Jewish and comparative culture with students in adult-education classes.
Einstein’s mission is improving human health—locally, nationally and globally. Each year, Einstein faculty members and some 30 medical students travel to underdeveloped countries, where they provide badly needed medical care and gain valuable knowledge for combating disease.

The Global Health Center is the clearinghouse for Einstein’s medical outreach to the world—and the international activity at the College of Medicine has never been more intense. “Thanks to Al Kuperman, our outgoing dean of education, Einstein is way ahead of the curve in terms of global health activities,” says Paul R. Marantz, M.D., M.P.H., associate dean for clinical research education. He points to Dr. Kuperman’s pioneering 1976 proposal to encourage medical students to gain experience in developing countries.

The Global Health Center was created in 2007 to bring all international education and research programs under one roof and coordinate student and faculty participation. “No matter where people go or what their projects are, they’ll confront the same basic problems,” says Dr. Marantz. “They’ll have to deal with the red tape involved in transporting samples and know what types of visas to get. So why reinvent the wheel each time someone goes overseas? A single center allows people to use existing channels to get answers more efficiently.”

The Global Health Center boasts 28 initiatives worldwide, including clinical and research programs in Argentina, Bangladesh, Brazil, Ethiopia, Guatemala, India, Nigeria, Rwanda, South Africa, Uganda and Vietnam. The center allows Einstein to maintain its prominent role in providing outstanding medical care to the developing world.

### COMBINING CONCERN AND COMPASSION

By the time she was nine, she knew she wanted to be a doctor. By age 12 she had chosen diabetes as her specialty, after reading about Frederick Banting and Charles Best, her fellow Canadians, who discovered insulin in 1921. Then came dreams of becoming a medical missionary—which posed a problem.

“I wanted to be a humanitarian and help the poor and vulnerable, but my passion—diabetes—was a First World problem in those days,” recalls Meredith A. Hawkins, M.D., professor of medicine and director of the Global Diabetes Initiative at Einstein.

That conflict resolved itself 13 years ago, when Dr. Hawkins volunteered her services in Romania in lieu of a vacation. There she discovered the sad truth that diabetes was surging in the developing world as well.

“Because they’ve gained access to cheap but poor-quality food, a lot of people can now for the first time actually afford to become obese, and obesity is the leading cause of type 2 diabetes,” says Dr. Hawkins.

Obesity-related diabetes accounts for the majority of cases in underdeveloped countries. But increasingly, says Dr. Hawkins, people are being diagnosed with diabetes caused not by too much food but by too little—a disease known as malnutrition diabetes. “This poorly understood form of diabetes may afflict millions of people worldwide but is only now being recognized as a major health problem.”

“Malnutrition diabetes affects poor people living on a dollar a day in rural areas of Africa and Asia,” says Dr. Hawkins. “The disease mainly strikes adolescents and young adults. If nothing is done for them, they usually die within six months to a year of being diagnosed. We suspect that stressful events may help trigger the disease.” She notes that stress may have played a role in the case of Isaac, a Ugandan teenager orphaned at a young age (see sidebar on page 47).

Malnutrition diabetes has probably existed for a long time. But until recently it has been eclipsed by the infectious diseases—particularly measles, tuberculosis and HIV/AIDS—that shorten so many lives in Uganda and other impoverished countries. Unfortunately, doctors in affected areas typically don’t know that malnutrition diabetes exists.

“The doctors in these countries read medical journals that come from the West, so they don’t learn about malnutrition diabetes and don’t suspect it in their patients,” says Dr. Hawkins.

To increase awareness, Dr. Hawkins directs a clinical education project in Uganda as part of the Einstein’s Elizabeth Walker, Ph.D., and Meredith Hawkins, M.D. (second and third from left, respectively), visit a diabetes patient (left) at her home in Kampala, Uganda, last August. They had helped to organize a symposium on managing diabetes for doctors and nurses from 22 Ugandan health clinics.
Above, two scenes from the diabetes clinic in Kampala, Uganda. At right, Hanna Lee, M.D., ’09, with her research advisor, Dr. Hawkins.

Einstein Global Diabetes Initiative. Last August Dr. Hawkins headed a team that organized a symposium on diabetes management for 100 doctors and nurses from 22 Ugandan health clinics. Topics included nutrition, drugs, foot and wound care, and handling emergencies.

The Einstein Global Diabetes Initiative is also at work in India to advance current knowledge about malnutrition diabetes. There, Dr. Hawkins and other Einstein researchers partner with the Christian Medical College at Vellore—the so-called Mayo Clinic of India. This medical school and 3,000-bed hospital are located in the southeastern part of the country, where the poverty rival that of Africa. The upcoming clinical studies at Vellore will be the first to address the urgent questions surrounding this disease.

“Based on current knowledge, we don’t know whether or not malnutrition diabetes is mainly a problem of lack of insulin, like type 1 diabetes. Therefore, it’s often treated the same way—with insulin injections,” says Dr. Hawkins. “But insulin treatment is very challenging in these settings, and we really don’t know whether it’s necessary. So we urgently need to learn whether malnutrition diabetes should be treated differently and, if so, what treatments will help.”

The Indian studies will also look at how nutrition can influence the disease. “Some people with malnutrition diabetes may well have passed the point where they can improve with better nutrition,” says Dr. Hawkins. “But for other patients, switching to a nutritious diet does seem to help. And we may be able to prevent the disease with certain vitamins or amino acid supplements. There are a lot of knowledge gaps left to fill.”

“Part of it is to teach medical skills, but part of it, honestly, is to model compassion in a setting where it doesn’t come as easily.”

Though geared toward education and research, Dr. Hawkins’ global outreach includes the kind of face-to-face contact with patients that she dreamed of as a girl. “When we’re in Uganda, I give lectures but also try to do bedside teaching,” she says. “Part of it is to teach medical skills, but part of it, honestly, is to model compassion in a setting where it doesn’t come as easily.”

Uganda’s overburdened health-care system, she explains, can demoralize young doctors. She tells of a young intern who, while running himself ragged caring for 35 very ill patients, brushed aside her offers to get painkillers for a patient. “Don’t worry,” he told her. “If you’re here long enough, you’ll stop caring too.”

Being a compassionate physician, Dr. Hawkins points out, is in some ways a luxury. “For those of us who’ve slept well and are well fed, who work in supportive environments and are adequately compensated, treating patients with kindness comes a lot easier.”

LIFE LESSONS

Hanna Lee, M.D., Class of 2009, thought she was reasonably worldly. Raised in South Korea and educated in the United States, she had traveled in the Philippines and taught school in the South Bronx. But what really opened her eyes was a three-week trip to India in 2008, sponsored by her research advisor, Dr. Hawkins. In particular, this traveler was struck by how India’s health professionals managed to do more with less.

“We saw a patient with breathing problems during a visit to a local hospital,” Dr. Lee recalls. “Without so much as an X-ray, doctors were able to differentiate pleural effusion from fibrotic lung disease—put by feeling the spaces between her ribs and by watching her chest rise and fall. I definitely learned some new clinical skills there.”

She also spent time in a rural “health camp”—a makeshift clinic that dispatches clinicians to a different village daily, delivering everything from dental care to diabetes counseling.

“Everything was so different in India—the culture, the food, the language. It made me realize how health care has to be tailored to the individual. What works for one patient might not work for another,” says Dr. Lee. “She is now a resident in medicine at Montefiore Medical Center in the Bronx, one of the nation’s most diverse communities. The knowledge gained from those three short weeks abroad will serve her well there.

THE MAC AIDS FUND

The MAC AIDS Fund (formerly the MAC Global Foundation) has awarded a $231,839 grant to the School-based Teenage Education Program (STEP). Founded and directed by Rosy Chhabra, Psy.D., assistant professor of pediatrics at Einstein and a native of India, STEP trains Indian college students to raise awareness among Indian adolescents about the dangers of HIV and alcohol abuse.

The Face of Malnutrition Diabetes

At first glance, Isaac looks like any other 15-year-old Ugandan boy, all knees and elbows. But he is anything but normal. Isaac has malnutrition diabetes, a newly recognized and little-studied form of the disease that occurs almost exclusively in the developing world.

Sadly, Isaac’s misfortunes don’t end there. Orphaned years ago, he lives on the street occasionally with his grandmother (who has serious problems of her own) and cannot afford to attend school. He receives outpatient care at Mulago Hospital in Kampala, but is forced to sell the insulin he receives there to buy food. And he may have tuberculosis.

“Unless we can get proper care and nutrition for Isaac, he probably won’t survive another year,” says Dr. Hawkins, who has been championing the boy’s cause since meeting him at Mulago hospital last August. Taking the longer view, Dr. Hawkins says that “we need to get children with malnutrition diabetes into the health-care system, identify the nutrient deficits that cause the disease, figure out how to treat it and show that we can improve outcomes for these kids.”

It’s a tall order, but Dr. Hawkins is trying to fill it—one child at a time, if necessary.

Readers wishing to learn more about the Einstein Global Diabetes Initiative can write to the Einstein Global Diabetes Initiative, 1300 Morris Park Avenue, Belfer 709, Bronx, NY 10461, or email global.diabetes@einstein.yu.edu.
New Advances Against an Old Disease

Tuberculosis (TB) is responsible for two million deaths each year, primarily in Africa and Asia. But it also strikes close to home. In 2007, an Atlanta man suspected of having a drug-resistant form of TB caused an international sensation when he ignored warnings from health officials to stay put and instead boarded a flight to Europe. He was placed under federal quarantine when he returned.

Multidrug-resistant TB and its deadlier cousin, extensively drug-resistant TB (XDR-TB), are on the rise, particularly in the developing world, with half a million new cases a year. Fortunately, Einstein investigators have reported two significant advances in the past year that could help keep drug-resistant TB in check.

Clinicians need a rapid, inexpensive and simple test for detecting whether someone is infected with TB, so the patient can be isolated and quickly begin treatment. In March, researchers from Einstein and the University of Pittsburgh announced a new method that diagnoses TB infection rapidly and also specifies whether the infecting bacteria are sensitive or resistant to antibiotics.

“The ingenious technique employs viruses called bacteriophages that infect TB bacteria. The viruses are engineered to carry the gene for luciferase—the protein that makes fireflies glow. When viruses with their firefly-gene cargo are added to a patient’s sputum sample, they infect only TB bacteria. Infected bacteria “express” the firefly protein, making them glow bright green under a standard microscope—a clear indication that the sample contains TB bacteria.

By adding antibiotics, physicians can detect whether the TB bacteria are sensitive or resistant to specific antibiotics. If the TB strain is sensitive to streptomycin, for example, the bacteria will succumb to the antibiotic and won’t glow. But a streptomycin-resistant strain will survive, become infected by the virus and announce its resistance by glowing.

“This detection technique allows us to bypass the existing method of diagnosing TB, which requires culturing notoriously slow-growing TB bacteria in a biosafety level 3 containment area—a time-consuming and costly process,” says study coauthor William R. Jacobs, Jr., Ph.D., professor of microbiology & immunology and of genetics at Einstein. “We’re optimistic that we can shorten the diagnostic time in places like rural Africa from several weeks to several days or even hours, so that effective treatments could begin much sooner.”

The research by the Einstein/Pittsburgh group was funded by a major new initiative from the Howard Hughes Medical Institute (HHMI). The institute is partnering with the University of KwaZulu-Natal in South Africa to establish an international research center focused on the TB and HIV coepidemics. Dr. Jacobs, an HHMI investigator at Einstein, will direct the institute’s research on rapid and effective TB tests.

South Africa has more people infected with HIV than any other country. Its KwaZulu-Natal province is especially hard-hit, with as many as 40 percent of the population infected by HIV. Tuberculosis was a major public-health crisis in South Africa even before the HIV/AIDS epidemic; coinfection with both HIV and TB is particularly lethal because immune systems weakened by HIV can’t defend against TB infection.

In results published in Science magazine, a separate team of Einstein investigators recently reported that a combination of two drugs—both already approved by the U.S. Food and Drug Administration for fighting other bacterial infections—shows promise for treating XDR-TB. The drugs work in tandem: one of them (clavulanate) inhibits a bacterial enzyme that normally shields TB bacteria from the other antibiotic (meropenem, a member of the beta-lactam class of antibiotics that also includes penicillin).

Current TB therapy requires four antibiotics that must be taken for at least six months. “If this antibiotic combination is proven in human subjects, simplifying treatment to just two drugs that work against drug-susceptible, multidrug-resistant and XDR-TB could help patients better adhere to therapy,” says John S. Blanchard, Ph.D., the Dan Dancer Professor of Biochemistry and the paper’s senior author.

“This drug combination has tremendous potential for treating not only extremely drug-resistant cases, but also routine TB cases.”

A phase-two clinical trial of the two-drug combination is planned for South Korea. Additionally, as part of a collaboration between Montefiore Medical Center and the Nelson R. Mandela School of Medicine, a separate trial will test the drug combination’s potency.

“We feel that this drug combination has tremendous potential for treating not only extremely drug-resistant cases, but also routine TB cases,” adds Brian Currie, M.D., M.P.H., professor of medicine and of clinical epidemiology & population health.
EINSTEIN OVERSEER NATHAN KAHN WITH FOURTH-YEAR MEDICAL STUDENTS IN UGANDA

NATHAN AND SANDRA KAHN: HELPING TO ENSURE A WORLD-CLASS EDUCATION FOR EINSTEIN STUDENTS

“As a Modern Orthodox Jew and a graduate of Yeshiva College, I believe we have a moral imperative to make the world a better place,” says Einstein Overseer Nathan Kahn. “Einstein, with its strong tradition of community service, scholarship and ethics, embodies that imperative.”

Mr. Kahn and his wife, Sandy, have demonstrated their deep commitment to that tradition by generously supporting the College of Medicine, both financially and through Mr. Kahn’s service on the Einstein Board of Overseers. A successful entrepreneur, Nathan Kahn has long had a keen interest in health care—a passion that led him to become a certified paramedic, practicing in New York City.

In 2008, his role as chair of the Einstein Board’s Student and Educational Affairs Committee took him to Kisoro, Uganda. He made the trip at the suggestion of Albert S. Kuperman, Ph.D., associate dean for educational affairs and founder of Einstein’s Global Health Fellowship program, one of the first of its kind in the United States. The purpose of the visit: to observe an Einstein program involving fourth-year students who assist with care for three weeks at Kisoro Hospital and conduct a survey research project for five weeks. The program is also open to students entering their second year, who observe on the wards and help implement educational programs in neighboring communities.

Mr. Kahn was impressed by what he saw. In a memo to Dr. Kuperman, he noted the program’s “real positive impact on the students and the local community. The training the students are receiving seemed exceptional,” Mr. Kahn wrote. “They are learning the skills needed to care for patients in a compassionate manner while also acquiring skills that, in our own modern community, may already be passing into extinction, due to the reliance upon so many labs and tests.”

“Sandy and I believe in the critical importance of training compassionate, first-rate clinicians in an institution that is also a leader in research, so we are pleased to support Einstein.”

The Kahn’s commitment is clear. “Sandy and I believe in the critical importance of training compassionate, first-rate clinicians in an institution that is also a leader in research, so we are pleased to support Einstein,” says Mr. Kahn. “As longtime residents of the Bronx, we’re proud to be associated with Einstein’s work in our own community, but also around the world.”

MARLA J. KELLER, M.D.

EARLE B. WEISS, M.D. ’61

Earle B. Weiss, M.D. ’61, has made a planned gift of $900,000 to support global health programs at Einstein. Now retired from a long and distinguished career in pulmonary medicine, Dr. Weiss developed a strong interest in global health while serving as a visiting professor at Mexico’s University of Guadalajara Medical School in 1973, 1977 and 1982. There he taught respiratory medicine and frequently visited rural health clinics. His experiences convinced him that modern medicine should be directed toward helping the world’s developing nations.

“As an Einstein alumnus, I’m proud that Einstein has been at the forefront of introducing global health experiences into the medical school curriculum,” says Dr. Weiss. “Practicing medicine in a developing country is an opportunity to contribute to the growth of this wonderful and important program.”

samples for survival

Without setting foot in Africa, Marla J. Keller, M.D., an associate professor of medicine and of obstetrics & gynecology and women’s health, is studying 80 Rwandan women. She is analyzing fluid samples from their genital tracts to better understand immune responses that may help prevent sexually transmitted diseases.

Dr. Keller’s work is sponsored by a $25,000 pilot grant from Einstein’s Global Health Center, one of three such grants awarded last year. She gets the Rwandan samples from her Einstein colleague Kathryn Anastos, M.D., professor of medicine and of epidemiology & population health. Dr. Anastos runs the only cervical cancer screening and prevention program in Rwanda.

Dr. Keller is working to develop better vaginal microbicides. Contained in creams, gels or rings that women self-administer, microbicides inhibit HIV or other disease-causing sexually transmitted microbes so they don’t get passed from one person to another. Since arriving on campus in 2007, Dr. Keller has worked as a coinvestigator on the NIH-funded Women’s Interagency HIV Study with Dr. Anastos, who cofounded Women’s Equity in Access to Care and Treatment (WE-ACTx). This effort operates in Rwanda, where Dr. Anastos and other physicians help survivors of genocidal rape and sexual violence obtain testing and treatment for HIV infection.

“On my first trip to Rwanda, I arrived on April 6, 2004—10 years to the day after the onset of the country’s genocide,” says Dr. Anastos, who witnessed the suffering and outrage of the female survivors. “The women were HIV-infected—many through genocidal rape—and some of their perpetrators were receiving HIV treatment in jail, while they were not.”

Dr. Anastos describes that initial weeklong trip as “life transforming” and has since returned to Rwanda some two dozen times. She and her WE-ACTx colleagues have helped 6,000 HIV-positive people receive care and obtain lifesaving antiretroviral drug treatment when indicated, and have provided HIV testing to 48,000 family and community members.

Last summer, Dr. Keller received what she calls “my entry into global health”: her first Rwandan shipment from Dr. Anastos, containing 80 samples of vaginal and cervical secretions packed in dry ice. “Studies in healthy U.S. women have shown that vaginal fluid contains protective components that inhibit viruses and bacteria,” says Dr. Keller. “If that’s so in Rwandan women, we may be able to develop new chemicals as microbicides for preventing HIV/AIDS in Rwanda and other countries where this disease causes so much devastation.”

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Einstein’s Clinical Research Training Program aims to identify, educate and mentor clinicians for productive careers in research. These newly minted clinician-scientists exemplify our core belief: at Einstein, science is truly at the heart of medicine.

Making the transition from medical practitioner to clinical researcher was once an ad hoc affair. Would-be clinician-scientists learned some epidemiology here, some statistical analysis there, learning heavily on mentors and colleagues for years. With persistence—and luck—they soaked up enough knowledge to pose a good research question, write a grant, run a clinical trial, analyze data and publish a paper. Now, all of these skills can be acquired in one place: Einstein’s Clinical Research Training Program (CRTP), a two-year program leading to a master’s degree in clinical research methods.

In this unique Einstein academic offering, “learning is coupled with support that includes statistical consultation, database management, a clinical research center, collaboration with laboratory scientists and mentoring,” says Ellie Schoenbaum, M.D., director of the program and professor of epidemiology & population health. “The Clinical Research Training Program isn’t just a degree program. It’s a way to transform careers.”

Launched in 1998, the CRTP also delves deeply into grant writing and paper writing—essential skills for clinician-scientists. The CRTP experience culminates in a project that combines classroom learning and hands-on, mentored research in one final thesis paper that conforms to the requirements of a peer-reviewed journal. Successful defense of the thesis is clear proof that the student has mastered the knowledge and skills needed for entry into the world of clinical research.

LEARNING THE RESEARCH ROPEs
Einstein’s CRTP admits up to 15 scholars each year from across the clinical spectrum. Most enrollees are physicians, with two slots reserved for Einstein medical students. Lately the CRTP has been accepting more medical students (within a five-year M.D.-M.S. educational track) and more scholars from outside the field of medicine. Current first- and second-year scholars include, for example, four medical students and one M.D.-Ph.D. student, plus a Ph.D. student and a dentist. A doctor from Rwanda, Jean Claude Dusingize, M.D., is among this year’s enrollees. Dr. Dusingize’s mentor is Kathy Anastos, M.D., professor of medicine and of epidemiology & population health, who has launched several HIV-related research projects in Rwanda (see coverage of Dr. Anastos’ work on page 50). Upon graduation, Dr. Dusingize intends to return to his homeland and collaborate in Dr. Anastos’ research.

Overseas outreach is an important facet of the program: In late 2008, Dr. Schoenbaum and her colleagues presented an introductory four-week version of the program as an intensive summer curriculum in Mumbai, India. A second mini-CRTP is planned for Rwanda in early 2010.

The CRTP is supported in part by a prestigious Clinical and Translational Science Award from the National Institutes of Health (NIH). However, this grant “falls substantially short of meeting the needs of our CRTP scholars, as well as clinical researchers who are already on the Einstein faculty,” says Paul R. Marantz, M.D., M.P.H., professor in the departments of epidemiology & population health and of medicine and associate dean for clinical research education, who led the CRTP program during its first eight years. “Financial support is critical for physician-scientists, allowing them to reduce their hours seeing patients and focus their time and energy on this training.” Fortunately, the Einstein Men’s Division has helped fill this void by providing much-needed financial help for CRTP enrollees (see page 57).

Today, the CRTP’s hundred-plus graduates can be found throughout government, industry, health-care systems and academia, with many grants, career-development awards and peer-reviewed papers to their names. More than half of these graduates are actively pursuing their research at Montefiore and therefore retain their links to Einstein. In the pages that follow, a representative sample of CRTP’s graduates tell how the program has fostered their research and enriched their careers.
MARK H. EINSTEIN, M.D., M.S.
CRTP Class of 2003
Assistant Professor of Obstetrics & Gynecology and Women’s Health
Albert Einstein College of Medicine

Before enrolling in the CRTP, Dr. Einstein dreamed of a career in clinical research, thinking he was a paper or two away from becoming a full-fledged investigator. “I had done a research project and was ready to submit it to a journal,” he recalls. But he was quickly humbled.

“Little did the faculty members know that they were signing on as mentors for life.”

But the program’s value goes beyond mentoring, she says. “The CRTP was pivotal in teaching me the skills I needed to do clinical research: the ‘eps,’ the ‘biostats,’ the research ethics, the data analysis. The program helped me make better use of my time as a fellow. The program also gave me an introduction to the clinical research community,” she continues. “It’s all too easy to spend your fellowship isolated in a lab, focusing just on that work and not on networking.”

Through those networks, as well as through formal coursework, she also learned the art of grantmanship—not just how to write and win grants, she says, “but how to stagger your funding and make it work for you. That’s invaluable, especially in a time of scarce resources.” Thanks to the CRTP, she was able to secure two grants, a K12 Mentored Clinical Research Scholar Program Award from the NIH and a Robert Wood Johnson Harold Amos Medical Faculty Development Program Award.

 point positions. “Those grants helped me get my first faculty position at Einstein/Montefiore, and later in North Carolina,” she says. “If you want to do clinical research, you can’t get hired if you can’t bring funding.”

Today, Dr. Floris-Moore is assistant professor of medicine at the University of North Carolina School of Medicine at Chapel Hill. She is the principal investigator on a study of risk factors and rates of atherosclerosis among midlife HIV-infected men and women.

WILLIAM N. SOUTHERN, M.D., M.S.
CRTP Class of 2007
Assistant Professor of Medicine
Albert Einstein College of Medicine

After obtaining a career development award from the NIH, Dr. Southern decided to enroll in the CRTP in order “to fill in some gaps” in his knowledge about clinical research.

“I thought I was pretty savvy as a researcher,” he says, “but I soon realized that the CRTP would give me the other skills I needed in epidemiology, biostatistics, study design and decision analysis. Overall, it empowered me to do more.”

“In the past, I would find a person to help me with a deficit in my knowledge,” he continues. “Maybe I would understand it specifically for that problem but not on a global level. The CRTP certainly helped me to fill in those gaps. It was a reality check.”

Upon graduation, Dr. Southern remained at Einstein, where in short order he became director of Hospitalist Services and associate medical director at Weiler Hospital at Montefiore Medical Center.

“I was involved in research before,” he says. “But now, I’m a much more collaborative member of the research team. I’m not only doing the clinical research, but working closely with the epidemiologists and basic scientists to interpret the data and troubleshoot. The CRTP made me an equal player on that playing field.”

In addition, the CRTP made him more competitive in applying for grants. “The reviewers noted in their critiques that I had received further education in clinical research methods. It was clear that they thought it was important,” says Dr. Southern, now an independently funded investigator.

The program also honed his skills as a reviewer for research journals. “Now, I’m a much more difficult reviewer—I don’t know if that’s good or bad,” he adds with a laugh. “But actually, I can offer more constructive criticism. And the big holes in study designs and statistical methods are more apparent to me than they were in the past. “I can’t imagine that I would be where I am now without the CRTP,” he sums up. “I feel very much indebted to the CRTP for solidifying the skills that I had in bits and pieces before I entered the program.”

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The Men’s Division Research Scholars Program

The Men’s Division Research Scholars Program (MDRSP) is a $3 million fundraising initiative that was launched in 2009 by the Men’s Division of Albert Einstein College of Medicine. Its goal: to build upon the government’s investment in Einstein by providing the additional support needed to fund the professional development of talented, clinically trained M.D.s who are interested in translational research.

Each year, a small group is chosen from a pool of 15 to 20 candidates to receive MDRSP grants. Awardees are selected through a strict, scientific peer-review process. Harry Shamoon, M.D., associate dean and director of Einstein’s Institute for Clinical and Translational Research, serves as project advisor.

“It is the dream of every physician-scientist at Einstein to help translate breakthrough ideas from the laboratory into innovative patient care and, ultimately, the eradication of disease,” says Dr. Shamoon. “The Men’s Division Research Scholars Program plays a critical role in helping to give them that opportunity.”

On May 12, members of the Einstein Men’s Division and special guests celebrated the division’s annual Bronx Night at Yankee Stadium. The “Team Up with Einstein and the Yankees” event featured guided tours of the new stadium and launched the group’s new fundraising initiative, the Men’s Division Research Scholars Program.

Above left, former Mets and Yankees star Darryl Strawberry, center, with Men’s Division executive board members, left to right: Martin Luskin, Richard Blaser, Stephen Karafiol, Jeffrey Fiedler, Daniel Lebensohn, Peter Zinman and Philip Altheim.

Above right, top: Darryl Strawberry with, from left to right: Martin Luskin, Richard Blaser, Stephen Karafiol, Jeffrey Fiedler, Daniel Lebensohn, Peter Zinman and Philip Altheim.

Above right, bottom: Peter Gafos, chairman of the Men’s Division, left, with Dean Spiegel.

Most researchers spend an entire career without publishing in a top-tier medical journal. But just two years after finishing Einstein’s CRTP, Dr. Verghese was surprised to find out how much he didn’t know about clinical research. “I realized I was just pursuing an interesting research question without understanding the foundations on which research questions are based,” he explains.

After the CRTP, “I felt ready to start doing research independently,” he continues. “The learning process doesn’t end after the two years, of course. But you come to recognize what your strengths are and where you should improve, and you can take that and build it into your career plans.

“In addition, there were people from various clinical specialties, people doing basic science, people from all over the world—and a lot of discussion about how to maximize your research potential and build collaborations. This enabled me to greatly expand my network of collaborators.”

Today, Dr. Verghese is an associate professor of neurology at Einstein and the principal investigator or co-principal investigator of several studies on aging and dementia funded by the NIH. “This program has put me on the fast track academically,” he says.

JOE VERGHESE, M.D., B.S.
CRTP Class of 2001
Associate Professor of Neurology
Albert Einstein College of Medicine

“There were people from various clinical specialties, people doing basic science, people from all over the world.”
BENEFACTORS
Donors who have made cumulative contributions of $1 million or more toward the growth and development of Albert Einstein College of Medicine are gratefully acknowledged as Benefactors of the College. Their names are linked forever with the proud history of the College of Medicine and its medical education and research programs.

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Science at the heart of medicine

58

59
EINSTEIN ADJUSTS TO DIFFICULT ECONOMIC TIMES, BUT KEY INDICATORS ARE POSITIVE

As the College of Medicine expected, the economic recession is causing income from investments to decline. During the fiscal years (FY) 2009–13, Einstein will compensate for these revenue declines by cutting its nonacademic expenses. By saving on energy costs, postponing capital projects and reducing information technology expenses, Einstein is reducing total anticipated expenditures for the coming five years by about $100 million, beginning with a $20 million saving from the approved budget in FY2009 (July 2008–June 2009).

Meanwhile, the College of Medicine has continued to follow its strategic plan by recruiting high-quality faculty and improving its research infrastructure. Two positive indicators are the continued growth in gifts and payments for existing pledges and increase in NIH grant awards for the just-ended federal FY2009 (see graphs below). Despite the difficult economy, new cash gifts and payments on pledges rose to their highest level, totaling $38.3 million (Figure 1). Similarly, NIH awards for federal FY2009 increased from $132.1 million in FY2008 to $154.9 million in FY2009 (Figure 2).

Revenue Trends 2000 – 2009

Figure 1: Cash Gifts

Figure 2: National Institutes of Health Awards

EINSTEIN PROFILE

M.D. students: 625
Ph.D. students: 337
Faculty: 2,775
Applicants to Class of 2013: 7,148
Students in Class of 2013: 183
Residency programs offered: 150
Postdoctoral research fellows: 380
Major research centers funded by NIH: 5
Physicians in training at Einstein and affiliated hospitals: 2,500
Einstein alumni: more than 8,500

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Figure 1: Cash Gifts

Figure 2: National Institutes of Health Awards

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