



Albert Einstein College of Medicine
OF YESHIVA UNIVERSITY

A photograph of a laboratory setting with several test tubes in a rack and a hand holding one. The entire image has a blue color cast.

Einstein is...



Science at the heart of medicine

“Science at the heart of medicine” is more than a catchy slogan. It goes to the core of what we do at Einstein. Indeed, it is Einstein’s unique mix of science and medicine – combined with our humanism – that directly affects the health of people locally, nationally, and globally.

In some respects, little at Einstein has changed over the years. Research remains our foundation. It drives our academic excellence and our mission to train the next generation of leaders in science and medicine. It also informs the care we deliver in tandem with our medical affiliates and through our clinical programs in the community.

Another constant is Einstein’s famed emphasis on collaboration – a powerful force that has made our College incredibly productive, with an influence on biomedical science and health care that belies our modest size.

But while important aspects of Einstein remain unchanged, our institution is ever evolving to address the changing health landscape of the world we live in. Today, we face unprecedented challenges in medicine – an aging population, growing disparities in health care, and the emergence of new infectious diseases, to name just a few.

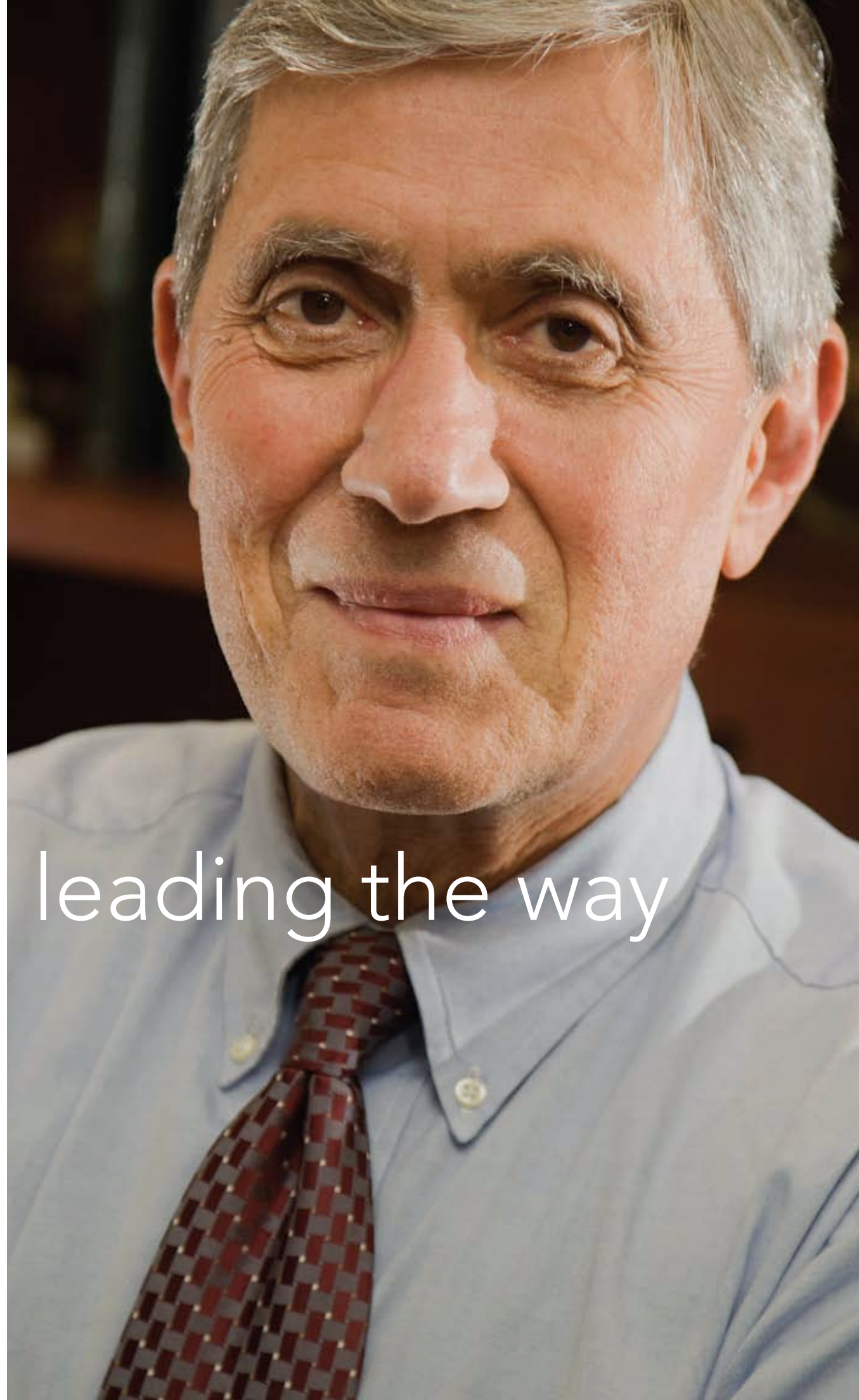
Just as we pioneered the introduction of bioethics in our curriculum nearly 30 years ago, today we are leading the way towards a collaborative, disease-oriented approach to biomedical research. We are truly creating a blueprint for academic medicine in the 21st century.

As always, Einstein is...leading, discovering, caring and collaborating, continuing our legacy, improving health, and impacting the world.

Allen M. Spiegel, M.D.
*The Marilyn and Stanley Katz Dean
Albert Einstein College of Medicine*

Einstein is leading the way

In many ways, the story of Einstein is a story of “firsts” – of pioneering discoveries made by Einstein’s talented physicians and scientists. Among many examples, Einstein researchers were the first to identify a key protein missing in the brains of Alzheimer’s patients – a finding that led to the first drugs for treating the disease. They found how Taxol slows tumor growth, leading to its use as a major drug against breast cancer and several other types of cancer. Most recently, they discovered the first two “longevity genes” ever identified in humans.



"The most incomprehensible thing about the world is that it is at all comprehensible. The important thing is not to stop questioning."

– ALBERT EINSTEIN

Einstein is discovering

Einstein's propensity to ask questions and to answer them continues today, as the College focuses on eight of our most pressing health challenges:

Aging. With so many of us living longer, diseases associated with aging now affect almost every family. Our aging research group is investigating therapies for promoting healthy aging and preventing disorders such as Alzheimer's disease and age-related frailty.



Cancer. In the continuing battle against cancer, our scientists are investigating the role of epigenetics (changes in gene activity that don't involve mutations) in causing malignancies. Einstein is also researching how to prevent primary tumor cells from metastasizing and how to induce the immune system to target cancer cells.

Cardiovascular disease. To gain a better understanding of cardiovascular disease, various teams are examining the mechanisms that underlie heart failure, atherosclerosis, heart attack, and stroke, with an eye toward devising new ways to prevent and treat the nation's leading causes of morbidity and mortality.

Diabetes, obesity, and other metabolic diseases. In response to the diabetes epidemic in this country, many Einstein researchers are trying to understand the causes of insulin resistance, devise strategies for preventing obesity (the main cause of diabetes), and develop culturally sensitive models for managing diabetes.

Infection and immunity. With the emergence of new infectious diseases and the reemergence of old ones, Einstein has made research on infection and immunity a high priority. Our scientists are designing and testing new vaccines, seeking to understand how genes influence our susceptibility to infectious disease, and developing new therapies for HIV/AIDS.



Liver diseases. To reduce the toll from diseases such as hepatitis and liver cancer, our liver team is studying the mechanisms of liver-cell injury and death and investigating novel therapies such as using stem cells to regenerate liver tissue.

Neuropsychiatric diseases. Our neurologists and psychiatrists are working together to identify alterations in neural cell patterning that lead to developmental disorders such as autism and mental retardation and to understand why older people become susceptible to neuropsychiatric diseases such as Alzheimer's.



Reproductive medicine. Among its many research efforts, our reproductive medicine research team is designing new treatments for infertility and menopausal symptoms, studying the role of the immune system in ovarian and breast cancer, and investigating the effect of reproductive hormones on the nervous system.



Einstein's multidisciplinary, disease-focused research strategy is already paying dividends. Investigators here recently discovered the first two "longevity" genes in humans, anticipating a new class of therapies that slow

the onset of dementia, cancer, and heart disease and lead to longer, healthier lives. Another team is transforming the unique ability of liver cells to regrow into therapies for liver failure and diabetes, heralding a new era of regenerative medicine. Elsewhere at the College, scientists have devised a novel treatment for melanoma, now in clinical trials, in which radioactive isotopes are attached to antibodies that bind to melanin, a skin pigment. This is the science at the heart of modern medicine.

The essence of the Albert Einstein College of Medicine can be captured by a single word: humanism. It informs everything the College does, from education and research to clinical care and community outreach. The College's enviable reputation for scientific collaboration has helped it recruit and retain outstanding investigators, who have created an unusually productive research environment.

During the 1970s and 1980s, Einstein pioneered the introduction of bioethics into medical school curricula. This innovation set the stage for "Introduction to Clinical Medicine," a two-year program that features intensive training in communication skills, culture and spirituality, complementary and alternative medicine, and public health. "Patients, Doctors, and Communities," a more recent addition to the curriculum, combines a wealth of material about communication, ethics, humanism, professionalism, population health, and prevention into the third-year clerkships, rounding out the skills needed for effective – and humanistic – clinical practice in the 21st century.

Thanks to these programs, Einstein attracts many faculty members and students whose careers are devoted to primary care, working with underserved populations, and conducting research relevant to the developing world.

The same humanistic impulses can be seen in clinical centers and research institutes around the Einstein campus. These include the Rose F. Kennedy Center, dedicated to research in mental retardation and human development; the Children's Evaluation and Rehabilitation Center, focused on the care of young people with ADHD, autism, and other developmental disabilities; and the Bronx Center to Reduce and Eliminate Ethnic and Racial Health Disparities, which is working to reduce the high incidence of heart disease, stroke, and diabetes in our African American and Latino communities.

In sum, Einstein is a place where passion for medical science and compassion for people combine to create a healthier world.

Einstein is caring and collaborating

In a poignant essay featured last October in *Annals of Internal Medicine*, fourth-year Einstein student Vikram Padmanabhan describes his experience caring for a 36-year-old woman who is dying from cervical cancer. His essay, "My Condolences," captures the anxiety and confusion experienced by a young physician-in-training when, for the first time, he must confront an issue faced by all doctors. Fortunately, there are positive developments in this area of cancer research. Einstein investigators have made valuable contributions to help prevent cervical cancer and lower the death rate from this terrible disease. Additionally, certain aspects of Einstein's teaching curriculum help our students deal sensitively with dying patients.



In 1953, when asked if he would give his name to a new medical school in the Bronx, Albert Einstein wondered aloud if it wouldn't be better to name the institution for someone who had made truly historic contributions to medicine.

In truth, no other name was more appropriate. Professor Einstein was, of course, a scientist whose insights altered our view of the universe. But he was also a humanitarian, whose words and deeds instruct us on how to live a moral life.

In America, he quietly helped Jewish refugees emigrate to the U.S., fought the rise of Nazism, denounced McCarthyism, supported the civil rights movement, and campaigned for a ban on nuclear weaponry.

In short, Professor Einstein combined intellect and humanism and was a man in whom reason was tempered by compassion.

The Albert Einstein College of Medicine is proud to bear his name and continue his legacy. A half-century after its founding, the College remains steadfast in its core missions: educating students to become caring as well as curing physicians; fostering pioneering research programs in biomedical and translational research; and improving health.

In every endeavor, the faculty, staff, and students of Einstein are guided by the high academic and humanistic values exemplified by our namesake, as they bring about a better and healthier future for people everywhere.

Einstein is continuing a legacy

Since its founding in 1955, the Albert Einstein College of Medicine has graduated more than 7,000 physicians and scientists who have served their communities and the world in a variety of ways. From presidential candidate Howard Dean to Montefiore Medical Center president Steven Safyer, Einstein's distinguished alumni have worked to improve society and to provide the best possible health care to its citizens. They've been guided by the spirit of Albert Einstein, the College's namesake. His humanistic legacy will surely continue to inspire the careers of Einstein graduates.



The Bronx – one of the nation’s most diverse communities – offers the students and faculty of Einstein numerous ways to make a difference. There are unparalleled opportunities to learn the art of medicine, conduct public-health research, and pursue social medicine. And, in this residential corner of New York City, there is room to grow and have an impact.

The health concerns of the Bronx and urban America, from diabetes and obesity to AIDS and asthma, have become our concerns. The College’s commitments to the community include reducing health disparities, improving environmental health, and enabling underrepresented minorities to enter careers in health and science. Einstein also maintains strong, collaborative alliances with five affiliate hospitals (including Montefiore Medical Center), three mental health facilities, and four long-term care facilities that serve more than five million people in the Bronx and beyond.

In addition, Einstein recently opened a 223,000-square-foot facility, the Michael F. Price Center for Genetic and Translational Medicine/Harold and Muriel Block Research Pavilion. This state-of-the-art facility will speed the transfer of knowledge from the laboratory to the clinic for the benefit of patients in the Bronx and around the world.

Today, it is hard to imagine Einstein without the Bronx, and the Bronx without Einstein.

Einstein is improving health

Einstein’s clinicians and researchers are making strides in improving human health across the entire age spectrum. The Children’s Evaluation and Rehabilitation Center provides crucial early diagnosis and life-changing therapy to kids who have autism spectrum disorders and other developmental disabilities. At Einstein’s Institute for Aging Research, scientists study the genes of centenarians as they seek ways to prevent or delay age-related diseases such as heart attack, stroke, and Alzheimer’s.



For most of Einstein's history, the world has been our classroom, our clinic, and our laboratory. At any given moment, one can likely find Einstein faculty members or students in faraway places, performing heart surgery in Guatemala, studying diabetes management in a rural clinic in Thailand, or empowering women to get proper HIV/AIDS care in Rwanda.

The College's first significant forays into global health began in the 1970s with the establishment of its Global Health Fellowship Program. This program has sent hundreds of students abroad for hands-on experience in developing nations – probably more than any other medical school in the country.

Einstein's worldwide impact is also felt through its NIH-supported international capacity-building programs, which are helping countries in Africa, South Asia, and Latin America assemble the research infrastructure and clinical experience needed to address diseases such as AIDS, malaria, and tuberculosis, which affect hundreds of millions of people around the globe.

Research at Einstein has improved care the world over. Our investigators, for example, played a leading role in the Women's Health Initiative, which persuaded physicians everywhere to rethink treatment for tens of millions of postmenopausal women. Another Einstein team developed "the Bronx Box" – a simple, rapid, and inexpensive test, for use in Third World countries, that diagnoses whether a patient's TB strain is drug-resistant.

At home and abroad, Einstein is making a world of difference.



Einstein is impacting the world

Ethiopia, Kenya, Rwanda, Sierra Leone, South Africa, Uganda: members of the Einstein community are involved in projects to improve the health of people across the African continent. In Ethiopia, for example, Einstein faculty and students are developing model programs for preventing and treating HIV/AIDS. In Sierra Leone, an Einstein student has established a clinic designed to treat malnutrition and to serve people maimed in that country's civil war. In Uganda, Dr. Meredith Hawkins (pictured at right) is helping build a diabetes education program at the country's main medical school, and two Einstein students established education and screening programs to prevent cervical cancer among Ugandan women.





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