

WINTER/SPRING 2022

EINSTEIN

THE MAGAZINE FOR ALUMNI AND FRIENDS OF ALBERT EINSTEIN COLLEGE OF MEDICINE



ALZHEIMER'S DISEASE REASONS FOR HOPE

New therapies for one of the great
health challenges of the 21st century

A Message From the Dean

Two years ago, we'd just begun hearing about an emerging virus called SARS-CoV-2.

While COVID-19 continues to pose challenges, Einstein has a lot to show for its efforts during this stressful pandemic era.

One achievement has been the transformation of our medical school curriculum. The pandemic accelerated changes already in the works—integrating basic science and clinical training across all four years, expanding coursework that examines health-care disparities, and overhauling the structure of clerkships (see story on page 16). As part of this effort, we have named our first assistant dean for integrated medical education, Janice Thomas John, D.O., M.S., M.P.H. (page 6), who will be launching many new courses.

After much thoughtful analysis, we have also reorganized our basic-science departments. We've moved faculty from two departments—physiology & biophysics and anatomy and structural biology—to other departments, to unify scientific efforts previously dispersed across departments and to promote collaboration among our faculty (page 7).

Scientific collaboration is featured in our cover story on Alzheimer's disease (page 20). The article describes the efforts by researchers at Einstein and clinicians at Montefiore to develop new treatments, learn more about the biology and genetics underlying Alzheimer's, improve diagnosis, and reduce the distress faced by patients and their caregivers.



Physicians, researchers, and students at Einstein and Montefiore are also working together on initiatives to improve the health of lesbian, gay, bisexual, transgender, and queer people. A top priority is ensuring that Einstein medical students learn about the health needs of LGBTQ patients and become comfortable caring for them, as described in the story beginning on page 38.

We should take pride in our progress over the past two years. As I have often said, we are all in this together, and our accomplishments have been remarkable.

GORDON F. TOMASELLI, M.D.
The Marilyn and Stanley M. Katz Dean
Albert Einstein College of Medicine
Executive Vice President, Chief Academic Officer
Montefiore Medicine

EINSTEIN

Science at the Heart of Medicine

Winter/Spring 2022

The magazine for alumni, faculty, students, friends, and supporters of Albert Einstein College of Medicine and Montefiore

Published by

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ON THE COVER: An artistic depiction of the brain by illustrator Tatyana Starikova Harris



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A Message From the Board Chair



“The magazine contains several stories that focus on how Einstein and Montefiore are making important contributions to our community.”

— RUTH GOTTESMAN, ED.D.

I want to welcome everyone to this latest issue of *Einstein* magazine. These recent months have been a highly productive time at the College of Medicine, and there have been many important developments. I’ll start with the fact that Einstein recently welcomed seven new trustees, each of whom brings unique expertise and perspectives to the Board. You can learn more about each of them and their impressive backgrounds by turning to page 4.

Additionally, the magazine contains several stories that focus on how Einstein and Montefiore are making important contributions to our community. For example, you’ll read about:

- **Einstein alumnus Utibe Essien, M.D. ’13, M.P.H.**, who has delivered more than 40 keynotes and seminars across the United States since the start of the pandemic. His focus is on health inequality and COVID-19’s disproportionate effect on Black, Hispanic, and American Indian communities. Dr. Essien is an assistant professor of medicine at the University of Pittsburgh School of Medicine and a core investigator in the Veterans Administration Center for Health Equity Research and Promotion, where he studies racial and ethnic disparities in the use of novel cardiovascular medications and technologies (page 52).

- **Robert Beil, M.D.**, Einstein assistant professor of medicine and medical director of Montefiore’s CICERO program, which serves more than 1,000 HIV-positive patients. Over the past two decades Dr. Beil, a graduate and former chief resident of the social internal medicine program at Montefiore, has made it his mission to expand healthcare to

lesbian, gay, bisexual, transgender, and queer individuals. Those efforts have culminated in the TransWellness Centers at Montefiore, which provide comprehensive healthcare to people whose gender does not match their sex assigned at birth (page 55).

- **The Bronx Oncology Living Daily (BOLD Living) program**, our free wellness and support service that helps people in underserved communities cope with cancer. It has evolved over the past decade to include a host of wellness workshops, mental-health counselors, cancer screening navigators, community outreach efforts, cancer survivor volunteers, end-of-life doulas, and peer mentors for teens who have parents with cancer. The BOLD Living team now reaches more than 1,000 patients and community members in the Bronx each year (page 59).

Finally, and on a sadder note, the magazine pays tribute to two of our longtime fellow trustees whom we’ve lost in recent months. They are Michael Price (facing page) and Diane Belfer (page 68). They, and other members of our community mentioned in the “In Memoriam” section that begins on page 67, will be sorely missed.

So please take a few moments to read this latest edition of *Einstein* magazine. I hope you enjoy it as much as I have.

RUTH L. GOTTESMAN, ED.D.
*Chair, Albert Einstein College of Medicine
Board of Trustees
Einstein Professor Emerita of Pediatrics*

REMEMBERING MICHAEL F. PRICE, EINSTEIN BENEFACTOR AND TRUSTEE

The Einstein and Montefiore communities lost a devoted and loyal friend on March 14, 2022. Michael F. Price, a member of the Einstein Board of Trustees for more than two decades and the namesake of the Michael F. Price Center for Genetic and Translational Medicine/Harold and Muriel Block Research Pavilion, died at age 70.

Mr. Price was generous in his support of both Einstein and Montefiore and was a champion of public health in the Bronx community and beyond. Most recently, he served as chair of the Board’s investment committee and a member of the executive and finance committees.

Fellow Einstein trustee and close friend Nathan Gantcher called Mr. Price “one of the nation’s great value investors” who knew how to spot opportunity in companies and institutions that others underestimated. “Michael told me many years ago that before he got involved with Einstein he did his research. He looked at all of the medical institutions out there. And he thought the best investment you could make was Einstein. He thought it was a great value proposition.”

COMMITMENT TO PHILANTHROPY

In 2001, the Price Family Foundation made what was at the time the largest commitment in the history of the College of Medicine to help establish a state-of-the-art center for genetic and translational medicine. Ground was broken in 2004, and the Price Center/Block Pavilion was formally dedicated



in 2008. Since then, it has played a pivotal role in advancing Einstein’s tradition of scientific collaboration with other institutions worldwide.

In 2017, Mr. Price and his family announced a transformational pledge of \$25 million to establish the Price Family Foundation Fund for Translational Research. In addition, the foundation has provided seed funding to develop the Center for Experimental Therapeutics, operational support for the Healthy Steps Program at the Children’s Hospital at Montefiore benefiting mothers and infants, and financial support for the renovation of Einstein’s Van Etten Building.

When the COVID-19 crisis struck in 2020, the foundation designated a portion of the pledge to advance work focused on understanding and treating the virus. Most recently, the foundation extended its support to the Albert Einstein Cancer Center.

HIS LIFE AND CAREER

Mr. Price began his career as a research assistant at Heine Securities Corp. and later became a full partner. In 1988, he purchased the company and became its president and chair. Mr. Price sold the firm to Franklin Securities in 1996. The next year, *Time* magazine named him one

of the 25 most influential people in America. In 1998 he stepped down from day-to-day fund management duties to form MFP Investors. He remained chair of Heine Securities until 2001 and later became a managing partner of MFP Partners.

Mr. Price was born in Glen Cove, N.Y. He graduated from the University of Oklahoma in 1973 with a bachelor’s degree in business administration. He is survived by his wife of 21 years, Jenny; their children Charlie, Grace, and Teddy; older children Jordan, Andrew (Kerri), and Jonathan (Laura); and 10 grandchildren. **E**

Einstein Board Welcomes Seven New Members

With backgrounds ranging from business to education to medicine, these individuals bring new expertise and perspectives



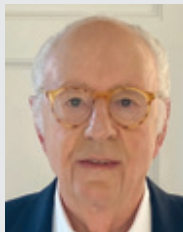
Carol B. Einiger is the president of Post Rock Advisors, which she founded as an investment advisory business in 2005 and transitioned to a family office in 2018. Ms. Einiger began her investment career at Goldman Sachs in 1971. She worked from 1973 to 1988 at the First Boston Corp., becoming a managing director and the head of the capital markets department; from 1988 to 1989 as an executive in residence and a visiting professor at Columbia Business School; from 1989 to 1992 as a managing director of Wasserstein Perella; and from 1992 to 1996 as the chief financial officer and acting president of the Edna McConnell Clark Foundation. She served from 1996 to 2005 as the chief investment officer of the Rockefeller University. Ms. Einiger is a director of Boston Properties, Inc., and a member of

the investment committee of the JPB Foundation. She is a former member of the boards and investment committees of the University of Pennsylvania, the Lasker Foundation, and Horace Mann School; a former director and chair of the investment committee of UJA-Federation of New York; a former vice chair of the investment committee of the Museum of Modern Art; a former director of the New York Stem Cell Foundation, Columbia Business School, and Credit Suisse First Boston (USA); a former member of the advisory board of Blackstone Alternative Asset Management; and the founding chair of the Trustees' Council of Penn Women. Ms. Einiger received her B.A. from the University of Pennsylvania and her M.B.A. with honors from Columbia Business School. Ms. Einiger's late husband, Roger W. Einiger, joined the Einstein board in 2005 and the Montefiore board in 2014, and served as chair of the Einstein board from 2015 through 2020.



Susan H. Fuhrman, Ph.D., is a president emerita of Teachers College, Columbia University, a founding director of the Consortium for Policy Research in Education, and a past president of the National Academy of Education. Dr. Fuhrman's leadership track record includes her term as dean of the University of Pennsylvania's Graduate

School of Education from 1995 to 2006, where she was also the school's George and Diane Weiss Professor of Education. Dr. Fuhrman was influential in creating a new university-assisted public school as part of Penn's West Philadelphia improvement initiative. Similarly, she helped the Teachers College Community School, in an education and social services partnership with a number of public schools, bring university leadership for neighborhood school improvement to West Harlem.



Buzzy Geduld has been the chief executive officer of Cougar Capital, LLC, since its inception in 2002. Prior to forming Cougar, Mr. Geduld was the chair and CEO of Herzog, Heine, Geduld, a Merrill Lynch company. Before Herzog's merger with Merrill Lynch, he served as its president and CEO and had been with the firm for more than 30 years. He serves on the board of the New-York Historical Society, chairs its finance committee, and is a member of its executive committee; he also serves on the board of Jazz at Lincoln Center and is a member of its investment committee. Mr. Geduld is a member of the board of trustees of Baruch College and is a member of its investment committee. He also runs the Donut Pub, established in 1964.

He served on the board of directors of the enCourage Kids Foundation from 1988 to 2019 and was co-chair of its investment committee. Mr. Geduld served on the board of trustees of the Rodeph Sholom Temple from 2004 to 2013, as well as the Rodeph Sholom School board, and on the board of trustees of the Dalton School and as a member of its finance committee from 2008 to 2014, and he co-chaired its investment committee from 2008 to 2017. He has served on the quality of markets committee of the National Association of Securities Dealers (NASD) and the board of governors of the Security Traders Association, and is a past president of the Security Traders Association of New York (STANY) and the STANY Gratuity Fund. He has also served on the trading committee of the NASD and the Security Industry Association.



Leslie Morse Nelson has been primarily involved with public elementary school education in various capacities since 2009 and is currently a substitute elementary school teacher at P.S. 198 in Manhattan.

She is the vice chair of the board of trustees of Teachers College (TC), Columbia University, and is a co-founder of the School-Based Mental Health Collaboration—a partnership between TC and New York City public schools. Mrs. Nelson is a member of the education committee of the board at WNET and was a longtime member of the Juilliard Council, an advisory board committee at the Juilliard School. She has been the president of the parents' associations at the Collegiate and Chapin schools and served on the board of trustees of both.

Mrs. Nelson was previously the president of Nelson Giroux, Inc., an interior design and consulting firm; she retired in 2012. She received her bachelor of arts degree from Smith College and a design certificate from the New York School of Interior Design.

She is married to Mitchell J. Nelson, a real estate attorney; they have three children and four grandchildren.



Marla Schaefer is the former co-chief executive officer and co-chair of Claire's Stores, Inc., the world's largest accessory retailer. Claire's was a family-owned business that Ms. Schaefer eventually managed with her sister, building the retailer to 3,400



Sarah J. Schlesinger, M.D., is an associate professor of clinical investigation and a senior attending physician at the Rockefeller

University. Dr. Schlesinger chairs the Rockefeller University Institutional Review Board and the research education and training committee, which is part of the Center for Clinical and Translational Science. She also serves as a director of the clinical scholars' program and the certificate in clinical and translational science program. Dr. Schlesinger has served as an independent corporate director of Ariad Pharmaceutical and the Medicines

Company. She currently serves as an independent corporate director of Inoviva Inc., Armata Pharmaceuticals, and eGenesis. She is also on the board of AVAC (the AIDS Vaccine Advocacy Coalition) and the Hastings Center (a center for bioethics). Dr. Schlesinger has an A.B. from Wellesley College and an M.D. from Rush University Medical College in Chicago. She served as a surgical house officer for two years in the combined Einstein-Montefiore program and trained in pathology at the New York Hospital, where she served as the chief resident. Dr. Schlesinger is married to real estate developer Elie Hirshfeld and is the mother of five sons, one of whom is in his second year of medical school at Einstein.



Andrew Sommers is the managing partner of Ehrenkranz Partners, a wealth management firm in New York. The company offers portfolio management, financial planning, and investment advisory services to individuals, families, and foundations. Mr. Sommers joined the firm in 1997. He has been a partner since 2001 and the managing partner since 2012. Prior to joining Ehrenkranz, Mr. Sommers was an associate at the law firm of Simpson

Thacher & Bartlett LLP in New York. Mr. Sommers serves on the board of the Jewish Child Care Association as treasurer and chairs its finance committee; on the board of New 42nd Street as treasurer; and on Montefiore's investment committee. He previously served on the board of the Jewish Communal Fund as chair of its investment committee. He is a graduate of the University of Michigan's Ross School of Business and the Columbia University School of Law. Mr. Sommers is married to Gerri Sommers, and they have a daughter and two sons.

stores on three continents. She sold the company to a private equity group in 2007. Ms. Schaefer is currently a trustee of Teachers College, Columbia University; a national and international board member of the American Committee for the Weizmann Institute of Science; a trustee of Temple Beth El, Boca Raton, Fla.; a board member of Women in Distress of Broward County, Fla.; a member of the

women's business leadership organization C200; and a director of the Rowland & Sylvia Schaefer Family Foundation. She attended the University of Florida and is a 1974 graduate of Florida International University. She holds an M.A. in organizational psychology from Teachers College, Columbia University. She and her husband live in Boca Raton, Fla. They have two daughters.

New Assistant Dean for Integrated Medical Education



Janice Thomas John, D.O., M.S., M.P.H., has been

named assistant dean for integrated medical education at Einstein.

An assistant professor of pediatrics at Einstein who will join the Children's Hospital at Montefiore as a pediatric hospitalist, Dr. John assumed the newly created position in January. She will help launch a range of courses that integrate basic science, clinical skills, and health-systems sciences across all four years of Einstein's educational program.

Most recently Dr. John was an assistant professor of science education and pediatrics at the Donald and Barbara

Zucker School of Medicine at Hofstra/Northwell on Long Island and a pediatrician in the Northwell Health System. At Zucker, she co-directed the four-year clinical skills course and led the health-equity component of the Patient, Physician, and Society course. She also taught extensively in case-based learning courses.

To help medical students develop a sense of social responsibility in their first years of training, Dr. John worked with Zucker School of Medicine students, staff, and community stakeholders to develop the Medical Science Youth Program, which pairs local high school students with medical student mentors to create community engagement programs.

She has distinguished herself as a

steward of diversity and inclusivity through her work on antiracist curricula and unconscious-bias training for students, staff, and faculty, and her presentations on mitigating bias in medical education.

Dr. John earned her medical degree at the Texas College of Osteopathic Medicine and her master's in clinical research and education from the University of North Texas Health Science Center. She completed her pediatric residency and general academic pediatrics fellowship at Stony Brook University Medical Center and also received a master of public health degree there. She served as a pediatric hospitalist at the medical center before joining the Zucker School of Medicine.

Chair of Otorhinolaryngology Named



Richard V. Smith, M.D., FACS, has been named professor and university chair of the department of otorhinolaryngology—

head & neck surgery at Einstein and Montefiore. Dr. Smith assumed his new position in October 2021, after having served as interim department chair since February 2020.

An accomplished thyroid/parathyroid surgeon, Dr. Smith was an early adopter of transoral robotic total laryngectomy—a complicated but minimally invasive procedure for head and neck cancers that improves outcomes and allows for shorter hospital stays. He has also published

widely on using genetic biomarkers in head and neck cancers to predict disease progression.

As interim chair, Dr. Smith streamlined appointment scheduling by making sure that patients completed necessary medical testing before their subspecialty visits. This has led to a decrease in patient no-show rates and to better, more productive in-person visits. In this role, he also spearheaded a new hospitalist service at the Moses campus and a new rotation for the residents in the department.

In 2021 the American Academy of Otolaryngology—Head and Neck Surgery honored Dr. Smith with its Board of Governors Practitioner Excellence Award, which recognizes an otolaryngologist

whom others wish to emulate.

Dr. Smith has held leadership positions in regional and national organizations, including as president of the New York Laryngological Society and the New York Head & Neck Society. He has also earned the Distinguished Academic Achievement Award from the Robert Larner, M.D., College of Medicine at the University of Vermont.

Dr. Smith received his B.A. cum laude from Middlebury College and his M.D. from the University of Vermont. He completed his general surgery internship and his otolaryngology—head and neck surgery residency at the Georgetown University Hospital in Washington, D.C., and joined Montefiore and Einstein in 1995.

Basic-Science Departments Are Reorganized

After two years of thoughtful analysis, Einstein has reorganized its basic-science departments. The changes, which took effect in January 2022, were made to improve Einstein's position as a leading research-intensive medical school.

Based on their research interests, faculty from two departments—physiology & biophysics and anatomy and structural biology—were shifted to other departments: biochemistry, cell biology, developmental and molecular biology, genetics, microbiology & immunology, molecular pharmacology, neuroscience, and pathology.

The changes were instituted in part to allow Einstein to better unify scientific

efforts that were previously dispersed across departments, promote collaboration, and help integrate research programs with Montefiore. The reorganization is expected to stimulate the exchange of ideas, enhance mentorship opportunities, and streamline administrative operations.

Gordon Tomaselli, M.D., the Marilyn and Stanley M. Katz Dean at Einstein and vice president and chief academic officer at Montefiore, offered his “heartfelt thanks” to former chairs Denis Rousseau, Ph.D. (physiology & biophysics), and John Condeelis, Ph.D., and Robert Singer, Ph.D. (anatomy and structural biology), for their decades of leadership.

Einstein Receives Diversity Award

In November *INSIGHT Into Diversity* magazine awarded Einstein a 2021 Health Professions Higher Education Excellence in Diversity Award. The magazine is the oldest and largest diversity-focused publication in higher education. Einstein was one of 51 U.S. medical schools, health colleges, and universities selected for the honor.

Einstein's diversity, equity, and inclusion (DEI) efforts include an array of programs and initiatives. Here are a few:

- Einstein Enrichment Program. This helps high-achieving students in the 7th through 12th grades who have been historically underrepresented in the medical and scientific professions pursue careers in



health, medicine, and science.

- Educational program objectives. Created by the office of medical education, this list of goals helps ensure that students are assessed on a range of skills specific to antibias and antiracism.
- DEI educational opportunities. The Montefiore Learning Network offers workshops for faculty and staff on anti-racism, equity, and inclusion.

Tenure for 14 Einstein Professors

Julio A. Aguirre-Ghiso, Ph.D.
Professor of Cell Biology and of Medicine

James C. M. Brust, M.D.
Professor of Medicine

Dmitry Fyodorov, Ph.D.
Professor of Cell Biology

Vilma Gabbay, M.D.
Professor of Psychiatry and Behavioral Sciences and in the Dominick P. Purpura Department of Neuroscience

Matthew J. Gamble, Ph.D.
Professor of Molecular Pharmacology and of Cell Biology

Arne Gennerich, Ph.D.
Professor of Biochemistry

Sridhar Mani, M.D.
Professor of Medicine, of Molecular Pharmacology, and of Genetics

Yasmin Mossavar-Rahmani, Ph.D.
Professor of Epidemiology & Population Health

Alberto E. Pereda, M.D., Ph.D.
Professor in the Dominick P. Purpura Department of Neuroscience

Anjali Sharma, M.D., M.S.
Professor of Medicine

David Shechter, Ph.D.
Professor of Biochemistry

Rajat Singh, M.D., M.B.B.S.
Professor of Medicine and of Developmental and Molecular Biology

Joanna L. Starrels, M.D., M.S.
Professor of Medicine and of Psychiatry and Behavioral Sciences

Elyse S. Sussman, Ph.D.
Professor in the Dominick P. Purpura Department of Neuroscience and of Otorhinolaryngology—Head & Neck Surgery

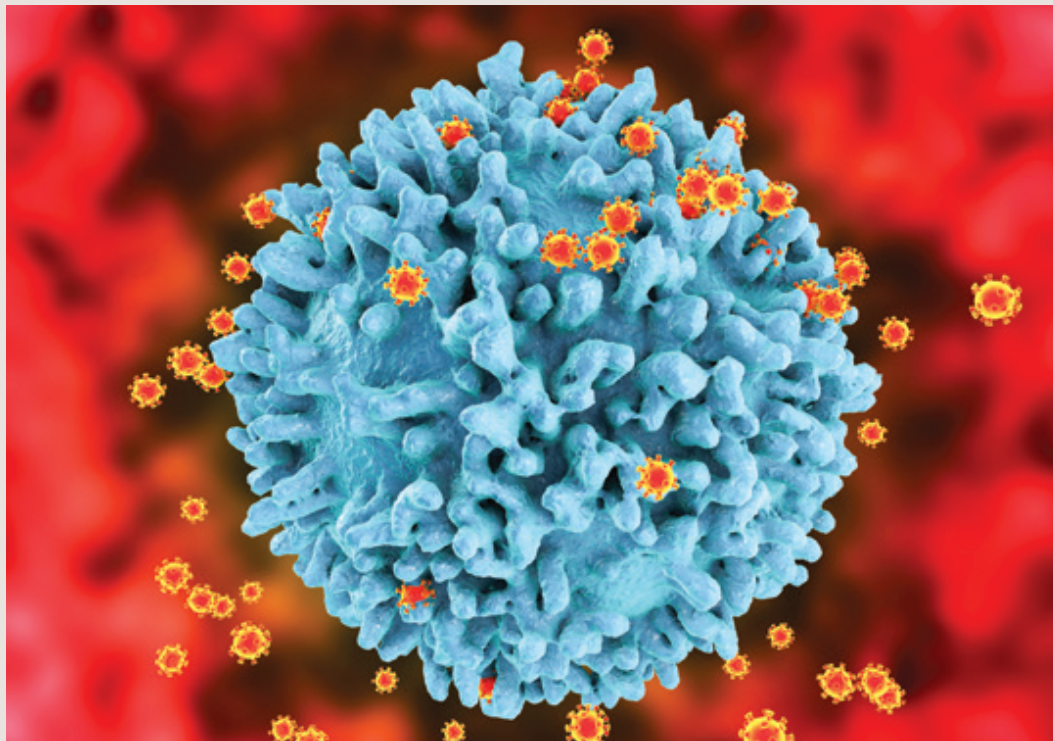
New Treatment Strategy May Lead to HIV Cure

Armed with a novel strategy they developed for bolstering the body's immune response, Einstein scientists have successfully suppressed HIV infections in mice—offering a path to a functional cure for HIV and other chronic viral infections. Their findings were published in October 2021 in the *Journal of Clinical Investigation*.

The research involved proteins designed to selectively stimulate the immune system's CD8+ “killer” T cells to multiply and specifically attack HIV-infected T cells. Co-corresponding author Steven Almo, Ph.D., developed the synthetic proteins, known as synTac (short for “synapse for T-cell activation”). Dr. Almo is a professor and the chair of biochemistry, the Wollowick Family Foundation Chair in Multiple Sclerosis and Immunology, and the director of the Macromolecular Therapeutics Developmental Facility at Einstein.

HIV infects the immune system's CD4+ T cells. For the past 25 years, people infected with HIV have been able to control their infection through antiretroviral therapy (ART)—a combination of several drugs that prevent HIV from infecting new CD4+ T cells and multiplying within them.

“Although ART works remarkably well at keeping HIV in check indefinitely, its long-term use can cause substantial side effects,” says co-corresponding author Harris Goldstein, M.D., professor of pediatrics and of



This image shows newly formed HIV virus particles budding from an HIV-infected T cell (blue). The death of HIV-infected T cells leads to the immune-system destruction that characterizes AIDS.

microbiology & immunology and the Charles Michael Chair in Autoimmune Diseases at Einstein and director of the Einstein-Rockefeller-CUNY Center for AIDS Research.

“Once ART is halted, latent HIV viruses invariably emerge from their hiding places in CD4+ T cells to revive the infection. Our study shows that synTac proteins, by greatly boosting the quantity of protective HIV-specific CD8+ T cells, were able to eliminate these infected cells,” Dr. Goldstein says.

The researchers injected synTacs specific for HIV into HIV-infected mice. The synTac proteins triggered

human HIV-specific CD8+ T cells to increase 32-fold. The large numbers of synTac-stimulated human CD8+ T cells potently suppressed HIV infection—suggesting that synTacs may offer new opportunities for functionally curing HIV and treating other viral infections.

“A key asset of the synTac platform,” says Dr. Almo, “is how easily we can program synTac proteins to combat any of the many diseases in which T cells play a role.” He notes that synTac proteins show promise for selectively activating anticancer T cells and for treating type 1 diabetes and other autoimmune diseases by turning T cells off.

Lupus Discovery May Result in Promising Therapy

Einstein researchers and their colleagues have found a key cause of severe kidney complications affecting many patients with lupus, an inflammatory autoimmune disease, and are evaluating a promising treatment for preventing those complications.

Up to half of all lupus patients will develop lupus-related kidney inflammation, known as lupus nephritis. Left unchecked, lupus nephritis can cause irreversible kidney scarring that can result in organ failure and death.

Immune cells known as T cells contribute significantly to lupus kidney damage by infiltrating and inflaming kidney tissue. In a study published

online in January 2022 in the *Journal of Clinical Investigation*, a team led by senior author Chaim Putterman, M.D., professor of medicine and of microbiology & immunology at Einstein, found that these T cells are activated by a protein called ALCAM, which is expressed by various tissues in the body.

In a phase 1 clinical trial, Dr. Putterman and colleagues are treating lupus patients with itolizumab, a novel monoclonal antibody that specifically prevents ALCAM from binding to and activating kidney-damaging T cells. Dr. Putterman is also the associate dean for research at the Azrieli Faculty of Medicine at Israel's Bar-Ilan University.



Predicting Patients' Response to Heart-Failure Therapy

Cardiac resynchronization therapy (CRT) is a standard treatment for heart failure (HF), but not all patients respond to it. In patients with advanced HF, glycation (i.e., attachment of sugar particles to other molecules) of the ryanodine receptor (RyR) is known to occur in their skeletal muscle and circulating lymphocytes.

In a study published online in December 2021 in the *Journal of Heart and Lung Transplantation*, Gaetano Santulli, M.D., Ph.D., and colleagues investigated whether RyR glycation in circulating lymphocytes could predict HF patients' response to CRT.

After enrolling 94 HF patients who underwent CRT and 30 more people

without HF who also underwent CRT, the researchers assessed RyR glycation of lymphocytes at baseline and after one year. Baseline RyR glycation was found to independently predict CRT response at the one-year mark. In addition, RyR

glycation correlated significantly with pathologic intracellular calcium leakage in HF patients. Taken together, the results show for the first time that RyR glycation in circulating lymphocytes represents a novel and reliable biomarker for predicting outcomes for HF patients following CRT.

Dr. Santulli is an associate professor of medicine and of molecular pharmacology at Einstein.



RESEARCH NOTES

Lab Chat

Lucas L. Sjulson, M.D., Ph.D., studies the neurons and brain circuits that underlie substance use disorders. After earning doctoral and medical degrees at Weill Cornell Medical College, Dr. Sjulson completed a residency in psychiatry at New York University. He joined the Einstein faculty in 2018, where he is an assistant professor in the department of psychiatry and behavioral sciences and in the Dominick P. Purpura Department of Neuroscience. He is also a psychiatrist at Montefiore.

Where are you from?
Minnesota, where there's a large Swedish population. My name is not as unusual there as it is here.

Were your parents in the health professions?
My dad's a dentist, and my mom went back to school to get a Ph.D. in clinical psychology while I was in high school. That's what got me interested in studying the brain.

What led you to studying substance use disorders (SUDs)?
In college, two of my friends got addicted to heroin. They're both OK now, but I guess I internalized that experience. Later, during my medical internship, I was surprised by how many patients were hospitalized for reasons related to SUDs—lung disease from smoking, liver disease from alcohol. I realized that SUDs were a huge problem that I had to work on.

Were you interested in learning why those friends got addicted and others didn't?
I've been more interested in how you can help people who already have SUDs. What starts the process is im-

portant to understand, but it may be not relevant to curing it. Years of drug use physically change the brain. That's what you have to address.

What is the focus of your latest National Institutes of Health grant?
We're trying to understand the subtypes of neurons involved in opioid use disorder and relapse, using mice as an experimental model. We focus on cells of the nucleus accumbens, a part of the brain's reward system.

You've also studied the spatial context of drug use. Could you explain?
Relapse can be triggered by exposure to "people, places, and things" that people previously associated with drug use. Which raises questions: how are those association memories stored in the brain, and is it possible to erase them? There's some evidence that these memories are changeable when activated. We're interested in exploiting these findings for treating SUDs.

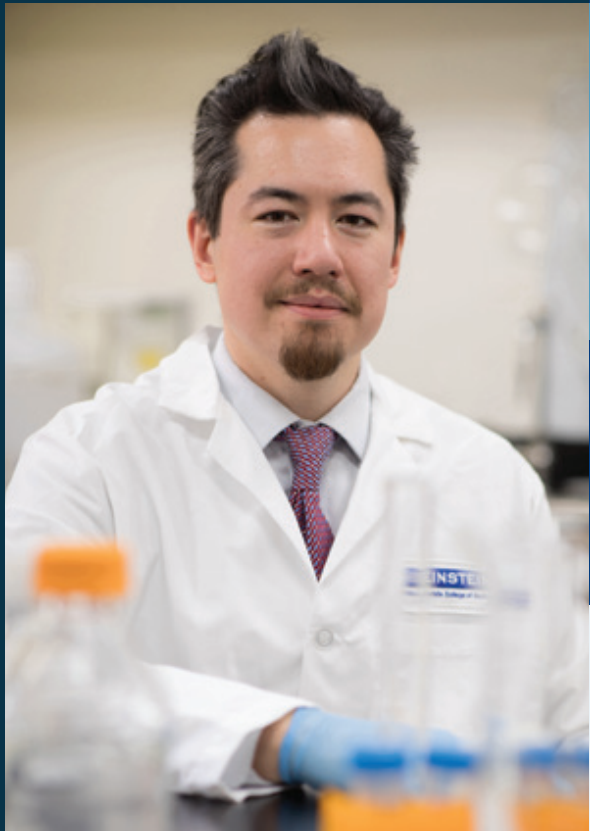
Do you still practice medicine?
I devote about 10% of my time to seeing patients. While I focus mainly

on developing new treatments, I think it's also important to stay up to date on current treatments.

Have you studied alcohol use disorder?
Yes, and maybe I'll get back to that. Most people who have cocaine use disorder also have alcohol use disorder—a particularly severe combination. The two substances complement each other; it's a "peanut butter and jelly" sort of thing. Unfortunately, there are separate NIH institutes for studying alcohol and drug addiction. That artificial separation has slowed research into the interaction between these substances.

Outside the lab, what do you do for fun?
I don't have fun anymore—I have three kids [laughs]. To be honest, my work is my hobby. It's not a 9-to-5 grind where I have to go home and relax. What we're doing in the lab is exciting and fun.

Photo by Jason Torres



RESEARCH NOTES: MAJOR NIH AWARDS



Studying Depression in People Living With HIV
People living with HIV have an increased risk for depression and substance use disorders, which can interfere with adherence to daily anti-viral treatments. The National Institutes of Health (NIH) has awarded researchers at Einstein and Montefiore two five-year grants totaling \$7.6 million to study the structural and chemical changes in the brains of people living with HIV, depression, and cannabis use disorder. The findings may help advance health equity in the Bronx and around the country. Vilma Gabbay, M.D., M.S., director of the Psychiatry Research Institute at Montefiore Einstein, is a co-principal investigator on both grants. Other co-investigators are Anjali Sharma, M.D., M.S., professor of medicine at Einstein and an internist and infectious disease specialist at Montefiore; and Joanna Starrels, M.D., M.S., professor of medicine at Einstein and an internist and addiction medicine specialist at Montefiore.

Getty Images: Stock photo, posed by model.



Research on Two Deadly Blood Diseases
The National Cancer Institute (NCI) has awarded Ulrich G. Steidl, M.D., Ph.D., a seven-year, \$7 million grant to study molecular and cellular mechanisms that lead to myelodysplastic syndromes (MDS) and acute myeloid leukemia (AML). The grant accompanies Dr. Steidl's receipt of the NCI's Outstanding Investigator Award, given to cancer-research leaders who've made significant contributions to their field. In recent studies, Dr. Steidl and colleagues have shown that MDS and AML both arise from preleukemic stem cells (pre-LSCs), a subpopulation of blood-forming stem cells that have genetic and nongenetic aberrations. They hope to understand the dynamics and regulation of different pre-LSC clones and their interplay, which trigger the onset and progression of MDS and AML. Dr. Steidl is a professor of cell biology and of medicine, deputy director of the NCI-designated Albert Einstein Cancer Center, and the Rose C. Falkenstein Chair in Cancer Research.



Treating Chronic Pain and Opioid Use Disorder
People in chronic pain, with mental health disorders, or who live in poverty are especially susceptible to opioid use disorder (OUD). In addition, those with OUD often have trouble obtaining care for chronic pain. The NIH has awarded Einstein and Montefiore a \$5.1 million grant for the first two years of work to create a research center to treat people with both chronic pain and opioid use disorder; funding for three more years is expected. The grant is part of the NIH's Helping to End Addiction Long-term Initiative. Co-principal investigators are Joanna Starrels, M.D., M.S., professor of medicine at Einstein and an internist and addiction medicine specialist at Montefiore; Julia Arnsten, M.D., M.P.H., chief of the division of general internal medicine at Einstein and Montefiore; and Vilma Gabbay, M.D., M.S., director of the Psychiatry Research Institute at Montefiore Einstein.



Managing Asthma Symptoms in Children

In some Bronx neighborhoods, the asthma prevalence is as high as 25%, the highest rate among New York boroughs. The NIH has awarded Einstein and the Children's Hospital at Montefiore (CHAM) a five-year, \$4.2 million grant to evaluate the Asthma Management Program to Promote Activity for Students in Schools (Asthma-PASS), aimed at helping high-risk urban school-children manage their asthma symptoms. The project will involve up to 40 public, charter, and parochial schools across the Bronx and enroll 416 students ages 4 to 12. Participating schools will be randomly assigned to either Asthma-PASS or an asthma-management comparison group. Children in Asthma-PASS schools will participate in, among other things, activities such as making posters and learning facts about asthma to reduce stigma about the disease. The principal investigator is Marina Reznik, M.D., M.S., vice chair for clinical and community-based research at CHAM and Einstein and professor of pediatrics at Einstein, who helped develop Asthma-PASS.



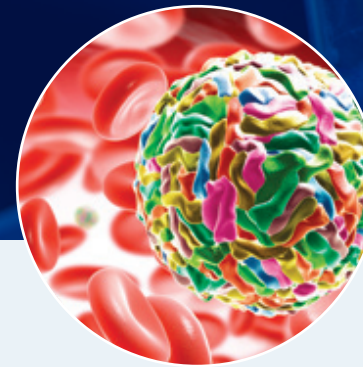
Tackling Depression in Teenagers

An estimated 2.9 million adolescents had at least one major depressive episode in 2020. Now the NIH has awarded Einstein and Montefiore researchers a five-year, \$4 million grant to seek biological factors that predict the duration and severity of depression in adolescents, with the goal of improving clinical care. The researchers will collaborate with the Nathan S. Kline Institute for Psychiatric Research to enroll 120 adolescents with depressive symptoms and follow them over two years. After clinical evaluation, teens diagnosed with depression will take computerized tests that measure brain reward circuitry. Blood tests will look for depression-associated biomarkers, and functional MRI will evaluate the teens' ability to feel pleasure, along with depression severity, functioning, anxiety, and risk of suicide. The research may help identify teens needing more-significant help with their depression and lead to better therapies. The principal investigator is Vilma Gabbay, M.D., M.S., director of the Psychiatry Research Institute at Montefiore Einstein.



Emphasizing Health Equity in Diabetes Research

Einstein has received a five-year, \$4 million NIH grant to support the New York Regional Center for Diabetes Translation Research (NY-CDTR). One of only seven such centers in the country and the only one in the Northeast, the NY-CDTR promotes collaboration and research on effective strategies to improve diabetes prevention, care, and self-management, with an emphasis on health equity. The funding supports investigators conducting research to help people of color and those with lower socioeconomic status, who bear the greatest burden of diabetes in the United States. They are also at increased risk for diabetes-related complications, such as lower-limb amputations, vision loss, and kidney failure. Jeffrey Gonzalez, Ph.D., is the principal investigator on the grant and the director of the NY-CDTR. He is also a professor of medicine and of epidemiology & population health at Einstein, a psychologist at Montefiore, and a professor of psychology at the Ferkauf Graduate School of Psychology at Yeshiva University.



One Vaccine Against Two Viruses

Infection with more than one Dengue virus strain—or with both Dengue and Zika viruses—can result in severe disease and death. The public health risk is especially serious in areas where both viruses are common. A single vaccine that is effective against both Dengue and Zika viruses is urgently needed. Jonathan Lai, Ph.D., has received a five-year, \$3.7 million NIH grant to engineer a broadly effective vaccine that can provide protection against the two viruses. Dr. Lai will use protein-engineering techniques to create vaccine candidates that focus the antibody response on epitopes (viral sites) that are present on the glycoproteins of both Dengue and Zika viruses and are targeted by antibodies that protect against disease. These vaccine candidates will be tested in mice to determine whether they can elicit antibodies that protect against both Dengue and Zika viruses. Dr. Lai is a professor of biochemistry at Einstein.



Reversing Fibrosis Due to Kidney Disease

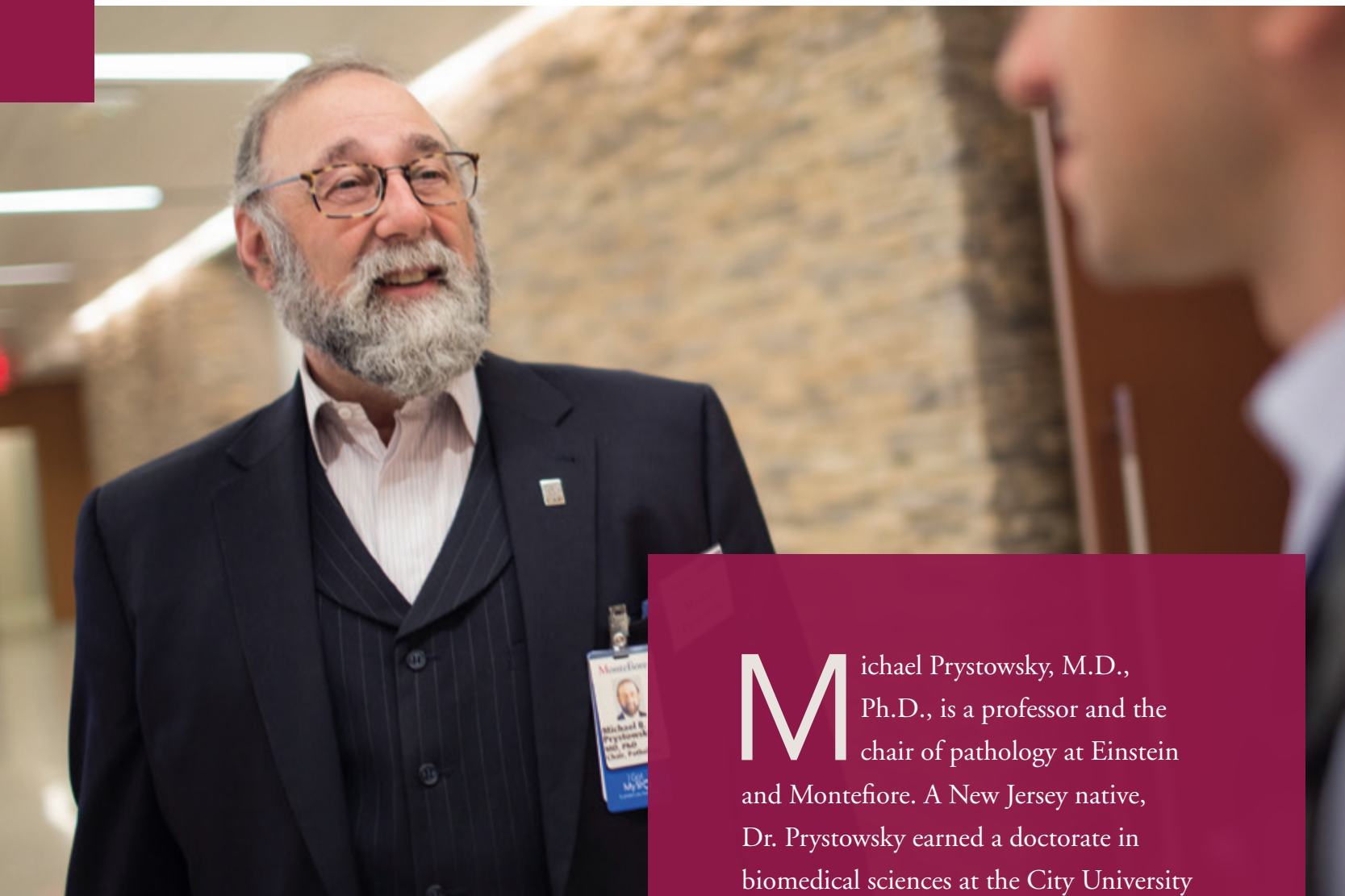
More than one in seven Americans live with chronic kidney disease (CKD). People who have severe CKD often develop skeletal muscle fibrosis, which can lead to loss of muscle function and, ultimately, to immobility and disability. Matthew Abramowitz, M.D., M.S., has received a five-year, \$3.5 million grant from the NIH to see if kidney dialysis can help reverse muscle fibrosis. Due to side effects such as infection and low blood pressure, dialysis for CKD patients is typically delayed until symptoms of kidney failure develop. Dr. Abramowitz will follow patients after they start dialysis and evaluate whether it can prevent physical decline in CKD patients with skeletal muscle fibrosis. To assess the effectiveness of dialysis, he and his colleagues will measure muscle strength and endurance and analyze skeletal muscle using quantitative magnetic resonance imaging, proteomic studies, and other techniques. Dr. Abramowitz is an associate professor of medicine at Einstein and a nephrologist at Montefiore.



Limiting the Spread of COVID-19 After Incarceration

Incarcerated people face an increased risk for COVID-19. After release, they often transition to homeless shelters and group homes, where infections can continue spreading. The NIH has awarded researchers at Einstein and Montefiore a five-year, \$3.4 million grant to test a program for reducing SARS-CoV-2 transmission among formerly incarcerated people. The researchers will collaborate with the Fortune Society, a New York City-based nonprofit, to conduct a randomized trial assessing an on-site COVID-19 testing and education program. The study will involve 250 people who've been released from prison or jail. All will receive education about the importance of testing for the virus. Half will be referred to off-site testing; the other half will be offered rapid PCR tests every three months at the Fortune Society offices in Harlem and Long Island City. The principal investigator is Matthew Akiyama, M.D., associate professor of medicine at Einstein and an infectious disease specialist at Montefiore. **E**

MONTEFIORE AND EINSTEIN MAVENS OF MEDICINE



Under the Microscope

Q&A With
Dr. Michael Prystowsky

Michael Prystowsky, M.D., Ph.D., is a professor and the chair of pathology at Einstein and Montefiore. A New Jersey native, Dr. Prystowsky earned a doctorate in biomedical sciences at the City University of New York at the Mount Sinai School of Medicine, followed by a postdoctoral fellowship in biochemistry at Rockefeller University. Then came an M.D. from the University of Chicago and a pathology residency there. After a decade at the University of Pennsylvania, he came here in 1993, rising to the position of department chair in 1995.

How did you become interested in medicine?

Both of my parents were physicians. My dad was a pediatric cardiologist and my mom was a child psychiatrist. They were very civic minded and donated their time to helping children in Newark. I'm proud to continue that tradition at Einstein and Montefiore, whose historical mission is to serve marginalized communities.

Do you miss seeing patients?

Yes. But even though pathologists have little or no direct patient contact, we contribute to clinical care in many ways. For example, we participate on tumor boards [where physicians meet to discuss diagnoses and treatment plans], and we help our clinical colleagues decide which tests to select for diagnosing disease and monitoring patients. About 70% of all treatment decisions are based on laboratory tests, so we're an integral part of the healthcare team.

Would you like to see medical students get more exposure to pathology?

All students learn what's normal and what's abnormal, which is pathology. I'd like them to learn more about pathology, but differently. We've designed a two-week pathology elective for the new Einstein curriculum. It allows students to follow every step in the pathology process—from taking a tissue specimen in the clinic or operating room to analyzing the tissue in the laboratory to writing a report for the physician to seeing how the findings influence patient care. It's important that they understand what pathologists do. Even if they don't go into pathology, they'll be working closely with us when they go into practice.

You've overhauled the pathology residency in many ways over the years. What were some key changes?

Early on at Montefiore, anatomic or "tissue" pathology ruled the roost, while training in clinical pathology—involving knowledge of lab tests and managing lab operations—was basically ignored. So we brought the two subspecialties into better balance in our training program. We now emphasize critical reasoning and the process of making a diagnosis. We give them spokesperson training to enable them to communicate to many audiences, including all members of the healthcare team and the public. The overall idea is to provide pathology residents with the skills to excel wherever they practice.

What distinguishes the Einstein-Montefiore pathology residency?

Its diversity and its commitment to the community. When sorting through the candidates for our residency—we typically have 700 applicants for five spots each year—we look for people who fit our mission and culture, not necessarily those with the best academic credentials. We end up with residents from all over the world—people who've worked in underserved communities, with minimal resources, in stressful situations, who know how to resolve conflicts, who can empathize with others.

Could you describe the pathology service line you've established at Montefiore?

The service line is a true partnership with the hospital and provides pathology services for all clinical programs. It's run by the pathologists and laboratory directors, not just their individual labs—and we work collaboratively,

not in conflict. We covered just two hospitals when we started the service line 20 years ago. Today, we have more than 700 full-time employees who serve eight hospitals and more than 200 ambulatory-care sites in the Bronx and Westchester and perform 10 million tests a year, covering the entire pathological spectrum: scanning biopsied tissue for cancer, evaluating blood samples for possible hepatitis B or HIV infection, analyzing stool samples for *C. difficile* infection, and much more, such as testing for COVID-19.

Do you still conduct research?

Less than in the past. The past two years, I've been consumed by all the testing responsibilities related to COVID-19. But I'm still involved in our head and neck cancer research program—mostly as a senior adviser, which involves applying molecular and computational techniques to determine the best treatment at initial diagnosis.

Could artificial intelligence one day replace pathologists?

AI is only as good as the information you put into it. When fed the right data about normal and abnormal pathology and the right algorithms, AI will be helpful for analyzing large numbers of anatomic images and highlighting areas that pathologists need to examine more carefully. It will be a great productivity tool; people get tired, but machines don't.

What do you like to do outside the lab?

Painting, photography, golf, cooking, and travel. I especially love going to Scotland, for the golf—and a bit of work. I do research with a group at the University of St. Andrews, where I have an honorary appointment. **E**



Einstein medical student Riya Thomas examines a young patient as Gerard Igel, M.D., Einstein clinical assistant professor of pediatrics and a Montefiore pediatrician, looks on.

A NEW WAY OF TEACHING MEDICINE

Changes accelerated in response to the pandemic are transforming Einstein's curriculum

BY SUE BYRNE

First-year Einstein medical student Riya Thomas is just a few years behind her older brother, Rony Thomas, M.D. '21, soon to begin his residency in interventional radiology at Montefiore—but her Einstein learning experience already has been vastly different.

That's because Ms. Thomas and the other members of the Class of 2025 are the first students to be taking part in a curriculum that is in the midst of a transformation at Einstein, brought about by a rapidly evolving world of medicine.

A NEW PATH FORWARD

"From conversations with my brother, I'm finding that my curriculum is more accelerated than his was, and it requires you to be more efficient with your time," Ms. Thomas says. "For example, his anatomy course ran until April. Mine wrapped up in December."

One difference in their experiences that made that change possible was the use of prosected (precut) cadavers in Ms. Thomas's first-year anatomy lab. "I've heard students from earlier classes say that dissecting itself takes an incredible amount of time. We saved many hours because everything was already cut away for us and labeled by our instructors, who were there at each station to teach us." (Students interested in pursuing advanced training may go back into the lab in their fourth year and perform dissections for the first-year anatomy course.)

Joshua Nosanchuk, M.D., senior associate dean for medical education and professor of medicine and of microbiology & immunology at Einstein, says the changes in the anatomy course represent a reevaluation of the "core" aspects of medicine being taught. "We're focusing

on functional anatomy—not just memorizing, but explaining why students need to know what these hundreds of anatomical structures are," says Dr. Nosanchuk, who is also an infectious disease clinician at Montefiore.

To help students make the leap from the lab to real patients, first-years are now also being introduced to radiology during the anatomy course. "Radiology is what we use clinically to view beneath the skin of our patients, and integrating this with traditional cadaver-based anatomy enhances the translation of what our students are learning," he says.

Moving to prosections and radiology in anatomy are just two of the many medical school curriculum revisions being introduced this year. Other significant changes include:

- Exposing students to patient care in the first months of their first year instead of waiting until January;
- Integrating basic-science and clinical training into all four years, rather than having students learn basic science for

two years followed by two years of clinical training;

- Expanding coursework examining the societal and system-based factors influencing healthcare delivery and healthcare inequities;
- Requiring a number of hours of service for credit, such as hospital or community work, as part of the new Service Learning course;
- Rescheduling clerkships to begin in January of the second year (for the Class of 2025) rather than waiting until the end of the second year; and
- Overhauling the structure of clerkships into standardized six-week blocks rather than having clerkships range from two to 12 weeks. The new system means that the students will all have the same vacation periods, enhancing student wellness, and that their schedule allows increased opportunities for elective experiences.

SPURRED ON BY A PANDEMIC

When COVID-19 hit the Bronx in the spring of 2020, it sped up changes that



"We're focusing on functional anatomy—not just memorizing, but explaining why students need to know what these hundreds of anatomical structures are."

— DR. JOSHUA NOSANCHUK

Photos by Jason Torres

A NEW WAY OF TEACHING MEDICINE

were already in the works. “The pandemic left no part of our curriculum untouched,” Dr. Nosanchuk says. “We decided early on that we were going to consider how we could not only rapidly and effectively adjust our curriculum to better meet the demands of this crisis and future ones, but also align our training with the needs of our community and healthcare systems.”

An 11-member task force of faculty and students was created. “After a lot of dialogue and consensus-building, they came up with innovative solutions to enhance medical education at Einstein,” Dr. Nosanchuk says. The revamped curriculum was approved by the Liaison Committee on Medical Education, which is Einstein’s accreditation body, on Feb. 1, 2021.

In another step toward transforming the curriculum, Einstein named Janice Thomas John, D.O., M.S., M.P.H., its inaugural assistant dean for integrated medical education in late 2021 (see page 6). “Dr. John will play a critical role in launching and refining a range of new courses across all four years of our educational program,” says Todd Cassese, M.D., associate dean for medical education at Einstein, professor of medicine, and a hospitalist at Montefiore.

LEARNING IN THE CLASSROOM AND THE CLINIC

A key task-force recommendation was to integrate basic, health-system, and clinical sciences into all four years of medical school. “Our goal is to ensure that our students’ clinical work is grounded in and informed by science,” Dr. Cassese says. “When they’re taking care of patients in the hospital, they might hear, ‘This patient has pneumonia, so give them ceftriaxone [an antibiotic].’ But we want



First-year Einstein medical student Riya Thomas with her brother, Rony Thomas, M.D. '21, at her white-coat ceremony in August 2021.

Photo courtesy of Riya Thomas

“From conversations with my brother, I’m finding that my curriculum is more accelerated than his was, and it requires you to be more efficient with your time.” — RIYA THOMAS

students to think, ‘Why does this person have pneumonia? What societal factors could have contributed to this person becoming sick (e.g., access to healthcare, food security, living conditions)? What host factors had to fail in order for them to develop this disease? What are the mechanisms of action of this antibiotic? How are these drugs cleared from the body?’ Knowing how the healthcare system works and integrating this with the basic science behind pneumonia—in this case, microbiology—should help them provide better care for their patients.”

For first-year student Ms. Thomas, who is interested in pediatrics, one of

the best aspects of the new curriculum is working with actual patients earlier than her brother did. One afternoon a week, she shadows a Montefiore pediatrician in the Bronx, taking medical histories of patients. “Seeing children in the clinic has made a big difference in my medical education,” she says. “I’ve seen babies under the age of 1. They’re not even walking yet. That’s an experience I don’t think I would have ever been able to get in a classroom.”

ADDRESSING HEALTH EQUITY

Another key curriculum innovation: a new, comprehensive course, Health

Systems Science and Health Equity, which students will take during all four years.

“Our students will gain an understanding about how our healthcare system works—or doesn’t work—and how they can improve their own clinical ability while also learning their role in changing the system so it becomes more efficient, equitable, and just,” says Oladimeji Oki, M.D., assistant professor and assistant clerkship director of family and social medicine at Einstein and a family practitioner at Montefiore, who directs the new course.

The course includes lectures and case studies on social and structural determinants of health; it covers the specific challenges patients face and possible solutions for achieving better access to quality care.

“Our lecture topics in the course have included things such as climate justice and access to nutrition and food,” Ms.

NEW AND IMPROVED CLERKSHIPS

While medical students will begin engaging with patients in their first semester, their responsibilities for patient care will increase significantly when their clinical clerkships, also known as rotations, begin. To better prepare students for those rotations, Einstein expanded its existing one-week “transition to clerkship” program into a nine-week course.

For the Class of 2025, that transition begins in January of their second year, followed by clerkships in six areas, each six weeks long: general surgery, internal medicine, family medicine and ambulatory care, pediatrics, obstetrics and gynecology, and psychiatry and neurology. The new schedule will provide time for an elective rotation during the clerkship year, allowing students to explore additional specialties before structuring their “extended” fourth year in preparation for residency applications.

Thomas says. “We’ve also met with different community-based groups to learn about their work and how it affects the people in the Bronx.” Ms. Thomas elected to work with Mott Haven Fridge, a group that brings unsold fruit and vegetables and leftover school meals and restaurant food to community hubs,

where the food is distributed to people in need throughout the Bronx.

GIVING BACK TO THE COMMUNITY

Community service—long a tradition at Einstein—has now become a required part of the curriculum across all four years. “This gives students credit for something they’re probably already doing and validates their activities,” Dr. Nosanchuk says. “It’s going to be on their transcripts, which will state very clearly that our students engage in service. And it’s a passion for us.”

The new curriculum ensures that students can have substantial dedicated time for service learning and scholarly activities throughout the academic years, allowing them to make larger commitments—to a volunteer project, an outside organization, or a research lab.

Ms. Thomas, like her brother before her, has been volunteering as a patient advocate at the student-run Einstein Community Health Outreach clinic.

“At Einstein you have so many options for getting involved. It’s a really great place to learn—more than just being taught medical science in the classroom. You’ll discover a lot about the people you will be serving,” she says. **E**



ALZHEIMER'S DISEASE

REASONS FOR HOPE

Researchers and clinicians at Einstein and Montefiore are working to discover new therapies for one of the great health challenges of the 21st century

BY GARY GOLDENBERG

Of all the heartbreaking events of my father's long, slow demise from Alzheimer's disease, the most devastating was when he turned to my mother and said, in a rare moment of clarity, "I can't do this anymore." My father was diagnosed with Alzheimer's—the most common type of dementia, accounting for 60% to 80% of cases—in the late 1990s.

In hindsight, the first signs had appeared years earlier. Out of nowhere, he began insisting that the front door must always be locked. My parents lived in a quiet, upscale suburb of New York City. Such fear made no sense, especially coming from a proudly self-reliant man and veteran world traveler. I would learn later that heightened anxiety is a common harbinger of dementia.

Piece by piece, the things that defined my father began disappearing. He sold his business and retired. His confident New York City stride shortened to a halting shuffle. He faded into the background at family gatherings, a ghost of the patriarch we once knew. Depression darkened his days. "I was

unable to read ... or do things with my hands, which was very important to me," my father said in a 2002 BBC Radio program on dementia research. "I used to do all kinds of artwork, photography, and carpentry."

Early on, my father saw a neurologist at a Manhattan teaching hospital. She prescribed memantine and donepezil (the first two drugs approved to treat the disease) plus costly experimental infusions of immunoglobulins. They seemed to help—for a while.

"I was a vegetable before and I learned how to read again, write again," my father told the BBC. But ultimately, nothing could stop the incoming tide of amyloid plaques and tau tangles



Author Gary Goldenberg with his father, Murray, at the British Museum in 1977.

"I was unable to read or do things with my hands, which was very important to me. I used to do all kinds of artwork, photography, and carpentry."

— MR. GOLDENBERG,
THE AUTHOR'S FATHER

from clogging his neurons, clouding his thoughts, and crippling his movements.

Millions of other American families have Alzheimer's stories to tell, each unhappy in its own way. Fortunately, there is reason to hope that future stories may have happier endings.

OPTIMISM AMID DESPAIR

Relatively little has changed in the world of Alzheimer's care in the quarter-century since my father was diagnosed. Short of a brain autopsy, there is still no definitive diagnostic test for the disease, which robs people of the ability to remember new information and worsens over time.

The half-dozen drugs approved by the U.S. Food and Drug Administration (FDA) are only marginally effective. (Aduhelm, the most recent drug to win FDA approval, in 2021—and the first new Alzheimer's drug in 18 years—may

modestly decrease symptoms in people with mild cognitive impairment or early Alzheimer's.)

On the positive side, basic researchers at Einstein are learning more about the molecular biology and genetics of the disease, moving tantalizingly close to new treatments. Clinical researchers at Einstein and Montefiore are improving early diagnosis, identifying risk factors that can be modified, and devising promising nonpharmacologic interventions for alleviating symptoms. And clinicians are fine-tuning dementia-care services, reducing patient distress, and easing the burden on family caregivers.

AGING: A MAJOR RISK

Perhaps the greatest Alzheimer's mystery is why some people develop it and others don't. Some combination of nature and nurture, genetics and environment, is clearly to blame, but trouble teasing apart the many contributing factors has hindered efforts to find treatments, much less cures.

Nir Barzilai, M.D., the Ingeborg and Ira Leon Rennert Chair in Aging Research, director of the Institute for Aging Research, professor of medicine and of genetics at Einstein, and an endocrinologist at Montefiore, has long posited that Alzheimer's can best be understood by studying aging.

"Most chronic diseases arise from one primary cause, which is the biology of aging itself," Dr. Barzilai notes in his book *Age Later: Health Span, Life Span, and the New Science of Longevity* (St. Martin's Press, 2020). "While there are genetic and environmental bases for many age-related diseases, aging increases our chances of contracting them more than any other factor alone."

In 1998, Dr. Barzilai set out to

ALZHEIMER'S BY THE NUMBERS

Alzheimer's Affects:

5% of people 65 to 74 years old

13% of people 75 to 84 years old

33% of people 85 years old and up

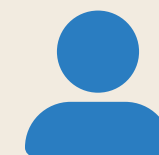
Alzheimer's is the **FIFTH-LEADING CAUSE OF DEATH** among people 65 and up in the U.S.

12.7 MILLION people 65 and over are projected to have Alzheimer's by **2050**

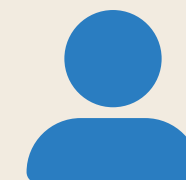
6.5 MILLION people 65 and older have Alzheimer's today



10% OF WHITES
65 and older



14% OF HISPANICS
65 and older



19% OF BLACKS
65 and older



2/3 of the 15 million caregivers of people with dementia **are women; about 30% are 65 or older**

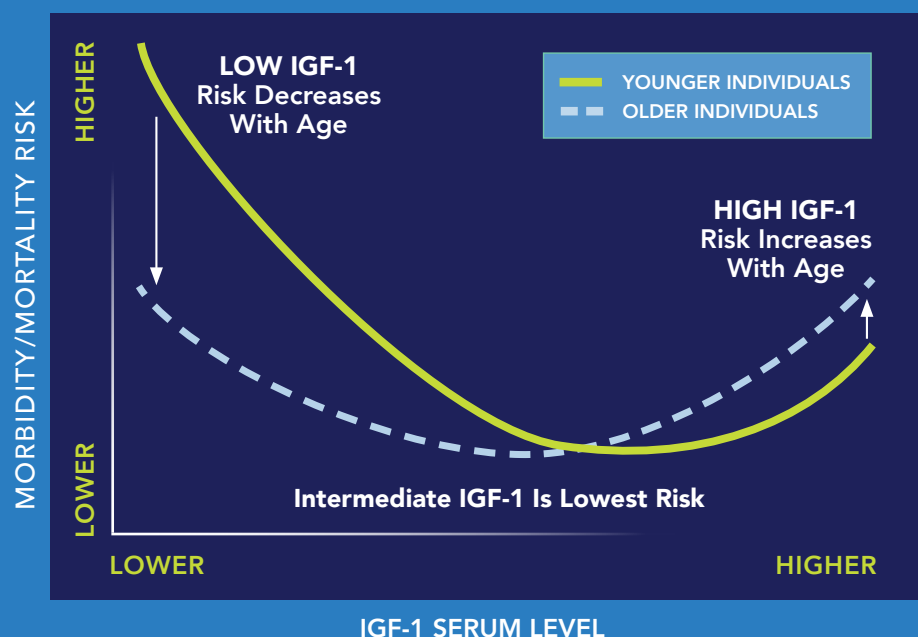
Nearly 6 in 10 family caregivers say that caregiving is **stressful**

30% to 40% of family caregivers of people with dementia **report depression**

Source: Alzheimer's Association: 2022 Alzheimer's Disease Facts and Figures.

RISK ASSOCIATED WITH SERUM IGF-1

This graph suggests that higher serum IGF-1 may be **beneficial in youth but harmful in older age**



“While there are genetic and environmental bases for many age-related diseases, aging increases our chances of contracting them more than any other factor.”

— DR. NIR BARZILAI

reveal the secrets of people he calls SuperAgers—those rare individuals who continue to live independently at age 95 and beyond. That effort led to his Longevity Genes Project, funded by the National Institute on Aging (NIA), to identify genes that contribute to exceptional longevity in humans and learn how they stave off Alzheimer’s and other age-related diseases.

Over the past two decades, Dr. Barzilai’s research team has been studying more than 750 centenarians and near-centenarians, more than 1,000 of their offspring (ages 60 to 85), and about 900 age-matched unrelated participants (controls). The research has yielded important insights into successful aging.

You might assume that SuperAgers lead healthy lifestyles. Instead, says Dr. Barzilai, “many of them break the rules that the rest of us should be following. Nearly half the centenarians in our study are overweight or obese, nearly half smoke, and fewer than half do even moderate exercise. So something—most likely their genetic makeup—is slowing their aging enough so that their lifestyles don’t matter very much.”

For most people, genetics probably contribute just 20% to 25% to how well or badly they age, with the environment responsible for the rest. But the statistics are much different for centenarians: “Our studies suggest that centenarians’ genes are 75% to 80% responsible for how they age,” says Dr. Barzilai, “which is why we’re so intent on finding those genes and learning how certain of their variants contribute to longevity. By designing drugs that mimic the effects of those longevity-gene variants, we may be able to help prevent Alzheimer’s.”

THE SECRET TO A LONG LIFE?

Genes that appear to be implicated in aging and Alzheimer’s are involved in the insulin-like growth factor 1 (IGF-1) signaling pathway within cells. IGF-1 is a hormone that acts as insulin does in some tissues but whose primary job is to stimulate growth.

“Studies in many organisms, from fruit flies to worms to mice, have shown that the IGF-1 pathway regulates the rate of aging, longevity, and the risk for age-related diseases,” says Sofiya Milman, M.D., M.S., associate professor

of medicine and of genetics and director of human longevity studies at the Institute for Aging Research at Einstein, and an endocrinologist at Montefiore. “The unanswered question was whether the highly conserved IGF-1 pathway is also relevant for human aging.”

In research published in 2014 in *Aging Cell*, Dr. Milman found that female SuperAgers with lower IGF-1 levels lived significantly longer than female SuperAgers with higher levels; no survival advantage was seen in males. Next, in a 2016 paper in *Aging*, she analyzed IGF-1’s association with the cognition of SuperAgers. Just 22% of female SuperAgers with low IGF-1 levels showed signs of cognitive impairment, while 42% of those with high IGF-1 levels showed signs of impaired cognition. (For men, no significant association between IGF-1 levels and cognitive ability was found, perhaps because so few men were enrolled in the study.)

The benefits of low IGF-1 levels may also extend to the general population, not just centenarians. In a 2020 study of seniors (average age 76), Dr. Milman found evidence that low IGF-1 levels may be good for older people in general: Over a 10-year period, seniors with lower IGF-1 levels at enrollment had lower death rates, lower rates of chronic illnesses, and better cognitive function than those with higher levels. Other studies, however, have found that *high* levels of the hormone help *prevent* various diseases.

How can IGF-1 both help and harm? Dr. Milman suspected “antagonistic pleiotropy.” This theory of the evolutionary origin of aging, proposed in 1957, posits that certain genes that are beneficial in youth cause harm in old age. To see if this holds true for IGF-1, Dr. Milman analyzed clinical data from a study

involving a half-million residents of the United Kingdom, ranging in age from 37 to 73. IGF-1 levels were measured at the start of the study, and participants were then followed for a decade. The results suggested that IGF-1 is indeed exerting antagonistic pleiotropic effects.

For both younger and older adults, a low serum IGF-1 level at the start of the study correlated with an increased risk of dying, especially in younger adults. Similarly, a high IGF-1 was associated with a higher mortality risk for both age groups—but the risk of dying (and especially of developing diabetes and vascular disease) was greater for older adults. The findings suggest that higher serum IGF-1 levels may be beneficial in youth but harmful at older ages (see graph on facing page).

Those findings should serve as a warning to seniors taking human growth hormone (HGH)—which triggers the production of IGF-1—to make themselves look and feel younger. “For them, the risks of using HGH as an antiaging strategy outweigh the potential benefits,” emphasizes Dr. Milman, whose paper on antagonistic pleiotropy was published in *Aging Cell* in 2021.

How might low levels of IGF-1 delay aging and promote cognitive resilience? Dr. Milman is seeking the answer in her latest study, supported by a \$4 million grant from the NIA. “We’re looking specifically at how IGF-1 may impair autophagy, a natural cellular housekeeping process,” she says. “Autophagy is known to decline in most tissues with aging, and has been implicated in neurodegenerative diseases, including Alzheimer’s.”

GOOD (INTRACELLULAR) HOUSEKEEPING

The relationship of autophagy and Alzheimer’s is a focus of research by



“Studies in many organisms, from fruit flies to worms to mice, have shown that the IGF-1 pathway regulates the rate of aging, longevity, and the risk for age-related diseases.”

— DR. SOFIYA MILMAN



“Our drug revitalizes CMA efficiency by boosting levels of a key CMA component.”

— DR. ANA MARIA CUERVO

Ana Maria Cuervo, M.D., Ph.D., the Robert and Renée Belfer Chair for the Study of Neurodegenerative Diseases and a professor of developmental and molecular biology and of medicine and co-director of the Institute for Aging Research at Einstein.

Early in her career, Dr. Cuervo discovered one type of autophagy, dubbed chaperone-mediated autophagy (CMA). This selective recycling process involves specialized “chaperone” molecules that guide proteins to enzyme-filled organelles called lysosomes for destruction and recycling within the cell.

“CMA makes sure your proteins behave—kind of like the old-fashioned chaperone that escorted you and your boyfriend to the movies,” Dr. Cuervo says.

CMA becomes less efficient as people age, increasing the risk that unwanted proteins will form insoluble clumps that accumulate and ultimately damage the brain’s neurons. Evidence has shown that

abnormal copies of a particular protein called tau clump together within neurons to form protein tangles that contribute to Alzheimer’s.

To investigate the role of impaired CMA in Alzheimer’s, Dr. Cuervo and her colleagues genetically engineered mice to possess brain neurons that lacked CMA. The absence of CMA in those brain cells was enough to cause short-term memory loss, impaired walking, and other problems often found in rodent models of Alzheimer’s disease.

Was CMA loss linked to human Alzheimer’s as well? To find out, the researchers studied brain neurons retrieved postmortem from Alzheimer’s patients and from a comparison group of healthy individuals, obtaining single-cell RNA-sequencing data to calculate CMA’s activity level. Sure enough, CMA activity was somewhat inhibited in people who had been in the early stages of Alzheimer’s, followed by much greater CMA inhibition

in the brains of people with advanced Alzheimer’s.

In an encouraging finding published in *Cell* in 2021, Dr. Cuervo reported that a novel drug, called CA, shows potential for treating Alzheimer’s by revving up CMA. When tested in two different mouse models of Alzheimer’s disease, oral doses of CA given over the course of four to six months led to improvements in memory and decreases in depression and anxiety that made the treated animals resemble healthy control mice. CA was developed by Dr. Cuervo in collaboration with her research colleague Evripidis Gavathiotis, Ph.D., professor of biochemistry and of medicine at Einstein.

“We know that CMA is capable of digesting defective tau and other proteins,” Dr. Cuervo says. “But the sheer amount of defective tau in Alzheimer’s overwhelms CMA and essentially cripples it. Our drug revitalizes CMA efficiency by boosting levels of a key CMA component.”

Drs. Cuervo and Gavathiotis have teamed up with Life Biosciences of Boston, Mass., which is developing CA and related compounds for treating Alzheimer’s and other neurodegenerative diseases.

EARLY WARNING SIGNS

Who among us hasn’t forgotten a friend’s name or where we left our car keys? For those of a certain age, memory lapses could be benign “senior moments” or signs of predementia—the early stage of dementia, when individuals can still engage in daily activities but are at risk for developing full-blown dementia.

Telling the difference between harmless and harmful memory issues requires time-consuming and expensive clinical workups and brain imaging that may not yield clear-cut results. That uncertainty

makes it hard for seniors to plan for the years ahead, for doctors to know whether to intervene, and for researchers to devise and evaluate new therapies to prevent or slow cognitive decline.

Now, thanks to the work of an Einstein scientist, predementia can be detected—and the risk for developing dementia predicted—using a test that takes just a minute or so and costs practically nothing.

“As a young researcher, I had examined hundreds of patients and noticed that if an older person was walking slowly, there was a good chance that his or her cognitive tests would also be abnormal,” explains Joe Verghese, M.B.B.S., M.S., director of the Montefiore Einstein Center for the Aging Brain, professor in the Saul R. Korey Department of Neurology, and the Murray D. Gross Memorial Faculty Scholar in Gerontology at Einstein. “This gave me the idea that perhaps we could use this simple clinical sign—how fast someone walks—to predict who would develop dementia.”

He ultimately devised a test that measures patients’ gait speed and also asks about cognitive complaints. Slow gait combined with cognitive problems would constitute what Dr. Verghese calls motoric cognitive risk syndrome (MCR), a new way of characterizing predementia.

To evaluate the usefulness of testing for MCR, Dr. Verghese and colleagues assessed MCR in nearly 27,000 adults from 17 countries who were ages 60 and over and were dementia-free at the time. About one in 10 tested positive for predementia—and, over the next 12 years, those people were twice as likely as the other participants to develop dementia. The results were published in 2014 in the journal *Neurology*.

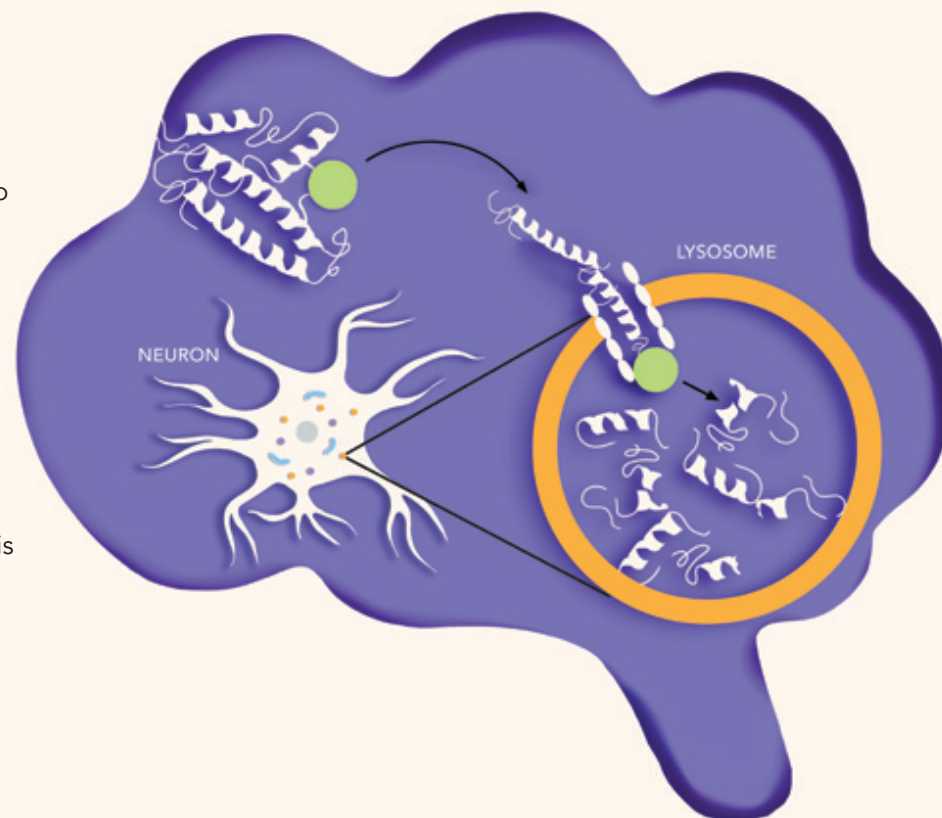


“As a young researcher, I had examined hundreds of patients and noticed that if an older person was walking slowly, there was a good chance that his or her cognitive tests would also be abnormal.”

— DR. JOE VERGHESE

CHAPERONE-MEDIATED AUTOPHAGY AND ALZHEIMER’S

- Specialized “chaperone” molecules (green circle) guide old and damaged tau proteins to enzyme-filled organelles called lysosomes for destruction and disposal.
- Chaperone-mediated autophagy (CMA) becomes less efficient as people age, increasing the risk that unwanted proteins will form insoluble clumps that accumulate and ultimately damage the brain’s neurons.
- A novel drug developed by Dr. Cuervo in collaboration with research colleague Evripidis Gavathiotis, Ph.D., professor of biochemistry and of medicine at Einstein, shows potential for treating Alzheimer’s. It revs up CMA by boosting levels of a key CMA component.



who meet MCR criteria but have no treatable underlying health issues: “Even in the absence of a specific cause, we know that healthy lifestyle factors, such as exercising and eating healthier, can reduce the rate of cognitive decline,” Dr. Verghese says. “Our group has also shown that cognitively stimulating activities—playing board games and card games, reading, writing, and also dancing—can delay dementia’s onset.”

In a new study funded by a five-year, \$7.6 million NIA grant, Dr. Verghese and his colleagues are seeking to determine the biological roots of MCR and identify biomarkers for the condition. The research involves 11,000 older adults enrolled in eight ongoing international studies of aging.

Dr. Verghese’s team also wants to

identify the brain structures involved in MCR and learn how they change over time—research led by Helena Blumen, Ph.D., M.S., an associate professor of medicine and in the Saul R. Korey Department of Neurology at Einstein.

In previous studies using magnetic resonance imaging, Dr. Blumen found that MCR was associated with a widespread pattern of cerebral-cortex atrophy in regions associated with motor control, social behaviors, cognition, and affective functions (e.g., emotions).

“We’ve already uncovered clues suggesting that MCR is distinct from other predementia conditions, and now we can dig deeper to refine our understanding of this syndrome,” says Dr. Verghese. “We hope to identify new ways to prevent or treat MCR and slow or stop its progression to Alzheimer’s.”

Helena M. Blumen, Ph.D., works with a woman as part of a study contrasting the cognitive and brain benefits of treadmill walking and social ballroom dancing.



FROM THE LAB TO THE COMMUNITY

Since 1980, NIH grants have supported the long-running Einstein Aging Study (EAS), which focuses on the aging brain. The EAS examines both normal aging and the challenges posed by Alzheimer’s disease and other dementias and so far has studied more than 2,500 Bronx residents age 70 and older. Current EAS participants are 40% non-Hispanic Black, 46% non-Hispanic white, and 13% Hispanic.

“We have a major focus on health equity,” says Richard B. Lipton, M.D., who has led the EAS since 1992. “Recent and ongoing studies have looked at race, ethnicity, neighborhood deprivation, and perceived discrimination as risk factors for cognitive decline and for the development of Alzheimer’s and other dementias.”

Assessing potentially modifiable risk factors for dementia is an EAS priority. Its 2015 study in *Alzheimer’s Disease & Associated Disorders* found that feeling stressed increases the likelihood that elderly people will develop mild cognitive impairment—often a prelude to full-blown Alzheimer’s disease. And its 2019 study in *Current Alzheimer’s Research* found that pain that interferes with daily activities is associated with increased risk for developing dementia.

“Chronic pain affects about half of adults over age 70, and these findings suggest that better pain treatment in older adults may reduce the risk for cognitive decline,” says Dr. Lipton, who is a professor in the Saul R. Korey Department of Neurology, of psychiatry and behavioral sciences, and of epidemiology & population health, and the Edwin S. Lowe Chair in Neurology at Einstein, as well as vice chair of



Richard B. Lipton, M.D., examines a Bronx resident and participant in the long-running Einstein Aging Study.

neurology at Einstein and Montefiore.

For the past five years, the EAS has taken advantage of smartphones to gain unprecedented insights into the aging brain. “In the past, we assessed cognition exclusively through in-person tests in our clinical laboratory,” says Mindy Joy Katz, M.P.H., senior associate in the Saul R. Korey Department of Neurology and the EAS project coordinator. “By adding smartphones, we’re able to bring measures of cognitive performance directly to the community.”

Taking frequent measures over many days rather than isolated lab readings “gives us a truer sense of a person’s cognitive [thinking] abilities and how those abilities change from day to day in the course of their daily lives,” Ms. Katz says. “These methods have allowed us to follow people throughout the pandemic, when in-person visits aren’t safe.”

A recently announced five-year, \$32 million renewal grant from the National Institutes of Health will fund the EAS and

its smartphone program, which is co-led at Einstein by Dr. Lipton and Carol Derby, Ph.D. The program will follow more than 750 Bronx adults, who will receive customized smartphones as well as special watches for assessing their cognitive ability several times a day over two weeks.

Participants will respond on their phones to memory challenges or brain games. At the same time, they’ll respond to prompts asking about conditions that may be affecting their thinking ability, including sleep quality, stress, pain, air pollution, and regulation of blood-glucose levels.

“Once we have these detailed, real-time measures of risk factors that can be modified, we hope to find ways to intervene to promote brain health and prevent cognitive decline,” says Dr. Derby, who is a research professor in the Saul R. Korey Department of Neurology and of epidemiology & population health and the Louis and Gertrude Feil Faculty Scholar in Neurology at Einstein.



“We hope to find ways to intervene that may promote brain health and prevent cognitive decline.”

— DR. CAROL DERBY



90% of the more than 11 million caregivers who watch over dying elders in the United States yearly are unpaid and most are unprepared for that role.

FOCUSING ON CARE, NOT JUST CURE

Unfortunately, few of these studies will yield therapies for the current generation of Alzheimer's patients and their families. An average of 12 years is required for a drug to work its way through the approval process—and the vast majority of experimental drugs never make it to market because the drugs are deemed ineffective or have intolerable side effects.

"We have cured Mouseheimer's over and over, [but] we have trouble translating the work to humans," Dr. Verghese says in the book *Dementia Reimagined*, written by Einstein's Tia Powell, M.D., whose grandmother and mother succumbed to dementia.

In her book Dr. Powell makes an impassioned plea for the healthcare industry to focus more of its efforts on the here and now—on care as well as cure. "The standard argument for spending money on drug research is that we must win this battle or we'll face unbearable expenses caring for the millions who will develop dementia as our population ages," says Dr. Powell, who is a professor of epidemiology & population health

and of psychiatry and behavioral sciences and the Dr. Shoshanah Trachtenberg Frackman Faculty Scholar in Biomedical Ethics at Einstein. She is also the director of the Montefiore Einstein Center for Bioethics. "But that awful situation is already here. With no cure in sight, we can no longer neglect the millions whose comfort should be supported through better palliative treatment."

Dr. Powell notes that 90% of the more than 11 million caregivers who watch over dying elders in the United States yearly are unpaid; most are unprepared, technically or psychologically, for that role. "We ignore caregivers and what they do for people at our peril," she says. "They are the safety net and the key to living with dementia."

Dr. Powell's take on Alzheimer's isn't entirely pessimistic, as noted by her book's subtitle, *Building a Life of Joy and Dignity from Beginning to End*. "Having dementia or seeing a loved one suffer from it can be lousy, as millions of people across the globe can attest—but it is not always so," she says. "Although certain aspects can't be eliminated, they can be diminished and compressed, making the experience less lousy for everyone."

The final chapter of *Dementia Reimagined* is rich with practical insights for patients and caregivers, gleaned from Dr. Powell's professional and personal experience with Alzheimer's patients, such as:

- "Getting an education, exercising, and staying intellectually and socially engaged all contribute to cognitive reserve. They don't prevent dementia, but may slow down the appearance of its symptoms."
- "Treatment should focus on comfort. If we just did that, we'd go a long way toward improving that final phase of dementia."



"With no cure in sight, we can no longer neglect the millions whose comfort should be supported through better palliative treatment." — DR. TIA POWELL

- "Take a walk. Spend time with those you love. Sing. Eat fruits. Pick up a new skill or hobby. There is no guarantee these things will slow dementia's onset, but they are as good a bet as any. No matter what, they may increase your store of happiness along the way."

THE FIVE CS

If Dr. Powell's recommendations were incorporated into a clinical program, it would resemble the Montefiore Hudson Valley Center of Excellence for Alzheimer's Disease (CEAD). The CEAD is part of a network of 10 centers established in 2016 by the New York State Department of Health. Its purpose: to make early screening and diagnosis of dementia more widely available, support research into causes and potential treatments, expand the expertise of the

healthcare workforce, and provide better access to community-based services for patients and their caregivers.

Montefiore's CEAD leverages the expertise of the Center for the Aging Brain and the Memory Disorders Center. The CEAD is staffed by neurologists, geriatricians, psychiatrists, neuropsychologists, and social workers who collaborate to provide patients and their families with cost-effective services, including treatment, counseling, education, referrals to support programs, and access to clinical trials. Crucially, it recognizes the reality that day-to-day dementia care almost always falls to a spouse, child, or other close relative.

"I developed Montefiore's CEAD with my own family in mind and vowed it would focus on the patient and the caregiver," says Jessica Zwerling, M.D., M.S.,

Tia Powell, M.D., at top, takes a hike in the Berkshire Mountains in Massachusetts. Above are photos of her grandmother, Mercedes Phelan Hayden, and her mother, Patricia Hayden Powell.



"I developed Montefiore's CEAD with my own family in mind and vowed it would focus on the patient and the caregiver."

— DR. JESSICA ZWERLING

director of the CEAD, associate director of the Center for the Aging Brain at Montefiore Einstein, and clinical director of the Einstein Aging Study. "Caregivers are an especially vulnerable population, with higher rates of stress, depression, and cognitive impairment themselves. My grandmother had Alzheimer's, and my uncle had a heart attack from the stress of caring for her."

Dr. Zwerling, who is also an associate professor in the Saul R. Korey Department of Neurology and an assistant professor of pediatrics and of psychiatry and behavioral sciences at Einstein, sums up her model of dementia care as including what she calls the "Five Cs": Culturally competent, collaborative care of the cognitively impaired older adult. Attaining cultural competence—understanding the community—can be particularly challenging: So far, CEAD staffers have conducted Alzheimer's screenings in 17 different languages, reflecting the diversity of the population that the center serves throughout the seven counties of the Hudson Valley.

The Montefiore-Einstein model of dementia care was described in a 2016 paper in the *Journal of the American Geriatrics Society*. It has since been replicated at a number of other institutions.

AND IN THE END ...

My father probably received the best care possible. And thanks to my parents' resources, my mom was able to bridge the yawning gaps in insurance coverage and still have a nest egg for her retirement. But as Dr. Powell has written, "Money helps with some things, but nothing removes the sting of watching a loved one become someone you don't know."

During his final two years, my father needed assistance with every aspect of daily

living. He spoke little and idled away the hours at home in front of a big-screen TV, drifting in a sea of disconnected thoughts and old memories, with occasional moments of confusion and agitation.

"The last phase may persist a year or more," Dr. Powell says. "That whole final year is what we need to fix to arrive at a good death."

Those last months were indeed unsettling. In early 2008, my father collapsed in the shower, breaking his hip. His doctors recommended joint-replacement surgery to stabilize his hip and dampen the searing pain. (He had long since lost the ability to walk.) He came home after a few weeks spent recovering in a nursing home. But almost every trace of the parent, provider, and protector I once knew had vanished.

After one last health crisis and one more hospital stay, nothing could be done except to take him home for his final days. We withdrew food and water and comforted him with drops of morphine. Still, he lingered for almost a week, passing away early on the morning of my parents' 58th wedding anniversary.

Like others who have lost a parent to Alzheimer's, I worry about my own cognitive health in the years ahead, especially since I take after my father in many ways. In the meantime, I'll heed Dr. Powell's advice: take walks, spend time with loved ones, work to increase my store of happiness ... and hope that Einstein and Montefiore's promising Alzheimer's research bears fruit. **E**



WATCH THE VIDEOS

Learn more about Einstein's research on Alzheimer's and aging: magazine.einsteinmed.edu/aging22

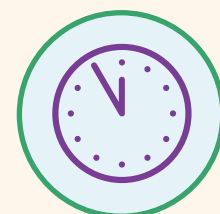
ADDITIONAL ALZHEIMER'S RESEARCH AT EINSTEIN

Scientists are focusing on screening tests, an at-home therapy, and more



APATHY AND ALZHEIMER'S*

In a prospective study of 542 community-dwelling seniors, Mirnova Ceide, M.D., M.S., and colleagues found that apathy predicted motoric cognitive risk syndrome—a form of pre-dementia first described by Einstein researchers, in which older adults have an abnormally slow gait and cognitive complaints (see page 27). The findings, published in 2020 in the *Journal of Gerontology, Series B: Psychological Sciences and Social Sciences*, suggest that treating apathy might forestall the onset of disabilities related to dementia. Dr. Ceide is an assistant professor of psychiatry and behavioral sciences and of medicine at Einstein and a psychiatrist at Montefiore.



5-MINUTE SCREENING TEST FOR DEMENTIA*

Einstein investigators have developed a five-minute cognitive screening (5-Cog) to identify people at high risk for developing dementia. The 5-Cog screen was designed to overcome the logistical, educational, and cultural barriers inherent in existing cognitive screening tools, according to Erica F. Weiss, Ph.D., one of the investigators. The Einstein team is currently evaluating 5-Cog on 1,200 patients in a clinical trial funded by the National Institute of Neurological Disorders and Stroke. Dr. Weiss is the associate director of neuropsychology at the Montefiore Center for the Aging Brain and an assistant professor in the Saul R. Korey Department of Neurology at Einstein.



AN AT-HOME BRAIN THERAPY FOR ALZHEIMER'S*

Einstein researchers are evaluating an at-home version of transcranial direct current stimulation (tDCS) for treating Alzheimer's. A painless, noninvasive therapy, tDCS delivers low-intensity electric current to the brain using a fitted headband. It has improved cognitive performance in animals and in limited human studies, reports Helena Knotkova, Ph.D., D.Phil., a co-leader of the study. The therapy is being tested on 100 patients with mild to moderate Alzheimer's in a five-year, \$6.2 million study funded by the National Institute on Aging. Dr. Knotkova is a professor of family and social medicine at Einstein and the director of clinical research at the MJHS Institute for Innovation in Palliative Care, an Einstein affiliate.



GENES THAT STAVE OFF ALZHEIMER'S

To find gene variants that contribute to longevity, Zhengdong Zhang, Ph.D., and colleagues conducted the largest whole-exome sequencing study of centenarians to date. (The exome is the part of the genome that codes for proteins.) Rare coding variants in the *Wnt* signaling pathway had a prolongevity effect in those centenarians possessing *APOE4*, a well-known, common gene variant associated with risk for Alzheimer's and other age-related conditions. The results, reported in 2021 in *Nature Aging*, suggest that the *Wnt*-signaling gene variants counteract the adverse health effects associated with the *APOE4* gene. Drugs designed to mimic the effects of those protective *Wnt*-signaling variants may benefit people with the *APOE4* gene variant, and possibly others. Dr. Zhang is a professor of genetics at Einstein.



CAN 'BRAIN FOOD' REDUCE ALZHEIMER'S RISK?

Yasmin Mossavar-Rahmani, Ph.D., R.D., is testing whether a diet featuring foods with anti-inflammatory properties can reduce cognitive decline and Alzheimer's disease risk. The dietary pattern was crafted to appeal to a multicultural population and is being tested on about 300 adults from Co-op City (a large and diverse north Bronx neighborhood) and nearby communities. The study is funded by a five-year, \$4 million grant from the National Institutes of Health. Dr. Mossavar-Rahmani is a professor of epidemiology & population health at Einstein.

* Joe Verghese, M.B.B.S., M.S., director of the Montefiore Einstein Center for the Aging Brain, is also a principal investigator on these research projects.

PREPARING THE PUBLIC HEALTH LEADERS OF TOMORROW

Thanks to a new joint program with CUNY, three students from Einstein's Class of 2022 will be the first to earn combined M.D./M.P.H. degrees

BY TERESA CARR

Nicole Turturro, Class of 2022, was thrilled. It was the fall of 2019, and Einstein had just announced that it was partnering with the City University of New York's Graduate School of Public Health & Health Policy (CUNY SPH) to offer medical students the chance to earn a master of public health (M.P.H.) degree along with a doctor of medicine degree. She wanted to one day combine a clinical practice in internal medicine with community work in preventive health. It seemed to be a perfect fit. But there was just one problem.

The combined M.D./M.P.H. program wasn't open to third-year students like her; it was set to kick off with the Class of 2023. To obtain an M.P.H., medical students typically start their classwork during the summer after their first year of medical school and devote a gap year to it after their third year. But Ms. Turturro would not be deterred. She, along with two of her third-year classmates—Jennifer Luk and Samuel Nemiroff—made an appeal to their faculty advisers.

Fortunately for the three, Einstein and CUNY SPH agreed to condense the requirements for the M.P.H. degree into a single year for them. "It was a lot of work," Ms. Luk says. "But was it worthwhile? Absolutely."

HELPING ENTIRE COMMUNITIES

In May those three students will be the first to complete the combined M.D./M.P.H. program, earning their doctor of medicine degrees from Einstein after having received their M.P.H. degrees from CUNY SPH in 2021. "Getting an M.P.H. was one of the best decisions of

my life," Mr. Nemiroff says.

Jill Raufman, M.P.H., M.S., Einstein's M.D./M.P.H. program administrator and associate director of Einstein's Global Health Center, says she had long wondered how Einstein could provide its students with additional training in community and population health.

While she was earning her own M.P.H. degree, a group of students asked a fellow classmate, a pediatrician, why she was devoting the time, money, and effort to earning the additional degree. "She said, 'I get all these really sick babies coming to me for care, and I want to be a part of the prevention side of things,'" Ms. Raufman recalls. "That's the essence of public health."

As part of the planning for a possible M.D./M.P.H. program, Ms. Raufman surveyed Einstein students in 2018 about their interest in the added degree. "The response was overwhelmingly positive," she says.

In September 2019, she reached out to CUNY SPH, her alma mater, which, according to *U.S. News & World Report*, has New York's top M.P.H. program among public institutions. Einstein already had a relationship with CUNY through its Centers for AIDS Research program. Other pluses included CUNY's easy access to Einstein's campus by subway and its affordable cost for New York State residents. "With everyone committed to making the collaboration happen, it got off the ground quickly," she says.

The combined Einstein-CUNY SPH M.D./M.P.H. degree program offers four tracks from which to choose: environmental and occupational health

M.P.H. FAST FACTS



About 80 medical schools in the United States offer M.D./M.P.H. degrees.



The number of students pursuing M.D./M.P.H. degrees jumped 434% from 2010 to 2018—from 149 to 796.¹



Physicians with M.P.H. degrees find work in a variety of settings, including health departments, nonprofit organizations, and research institutions.



Ten Einstein medical students are currently enrolled in the Einstein-CUNY SPH M.D./M.P.H. program.



For Einstein students the approximate cost to add the M.P.H. degree program to the current Einstein M.D. program is less than \$25,000.

¹ Source: *Public Health Reports*, Feb. 9, 2021.



From left, 2022 M.D./M.P.H. candidates Nicole Turturro, Jennifer Luk, and Sam Nemiroff deliver groceries to Bronx families during Einstein's Martin Luther King Jr. Day of Service in January.

sciences; epidemiology and biostatistics; health policy and management; and public health nutrition.

All students pursue the same core curriculum, covering, among other topics, economics, law, management, policy, and research methods. Every student also does fieldwork with a community organization. Earning a separate M.P.H. degree typically takes two years, but the structure of the Einstein-CUNY SPH program allows students to complete both their M.D. and M.P.H. degrees in five years.

"Healthcare requires physicians to treat patients from both the individual and the community perspective," notes Louis M. Weiss, M.D., M.P.H., co-director of the Einstein Global Health Center and a key driver of the launch of Einstein's M.P.H. program. "The combined M.D. and M.P.H. degrees provide healthcare professionals with a much greater understanding of health issues and better tools to understand and prevent human diseases."

GLOBAL AND LOCAL

Medical students in the M.P.H. program are finding that what they learn can be applied to rural and urban populations, globally and here in the Bronx. During her first summer in the M.P.H. program,

current third-year medical student Linda Forrester took part virtually in a Ugandan community health project on diabetes. Closer to home, Destiney Kirby—another current third-year—worked with the Bronx Health Opportunities Partnership-Einstein (Bronx HOPE), a pipeline program that helps students from underrepresented groups pursue careers in the health professions.

"As a Black, low-income female I experienced how the healthcare system can negatively impact a community," Ms. Kirby says. She sees education as a way to change that. "My dream is to work part-time as a physician and open up a café and bookstore that runs public health initiatives on issues such as asthma interventions, reproductive justice, and sexual education."

Ms. Forrester, who intends to become a family medicine physician, says she would like to work with community organizations on housing policies, nutrition, and the environment. Eventually she'd like to contribute to public health in her native country of Jamaica. "I would like to make preventive care accessible, particularly to people in rural areas who often don't get care until their medical conditions are advanced." **E**

A NEW M.P.H. SCHOLARSHIP

Thanks to the generosity of an Einstein alumni couple, Pilar Vargas, M.D. '77, Ph.D., and Sten H. Vermund, M.D. '77, Ph.D., a scholarship fund has been set up for Einstein M.D./M.P.H. students. The gift will pay \$3,000 in tuition costs for each of six students annually as well as some travel expenses for fieldwork. For more information, email: development@einsteinmed.edu

EINSTEIN'S FIRST THREE M.D./M.P.H. GRADUATES

Though they have their sights set on different careers, each one is focused on community service



JENNIFER LUK

Throughout the pandemic, Ms. Luk has been dedicated to helping people in the Bronx. When shortages of essential medical supplies occurred in March 2020, she worked daily with students and community leaders to manufacture thousands of face shields and masks for local hospitals. She has continued her work in the Bronx with the group she connected with during her M.P.H. fieldwork, CONVINCING USA, creating communication tools and strategies to increase the public's trust in healthcare workers and vaccines.

Ms. Luk would like to specialize in emergency medicine because, she says, "it's a snapshot of what people across the spectrum are facing in their everyday lives. It ties beautifully to public health because you can see what's going on and take steps to address it."

SAMUEL NEMIROFF

Working on an M.P.H. degree affords students the opportunity "to sink their teeth into a subject, design a study from scratch, and execute it," Mr. Nemiroff says. For his M.P.H. capstone project, he researched what motivates obese children and their caretakers to change their behavior to make healthier choices. "Adolescence is the ideal time to intervene, before they develop diabetes, hypertension, and other obesity-related conditions," he says.

He appreciates that his M.P.H. coursework gave him the tools he needs to advocate for programs that improve dietary health. For his fieldwork, he interned at Brooklyn Borough Hall as a Food Policy Fellow, working with local medical schools to incorporate more-effective nutrition education in their curricula and encouraging hospitals to provide healthier, plant-based meals to admitted patients.



NICOLE TURTURRO

Passionate about improving access to healthy food, Ms. Turturro has been an active member of an Einstein student group, Food Justice and Medicine, that is addressing food insecurity in the Bronx. For her M.P.H. fieldwork, Ms. Turturro worked with the CUNY Urban Food Policy Institute to review policies affecting food insecurity and nutrition across 31 counties in New York, New Jersey, and Connecticut.

She used her analysis to pinpoint where these counties could work together to help underserved populations access more local vegetables and fruit. "It was the first time I put myself in the shoes of a policymaker and thought about the impact of decisions on large swaths of the population," Ms. Turturro says. "My M.P.H. will provide me with the tools to examine community problems and come up with healthy solutions."

Photos by Jason Torres



A WELCOMING PLACE FOR LGBTQ PATIENTS

Physicians, researchers, and students at Einstein and Montefiore are working to improve the health of lesbian, gay, bisexual, transgender, and queer people

BY TERESA CARR

According to a 2021 Gallup survey, 5.6% of Americans identify as lesbian, gay, bisexual, or transgender. Many of them face discrimination that imperils their health and curtails their access to healthcare. Consider these findings from a nationally representative survey of lesbian, gay, bisexual, transgender, and questioning and/or queer (LGBTQ) people conducted in 2020 by the Center for American Progress:

- 32% of LGBTQ people reported that discrimination negatively affected their physical well-being, and 52% of respondents said it negatively affected their psychological well-being.
- 20% of all respondents (and 47% of transgender people) stayed away from doctors' offices to avoid discrimination.
- 14% of respondents reported encountering a doctor or other provider who was visibly uncomfortable with them due to their actual or perceived sexual orientation.

Last summer, second-year Einstein medical student Patryk Kubiszewski combed the medical literature for protocols for caring for adolescent LGBTQ patients. He was shocked by what he found—or, rather, failed to find.

"I didn't realize that I'd run into an utter lack of consistent guidelines regarding healthcare for adolescents who are nonbinary [do not identify exclusively as men or women] or

transgender [identify as genders different from the ones assigned at birth]," Mr. Kubiszewski says. In particular, he says, "mental-health care for this often vulnerable population is wildly inconsistent, and young people may have very different experiences depending on where they live."

Mr. Kubiszewski, who is gay, says that he dreamed as a teenager of becoming a psychiatrist and studying LGBTQ health.

"I've had positive interactions with healthcare providers who didn't make assumptions and weren't judgmental about gender or sexuality," he says. "But many people in the LGBTQ community aren't so fortunate."

Mr. Kubiszewski expects to publish his review of mental-health care for transgender and nonbinary teens this summer, and he is looking forward to putting his education to work in real life: interacting with LGBTQ patients who have post-traumatic stress disorder and taking their histories as part of a project with a psychotherapist. "Seeing patients in the community during my third-year rotations will be a nice next step," he says.

Traditionally, doctors haven't been trained to meet the needs of their LGBTQ patients, says Aaron Samuel Breslow, Ph.D., who is Mr. Kubiszewski's adviser and an assistant professor of psychiatry and behavioral sciences at Einstein and a clinical psychologist at Montefiore. "In medical student alumni surveys," he notes, "doctors report receiving zero to 45 minutes of training on LGBTQ health before their residencies. As a result, we LGBTQ people often hide our identities from providers and avoid seeking care when facing mental or medical health crises."

Dr. Breslow and his fellow educators and clinicians at Einstein and Montefiore are working to change things by making

Photos by Jason Torres

Clockwise from upper left: Lauren Roth, M.D.; Aaron Samuel Breslow, Ph.D.; Viraj V. Patel, M.D., M.P.H.; Michelle Collins-Ogle, M.D.; Justin Toro, L.M.S.W.; and Barry Zingman, M.D.



At his Einstein office, Aaron Samuel Breslow, Ph.D., left, meets with Octavia Lewis, M.P.A., transgender health coordinator at Montefiore.



“Recently, a nonbinary patient who had experienced a lot of discrimination from providers told me that, for the first time, they feel they’re in the right place. That felt life-affirming.”

— DR. AARON SAMUEL BRESLOW

healthcare more inclusive and welcoming for LGBTQ patients and improving the care they receive in the Bronx and beyond. A priority: ensuring that Einstein students learn about the health needs of LGBTQ patients and become comfortable caring for them.

SENSITIZING THE CURRICULUM

A decade ago, when Patrick Herron, D.Be., came to Einstein to work in medical education, students told him they wanted to learn more about caring for LGBTQ patients and their families. In response, Dr. Herron joined and ultimately chaired the LGBTQIA (lesbian, gay, bisexual, transgender,

questioning/queer, intersex, and asexual/ally) health-curriculum working group, which was formed in 2014.

“We know from research that some LGBTQ individuals receive substandard care because many doctors—consciously or not—make assumptions about people from different backgrounds, so we set out to develop and integrate content on LGBTQ health throughout the four years of the medical school curriculum,” says Dr. Herron, who until January 2022 was Einstein’s director of bioethics education, director of operations and education programming, and associate professor of family and social medicine and of epidemiology & population health. He is now an adjunct clinical associate professor of family and social medicine at Einstein.

Since the formation of the working group, Einstein has implemented several changes to its curriculum to prepare its graduates to care for diverse patients, including those who identify as LGBTQ. The College of Medicine has been engaged in a continuous quality improvement process that includes eliminating bias from clinical skills assessments, exams, and classes.

As part of its revamped curriculum (see page 16), Einstein introduced a Health Systems Sciences and Health Equity course in 2021, which students take across all four years of medical school. Einstein students learn about inequities that affect LGBTQ people and other historically marginalized groups, how students can improve their own clinical abilities, and how they can help dismantle systems that promote inequity. And the curriculum is constantly being refined, based in part on student feedback.

Benjamin Green, a fourth-year medical student at Einstein, is developing

a multi-institutional research study to assess gender-diverse cultural competence among medical students, residents, and attending physicians. He credits Einstein with “increasingly incorporating gender-diversity and sexual-minority material into our training.”

Mr. Green is pursuing a career in urology, with an interest in reconstructive and gender-affirming surgery. He appreciates that his reproduction course, directed by Staci Pollack, M.D., includes the perspectives of transgender people. “Just as with any other clinical skill,” he says, “we should be objectively assessing students’ competency in caring for people from gender- and sexual-minority groups.”

‘CULTURALLY HUMBLE’ CARE

One of the curriculum’s leading advocates is Lauren Roth, M.D., an assistant professor of pediatrics at Einstein and a pediatrician at the Children’s Hospital at Montefiore.

She experienced a defining moment as a physician when her younger brother came out as transgender at the age of 21. “Could our pediatrician have done or said something to create a more open, accepting environment for him so we could have recognized and affirmed his authentic self sooner?” she wondered aloud. “And why weren’t we learning more about this topic in our medical training?”

Since then, Dr. Roth has dedicated her time to educating physicians about LGBTQ health. She has lectured at and hosted workshops for Einstein medical students and helped develop a “culturally humble” care curriculum for Montefiore residents. “It’s about how we can provide honest, humble care, and being respectful no matter the person’s gender identity, sexual orientation, medical needs, race, or



“We want to ensure that all LGBTQ individuals are treated equally and with respect, no matter who their providers are.” — DR. LAUREN ROTH

religion,” she says. “We want to ensure that all LGBTQ individuals are treated equally and with respect, no matter who their providers are.”

On the national level, Dr. Roth serves as co-chair of the LGBTQ Health and Well-Being Special Interest Group of the Academic Pediatric Association, working to bring standardized training to future pediatricians.

RESEARCH ON BUILDING RESILIENCE

Dr. Breslow says he was fortunate to grow up in an environment that supported his queer identity. He now wants to extend that sense of belonging to others. His early research on LGBTQ care and HIV prevention introduced

him to the concept of “minority stress”—the idea that being marginalized in society makes it harder to get through the day and feel confident about your place in the world. “I wanted to learn how to help people in the communities that I’m part of feel better,” he says.

In 2018, Dr. Breslow seized the opportunity to realize that goal: He accepted a postdoctoral fellowship to help create the Center for Health Equity—a research lab within PRIME, the Psychiatry Research Institute at Montefiore Einstein. The center rigorously measures inequities in mental-health care. “It was exciting, but scary—like joining a startup,” he says. “The psychiatry and behavioral sciences department went out on a limb and gave

us some funding to get things started.”

Dr. Breslow has since become an Einstein faculty member, and the Center for Health Equity—now staffed by 14 full-time researchers—is flourishing. So far the team has published 34 studies on topics ranging from the cost of treating depression in U.S. adults to how school-based health interventions can help marginalized kids in the Bronx. Dr. Breslow’s own work focuses on stress and its effects on the mental health of minority groups—suicide occurs all too often among transgender and nonbinary older adults—and on developing strategies for overcoming stress.

He was recently awarded a four-year, \$650,000 grant from the National Institute of Mental Health to study mental-health services offered to the transgender community. The project, Mapping Interventions to Reduce Mental-Health Services Disparities Among Transgender and Nonbinary Adults, will launch this spring.

Dr. Breslow says he is especially proud of his research showing that resilience can combat stress. “The ways that we talk about mental health for transgender and nonbinary people usually concern deficits—how and why people are struggling,” he says. “We flipped the script to measure the specific strategies that minorities can use to buffer stress.”

In one study, Dr. Breslow and colleagues surveyed a diverse national sample of 552 transgender adults on how they react to stigma and stress. The results, published in 2015 in the journal *Psychology of Sexual Orientation and Gender Diversity*, found that cultivating personal resilience, activism, and engagement with community resources can help protect people from anxiety and depression—conditions, he says, that

“turn out to be crucial for influencing mental health and survival.”

Dr. Breslow is convinced that efforts at Einstein and Montefiore to make healthcare more welcoming for LGBTQ patients are paying off. “Recently, a nonbinary patient who had experienced a lot of discrimination from providers told me that, for the first time, they feel they’re in the right place,” he says. “That felt life-affirming.”

ENGAGING WITH THE LGBTQ COMMUNITY

Early in his career, Viraj V. Patel, M.D., M.P.H., an associate professor of internal medicine at Einstein and

an internist at Montefiore, realized that there were few data on how to reach and engage people online in the LGBTQ community to improve health. “Education is important but rarely sufficient to change behaviors,” he says. “My question became, ‘How do we help people gain skills and empower them to take charge of their health?’”

One way Dr. Patel is tackling the issue is from a global perspective, studying how community organizations in the United States, India, and Rwanda can enhance engagement with sexual- and gender-minority populations. He recently received a five-year, \$2.8 million grant from the National Institutes

of Health to conduct a randomized clinical trial involving digital-messaging strategies with more than 1,000 residents of Mumbai, India, who are at high priority for HIV prevention. The trial will assess whether giving out digital coupons for free HIV-testing options alone increases healthcare engagement, or if the addition of a comprehensive information campaign about sexual-health care and connection to virtual peer counselors works better.

The Mumbai trial is using mobile dating apps and local social-media influencers to reach marginalized groups, who are often excluded from the healthcare system, and the free

LGBTQ | THE EXPERIENCE OF DISCRIMINATION

65% of Black LGBTQ people reported that discrimination negatively affected their physical well-being. **And 77% of Black LGBTQ respondents said it negatively affected their psychological well-being.**



MORE THAN HALF of LGBTQ Americans report **hiding a personal relationship**, and about one-fifth to one-third have altered other aspects of their personal or work lives.



14% of respondents reported encountering **a doctor or other provider who was visibly uncomfortable** with them due to their actual or perceived sexual orientation.



12% of all LGBTQ respondents—and **one in three transgender individuals**—reported having to educate doctors or other providers about LGBTQ health issues to get adequate treatment.

Source: Center for American Progress and NORC at the University of Chicago online survey, June 2020.



“Once you get people in the door to get tested, it’s much easier to engage them to provide the education and support to keep them healthy.”

— DR. VIRAJ V. PATEL

instant-messaging service WhatsApp to deliver tailored health information. “Once you get people in the door to get tested, it’s much easier to engage them to provide the education and support to keep them healthy,” says Dr. Patel. “Results from this study will give us insight into how to conduct virtual interventions for people who are often stigmatized and lack access to quality healthcare.”

In the Bronx, Dr. Patel is leading community-outreach efforts to gender and sexual minority populations, working to scale up the use of PrEP

(pre-exposure prophylaxis) to prevent HIV infection. He is passionate about creating opportunities for medical students and residents to learn about and study LGBTQ health. “If they don’t get these opportunities now, they may never get them,” he says. “And there just are not enough people doing this work.”

RESPONDING TO AN LGBTQ HEALTH CRISIS

Barry Zingman, M.D., professor of medicine at Einstein, medical director of Montefiore’s AIDS Center, and

clinical director of infectious diseases at Montefiore’s Moses Division, has seen a dramatic shift in the populations affected by HIV over the past two decades. “Substance use and heterosexual sex as causes of HIV infection have declined significantly,” he says. “Now, in the Bronx, 70% to 80% of people newly diagnosed with HIV identify as LGBTQ.”

That shift has led to changes in research and in the delivery of care at Montefiore’s AIDS Center, including creation of a new ambulatory-care site in the program: the Oval Center at Montefiore, a comprehensive, multidisciplinary clinic for sexual-health services, HIV prevention and care, and gender-affirming care—all designed specially to meet the needs of the LGBTQ community. (See page 46.) “We’ve been hiring staff and developing programs focused on LGBTQ needs and picking studies that might be particularly relevant to the LGBTQ community,” says Dr. Zingman. “We’ve also become a major site for LGBTQ education and training for healthcare workers.”

Since opening as a clinic in 1987, Montefiore’s Adolescent AIDS Program has responded to the health needs of LGBTQ youth. The program was the first in the nation to provide clinical care and support to young people living with or at risk for HIV and AIDS. In 2021, the program was renamed the Montefiore Adolescent and Youth Sexual-Health (MAYS) clinic.

“In the early days of the AIDS epidemic, many young people suffered from the stigma of being both HIV-positive and gay,” says Donna Futterman, M.D., Einstein professor of pediatrics, who joined the clinic in



“People who identify as LGBTQ receive inadequate health screenings and lack access to comprehensive care and new therapies.”

— DR. BARRY ZINGMAN

1989 and directed it from 1994 until she retired in 2021.

In recent years, the clinic has expanded to address the healthcare needs of transgender youth through its Umbrella Program. This program serves LGBTQ youth with comprehensive transgender and gender-nonconforming services: medical care (including testing and treatment for HIV infection and gender-affirming hormone therapy), mental-health counseling, and support services for young people and their families.

Michelle Collins-Ogle, M.D., the new director of the MAYS clinic and an assistant professor of pediatrics at Einstein, says the program “not only benefits patients but also helps educate the doctors who care for them about healthcare problems faced by pediatric and adolescent LGBTQ persons.”

For Dr. Zingman, teaching the next generation of physicians about LGBTQ health is critically important. “People who identify as LGBTQ receive inadequate health screenings and lack access to comprehensive care and new therapies, and they suffer physically and mentally because of it,” he says.

“The only way to rectify the situation is having more students, residents, and fellows who are extremely comfortable with caring for the multidisciplinary needs of LGBTQ patients,” Dr. Zingman adds.



WATCH THE VIDEO

A conversation with medical student Patryk Kubiszewski and his mentor, Dr. Aaron Samuel Breslow: magazine.einsteinmed.edu/LGBTQ22

Michelle Collins-Ogle, M.D., meets with patient Samantha Mariano at Montefiore’s Oval Center.



TWO NEW CENTERS FOCUS ON LGBTQ PATIENTS

Einstein and Montefiore have established two programs to provide quality healthcare to lesbian, gay, bisexual, transsexual, and queer people and to advance teaching and research focused on the LGBTQ community.

1 | TRANSWELLNESS CENTERS

The latest advances in LGBTQ care in the Bronx are the TransWellness Centers at Montefiore, established in 2018 as part of a comprehensive, patient-centered program for people whose gender identities do not match their sexes assigned at birth. The centers are preexisting locations within Einstein and Montefiore where adolescents and adults who are transgender or nonbinary can receive a full range of primary care, hormonal treatment, gender-affirming surgery, and HIV care. The centers plan to increase their capacity for gender-affirming surgery, which currently has a waiting list of a year or longer.

Much of the credit for the TransWellness Centers goes to Robert Beil, M.D., an internist who is the medical director of Montefiore's program for patients with HIV and an assistant professor of medicine at Einstein (see page 55). In 2014, he and colleagues from other specialties formed the Trans Health Working Group. "We eventually realized that

this medical system could contain all the components needed for transgender healthcare, and our efforts over the next five years to coordinate them culminated in the TransWellness Centers.

"People may get their primary care through the Oval Center but go to other Montefiore sites for things like hormonal therapy or plastic surgery," he says. Other gender-affirming care options within Montefiore include feminizing-voice training, ob/gyn care for transgender men, and chest surgery for both transgender men and transgender women.



"In 2014, about 50 transgender folks were receiving healthcare in the Montefiore system, and now we are up to nearly 800."

— DR. ROBERT BEIL

Due to the tremendous unmet need, the number of people seeking transgender healthcare at Montefiore has soared in recent years. "In 2014, about 50 transgender folks were receiving healthcare in the Montefiore system, and now we are up to nearly 800," says Dr. Beil, who is proud that his program treats people whom other institutions turn away.

"Transgender care is often underfunded or unfunded, so at a lot of institutions the cost of running a program is supplemented by serving people with private insurance or who pay high fees," he says. "To treat mostly underserved groups—low-income populations, people of color, immigrants, and refugees—as we do at Montefiore is highly unusual. The support for LGBTQ care at Montefiore has come from so many sources—department chairs, senior management, individual providers, trainees, and medical students. Our local LGBTQ population really stands to benefit from their efforts."

2 | THE OVAL CENTER

In 2013, Bronx residents concerned about HIV and other sexually transmitted infections had few options for care. A small clinic affiliated with Montefiore saw patients three afternoons a week, but was on the brink of losing its grant funding and closing. Enter Barry Zingman, M.D., medical director



Barry Zingman, M.D., wearing a tie at center left, is surrounded by members of his Oval Center team outside Montefiore.

of Montefiore's AIDS Center, the largest HIV/AIDS program in the state. Seeing a way to improve care for an underserved population, he and his team took over that small nearby clinic later that year, renamed it the Oval Center at Montefiore, and gave it a new mission.

"We designed the Oval Center to be a positive, affirming environment to address not just HIV and other sexually transmitted diseases but all facets of sexual health," says Dr. Zingman, who is also a professor of medicine at Einstein and the clinical director of infectious diseases at Montefiore's Moses Division. "We were the first New York State Department of Health-designated HIV/AIDS specialty center to offer comprehensive care for both those living with HIV and those at high risk for HIV infection, with a focus on LGBTQ individuals."

The bustling clinic is open five days a week and welcomes walk-ins. It offers testing for sexually transmitted

infections, pre-exposure prophylaxis (PrEP) to prevent HIV infection, and post-exposure prophylaxis for preventing infection after possible HIV exposure. Services include gender-affirming care for transgender and nonbinary people, social services and patient education, along with contraception, gynecologic, and mental-health care. Three years ago, Dr. Zingman and his team added comprehensive HIV care specifically for LGBTQ people ages 15 to 30. Over the last eight years, the number of patients served has grown from fewer than 500 to more than 5,000.

"Word of mouth is our main source of referrals," says the Oval Center's practice manager, Justin Toro, L.M.S.W. "Patients appreciate that appointments are readily available and long enough for providers to really listen to their concerns," he says. "People also feel comfortable because our staff reflects the diversity of the community. We have staff who are Latinx, are African

American, are LGBTQ, and/or are living with HIV or are at high risk for the disease."

A lifelong Bronx resident who contracted HIV at age 20, Mr. Toro says he wants to create the kind of supportive environment that he wishes he'd had when he was younger. "It's my mission to empower people to embrace their sexual practices, but at the same time to become informed and educated about the options they have to enjoy their practices safely and freely," he says.

"LGBTQ people," says Dr. Zingman, "are used to being disappointed, poorly treated, and not having their needs met—to being 'less than.' The Oval Center counters that stigma by creating a welcoming and supportive environment that people feel the moment they walk in. In some cases, we are like a surrogate family because we are among the few places where people feel they can be themselves and that they'll be treated with respect." **E**

PASSIONATE PURSUITS

The Love Language of Food

BY WAYNE COFFEY

It's a Friday afternoon in the Bronx, and Einstein student Avraham (Avi) Kohanzadeh is unwinding after a long week. In the kitchen of the apartment he shares with his wife, Dafna, Mr. Kohanzadeh is poised over his favorite oak cutting board, wielding a knife with the skill of, well, a surgeon, as he prepares ghormeh sabzi, a traditional Persian meat stew that includes beef short rib, fresh herbs, kidney beans, and dried limes.

"Cooking is a reward to myself after a busy week," Mr. Kohanzadeh says. "I just let my hands go. It's very soothing and relaxing. I get lost in the process."

SECOND-GENERATION CHEF

Mr. Kohanzadeh, 25, has been immersed since childhood in a passion for cooking. A native of the small city of Hamilton in



Medical school student and chef Avi Kohanzadeh at work in the kitchen of his Einstein campus apartment.

Ontario, Canada, he grew up watching his father, Yosef, a professional chef, make gourmet Persian dishes. Some of Mr. Kohanzadeh's fondest memories are of coming home from school on Fridays to find his mother, Janet, assisting his father in the kitchen, preparing food for family and friends, the house rich with pungent, enticing aromas.

"There are certain smells that still take me back to when I was 5 years old," Mr. Kohanzadeh says. "Food was my parents' love language—the centerpiece of so many family, community, and religious gatherings. Food brings people together. I learned a lot just being around all of that."

The second-year medical student's Persian Jewish parents were born in Iran and endured the violence and hardships that were part of everyday life after the 1979 Iranian Revolution. His father, on the way home from work, would see people hanged for being the "wrong" sexual orientation or religion. Mr. Kohanzadeh's parents fled Iran and ultimately emigrated to Canada, where they had relatives and where Mr. Kohanzadeh was born. The family moved to California in 2016.

A CULINARY ARTIST

Although he enjoyed growing up in Hamilton, Mr. Kohanzadeh says, he yearned to live and study in a big city. He earned a scholarship to Yeshiva University and was off to New York City, where he began to cultivate his own culinary skills, much to the delight of his roommates.

"Avi was the chef of the apartment. Every day we'd wait to see what he was going to cook up next," says close friend and Einstein third-year medical student Benjamin Wajsborg. "He's like this wonderfully creative artist when he cooks.



Avi Kohanzadeh's culinary creations, clockwise from top left: broiled lemon-mango sea bass with mashed potatoes and grilled vegetables; a vegetable-filled pita taco; café latte art; a platter of grilled salmon; and a pepper-olive-tomato-feta pizza.

He doesn't follow recipes. He doesn't measure spices. He is so passionate about it. He'd wake up in the morning and get all excited when he'd tell us what he was going to make."

Mr. Kohanzadeh, who posts photos of some of his creations on his Instagram account, @Medschool_chef, savors the whole experience of cooking, from shopping for fresh ingredients to sharing his dishes with friends, whether it's ash reshteh (a traditional Persian soup) or tahdig, a classic pan-fried rice dish infused with saffron and other spices.

An aspiring clinician and surgeon, he sees parallels between the operating room and the kitchen. "When I visit my

father [at work] and see how he handles the knife, the way he has an obsession with cleanliness and order, it's like he is conducting his kitchen staff in a symphony of culinary performance," Mr. Kohanzadeh says. "A surgeon is like a conductor too, coordinating the efforts of colleagues during an operation."

Being a medical student is stressful enough. Add in a pandemic that has persisted for more than two years and those stresses become exponentially greater. For Mr. Kohanzadeh, it means Friday and Saturday nights in the kitchen will continue to be a welcome respite.

"Cooking is such a great outlet for me," he says. **E**



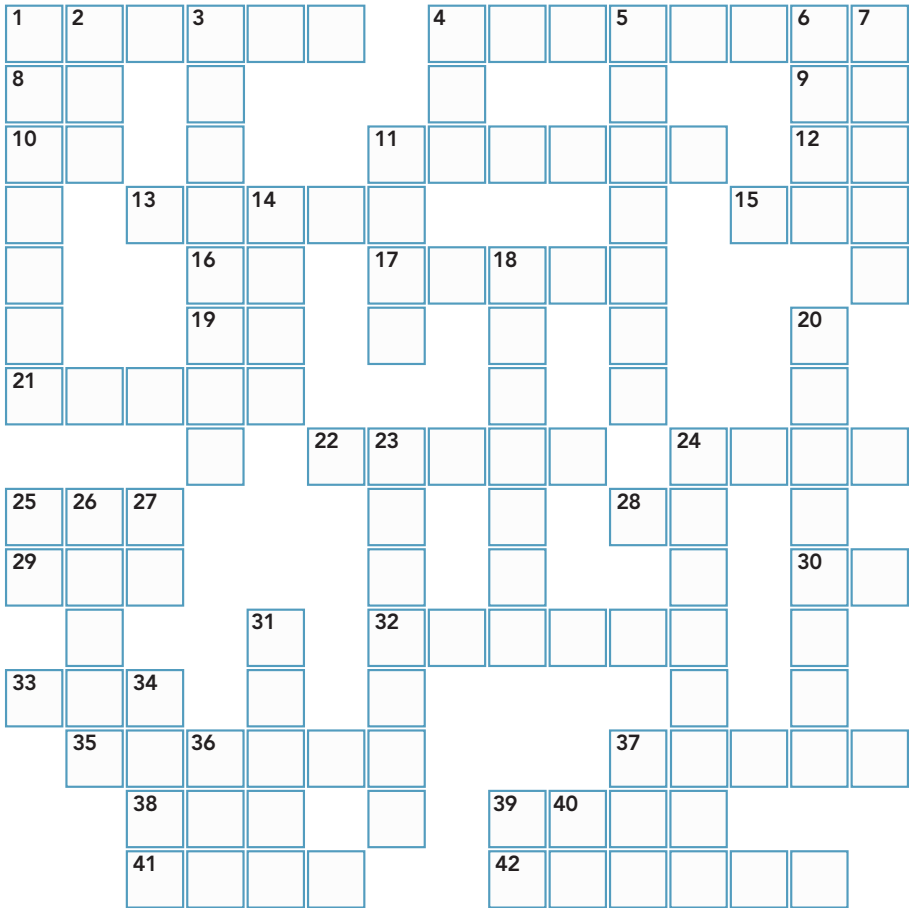
ALBERT'S
PUZZLER

BY DEIRDRE BRANLEY

Our Early Years

Across

- 1 Inability to walk due to muscle-coordination defect (6)
- 4 In 1964 Einstein was the first U.S. medical school to establish this department (8)
- 8 Frequency, or 13th Greek letter (2)
- 9 Barium, for short (2)
- 10 Short for gauss, or gallstone (2)
- 11 An Einstein center that was among the first funded by the NCI in 1972 (6)
- 12 Equal to one milliliter of a liquid (2)
- 13 Chair of pathology in the '60s; National Medal of Science recipient (5)
- 15 Query (3)
- 16 Regarding, for short (2)
- 17 This Isabelle helped develop the term "autism spectrum disorder" (5)
- 19 A registered nurse, briefly (2)
- 21 Number of women in Einstein's first graduating class (5)
- 22 ____ and bruises (5)
- 24 Alum Howard who ran for president (4)
- 25 Nickname for U.S. president when Einstein was established (3)
- 28 Sodium, on the periodic table (2)
- 29 Small, or chicken (3)
- 30 Light that causes sunburn, for short (2)
- 32 Alum Florence, Kenya's first female doctor (6)
- 33 Sleep cycle (3)
- 35 Founding faculty Irving who headed medicine (6)
- 37 First chair of neurology (5)
- 38 Falsehood (3)
- 39 A fold or tuck, usually taken in redundant tissue (4)



- 41 Former faculty Marie, the first U.S. Black woman to earn a Ph.D. in chemistry (4)
- 42 Philanthropist, and name of education building on campus (6)
- 20 This division was established in 1957, offering Ph.D.s (8)
- 23 Building that opened in 1964 and contains the liver center (7)
- 24 Einstein's first chair of surgery; helped establish its department of neurosurgery in 1959 (8)
- 25 Intellectual property, for short (2)
- 26 Einstein's first dean (5)
- 27 Former (2)
- 31 Chair of social medicine from 1969 to 2018; founding member of International Physicians for the Prevention of Nuclear War, which won the 1985 Nobel Peace Prize (5)
- 34 Penicillin is produced by this member of the fungus kingdom (4)
- 36 Federal funder for studies of aging (3)
- 37 Degrees, but not Cel or Fah (3)
- 39 Rubidium, for short (2)
- 40 Extra-wide shoe size, or equal employment abbreviation (2)

Down

- 1 Founding pathology chair (7)
- 2 Bx21 (3)
- 3 Former faculty Berta, National Medal of Science recipient (8)
- 4 Short for giant cell arteritis (3)
- 5 Roosevelt who visited Einstein in December 1955 (7)
- 6 Common blood tests (4)
- 7 Alum Oliver, who wrote *Awakenings* (5)
- 11 Program established in 1956 to care for children with developmental disabilities, briefly (4)
- 14 Segment of DNA (4)
- 18 Former dean and namesake of neuroscience department (7)



See how well you did at: magazine.einsteinmed.edu/puzzler2022

MOTIVATIONS

The Front Line of Philanthropy at Einstein and Montefiore



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- 67 In Memoriam

To learn more, please visit montefiore.org/giving and einsteinmed.edu/giving

For web-exclusive content, visit: magazine.einsteinmed.edu/motivations22

DR. UTIBE R. ESSIEN, CLASS OF '13

A physician-scientist continues his drive for health equity beyond the Bronx

BY GINGER SKINNER

Since the start of the COVID-19 pandemic, Einstein alumnus Utibe Essien, M.D. '13, M.P.H., has delivered more than 40—mostly virtual—keynotes and seminars to physicians, researchers, and faculty members from Boston to Boise. His one-hour talks encompass COVID-19 and non-COVID-19 topics while focusing on another public-health crisis: racism in medicine. “This topic is reverberating around our communities,” Dr. Essien says. “So we’re seeing a groundswell about health equity, health justice, and antiracism in medicine that we haven’t seen before.”

In one such talk, “Bending the Arc Toward Justice in Health,” Dr. Essien leaves his audience with an imperative known as the five Ds: desegregate healthcare in the United States, divest from racist practice and policy, diversify the medical workforce, develop antiracist medical curricula, and deepen community investments.

“COVID-19 reminded us that you just can’t put your head down when people are dying across the country and across the world,” says Dr. Essien, an assistant professor of medicine at the University of Pittsburgh School of Medicine and a core investigator in the VA Center for Health Equity Research and Promotion, where he studies racial

Utibe Essien, M.D., was named an Einstein Alumni Rising Star in 2021.

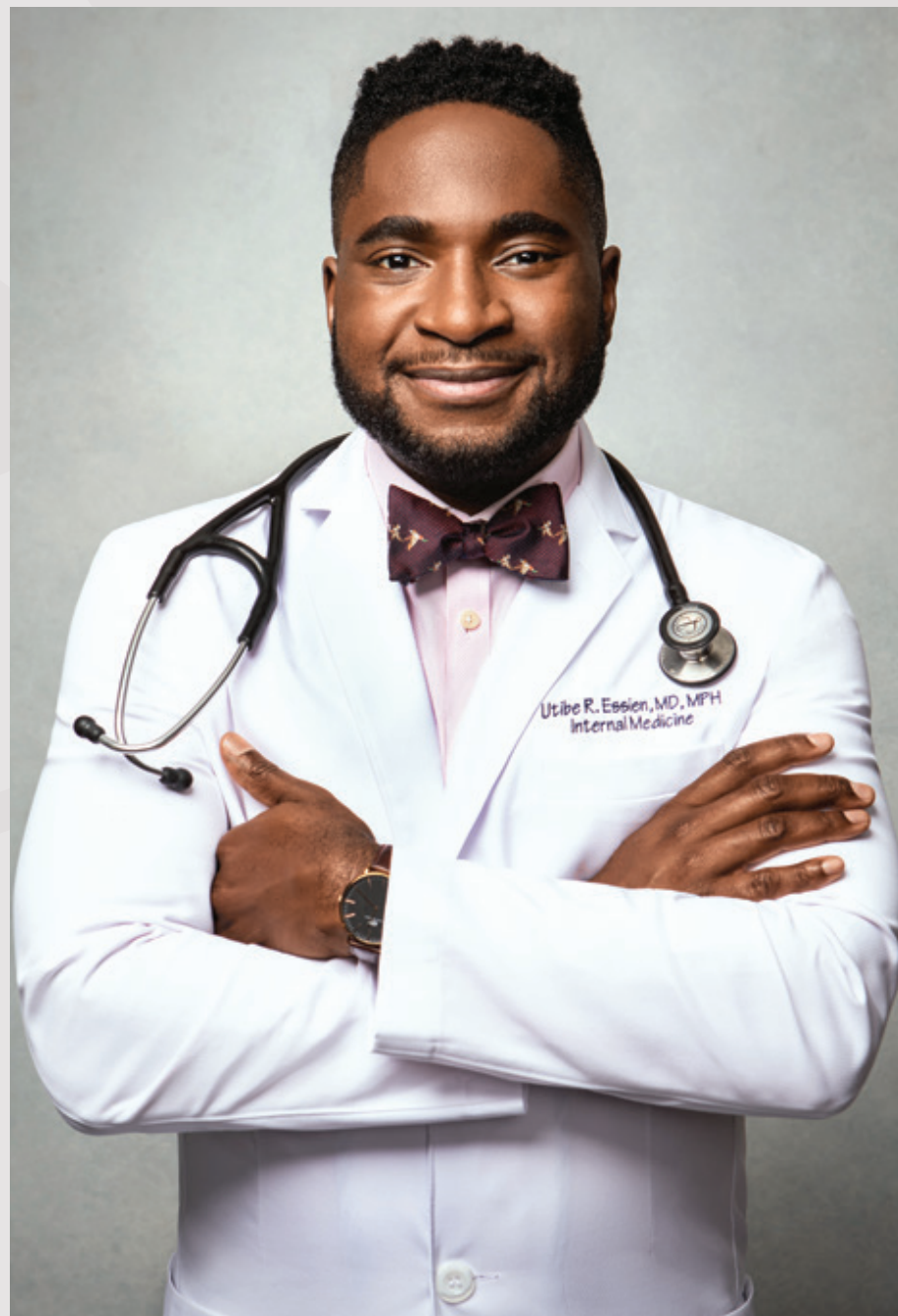


Photo by Kaela Speicher

and ethnic disparities in the use of novel cardiovascular medications and technologies. “And then, after George Floyd was killed, that opened the door even wider to focusing on racism as a direct driver of health. That was such a powerful realization for many.”

The pandemic’s disproportionate impact on Black, Hispanic, and American Indian communities, says Dr. Essien, has spotlighted health disparities and their social determinants. “We’re learning more and more that improving health outcomes is not just about having a doctor who can prescribe medications,” he explains. “It’s about addressing social factors—how certain patients are overexposed to disease because of where they live or underprotected because of a lack of insurance or bias in care.”

GROWING TO APPRECIATE MEDICINE

Now a recipient of numerous awards—among them the Einstein Alumni Rising Star: Clinical Practitioner Award (2021), the Larry E. Davis Award for Excellence in Race Research (2021), the Milton W. Hamolsky Junior Faculty Scientific Presentation Award (2020), the National Minority Quality Forum’s 40 Under 40 (2019), and the American Heart Association Early Career Investigator Award (2019)—Dr. Essien admits that “physician-scientist” wasn’t always his dream career. Growing up as the son of a family physician, Dr. Essien saw medicine, with its grueling long hours, as more like a nightmare.

“When I was 8 years old, I probably said that I hated doctors,” Dr. Essien recalls, smiling widely. His perspective shifted when he spent a summer working at his father’s medical office in New Rochelle, N.Y., managing administrative



Dr. Essien, right, at his 2013 Einstein graduation with Opeyemi Olabisi, M.D., Ph.D. '09, now an assistant professor of nephrology at the Duke Molecular Physiology Institute.

tasks, when he was 17. “I was just trying to make a few bucks,” he says. “But I got to see him in action, and it really exposed the difference he was making in the community.”

Dr. Essien developed a passion for health equity—the ideal that every patient deserves and receives personalized, best-in-class care for optimal health—during his time at Einstein. He credits the medical school’s commitment to the community, and faculty mentors, including Cristina Gonzalez, M.D., M.Ed., professor of medicine at Einstein and an internist at Montefiore, and Nilda I. Soto, M.S.Ed., Einstein’s assistant dean for diversity enhancement. “Equity is at the foundation of all we do at Einstein,” Dr. Essien says. “I’m proud to have trained there and to continue

“Certain patients are overexposed to disease because of where they live or underprotected because of a lack of insurance or bias in care.”

— DR. UTIBE ESSIEN

that drive beyond the Bronx.” Today, Dr. Essien serves as an active mentor for current Einstein students. He recognizes that guiding the next generation of physicians and scientists and driving equity in healthcare cannot be separated.

As a native New Yorker and son of Nigerian immigrants, Dr. Essien found that attending Einstein came with another perk as well: proximity to his close-knit family. “One of the best parts was that I could drive 15 minutes to do my laundry at home and get my bowl of jollof rice on the weekend.”

MAKING SOCIAL JUSTICE STRIDES

Dr. Essien’s entrée into social justice work began when he was a college pre-med student at New York University, volunteering in the emergency department at Manhattan’s Bellevue Hospital. “The ER was full of folks who looked like me and my family members and who spoke different languages like my parents did,” Dr. Essien says. “That experience stayed fresh in my mind throughout my training.”

At Bellevue, Dr. Essien started asking questions—and never stopped. “I began wondering why people of color always seemed to be the sickest and presenting as the least healthy,” he says.

That was one of many experiences that pushed him toward research on health disparities and advancing health equity during his residency at Massachusetts General Hospital, followed by a fellowship at Harvard Medical School. “I realized that research was a way to move some of those anecdotes toward data collection, and hopefully use those data to inform the policies that could then make real changes for our patients.”

Today he is making progress toward that aim. In July 2021, he and colleagues published a study in *JAMA Open Network* on how veterans affairs (VA) patients are treated for atrial fibrillation, the most common cardiac arrhythmia. Black patients were found to be 25% less likely than white patients to receive blood thinners. “Our research suggests that this gap exists not just because Black bodies are different from white bodies,” Dr. Essien explains. “It is because Black patients are treated differently and have less access to treatment than their white counterparts.”

These inequities are by no means limited to atrial fibrillation, Dr. Essien says. “We see these racial differences in treatment of pain and hypertension, diabetes management, and really across the board.” Now, thanks to a \$1 million grant from the VA’s Health Services Research and Development Service, Dr. Essien is expanding his study to find the causes for these disparities and, ultimately, develop interventions to correct the underlying issues.

Dr. Essien is also addressing health equity as the co-producer of the podcast “Antiracism in Medicine”—a series that introduces language that listeners can use to speak about race and racism within academia and clinical spaces.

Dr. Essien says that research into racism’s influence on health and health outcomes should lead to equity and justice. And he’s optimistic. “The medical students coming after us at Einstein and other institutions are pretty uniformly committed to this issue and are not going to just think about antiracism,” Dr. Essien says. “They are going to push for equity, and we’re going to have to come along with them. That’s one of the things that gives me hope.” **E**

“Equity is at the foundation of all we do at Einstein. I’m proud to have trained there and to continue that drive beyond the Bronx.”

— DR. UTIBE ESSIEN

LISTEN TO THE PODCASTS

Hear Dr. Essien talk about the antiracism in medicine effort: <https://clinicalproblemsolving.com/episodes/#antiracism-in-medicine>

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MEETING THE HEALTHCARE NEEDS OF TRANSGENDER PEOPLE

Q&A With Dr. Robert Beil

BY TERESA CARR

In the early 1990s, when Robert Beil, M.D., came to Montefiore for his residency in social internal medicine, his enthusiasm about working with marginalized populations was mixed with anxiety. AIDS was ravaging New York City, causing more than 8,000 deaths a year. Treatments were not effective enough. And as a gay man, Dr. Beil feared that he, too, might die of the disease—and he had no desire to specialize in AIDS care. “I didn’t feel like I could specialize in taking care of HIV-positive patients while also thinking about having to deal with that as my own personal fate,” he recalls.

By the time Dr. Beil became chief resident in the social medicine program at Montefiore in 1996, the outlook for AIDS patients had changed dramatically. Effective drug combinations dubbed “highly active antiretroviral therapy” had

Photos by Jason Torres



Robert Beil, M.D., examines a patient at his Montefiore office.

“People on the verge of dying were recovering their health within months. It’s really hard to experience something like that with patients and not want to do that for the rest of your life.”

— DR. ROBERT BEIL

been introduced and were performing miracles. “It was the most amazing thing any of us will ever experience,” says Dr. Beil. “People on the verge of dying were recovering their health within months. It’s really hard to experience something like that with patients and not want to do that for the rest of your life.” And so he has.

In 2001, Dr. Beil became the medical director of the Centers Implementing Clinical Excellence & Restoring Opportunity (CICERO) program, which serves more than 1,000 HIV-positive patients at Montefiore sites throughout the Bronx. Over the next two decades, Dr. Beil, who is also an assistant professor of medicine at

Einstein, would make it his mission to expand healthcare to lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals.

Those efforts culminated in the TransWellness Centers at Montefiore, an initiative that Dr. Beil directs. It provides comprehensive healthcare to people whose gender does not match their sex assigned at birth. (For more on LGBTQ health education, research, and clinical care at Einstein and Montefiore, see page 38.)

The acceptance Dr. Beil found at Einstein and Montefiore is what motivated him to create a more informed, welcoming environment for others. “I found a community at Einstein and Montefiore of gay and lesbian residents and faculty,”

he says. “That really set the stage for a career working toward improved access to quality healthcare for LGBTQ folks.”

We caught up with Dr. Beil to discuss how far care for LGBTQ individuals has come in the past 25 years and what unmet needs remain.

How have things changed since you started out as a young doctor?

When I was coming of age in the 1990s, the gains for LGBTQ equality centered on white, professional, cisgender [those whose birth sex aligns with their sense of personal identity] gay men and lesbians—gains that didn’t really help the people in the Bronx I was caring for, who were largely Black and Latinx. The Bronx was still a dangerous place to be an out queer person. A lot has changed to make this borough a more hospitable place for queer folks, particularly the people of color who make up the majority of Bronx residents. I certainly don’t take credit for that transformation, but I feel that my work as a practitioner and the organizations I’ve worked with have played a role in helping create that reality.

How did your career evolve to encompass the care of transgender people?

When I first got to the Bronx, not many practitioners were taking care of transgender folks. So I found people in New York City who mentored me, and I learned how to do it. Years later, the medical societies started to make it clear that transgender healthcare was mainstream healthcare—that all transgender and non-binary people had a right to their gender identity and to seek gender-affirming care. It was a huge shift, and it happened over the course of about 10 years, from around 2005 to 2015.

About eight years ago I started pulling together a group of people with an interest in this work—surgeons, primary-care physicians, researchers, endocrinologists, and more—to form the Transgender Health Working Group. We met regularly to figure out how to improve Montefiore’s ability to offer comprehensive care to trans folks. At the same time, from senior management on down, the institution was interested in addressing the vast unmet healthcare needs of the trans community in the Bronx. Those efforts coalesced into the TransWellness Centers at Montefiore.

How are you working to help educate current and future providers about the needs of LGBTQ patients?

Some of my colleagues and I get an increasing number of hours during the

“The medical societies started to make it clear that transgender healthcare was mainstream healthcare—that all transgender and nonbinary people had the right to seek gender-affirming care.”

— DR. ROBERT BEIL

DR. BEIL’S MILESTONES IN HEALTHCARE EQUITY

1996

Becomes chief resident in the social medicine program at Montefiore.

2001

Is appointed the medical director of the Centers Implementing Clinical Excellence & Restoring Opportunity (CICERO) program, which serves more than 1,000 HIV-positive patients at Montefiore sites throughout the Bronx.

2014

Organizes a group of surgeons, primary-care physicians, researchers, endocrinologists, and more to form the Transgender Health Working Group.

2021

Begins Montefiore Sexual and Gender Minority Grand Rounds, delivering information to a multidisciplinary audience throughout Einstein and Montefiore.

MOTIVATIONS | SPOTLIGHT

“The work we’ve done through the TransWellness Centers is all on our own time and without any additional financial support from outside Montefiore. With funding, we could do so much more.”

— DR. ROBERT BEIL

course of students’ medical education to lecture on LGBTQ health, and we also teach during residency. Most providers practicing medicine today did not receive much—if any—training in sexual- or gender-minority care. Not only do we need to teach future physicians about sexuality, gender, and identity; we also need to retrospectively educate healthcare practitioners who never received that training.

One of the advancements I’m most excited about is the Montefiore Sexual and Gender Minority Grand Rounds, which we’ve been able to provide due to some funding from the Bronx Community Health Network. We’ve been doing this for a year and have received very positive feedback. With the pandemic, we’ve delivered these lectures over Zoom videoconferencing and, honestly, that has made it possible to build a wider audience. It’s exciting to be able to dive deeper into the healthcare needs of our vulnerable population and be able to deliver information to a multidisciplinary audience throughout Einstein and Montefiore.

What role has philanthropy played in your ability to treat marginalized communities? Where is the need greatest?

A lot of the HIV work I’ve done at Montefiore has been funded through government support, but not transgender care. Similarly, many of the efforts I’ve advanced with community-based organizations have been through a mix of philanthropic and government grants, though a lot of those programs have aimed at treating and preventing HIV—with transgender and gender nonbinary [TGNB] work as a product, but not a goal.

My hope is that we can increase

funding for hospital-based TGNB care. I think there’s a perception that, because gender-affirming care involves surgery, the programs then pay for themselves. The reality is that launching a comprehensive gender-affirming program takes a very significant investment well before there are reasonable amounts of collections.

The work we’ve done through the TransWellness Centers is all on our own time and without any additional financial support from outside Montefiore. With funding, we could do so much more to build up the program for our patients. There’s a saying that “support begets more support.” We need staff to write grants, more clinicians to provide care, and a patient navigator to help guide people through the system. We need support to develop community partnerships and to get the word out about the terrific work we’re doing. That capacity-building progress would be huge for our mission.

What is your vision for the future?

The TransWellness Centers encompass multiple centers of care for transgender people throughout Montefiore. I think it would be a tremendous step forward—for Einstein, Montefiore, and the Bronx’s TGNB community—to have a single location where people could go to receive comprehensive care. Centers like that take quite a bit of funding for medical staff, administrators, clerical staff, and operating costs like rent. It’s no small undertaking. **E**



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MOTIVATIONS | YOUR IMPACT



Alyson Moadel-Robblee, Ph.D., at left, of the Albert Einstein Cancer Center, with Elizabeth Serrano, a BOLD Buddy at Montefiore.

A BOLD IDEA

Free program offers counseling, education, and support services to Bronx cancer patients

BY GARY GOLDENBERG

When Nancy Dejoie of the Bronx was diagnosed with advanced breast cancer, she had many concerns: How will surgery and chemotherapy affect my body? What does my course of treatment entail? Will I feel well enough to take care of my husband and children and to do the things I love? Fortunately, Mrs. Dejoie

wasn't alone. She received life-changing help from a volunteer peer counselor—a cancer survivor herself—through Bronx Oncology Living Daily (BOLD Living), Montefiore and Einstein's free wellness and support program for local cancer patients.

"My BOLD Buddy [as peer counselors are known] called me every day to ask how I was doing and answer my questions," says Mrs. Dejoie, a native of Haiti. "She knew exactly what I was going through and helped me in ways I cannot describe. She motivated me to fight the disease."

Mrs. Dejoie also took advantage of BOLD Living's classes in Spanish language, painting, and crocheting—just a sampling of the program's diverse offerings. "They even provided tutors and school supplies for my kids," she adds.

Taken with the program, she became a peer counselor herself even before completing her own treatment. "I wanted to give back, to be like the people who inspired me," says Mrs. Dejoie, one of three dozen BOLD Buddies at Montefiore.

BOLD BEGINS

Credit for BOLD Living belongs to Alyson Moadel-Robblee, Ph.D., who was just 16 when she lost her mother to breast cancer. This life-changing experience ultimately led her to pursue a doctorate in health psychology at Einstein and Yeshiva University (Yeshiva now manages the program), followed by a fellowship at Memorial Sloan Kettering Cancer Center in psychosocial oncology—at the time a fledgling subspecialty—which addresses the psychological, behavioral, emotional, and social aspects of cancer care. Dr. Moadel-Robblee then returned to the Bronx to



The Bronx Oncology Living Daily (BOLD) program offers painting and other wellness classes.

"With BOLD Living, we aim to address patients' emotional and social support needs, to complement their medical and surgical care."

— DR. ALYSON MOADEL-ROBBLEE

direct a new program in psychosocial oncology and conduct research at the National Cancer Institute-designated Albert Einstein Cancer Center.

Dr. Moadel-Robblee is now the associate director of community outreach and engagement at the cancer center and a professor of epidemiology & population health, of medicine, of radiation oncology, and of psychiatry and behavioral sciences at Einstein. Over the years she has steadily added more services to help people in marginalized

communities cope with cancer.

"From talking with patients, I learned that they wanted nutrition and fitness workshops and mind-body programs so they could take an active role in their care," she says. "Others expressed a desire to talk with somebody who understood firsthand what they were going through or who could accompany them to treatment."

With these requests in mind, in 2008 Dr. Moadel-Robblee launched BOLD Living. It has since evolved to

include a host of wellness workshops, individual counseling and support groups led by mental-health interns, cancer screening navigators, community outreach efforts, BOLD Buddies, end-of-life doulas, and BOLD Brother/Sister Peer Mentors (for teens and young adults who have parents diagnosed with cancer).

"With BOLD Living, we aim to address patients' emotional and social support needs, to complement their medical and surgical care," Dr. Moadel-Robblee says. "We're here as an important piece of the healthcare system to ensure that all patients have access to culturally informed and needs-based psychosocial resources for the best quality of life and care possible as they navigate cancer diagnosis and treatment."

Today, the BOLD Living team

reaches more than 1,000 patients and community members a year. Services, available in English and Spanish, are free to all people in the Bronx affected by cancer or in need of cancer screening navigation, regardless of where they receive their medical care.

A CANCER SCARE, TWICE OVER

Glenn and Marietta Alba encountered BOLD Living in a different way. In 2015, Glenn's mother, Dotty Kelly, was diagnosed with stage four lung cancer. Preparing for the worst and hoping for the best, she sought care from Shalom Kalnicki, M.D., professor of radiation oncology and of urology at Einstein and chair of radiation oncology at Montefiore. Dr. Kalnicki found that her tumor was a good genetic match for a new immunotherapy; combining

it with radiotherapy put her cancer into remission.

The Albas weren't done with Montefiore's oncologists just yet. Two years later, Mrs. Alba was diagnosed with stage one breast cancer. "Needless to say, it was shocking," she says. "But I was fortunate to have the support of my husband and access to the best care."

After undergoing a lumpectomy and radiotherapy, Mrs. Alba left Montefiore with a clean bill of health—and a deep sense of gratitude. "We wanted to find a way to give back to Montefiore and the greater Bronx community," she says. "My parents grew up in the Bronx, and I have fond memories of family celebrations there. So it's meaningful for me to stay connected in this way."

Once they heard about BOLD Living, the Albas knew exactly where

Members of the BOLD Living program gather for a crafting workshop. The initiative reaches more than 1,000 patients and community members a year and is free to all people in the Bronx affected by cancer.



MOTIVATIONS | YOUR IMPACT

“We wanted to ensure that other families who are struggling with this disease have the support they need, and that these services would be free.”

— MR. GLENN ALBA

Glenn and Marietta Alba have established a fellowship in psycho-oncology at Montefiore.



they would direct their philanthropy. “Cancer can have such a profound psychological impact on both patients and caregivers,” Mr. Alba says. “We wanted to ensure that other families who are struggling with this disease have the support they need, and that these services would be free.”

In 2020, the Albas, who now live in Florida after many years in New Jersey, established the Marietta and Glenn Alba Fellowship in Psycho-Oncology. The

two-year training program provides an opportunity for a Ph.D.-level psychologist to expand BOLD Living’s clinical reach, conduct research into health disparities, and ultimately spread this model of care further afield.

THE INAUGURAL ALBA FELLOW

The first recipient of the Alba fellowship is Brittany Miller, Ph.D., a graduate of Stony Brook University’s doctoral program in social and health psychology.

“During my studies, I heard a lecture about integrating psychological care into standard cancer care alongside the work of radiologists, pathologists, and other specialists,” recalls Dr. Miller, whose dissertation focused on attitudes about preventive breast health behaviors among young adult Black women. “I thought, ‘I would love to do that type of work, particularly in an underserved community.’” As luck would have it, the Alba fellowship launched just when Dr. Miller was contemplating the next step in her career.

At Montefiore, Dr. Miller has had a hand in all aspects of BOLD Living, giving her opportunities to put her new skills into practice and broaden her professional horizons. “At Stony Brook, I focused on cancer prevention. Now I’m more involved in the actual cancer experience, from diagnosis all the way through to survivorship, which has provided me with a more comprehensive view of the experiences with this disease,” she says.

Thanks to the Alba fellowship, Dr. Miller has become immersed in the life of the community, where she’s able to put academic theories into everyday practice. Alongside BOLD interns and Buddies, she visits health fairs, food

BOLD LIVING AT A GLANCE



BOLD Buddies

Weekly counseling and support groups led by mental-health counseling interns; volunteer peer counseling.



BOLD Brothers and Sisters

Free peer-mentoring program for teens and young adults who have or have had a parent or close caregiver diagnosed with cancer. In addition to the emotional support they receive through their BOLD brother/sister mentors, mentees receive career and academic guidance.



Support Groups

Groups (one in English, one in Spanish) that offer a safe place for those interested in sharing their thoughts and feelings, connecting with others, and learning how to cope with day-to-day challenges.



Wellness Workshops

Free nutrition, wellness, and fitness workshops and mind-body programs for patients and caregivers. The schedule offers yoga, dance, creative arts, meditation, health education, and more.



Cancer Screening

A program (Montefiore-Einstein BOLD Navigation) offering free assistance in scheduling screenings for breast, cervical, lung, colorectal, and prostate cancers as well as providing follow-up support for understanding screening results.

2008

The BOLD Living Program was launched to meet the needs of those affected by cancer in the Bronx.

1,000+

Number of patients and family members who receive no-cost services each year.

10+

Number of free workshops per month, conducted in person in the Bronx and virtually.



“Many people here are already dealing with housing instability, food insecurity, and other pressures. If you add the stress of having cancer, it can be overwhelming.”

— DR. BRITTANY MILLER

pantries, and shelters, and is launching a program to include places of worship as well. It has been an eye-opening experience. “Many people we encounter have never had certain cancer screenings,” she says. “They don’t even know where to start. So we walk them through the process and connect them to everything they need—including BOLD Living—should they receive a cancer diagnosis.

“I understood beforehand that cancer can affect every aspect of your life, but I didn’t realize to what extent, particularly in a vulnerable community like the Bronx,” she adds. “Many people here are already dealing with housing instability, food insecurity, and other pressures. If you add the stress of having cancer, it can be overwhelming.”

Dr. Miller’s portfolio also involves three research projects, including efforts to improve cancer screening and support services in the Bronx lesbian, gay, bisexual, transgender, and queer community; develop a free training series for Bronx church leaders to help improve cancer outcomes among their congregants; and better understand how to encourage engagement with mental-health services among female cancer patients and cancer survivors in the Black community.

“I’ve also been learning so much about the various cultures here, and their different beliefs about cancer and mental-health care,” she continues. “For some groups, talking about these topics is taboo. If you want to engage people and promote healthy behaviors, you have to develop culturally sensitive strategies. Our interns and BOLD Buddies, who reflect the diversity in the community, have been a great resource. The Buddies in particular bring so

much wisdom from their own experiences with cancer. I’ve learned a lot from them.”

PART OF THE FAMILY

One of those fonts of wisdom is Harmon Kennedy, a longtime Bronx resident who received a colorectal cancer diagnosis in 2011. Mr. Kennedy became a BOLD Buddy a few years later, after treatment brought his disease under control. “It’s great to have friends and family to talk to, but so often, they don’t really understand,” he says.

“If they haven’t gone through cancer, they don’t get it. You want to know what is going to happen to you, what chemo is like. Ten years after my last treatment, I can still remember them sticking needles into me. I remember the taste of chemo in my mouth. That’s what I can share with patients. When they meet me and hear my story, I can see the relief. I would have liked to have talked to someone when I was diagnosed.”

While some patients need only a few months with a BOLD Buddy, others stay in touch for years. “I knew Charlie, my first patient, for almost five years,” Mr. Kennedy says. “We became friends. Charlie passed on a few years ago, but at least I got to say goodbye. For Buddies, the hardest thing is the people you lose, especially the ones you don’t get to say goodbye to, like Elaine. She just stopped contacting me, and I didn’t know why. She wasn’t the type not to stay in touch. I learned later from her doctor that she had passed away. It affected me badly. I had survivor’s remorse. It was like losing a member of the family.”

Still, Mr. Kennedy feels an inseparable bond to BOLD and its mission. “Every cancer patient deserves a Buddy,” he says. **E**

CLASS NOTES

1960s

Jack Katz, M.D. ‘60, is now in the private practice of psychiatry after a long career in academic medicine. He has retired from basketball and singles tennis. (His knees are no longer up to it.) He still looks back fondly on his four years at Einstein.

David White, M.D. ‘63, lives in Eugene, Ore., with his wife of 56 years, and they continue to enjoy each other’s company. His youngest granddaughter is in college, starting her premed studies.

Rich Hoffman, M.D. ‘65, and his wife are fortunate that one of their sons, his wife, and their two children live close by, as does their eldest son, who is less than an hour away. Being a grandfather has been one of Dr. Hoffman’s greatest joys in life.

1970s

Doug Drossman, M.D. ‘70, is a professor emeritus of medicine and psychiatry, specializing in gastroenterology, and has been developing programs

to teach communication skills to optimize the patient-provider relationship. He just released a book that he wrote with his patient Johannah Ruddy called *Gut Feelings: Disorders of Gut-Brain Interaction and the Doctor-Patient Relationship*.

Stewart Albert, M.D. ‘71, is still practicing, teaching, and researching. He also plays senior handball and tennis, and is learning how to cook; his specialty is Stew’s Stew. He hopes to travel again soon.

Einstein Alumna Named Editor of *Journal of Clinical Investigation*

Elizabeth McNally, M.D., Ph.D. ‘90, has been elected editor of the *Journal of Clinical Investigation (JCI)*, a leading peer-reviewed medical journal aimed at defining disease pathways and treatments. She is the first woman to hold the title of editor in the journal’s nearly 100-year history. Her five-year term began March 1, 2022.

Dr. McNally directs the Center for Genetic Medicine at the Northwestern University Feinberg School of Medicine in Chicago, where she studies inherited disorders that affect cardiac and skeletal muscle function.

After graduating from Einstein’s Medical Scientist Training Program with both M.D. and Ph.D. degrees,

Dr. McNally completed her residency and fellowship in cardiovascular medicine at Brigham and Women’s Hospital and her postdoctoral fellowship in genetics at Boston Children’s Hospital. She was elected to the Association of American Physicians in 2006 and is serving as its 2021–22 president. In 2021 she was elected to the American Academy of Arts and Sciences and to the National Academy of Medicine.

Members of the Einstein community have played important roles at *JCI* in recent years. The current editor, Rexford Ahima, M.D., Ph.D., director of endocrinology, diabetes, and metabolism at the



Photo courtesy of Northwestern University

Elizabeth McNally, M.D., Ph.D.

Johns Hopkins University School of Medicine, completed his residency and fellowship in endocrinology at Einstein. The preceding editor was Gordon F. Tomaselli, M.D., Einstein Class of ‘82, the Marilyn and Stanley M. Katz Dean at Einstein and the executive vice president and chief academic officer at Montefiore.

STAY IN TOUCH

Keep your classmates up to date by submitting your news to *Einstein* magazine. We look forward to including you. Email us at einsteinalumni@einsteinmed.edu.

Arnold Bodner, M.D. '71, has been volunteering at a COVID-19 vaccine center in Essex County, N.J., and spends time with his wife of 30-plus years, Rosemary.

Roland Einhorn, M.D. '71, retired in 2012 and has been happily married for 40 years to his wife, Barbara. He reports that their daughter, Lisa, is a pediatric anesthesiologist at Duke University Hospital, and that they have three beautiful grandchildren. He lives in Jupiter, Fla., but also maintains a home in Baltimore.

Hyam Leffert, M.D. '71, has been in La Jolla, Calif., since graduating and has yet to retire. He wishes his fellow classmates long life, health, and happiness. He says it was a wonderful privilege to study medicine at Einstein, and reminds everyone to stay safe with the COVID-19 variants out there.

Neil Meade, M.D. '71, has retired and spends time with his two doctor daughters—"continuing the Einstein tradition of promoting women in medicine"—and their two doctor husbands and six grandchildren.

Stephen Senreich, M.D. '71, now retired, keeps up with journals and

playing guitar. He and his wife continue to travel and have fallen in love with Italy. He reports that he has "two wonderful children, who married wonderful spouses, and four wonderful grandchildren."

Robert Ritch, M.D. '72, received the Bietti Gold Medal from the International Congress of Ophthalmology and a Doctorate Honoris Causa from the University of Alcala, Spain. With the ongoing pandemic, he believes now is the time to retire. He wants to continue to practice telemedicine, consult from home, and write.

Gary Lotner, M.D. '73, is enjoying retirement after more than 40 years in the practice of allergy, asthma, and clinical immunology in Atlanta. He has two children and five grandchildren (ages 3 months to 11 years), all within a short drive. His new book, a humorous memoir called *Reflections of a Life in Medicine: The Ups, Downs, and All Arounds*, is a collection of vignettes about his earlier years in training and as a young physician.

Isaac Gorbaty, M.D. '74, is alive and wishes everyone well!

Harold Pincus, M.D. '75, is a professor and the vice chair of psychiatry at Columbia University's Vagelos College of Physicians and Surgeons and the co-director of Columbia's Irving Institute for Clinical and Translational Research. The institute recently received a \$61.7 million grant—one of the largest ever awarded to the medical school—from the National Institutes of Health to accelerate development of new medical treatments. Dr. Pincus also directs the national Health and Aging Policy

Fellowship and is a senior scientist at the RAND Corporation. He is a member of the external advisory board for Einstein's Harold and Muriel Block Institute for Clinical and Translational Research.

Lewis Rubin, M.D. '75, is an emeritus professor of medicine and emeritus director of the division of pulmonary and critical-care medicine at the University of California–San Diego School of Medicine. He is also an adjunct professor of medicine at the Columbia University College of Physicians and Surgeons. He continues to teach, consult, do research, and work as a medical volunteer in developing countries.

Karen Lowenstein Kade, M.D. '76, retired more than two years ago after selling her dermatology practice in Miami. She and her husband, Paul, moved to the west coast of Florida and are living in the Sarasota area. They have three grandchildren. Both of their daughters and their families live in Philadelphia.

Howard Reinstein, M.D. '78, was recently named physician of the year by the medical staff at the Providence Cedars-Sinai Tarzana Medical Center in California. He also received the Heart of Gold Award from the Child Development Institute. His daughter, son-in-law, and two of his grandchildren have moved back to Los Angeles after many years in San Francisco.

1990s

Lisa Moreno, M.D. '90, is a professor of emergency medicine at the Louisiana State University–New Orleans. She has been elected president of the American Academy of Emergency Medicine—the first woman ever to hold that post.

2010s

Evan Tamura, M.D. '16, has been working since 2019 as a primary-care family medicine physician in East Los Angeles with AltaMed Health Services. She recently was given the opportunity to take over leadership of AltaMed's opioid-use disorder and medication-assisted treatment services initiative, which she is eager to continue expanding. She and her husband live in Long Beach, Calif., with their rescue cat, Bernie.

Pratistha Koirala, M.D., Ph.D. '18, was recently elected to the board of

trustees (resident and fellow seat) of the American Medical Association (AMA). Born in the foothills of Nepal, Dr. Koirala had experiences as an immigrant and in her work with underserved individuals that are reflected in the deep value she places on diversity and equity in medicine. Dr. Koirala joined the AMA as a medical student in the Bronx and has held multiple leadership roles at the state and national levels, including on the executive council of the Medical Society of the State of New York. She is currently the resident and fellow member of the board of directors of the AMA's independent bipartisan political action committee.

2020s

Conor Fowler, M.D. '20, was engaged to Ingrid Anna Frahm on May 21, 2021. The two met while Dr. Fowler was finishing his third year at Einstein. They purchased their first home together in Boston, where Dr. Fowler is completing his physical medicine and rehabilitation training at Harvard Medical School/Spaulding Rehabilitation Hospital and Ms. Frahm continues as the digital art director for *Allure* and *Glamour* magazines, based in New York City. They have plans to get married this summer in Mystic, Conn.

IN MEMORIAM

Frances Cerullo, age 87, a recently retired psychoeducational specialist at the Children's Evaluation and Rehabilitation Center at Einstein, whose work with children who had reading disabilities and behavioral problems spanned nearly 45 years, Oct. 27, 2021, Mount Kisco, N.Y.

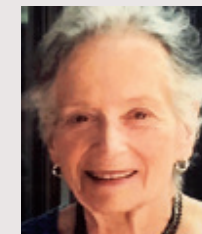
Ricardo Perez Dulzaides, age 33, a fourth-year Einstein M.D./Ph.D. student who had a passion for clinical investigation and was an advocate for diversity and the underserved, Nov. 12, 2021, Bronx, N.Y.

Babatunde ("Tunde") A. Eboime, M.D. '71, age 77, a native of Nigeria and Princeton University graduate and an obstetrician-gynecologist who served generations of families in California for more than 35 years, Dec. 10, 2021, Pasadena, Calif.

Wendyann Ocasio, age 52, a community representative for the Einstein Institutional Animal Care and Use Committee, July 7, 2021, Bronx, N.Y.

Clinton Potter, M.D. '87, age 61, a family medicine physician, founder of Advanced Individualized Medicine of Naples, Naples Pride Center board member, and advocate for the LGBTQ community, Aug. 18, 2021, Naples, Fla.

The Honorable Felice K. Shea, Montefiore Trustee



Justice Felice K. Shea, a member of the board of trustees for Montefiore Health System for 25 years, died Dec. 27, 2021, at age 98 in New York City.

Justice Shea was an inspiring and fierce advocate for equity and social justice and a generous humanitarian. A trailblazer for women in law, Justice Shea opened opportunities for others throughout her lifetime of public service. After working as an attorney with the Legal Aid Society, she served as a judge in the Civil and Family Courts before her election to the New York State Supreme Court, from which she retired at the end of 1999.

When speaking of Montefiore—where her parents also sat on the board—she said, "Healthcare is a human right. And good healthcare, respectfully given and patient-centered, is what Montefiore is all about. To me, that is social justice." Having done so much for so many, Justice Shea left a legacy that will live on at Montefiore and Einstein.

She is survived by her sister, Paula Oppenheim; her three children, Steven, Katherine, and Andrew Shea; eight grandchildren; and five great-grandchildren.

Visionary Educator Albert Kuperman, Ph.D.



Albert S. Kuperman, Ph.D., who served as the associate dean for educational affairs at Einstein for nearly 40 years and was a

professor emeritus of molecular pharmacology, died Dec. 21, 2021, at age 90 in New York City.

Dr. Kuperman shaped many aspects of medical education at Einstein. His legacies include the global health program; the social medicine course he helped medical students establish; and Einstein's art and literary magazine, *Ad Libitum*, which he championed as an important creative outlet for all members of the campus community.

"Dr. Kuperman was one of my Einstein role models," noted Gordon F. Tomaselli, M.D., the Marilyn and

Stanley M. Katz Dean at Einstein and a member of the Class of 1982. "He made sure that medical students got to experience clinical medicine on the wards within our first 18 months, which was not the general practice at the time but is now a common aim."

Born and raised in the Bronx, Dr. Kuperman earned his bachelor's degree at New York University and his Ph.D. at Cornell University. He was a fellow in nerve-muscle physiology at the U.S. Naval Research Institute and completed a post-doctoral fellowship in pharmacology with the U.S. Public Health Service at Cornell Medical College. He was a visiting scholar at Columbia University's Teachers College before joining the Einstein faculty.

Dr. Kuperman is survived by his daughters Meredith (Chuck) and Laura (John); granddaughters Hayley and Caroline (Paul); and sister Thelma (Gilbert).

Professor of Biochemistry John Blanchard, Ph.D.



John Blanchard, Ph.D., professor of biochemistry and the Dan Danciger Chair in Biochemistry at Einstein, died Nov. 5, 2021, at age 67 in

Pelham, N.Y. A talented enzymologist, Dr. Blanchard was a dedicated teacher and a mentor to young scientists from all over the world.

In 2009 Dr. Blanchard identified a promising new treatment for extensively drug-resistant tuberculosis (XDR-TB). He found that a combination of two drugs (clavulanate and meropenem) halted the growth of XDR-TB in laboratory culture. His drug combination has saved the lives of several patients with XDR-TB.

In 2014 the National Institute of Allergy and Infectious Diseases awarded

Dr. Blanchard a four-year, \$2.7 million grant to continue his efforts to find novel therapies for drug-resistant TB. In 2017 Einstein awarded him the Marshall S. Horwitz, M.D., Faculty Prize for Research Excellence.

Dr. Blanchard was born in Connecticut and grew up in Cheshire and New Haven. He graduated from Lake Forest College in Illinois in 1975 and received his Ph.D. in biochemistry from the University of Wisconsin–Madison in 1978. He arrived at Einstein in 1979 as a National Institutes of Health postdoctoral fellow and later joined the faculty as an assistant professor, earning full professor status in 1993.

Dr. Blanchard is survived by his wife of 41 years, Kim, children Virginia and Charles (Sarah), and brother W. Scott Blanchard (Jenny).

Remembering Diane L. Belfer

Einstein Board of Trustees Member



The Einstein and Montefiore communities lost a devoted friend on Jan. 2, 2022. Diane L. Belfer, longtime Einstein Board of Trustees member, who led with grace, sincerity, and goodwill, died at her home in Palm Beach, Fla., on her 94th birthday.

In addition to her 32-year service as a Trustee, Mrs. Belfer also served in Einstein's Women's Division. Her wide-ranging philanthropic support (see "Belfer Building," next page) is a testament to her remarkable influence on Einstein and its people.

Teresa DiLorenzo, Ph.D., the Diane Belfer, Cypres & Endelson Families Faculty Scholar in Diabetes Research and a professor of microbiology & immunology and of medicine, recalls Mrs. Belfer's "hope and kindness" throughout their decade-long partnership. "Her support of research," adds Dr. DiLorenzo, "has had immeasurable value." Mrs. Belfer and her family also endowed the Diane and Arthur B. Belfer Faculty Scholar in Cancer Research.

The Einstein family joins Mrs. Belfer's own—her son, Kenneth Endelson, and his wife, Sherry; her daughter, Kathi Cypres, and her husband, Gary; five grandchildren; seven great-grandchildren; and her stepson, Robert A. Belfer—in memorializing Mrs. Belfer's curious nature, generosity of spirit, and commitment to science.



Albert Einstein College of Medicine Archives

A LOOK
BACK

The Belfer Building Turns 50

Urgently needed for a growing College of Medicine: more lab space, classrooms for basic-science instruction, and an auditorium for lectures. The solution: The Arthur B. and Diane Belfer Educational Center for Health Sciences, which opened in 1972 and permitted increased student enrollment. This photo, looking northwest from Eastchester Road toward Morris Park Avenue, shows the 15-story building (in center of photo) as it neared completion. The new center expanded the department of community health, grew the audiovisual department, and instituted a computer and biomathematics center. The Belfer Building also centralized the office of the dean and Einstein's administrative services—until then scattered throughout the campus—and provided space for an office of education. The \$10.2 million structure was paid for by a \$3 million grant from the National Institutes of Health, along with funding from New York City and New York State and a gift from Mr. and Mrs. Belfer, who were significant Einstein supporters (see facing page).



Albert Einstein College of Medicine

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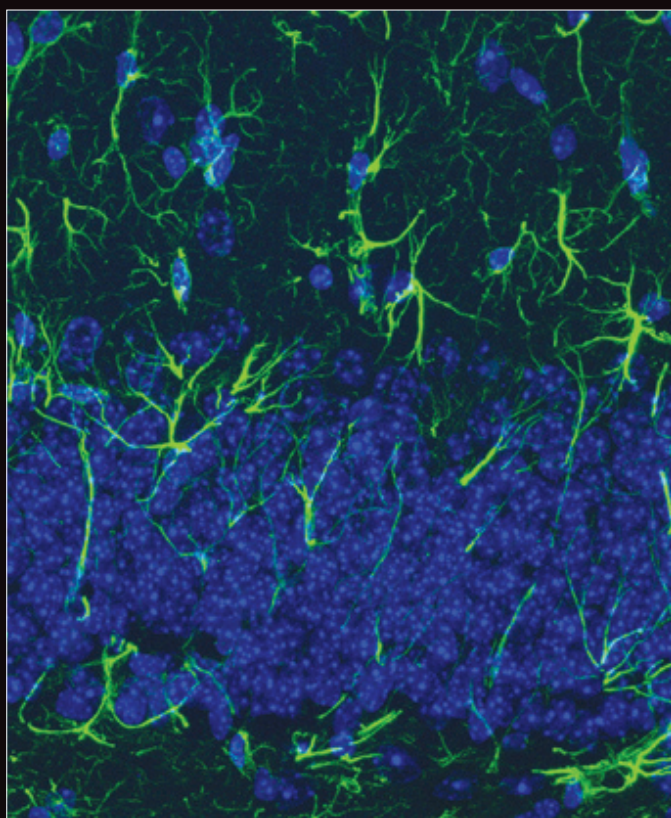
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EINSTEIN IMAGE

In 1998, researchers made the surprising finding that neurogenesis—the production of new neurons—continues to occur in the adult brain. A year later, exercise and an enriched environment were shown to promote neurogenesis in adult mice. The laboratory of Jean Hebert, Ph.D., identified FGFR (fibroblast growth factor receptor) signaling as the molecular route through which those external stimuli trigger neural stem cells to produce new neurons in the mouse hippocampal dentate gyrus, a brain region vital for forming new memories. The findings were published in 2021 in the *Journal of Neuroscience*. In this dentate gyrus cross-section, the blue cells are neurons. (Each blue dot is a neuron nucleus.) Stem cells, the green cells on the lower edge of the blue layer, extend thin green processes into the neurons. Astrocytes (which support neurons) are the upper green cells. Dr. Hebert is a professor in the Dominick P. Purpura Department of Neuroscience and of genetics. Marta Grońska-Pęski, Ph.D., conducted the research.