

# Columbia Medicine

Columbia University Vagelos College of Physicians & Surgeons

WINTER 2023

**Biohub New York**

A new way of detecting disease

**White Coats**

VP&S welcomes the  
Class of 2027

## THE STATE OF CARE

THE LATEST IN  
PREVENTION, DIAGNOSIS,  
AND TREATMENT



## Dear Readers,

Our medical school's history is rich with so many incredible milestones: the first MD degree, Nobel Prize-winning research, and notable medical achievements that have saved lives, not only in our own facilities but wherever medical care is delivered around the world. We are justifiably proud of our many historical contributions to medicine.



This issue shares highlights of our ongoing excellence in patient care. You will read about innovative care delivered by VP&S faculty, including new cancer tests and procedures, minimally invasive treatment for epilepsy, the use of genetics and precision medicine in patient care, the impact of the environment on women's health, the first infant "domino" heart valve transplant procedure, and more. The stories illustrate the power of interdisciplinary collaboration and speak to the strength of team science in transforming health care.

This is not an exhaustive list of what you'll read about on these pages, and, importantly, this issue describes only some of the many, many ways our doctors are caring for patients and changing the practice of medicine for the better.

Our legacy in patient care extends far beyond the treatment of individual patients. In the grand scheme of things, we treat only a small number of patients who present to doctors and hospitals every day in every corner of the world. It is through our sharing of knowledge, our teaching, and our training of the next generation that we amplify our reach in patient care. Our education and clinical missions are as interdependent as the bench-to-beside and bedside-to-bench collaborations that inform our research and clinical missions. Through these collaborations, we are creating a better future for health care that patients everywhere deserve.

Best wishes for a happy and healthy 2024,

A handwritten signature in black ink that reads "Katrina Armstrong".

**Katrina Armstrong, MD**

Dean

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## Support When It's Needed

When Dr. Baltuch experienced a “complication” during surgery, he felt “grief, shame, and guilt” (Fall 2023 *Columbia Medicine*).

The story describes a program created that encourages colleagues to simply say “I know you had a challenging event. Tell me about that.” Peer support was offered based on the premise that “the quickest way to recover from an adverse event is to encourage physicians to verbalize thoughts about an adverse event.”

In medicine today physicians work in a network of associates and departments that must work together to accomplish excellent outcomes for the patient. If the organization of the hospital fails to provide the necessary support for the physician, bad outcomes (complications) may arise. When these failures result in bad outcomes, the physician is often left to assume the responsibility for the event. Hospital administrators/leaders tend to avoid engaging in the uncomfortable root cause system analysis of bad outcomes when they consider, as your article suggests, that the physician's emotions are the only thing worth consideration after a “complication.” Perhaps complications suggest a need for a more detailed concern.

William Reichert'69

## Gun Violence

I was thrilled to read about the project led by Charles Branas, PhD, to find “creative scientific solutions to gun violence” (Fall/Winter 2022 *Columbia Medicine*). This is an issue that clearly has suffered from a great deal of heat and all too little light in the form of genuine scientific study. It's an issue that I have personally been interested in for many years because the shooting sports have been a huge factor in my life. From the time I learned to shoot in the Boy Scouts at age 13 to the present, the only time I haven't fired rifles or pistols regularly was during my four years at P&S. I competed in target rifle and pistol in college (collegiate All American at Yale) and internationally at the Maccabiah Games in Israel and annually hunt deer in Minnesota. To this day I'm an avid gun collector and hold a federal firearms license. For many years I was a member of the NRA when the organization was responsible for U.S. rifle and pistol competition, but I finally left when they largely abandoned the competitive shooting sports in favor of extreme political activities.

I believe the vast majority of the shooting community fervently long, as I do, for genuine progress against gun violence, and I wish Dr. Branas and his study collaborators all success.

Irving Lerner'62

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## Chan Zuckerberg Biohub New York

**New Research Hub Brings Together Columbia, Rockefeller, and Yale to Engineer Immune Cells for Early Disease Prevention, Detection, and Treatment**

**C**olumbia University will join Rockefeller University and Yale University in the newest Chan Zuckerberg Biohub (CZ Biohub) Network, the Chan Zuckerberg Initiative announced in October. VP&S faculty member Andrea Califano, who has a doctoral degree in physics from the University of Florence in Italy, will be president of CZ Biohub New York.

The ultimate goal of CZ Biohub New York is to create new technologies to characterize and bioengineer immune cells to create disease-specific “cellular endoscopes” that can detect early stages of disease in cells, monitor cell changes, and resolve diseases before they become untreatable.

Dr. Califano, the Clyde’56 and Helen Wu Professor of Chemical Biology (in Systems Biology) and former chair of the Department of Systems Biology in VP&S, will lead CZ Biohub NY but remain on the VP&S

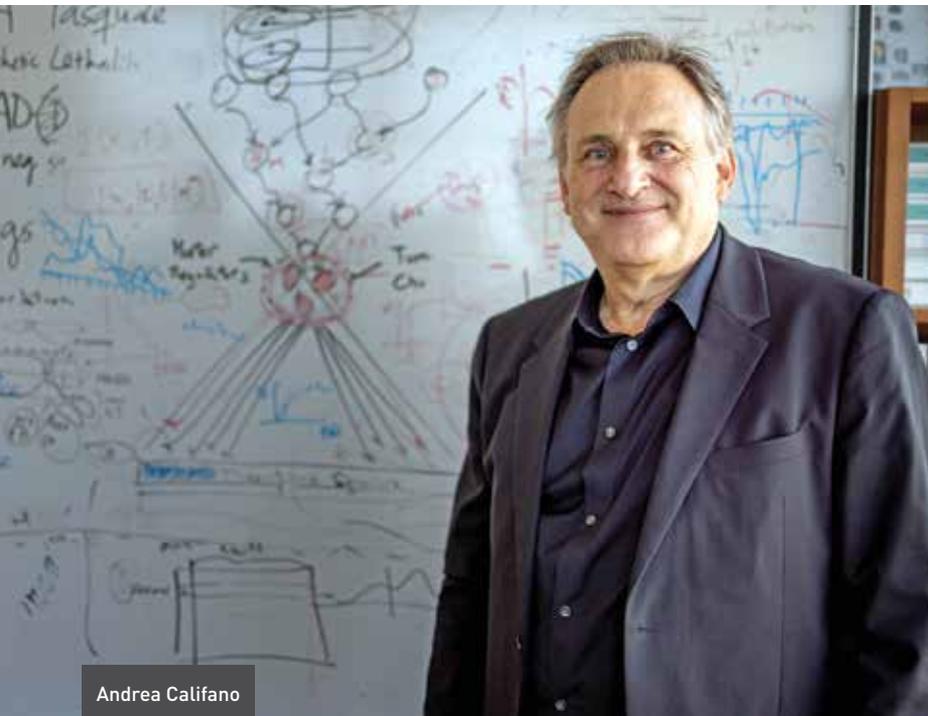
faculty, where he is also professor of biomedical informatics, of biochemistry & molecular biophysics, and of medicine in the Institute for Cancer Genetics.

CZ Biohub NY is the fourth research institute in the Chan Zuckerberg Biohub Network, a groundbreaking collaborative model for scientific research. The network includes the first CZ Biohub, in San Francisco, and a second in Chicago. The third institute is the Chan Zuckerberg Institute for Advanced Biological Imaging in Redwood City, California. Together, CZ Biohub Network institutions pursue science and technologies that quantify human biology in action to help researchers measure how cells and tissues function to increase understanding of health and disease. New York state and New York City have also contributed financial support for CZ Biohub NY.

CZ Biohub NY will first focus on learning more about the molecular memory and states of immune cells when they sense signals secreted by diseased cells and organs. This will help predict early signs of disease that are tissue-specific. Building on this, researchers will work to understand the mechanisms of immune cell trafficking to further direct cells to desired organs on demand and to sense novel disease signals they are not yet built to detect. This will help CZ Biohub NY to bioengineer immune cells that can travel to specific organs, sense any potential abnormalities, and then record information in their molecular state for easy detection from a simple blood draw—or by using non-invasive engineered devices—for further interpretation by scientists and, eventually, physicians.

CZ Biohub NY will initially apply these novel, technology-driven approaches to hard-to-detect cancers such as ovarian and pancreatic cancers; neurodegenerative diseases, including Parkinson’s and Alzheimer’s; and aging and autoimmunity. The next step is further training immune cells to make targeted repairs, such as promoting inflammation at a tumor site to activate a robust immune response.

“Right now, diseases such as cancer and Parkinson’s are often diagnosed after the onset of obvious symp-



SCOTT MURPHY / CHAN ZUCKERBERG INITIATIVE

Andrea Califano

toms, making them harder or even impossible to treat,” said CZI co-founder and co-CEO Priscilla Chan. “To change that, researchers and engineers at the New York Biohub will bioengineer immune cells to scout, report, and repair damage to our cells before it leads to serious illnesses.”

“The grand scientific question that these scientists are going to go after is around cellular engineering—to engineer immune cells to detect specific diseases and then eventually encode their molecular makeup,” said CZI co-founder and co-CEO Mark Zuckerberg. “The ultimate goal is to not go after a specific disease; it’s to create a new tool or platform that all scientists can use to study and make more specific advances.”

Lab tests and imaging scans can help doctors make some early diagnoses, but developing tools that can detect abnormalities before diseases take hold presents an opportunity that offers the potential to dramatically improve medical care. Immune cells are ideally suited to meet this challenge, as they are the only cells in our body that come in contact with virtually all of our tissues. They constantly roam the body by way of the blood and lymphatic system, helping monitor and maintain the health of our organs. CZ Biohub NY aims to unlock the vast information stored in the “molecular memory” of immune cells using single-cell biology tools, cutting-edge experimental technologies, machine learn-

ing, and artificial intelligence, with the goal of bioengineering new functions into immune cells to continuously monitor and manage organ and tissue health.

While cancer immunotherapies—treatments in which immune cells are engineered to specifically attack tumors—have seen great success and become mainstream therapies for certain forms of cancer, considerably less scientific attention has been paid to the medical potential of the sensing and “molecular recording” capabilities inherent to immune cells that come in contact with diseased cells. CZ Biohub NY will work to refine and amplify this ability to detect and decode subtle signs of early-stage disease that can elude conventional testing then deliver treatment directly upon detection.

“The CZ Biohub Network is driving a new model of long-term, strategic collaborative science that will enable its scientists to address scientific challenges,” says Dr. Califano. “These will range from bioengineering immune cells to take residence in specific organs, reporting back on tissue- and organ-specific health status, and eventually delivering therapeutic molecules to stop diseases at their earliest stages. Joining the Chan Zuckerberg Biohub Network presents a unique opportunity and long-term runway to assemble a remarkable ‘dream team’ of scientists and technologists to pursue their most ambitious goals aimed at creating a healthier future for all of us. When we first thought of this idea, it sounded like science fiction. But then we realized that piece by piece, the scientists at this remarkable trio of research institutions had all the individual components that could make this star shot work. The CZ Biohub Network provides a unique opportunity and the means to realize these scientific aims over the next 10 to 15 years.”

The Chan Zuckerberg Initiative was founded in 2015 to help solve some of society’s toughest challenges, from eradicating disease and improving education to addressing the needs of local communities. The mission of the initiative is to build a more inclusive, just, and healthy future for everyone.

## 26th Annual NCI Alfred G. Knudson Award in Cancer Genetics

**Andrea Califano** received the 26th Alfred G. Knudson Award in Cancer Genetics from the National Cancer Institute for his contributions to the field of cancer research.

The NCI presents the award to individuals who have advanced understanding of the genetic workings of cancer. Dr. Califano received the award in October at the 2023 NCI Intramural Scientific Retreat, where he presented an award lecture.

Approaching cancer research with a background in physics, Dr. Califano’s passion has been to create an “assembly manual” of the cancer cell, using computational and experimental approaches to create a comprehensive, tumor-specific map of the complex network of molecular interactions that determine a malignant cell’s behavior and response to treatment. His lab works to uncover the master regulators—key load-bearing pillars in that regulatory network that work

together to power the cancer cell—to create more precise and effective treatments. This approach has resulted in several clinical trials, including a novel, RNA-based N-of-1 precision oncology study.

Dr. Califano was founding chair of the Department of Systems Biology and director of the JP Sulzberger Columbia Genome Center from 2013 to 2023.

The award is named for the late Alfred G. Knudson, MD, PhD, who received his MD degree from VP&S in 1947. Dr. Knudson was a visionary researcher whose “two-hit hypothesis,” published in 1971, changed the way researchers thought of cancer and predicted the existence of tumor suppressor genes. For his work, Dr. Knudson received the Lasker Award and the Kyoto Prize. The NCI Knudson Award recognizes the recipient’s commitment and contribution to cancer genetics.

## New Education Deans

The vacancies left by the departures of Lisa Mellman, MD, as senior associate dean for students in the Office of Student Affairs and Hilda Hutcherson, MD, as senior associate dean in the Office of Diversity and Multicultural Affairs have been filled by three faculty members.

In the Office of Student Affairs, Jean-Marie Alves-Bradford, MD, will serve as associate dean for student affairs, support & services, while Salila Kurra, MD, will serve as associate dean for student career development.

David L. Bell MD, will serve as associate dean for diversity, inclusion, and belonging in the renamed Office of Student Diversity, Inclusion and Belonging.

“From orientation to graduation, the Office of Student Affairs and the Office of Student Diversity, Inclusion and Belonging assist our medical students in their journey through medical school,” says Monica Lypson, MD, vice dean for education at VP&S. “All three new associate deans are perfectly positioned to use their prior experiences and special areas of expertise to work collaboratively in fostering the professional and personal well-being of our students. I am delighted to have them all as part of the team in medical education.”

As associate dean of student affairs, support & services, Dr. Alves-Bradford will be the primary contact for university issues related to student affairs and oversee the system

of community support, class activities, and other services provided for students. She will continue to serve as the associate dean for medical school professionalism, where she spearheads the school’s training programs for departments, clerkships, and courses related



Jean-Marie Alves-Bradford

to student mistreatment issues. Dr. Alves-Bradford will work as a conciliator to assist students in resolving personal and academic issues and be a trusted point of contact for students seeking guidance and advice.

Dr. Alves-Bradford, associate professor of psychiatry, has served as director of the Washington Heights Community Service at the New York State Psychiatric Institute and the training director for Columbia University’s NIMH-funded T32 Research Fellowship in Global Mental Health. She is also the inaugural director of the Department of Psychiatry’s Office of Equity, Diversity, and Inclusion and associate clinical director of NYSPI. A graduate of the Albert Einstein College of Medicine at Yeshiva University, she has been a Columbia faculty member since completing her psychiatric

residency at Columbia, where she served as chief resident.

As associate dean for student career development, Dr. Kurra will oversee career services to promote career exploration and guide students through the residency application and Match processes.



Salila Kurra

She has served as an advisory dean since 2016 and is former director of the endocrinology fellowship program, giving her experience with mentoring, training, and educating students and trainees. She will continue as a member of the VP&S curriculum re-imagining creative workshop.

Dr. Kurra is associate professor of medicine and clinical chief in the Division of Endocrinology. A specialist in adrenal, thyroid, and bone disease, she is medical director of the Columbia Adrenal Center. A VP&S graduate, she has been on the faculty since completing her residency in internal medicine and a fellowship in endocrinology at Columbia.

Dr. Bell’s role as associate dean of diversity, inclusion and belonging will allow him to continue and expand upon

the medical school’s commitment to diversity, inclusion, and belonging. He has demonstrated a commitment to advancing health care and addressing the unique needs of diverse populations and has presented research on primary care for adolescent and



David L. Bell

young adult males at regional, national, and international forums. Dr. Bell, professor of pediatrics, has been involved in initiatives promoting diversity and inclusion at VP&S. He has been a member of the admissions committee for over a decade, playing a crucial role in recognizing and nurturing diversity within each incoming class. His connections with VP&S students and experience with pipeline programs will ensure a seamless integration into this role.

Dr. Bell received his medical degree from the University of Texas Southwestern Medical School and a master’s degree in public health from the University of California at Berkeley. He completed his residency at Bellevue Hospital and a fellowship at the University of California San Francisco.

## Taking Cardiology into Patients' Neighborhoods

After nearly two decades of community outreach, the cardiology division is expanding its reach by teaming up with primary care practices across New York City.

Several days a week, Columbia interventional cardiologist Babak “Bobby” Hassid, MD, travels to select primary care practices to take Columbia’s top-notch cardiology specialists closer to home for patients whose communities often lack such providers. At each office, Dr. Hassid meets with the practice’s patients and offers a full range of cardiovascular care, from a blood pressure check to a consultation regarding new-onset chest pain to a follow-up after a massive heart attack.

“We have no expectations of what we’re going to see,” says Dr. Hassid, assistant professor of medicine at VP&S. “We’re equipped to do it all.”

In less than a year, the community outreach program has added more than a dozen primary care practices as partners. With some 20 locations in northern Manhattan, the Bronx, Brooklyn, and Queens, the outreach practice sees upwards of 150 patients each week.

Martin B. Leon, MD, chief innovation officer for the cardiology division, hired Dr. Hassid for the outreach role and says the program is meant to make it easier for New York City residents to take advantage of what the medical center offers.

“Access to care these days is much more difficult, even in an urban center like ours,” says Dr. Leon, professor of medicine and an interventional cardiologist.

Taking interventional cardiology services to outposts throughout the city gives local patients unique access to the quality of care only Columbia and NewYork-Presbyterian can provide, Dr. Hassid says.

“No matter where we’re seeing patients, patients receive the same care they’d get walking through the door at our own offices,” Dr. Hassid says. “And if they ever need a procedure, whether it’s a stent or a bypass or a pacemaker or ablation, we find the right specialist and arrange for them to come to the hospital.”

Dr. Hassid adds that a goal of the outreach program is to keep as much care in the local community as possible, since patients are more likely to follow through with the care

they need when it’s local and convenient. His team can perform echocardiograms and vascular testing on site at the primary care offices, and they refer patients who need stress testing—not usually possible in the office—to a local site in the community.

Patients are generally more comfortable meeting a new doctor or specialist in a location or primary care practice they trust in their own community. Dr. Hassid says he and his team promote “compassionate touch,” an approach that helped a patient get a procedure he needed but was reticent to receive. Dr. Hassid first detected the patient’s blockage with the help of a state-of-the-art CT scan and recommended a stent to relieve symptoms. The patient opted to try medication first, but when his shortness of breath didn’t go away, the patient agreed to have the procedure performed by Dr. Hassid.

“I greeted him when he arrived at the hospital, then visited again afterward,” Dr. Hassid says. “He didn’t know how well he could have felt until he had the blockage fixed. Today he’s feeling great and has adopted a new exercise routine. It gives us all a huge sense of satisfaction. Yes, we’re a big academic institution that does world-class research, but the care patients get is like that of a mom-and-pop practice. They have our number and they feel comfortable calling us with questions and concerns.”

The program’s patient roster is growing by word of mouth, Dr. Hassid says. “Patients see what kind of care you give, and word spreads in the neighborhood that it’s a safe place to come.”

Dr. Leon says the interventional cardiovascular care community outreach program could serve as a model for other cardiology subspecialties and other medical specialties to give more New York City patients access to Columbia specialists.

“In its first year the outreach program has been surprisingly successful,” Dr. Leon says. “It resonates with many of the neighborhood physicians, and we think it has significant growth potential.”



Cardiologist Babak Hassid, right, helps to bring premier cardiology services to more patients across New York City. He is pictured with cardiologist Khady Fall, director of operations and program manager in imaging and physiology in interventional cardiology.

## VP&S White Coat Ceremony Welcomes Class of 2027

The newest students at VP&S received their white coats at an Aug. 11 ceremony at the Armory. The 2023 ceremony marked the 30th anniversary of the Arnold P. Gold White Coat Ceremony at VP&S. Dr. Gold, longtime professor of neurology and pediatrics, created the ceremony to reinforce a strong commitment to humanism among students.

The importance of humanism in medicine—especially amid such societal adversity as climate change, inequity, and threats to social and reproductive justice—was emphasized by Katrina Armstrong, MD, dean of VP&S, in her remarks to the new students. “The scientific advances that we bring to address the challenges of today have never been greater, but our ability to exercise these advancements feels threatened daily, and our society is in deep need of the healing and compassion that your white coat symbolizes for so many people.”

Students also heard from David D. Ho, MD, the Clyde’56 and Helen Wu Professor of Medicine and professor of microbiology & immunology at VP&S. Dr. Ho is the founding scientific director of the Aaron Diamond AIDS Research Center and, since caring for some of the first-known AIDS patients as a young resident, has been at the forefront of AIDS research for 40 years.

“Medicine is a noble profession of helping patients, one at a time, one day at a time,” Dr. Ho said. “A common refrain is that the practice of medicine has been taken out of the hands of doctors, who are being unduly burdened by bureaucratic red tape. It’s on you as the next generation of doctors to take back our honorable profession. Any one of you could cast a giant shadow on the medical field.”

After receiving their white coats, members of the Class of 2027 continued a tradition begun by VP&S medical students in 2021 by reciting an oath they wrote themselves. Their words were carefully crafted to update the Hippocratic Oath to better reflect the values they wish to uphold as they enter their medical training.



EILEEN BARROSO

### Class of 2027 Oath

**In our profession** it is a custom, established more than 2,000 years ago, to articulate and commit to our guiding values, influenced by both the past and present, before accepting the privilege of caring for our fellow humans as students of medicine.

**We recognize that the privilege of receiving medical training and expertise comes with great responsibilities.**

I make this pledge to myself, my classmates and future colleagues, and the individuals and communities I will serve.

I vow to accept my duties humbly but to advocate, advance, and serve boldly.

**We acknowledge that long-standing power dynamics, paired with unjust treatment, have created systemic barriers that stratify and marginalize vulnerable populations even today.**

I vow to translate this awareness into action by combatting discrimination in medical education and practice.

I promise to question the present and reflect on lessons from history to push the medical field forward and build a more inclusive and uplifting environment for all.

**We acknowledge that health is inseparable from intersecting identities and social factors.**

I vow to utilize diversity as a powerful asset in medicine by tailoring my care to honor each patient’s unique lived experiences.

I will embrace the diversity of my fellow providers and stand with and advocate for my colleagues in order to safeguard and ensure their continued health and well-being.

**We affirm that all patients deserve compassionate, equitable care that places their needs, values, and person-**

**hood at the center. We further acknowledge that compassion is an action that requires a daily commitment.**

I vow to actively listen to my patients, respect the privacy of the physician-patient relationship, and empower patients and their support systems to be equal, informed participants in their care.

I pledge to challenge those around me, regardless of rank or tradition, in pursuit of the highest standard of excellence in patient care.

**We commit to promoting agency by listening to and amplifying voices within Washington Heights and beyond.**

I vow to champion interprofessional collaboration and bolster infrastructures that support the comprehensive well-being of communities beyond the walls of the hospital.

I vow to honor my role as a health advocate by disseminating accurate information and leveraging my medical expertise to help guide the communities I serve.

**We recognize that while the socio-political contexts in which we operate may change, our duty to our patients and their communities remains constant.**

I vow to embrace my role as a lifelong learner, looking with open eyes and listening with open ears to meet the demands of medicine’s dynamic nature. I promise to practice socially relevant, evidence-based medicine that affirms my patients’ autonomy in the face of these changing landscapes.

**Let us bow our heads in recognition of the gravity of this oath; we swear to faithfully engage with these ideals and obligations for the ongoing betterment of medicine and humanity.**

## Righting a Historical Wrong: Lack of Diversity in Clinical Trials

Desirée Walker was just 38 when she learned she had breast cancer. For an otherwise healthy woman, the diagnosis was a shock. So, too, was the realization that relatively little was known about how to treat breast cancer in women of color like herself—even though women of color are far more likely than white women to die of the disease. Ms. Walker would come to discover the simple reason for this health disparity: People in Black, Hispanic, and other minoritized groups have long been underrepresented in clinical trials.

“What we’ve learned about preventing and treating many diseases may not apply to people of color,” says Andrew B. Lassman, MD, professor of neurology and associate dean of clinical research compliance at VP&S. “At Columbia, we’re determined to right this historical wrong. In addition, by enrolling a diverse population of subjects to clinical trials, the results are more broadly applicable leading to better treatment option for patients of all backgrounds.”

Columbia is involved in three campuswide efforts to broaden participation in clinical trials: the National Cancer Institute’s Minority and Underserved Community Oncology Research Program at the Herbert Irving Comprehensive Cancer Center, the multicenter Stand Up to Cancer Health Equity Initiative, and the Columbia-Pfizer Clinical Trials Diversity Initiative. These are in addition to programs in departments and other centers.

### Barriers to diversity

Each of these programs works to lower barriers that prevent people in underrepresented groups from enrolling in clinical trials, including practical matters like cost and ease of access.

“Trials usually require repeated hospital visits, and many people simply can’t afford to miss work or hire a babysitter,” says Edward Bentlyewski, assistant director of clinical research nursing and quality assurance at the cancer center. “For



Desirée Walker

others, getting to and from a study site is inconvenient, especially if they rely on public transportation.”

Another barrier in certain communities is distrust of the scientific establishment, a legacy of research abuses in history.

“In general, these communities have not been well served by the health care system,” says Ms. Walker, who since her diagnosis has transformed from patient to patient advocate. “Many people are understandably fearful, and there hasn’t been much conversation about protections that have been put in place.”

“From the health care system and industry side, there hasn’t always been a concerted effort to design broadly representative trials or to support outreach efforts towards all patients affected by diseases we study,” says Moshe Kelsen, executive director of administration at the cancer center.

The good news is that most, if not all, of these barriers are surmountable.

For Ms. Walker, who serves on the cancer center’s patient advocacy board, it starts with building community trust. “First, we

must acknowledge and address the ‘elephant in the room’—the past mistreatment of minoritized people by the health care system. Education is also critical. We have to reach out to people and explain why it’s important for them to be involved in studies and how each patient can personally benefit from trials,” says Ms. Walker.

Community engagement is a major component of the Columbia-Pfizer Initiative, which is expanding the role of community health workers in partnership with NewYork-Presbyterian’s Center for Community Health Navigation. The aim is to support clinical trial training and referral processes from local community organizations and physician networks and develop culturally adapted clinical trial entry approaches. These community engagement activities are led by program directors Olajide Williams, MD, professor of neurology and vice dean for community health, and Rafael Lantigua, MD, professor of medicine and associate dean for community service.

The Columbia-Pfizer Initiative also aims to identify new ways to educate the

TIMOTHY LEE

community about clinical trials, under the leadership of Mary Beth Terry, PhD, professor of epidemiology and associate director for community cancer prevention at the cancer center. The initiative also focuses on making clinical trials more accessible through telemedicine, wearable technology, and home visits.

The efforts are bidirectional, with Columbia leaders listening to community priorities and the kinds of trials community members are interested in.

The Columbia-Pfizer initiative also is addressing the mismatch between clinical researchers and research subjects. “When patients don’t see doctors and nurses who look like them, they’re less likely to trust us,” says Mr. Bentlyewski, “which is why we’ve established training programs to increase the number of clinical trialists from underrepresented groups.”

### Early signs of progress

The first signs of Columbia’s diversity efforts in clinical trials are promising. Some 40 clinicians and researchers, more than were initially expected, participated in the first round of the training program to increase diversity in clinical trials. The training program covered key areas in clinical trial development, regulatory oversight, and enrollment of diverse patient populations and included panel sessions led by Ms. Walker and several industry representatives. Minority participation in clinical trials at the cancer center is now over 40%, roughly double the national average.

Signs of change are also encouraging in the larger research community. The U.S. Food and Drug Administration will no longer approve a new drug if it has not been tested on an appropriately diverse patient population. And several pharmaceutical

companies have expressed interest in following Pfizer’s lead in working with academia to boost clinical trial diversity. Major medical journals, such as the *New England Journal of Medicine*, now take the diversity of trial subjects into account when evaluating the suitability of manuscripts for publication.

### An impact for tomorrow

Ms. Walker underwent two lumpectomies, radiation therapy, hormonal therapy, bilateral mastectomies, and breast reconstruction and emerged cancer-free. Through it all, she has remained optimistic that clinical research can change and better serve patients who follow in her footsteps.

“When someone extends an olive branch, it’s important to accept it and reach back,” she says. “We can’t do anything about the past, but we can do something about it today and make an impact for tomorrow.”

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## New Chair for Dermatology: Aimee Payne

**Aimee Payne, MD, PhD**, has been named chair of the Department of Dermatology, effective Dec. 4. She succeeds David Bickers, MD, the Carl Truman Nelson Professor who chaired the department for 28 years.

Dr. Payne joined VP&S from the University of Pennsylvania, where she was professor of dermatology and director of the Clinical Autoimmunity Center of Excellence. She is a physician-scientist whose clinical and research expertise focuses on mechanisms and treatments of autoimmunity. Her laboratory invented a targeted immunotherapy approach for antigen-specific B cell depletion known as chimeric autoantibody receptor T (CAAR-T) cells and performed key studies leading to FDA clearance of two investigational new drug applications for CAAR-T technology. These studies have enabled the first precision cellular immunotherapies for autoimmunity to enter clinical trials in mucosal pemphigus vulgaris and muscle-specific tyrosine kinase-associated myasthenia gravis.

Dr. Payne’s clinical practice focuses on the diagnosis and treatment of patients with autoimmune blistering skin diseases, including pemphigus and pemphigoid. At Penn, she was associate director of the medical scientist training program, faculty adviser for the Association of Women Student MD-PhDs, and co-chair of admissions for the dermatology research residency program.

She also was core director of the Penn Skin Biology and Diseases Resource-based Center, an NIH-funded initiative that helped launch the Penn Dermatology BioBank.

Dr. Payne is 2023-24 president-elect of the Society for Investigative Dermatology, has served as chair of the National Institute of Arthritis and Musculoskeletal and Skin Diseases Board of Scientific Counselors, and is co-founder and co-chair of the scientific advisory board of Cabaletta Bio, a publicly traded biotechnology company that focuses on engineering cellular immunotherapies for autoimmune diseases.

She is an elected member of the American Society for Clinical Investigation and the American Dermatological Association and serves on the Medical Advisory Council of the International Pemphigus and Pemphigoid Foundation.

Dr. Payne received her bachelor’s degree in biology from Stanford University and is a graduate of the Washington University School of Medicine in St. Louis, where she earned her MD and a PhD in molecular and cellular biology. She completed her dermatology residency and postdoctoral fellowship at the University of Pennsylvania.







# THE STATE OF CARE:

Historical, Contemporary,  
and Forward-Moving

The Whipple procedure.

The Apgar Score.

Bacitracin.

Blood banking.

Identification of cystic fibrosis.

First surgery in utero.

Organ transplantation.

First human retinal  
cell transplants.

Leadership of the “Diagnostic  
and Statistical Manual of  
Mental Disorders.”

Treatment for a lethal form  
of bacterial meningitis.

Vasopressin to treat  
vasodilatory shock.

Bright light therapy to  
treat seasonal depression.

Vaccine that eradicated  
Rh disease in newborns.

These are just a few of the historical signposts that chart the legacy of patient care at VP&S since its founding in 1767. Standing on the shoulders of VP&S figures who forever changed health care, current VP&S faculty continue to pioneer new ways to prevent, diagnose, and treat disease, from the delivery room to the ICU, from the bedside to the doctor’s office, from the operating room to labs.

The stories on these pages show what’s possible now and hint at the advances—AI, stem cells, genomics—that may transform health care in the years to come.

# THE STATE OF CARE: WOMEN'S HEALTH

Multidisciplinary Expertise Includes Treatment—  
and Prevention—of Disease

By Deborah Lynn Blumberg

**H**istorically, physicians have treated endometriosis with hormonal medications to suppress estrogen levels, with surgery, or both. But for the one in 10 women with the chronic disease that causes crippling pelvic pain, depression, and infertility, these treatments are insufficient, says Jessica Opoku-Anane, MD, a gynecologic surgeon and director of Columbia's comprehensive pelvic pain program.

"The current rates of endometriosis are so incredibly high that the traditional management we've been doing is not working," Dr. Opoku-Anane says. "It's a whole body disorder, not just what's contained in the pelvis, so you have to incorporate methods of whole body treatment."

Columbia recruited Dr. Opoku-Anane in part in recognition of the need for more comprehensive care for individuals with endometriosis. The program takes a multidisciplinary, holistic approach that also offers acupuncture. A team of specialists, including physical therapists and integrative medicine and mental health specialists, work to develop treatment models to better diagnose patients, many of whom go a decade or more before getting an accurate diagnosis.

"This patient population is very underserved," says Dr. Opoku-Anane. "And in the delay to diagnosis, there's a lot of stigma. Patients are told it's in their head. They're undertreated and they bounce back and forth among multiple providers."

When surgery is needed, Columbia faculty use their expertise in laparoscopic and robotic-assisted surgery—optimal techniques when fertility preservation is a priority—to pursue the least invasive approach, preserving healthy tissue and speeding up recovery time with less scarring, pain, and complications.

The endometriosis initiative is one of several new and innovative programs Columbia has launched to advance women's health amid rapid changes in the field. Significant developments in women's health care have been noted in the past five years alone: The Covid-19 pandemic exposed gaps in women's care—including health inequities and gender bias—and the Supreme Court's overturning of *Roe vs. Wade* thrust women's health care into the spotlight and ignited national debates about reproductive rights.

The U.S. maternal mortality rate is worsening, with some current rates three times higher than in the United Kingdom and Canada. Historically underrepresented groups fare far worse with pregnancy-related complications, with Black women about three times more likely than white women to die from a pregnancy-related issue. Research suggests the vast majority of pregnancy-related deaths in the United States are preventable.

Columbia has been at the forefront of providing women with comprehensive, compassionate care, including offering one of the first IVF programs in New York City. Now, Columbia is building on its solid foundation with initiatives that provide women with holistic, individualized care throughout their lives.

## FOCUSING ON MOM IN HIGH-RISK PREGNANCIES

The Columbia Mothers Center, a first-of-its-kind space dedicated to providing coordinated care for pregnant individuals with complications, is unique, says Chief of Obstetrics Lisa Nathan, MD, because often maternal health care prioritizes the fetus. "This is putting the mom back into the picture."

The center addresses the fragmented care received by some mothers who have multiple medical problems that can complicate their pregnancies. "This type of coordinated care can optimize outcomes," says Dr. Nathan.

In the Mothers Center heart program, women with cardiovascular disease who are pregnant, or contemplating pregnancy, see a range of specialists in maternal-fetal medicine, cardiology, and obstetric anesthesiology. Women receive postpartum cardiovascular risk assessment and counseling on preventive measures to help reduce future pregnancy complications and long-term cardiovascular disease.

"We always think of pregnancy as a stress test on the heart," says Jennifer Haythe, MD, director of the cardio-obstetrics program, "and we know now that heart disease during pregnancy is linked to heart disease later in life. So we provide really close, attentive care. The goal is to screen and monitor these women over time."



Jennifer Haythe, Jessica Opoku-Anane, and Lisa Nathan

The multidisciplinary team meets weekly to discuss upcoming deliveries. In a Columbia study that followed 306 women with high-risk pregnancies from 2010 through 2019, the 30-day readmission rate for the cardio-OB patients was 1.9%. Nationally, the rate was 3.6%. “Columbia has a really great ability to mobilize people quickly when women are sick, and it shows,” says Dr. Haythe.

Dr. Haythe and her team are enrolling patients in the REBIRTH study, an NIH-funded multicenter effort to test the effect of the drug bromocriptine, which blocks prolactin, hence lactation, in the treatment of peripartum cardiomyopathy.

For women with placenta accreta spectrum, or PAS, a condition in which the placenta grows inside the wall of the uterus and sometimes outside the uterus and invades surrounding organs, life-threatening hemorrhaging is possible when the placenta does not separate spontaneously from the uterus after delivery.

This condition is rare, but it has been on the rise. Columbia is a center of excellence for its accreta program, which includes a dedicated group of physicians from multiple specialties who closely follow women from early in their pregnancy through birth.

“Women’s lives are in danger when cases go undiagnosed or are not managed by specialists,” Dr. Nathan says. Outcomes from Columbia’s accreta program include low levels of blood transfusions and few complications. Patients who have PAS but live outside the United States sometimes move to New York for their pregnancy to receive care from Columbia doctors.

### SPECIALIZED SURGERIES IN UTERO

The Carmen and John Thain Center for Prenatal Pediatrics is a multidisciplinary fetal diagnosis and therapy center that cares for patients with pregnancies involving fetal anomalies, genetic conditions, complicated multiple gestations, and those who may be candidates for certain fetal interventions. In 2022, nearly 1,000 patients presented to the center for evaluation and care.

Russell Miller, MD, the center’s medical director, said the team offers specialized surgeries for certain conditions in utero, including prenatal repair of fetal myelomeningocele (spina bifida) and fetoscopic laser surgery for twin-twin transfusion syndrome. The center is one of a small handful of centers in the country that use a less invasive

procedure for prenatal spina bifida repair. Columbia surgeons fetoscopically enter the uterus, as opposed to using a large uterine incision as practiced at many other fetal centers. This technique avoids creating a large uterine scar that can impact future pregnancies.

“What makes the center stand out is its multidisciplinary philosophy,” Dr. Miller says. “Multiple providers are involved in prenatal consultations, deliberations, and patient education, and these specialists work together to develop a unified, individualized care plan that makes the experience better for patients and we believe helps to optimize outcomes. We try to make it a unified experience for patients and families.”

The center has plans to offer FETO, or fetoscopic endoluminal tracheal occlusion, under the direction of Vincent Duron, MD, co-director of fetal therapy. During the procedure, which is used for fetuses diagnosed with severe congenital diaphragmatic hernia, a surgeon fetoscopically places a special balloon inside the fetus’ trachea, blocking it in an attempt to improve fetal lung development.

### CONSIDERING THE ROLE OF THE ENVIRONMENT

The medical profession is paying closer attention to the environment’s impact on women’s health because of growing awareness of climate change and high-profile media stories about the impact of lead exposure and contaminated water, says Blair Wylie, MD, founding director of the Collaborative for Women’s Environmental Health in the Department of Obstetrics & Gynecology.

She joined Columbia in 2022 to lead the new collaborative. “Ob/Gyn is a few steps behind pediatrics in thinking about environmental contributors to disease,” Dr. Wylie says. “Health issues related to the environment can start before birth. I see my goal as helping to amplify this, helping researchers in the department think about the various environmental contributors.”

A big part of her role is increasing literacy among Columbia’s clinicians and patients around environmental health concerns. More patients now ask about the effects of such things as mold growing in their homes, summer heat waves, and smoke from wildfires.



“And, oftentimes clinicians throw up their hands because they don’t know what to do,” Dr. Wylie says.

Advocacy and community engagement are important, too. Partnerships with community-based organizations can help promote policy change around environmental problems that contribute to poor health. For example, Columbia physicians have partnered with organizations pushing for New York City buses to stop idling.

“We, as clinicians, have powerful voices when it comes to influencing policy and legislation,” says Dr. Wylie.

A focus on the environment is critical to see real change in health outcomes, she adds. Moving the needle on decreasing preterm birth rates, for example, may require a close look at air quality and air pollution and subsequent legislation to help. It’s the same with prenatal lead exposure affecting development and endocrine-disrupting chemicals, such as phthalates in personal care products, that impact fertility and menopause.

Part of the collaborative’s mission is sustainability, recognizing that climate change is an existential threat and helping Columbia reduce its carbon footprint and carry out effective disaster planning for its patient population ahead of events like heat waves and floods.

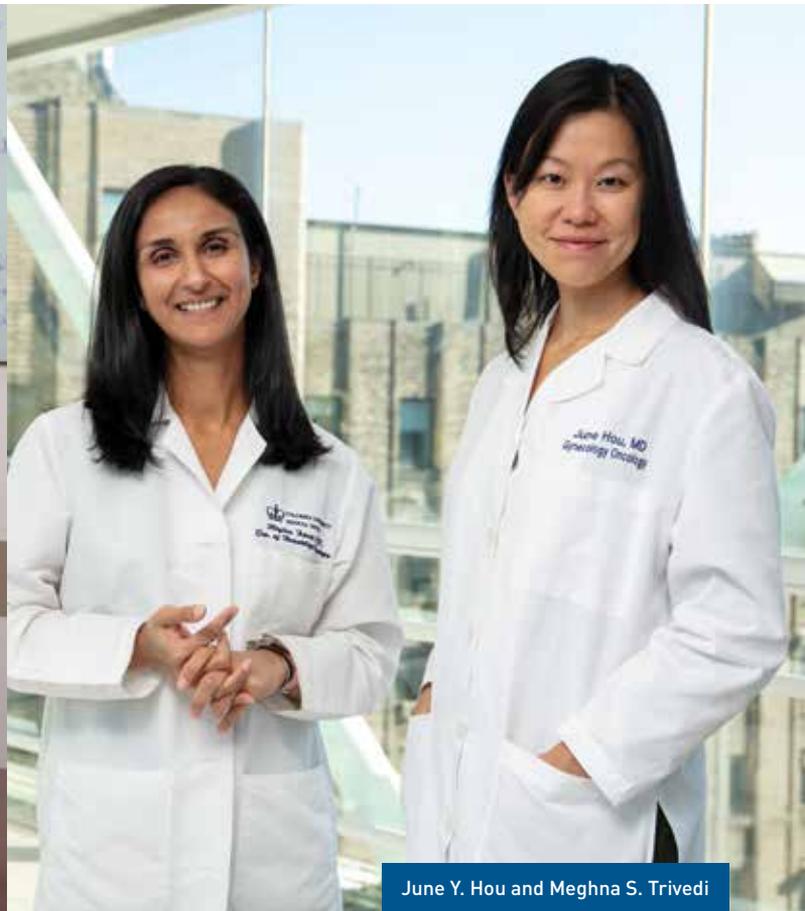
“The overall thought is to elevate the environment as a contributor to disease and to health care disparities,” says Dr. Wylie. “We’re trying to create these bridges both within our department and also with other parts of Columbia that are focused on the

### Who’s Who

- Vincent Duron, MD, associate professor of surgery
- Jennifer Haythe, MD, the Irene and Sidney B. Silverman Associate Professor of Cardiology (in Medicine)
- June Y. Hou, MD, associate professor of obstetrics & gynecology
- Russell Miller, MD, the Sloane Hospital for Women Associate Professor of Prenatal Pediatrics (in Obstetrics and Gynecology)
- Lisa Nathan, MD, associate professor of obstetrics & gynecology
- Jessica Opoku-Anane, MD, assistant professor of obstetrics & gynecology
- Meghna S. Trivedi, MD, assistant professor of medicine
- Blair Wylie, MD, the Virgil G. Damon Professor of Obstetrics & Gynecology



Blair Wylie



June Y. Hou and Meghna S. Trivedi

environment—law school, public health school—where we’re bringing obstetricians and gynecologists to the table.”

### COMPREHENSIVE CANCER CARE

A heritable genetic condition causes from 5% to 10% of breast cancer cases and up to 25% of ovarian cancers. Second only to age, a significant family history is the strongest known risk factor for breast and ovarian cancer.

Columbia’s hereditary breast and ovarian cancer program was created in 2017 to empower women with knowledge about their individual risk, create a personalized strategy, and coordinate and streamline what has been a disjointed array of diagnostic testing, risk-reducing strategies, and clinical research trials around cancer prevention and treatment. Meghna S. Trivedi, MD, and June Y. Hou, MD, co-lead the program.

“The thought behind the program was that we can make the team more complete,” says Dr. Trivedi. “It’s comforting for patients to know their doctors are all in one place.” Decision-making is shared and made *with* the patient rather than *for* the patient. A major benefit, adds Dr. Hou, is that the program cuts down on long wait times for genetic counseling and testing.

Women in the multidisciplinary program receive leading-edge genomic testing, genetic counseling from experts in hereditary cancers, MRIs, ultrasounds, and individualized consultations with specialists

### A focus on the environment is critical to see real change in health outcomes.

in genetics, breast oncology, surgical oncology, and gynecologic oncology.

Research is an important part of the program. Columbia participates in a multicenter breast cancer prevention trial for BRCA1+ women to study the preventive effect of the bone antiresorptive drug denosumab.

Another trial is studying whether removal of fallopian tubes or removal of ovaries and fallopian tubes reduces the risk of cancer in individuals with BRCA1 mutations.

The hereditary breast and ovarian cancer program has grown in recent years and received positive patient feedback, says Dr. Hou. “Patients want a personalized approach and they want control over their cancer care. They also want convenience. They’re incredibly thankful they’ve found one physical space that can do everything for them.”

The program relies on education and partnerships with primary care practitioners and obstetricians and gynecologists, including a pilot program for hereditary cancer genetic counseling and testing.

“The feedback from this pilot initiative was overwhelmingly positive from the patient as well as the provider’s perspective,” Dr. Hou says. “We hope to expand this initiative more broadly and offer easier access to cancer genetic counseling and screening for all women.” ❖

# THE STATE OF CARE: CANCER

Gene-targeted Treatment,  
Minimally Invasive Techniques,  
Prophylactic Surgery

By Christina Hernandez Sherwood



Jason Wright

The patient, a woman in her early 40s and mother of two young boys, learned that her rare form of ovarian cancer had returned. But this time, her Columbia doctors recommended a treatment with less toxicity than the standard chemotherapy. Instead of targeting her cancer generally, the therapy was tailored to a specific gene abnormality in her tumor. This type of personalized treatment improves patient survival rates: Three years later, the young mother is thriving.

Columbia was one of the first academic medical centers to offer personalized, gene-targeted treatment for women's cancers. The fight against cancer is far from over, but today the Precision Medicine Initiative for Gynecologic Cancers has more tools than ever. "The patient's targeted therapy is something that wouldn't have been possible 10 years ago," says Jason Wright, MD, chief of gynecologic oncology in the Department of Obstetrics & Gynecology. "The field of oncology is moving very fast."

No silver bullet cure exists for cancer with current medical understanding. Instead, clinicians and researchers are puncturing cancer's armor with hundreds of softer blows, each bringing the field one step closer to vanquishing a single enemy that takes countless forms. From leading the way in precision cancer care to pioneering minimally invasive surgical techniques to offering the latest in prevention programs, VP&S faculty are stockpiling the arsenal with the latest and most effective weapons against cancer.

Perhaps the innovation closest to a cancer panacea arrived in the form of OncoTarget and OncoTreat, tests of patients' cancer tissue samples that go beyond gene mutations. Developed by pioneering systems biologist Andrea Califano, Dr. founding chair of the Department of Systems Biology, the tests determine which transcription factors—known as master regulator proteins—will stop the patient's cancer from progressing, no matter the original gene mutation, and which available drugs might help.

The effectiveness of OncoTarget was exemplified in the case of a 14-year-old boy whose tumors in the liver and lungs progressed despite surgery and chemotherapy. With few treatment options left for the boy, his tumor tissue was tested with OncoTarget, which identified the protein PDGFR-B as the most activated. Based on those results, his clinical team identified the best drug candidate. Two years later, the patient has had a durable response to the drug and continues the treatment with mild side effects, according to a recent study in the journal *Cancer Discovery* with the caveat from the authors that OncoTarget did predict the response but the mechanism is not fully understood.

Endocrine surgeon-scientist Jennifer Hong Kuo, MD, is contributing to the evolution of cancer treatment by offering patients



Bryan P. Stanifer

## Lung Cancer Prevention

In the first six months of a comprehensive lung cancer screening program in Upper Manhattan, the team from ColumbiaDoctors and NewYork-Presbyterian diagnosed hiatal hernias, breast nodules, and a chronic lung infection—but no case of lung cancer. Nevertheless, the program’s thoracic surgeon, Bryan P. Stanifer, MD, says the program is working exactly as it should.

“We only expect about 2% of patients to have a positive test that leads to a lung cancer diagnosis,” Dr. Stanifer says. “We have had a lot of incidental findings.”

The program was inspired by the National Lung Screening Trial, which found that high-risk participants who received low-dose helical CT scans had up to 20% lower risk of dying from lung cancer than participants who received standard chest X-rays. “There’s no medication that provides that kind of result,” says Dr. Stanifer. “There was an overall survival benefit, not just lung cancer specific, of about 7%. That’s probably because we’re picking up all this other incidental stuff.”

To qualify for the Columbia lung cancer screening program, patients must meet several government-required criteria: be between the ages of 50 and 80, be a current or previous smoker, and have a smoking history of at least a pack a day for 20 years or the equivalent.

In person or via video, patients are informed of the risks—the main risk being false positives—and benefits of screening. Active smokers receive smoking cessation information, including tools and prescriptions, if appropriate. They are then scheduled for a 10-minute imaging exam, from the neck to upper abdomen, with low-dose CT, which can detect lung cancer with little radiation exposure. Patients receive their results in the mail, and the program team follows up about next steps.

Since its launch in late 2022, the program has reached about 40 referrals a month and appointments with up to 10 patients a week. Currently in place in Washington Heights, the program may be expanded to other NewYork-Presbyterian locations.

with benign thyroid nodules an alternative to thyroidectomies. “Thyroidectomy is a straightforward operation, but it is still an operation,” says Dr. Kuo. “Patients are increasingly finding surgery disconcerting; we’re removing a perfectly healthy, perfectly functional organ that is not cancer.”

Dr. Kuo wants to expand the use of ultrasound-guided radiofrequency ablation, or RFA, a nonsurgical alternative that shrinks thyroid nodules through ablation. Dr. Kuo, director of the interventional endocrinology program in the Department of Surgery, says the percentage of these procedures at her practice has grown exponentially in recent years. As co-author of a 2022 paper in the journal *Techniques in Vascular and Interventional Radiology*, Dr. Kuo noted that although it is not without risk, RFA “has been shown to be a consistently safe and effective treatment for thyroid nodules with excellent long-term results.”

But not all new techniques offer the best approach for patients with cancer. Gynecologic oncologist Dr. Wright co-authored a multicenter population study published in the *New England Journal of Medicine* that found that minimally invasive radical hysterectomy—a widely used treatment for early-stage cervical cancer in the United States—was associated with worse patient outcomes than traditional “open” surgery.

“That was disseminated widely,” says Dr. Wright. “It changed the way we treat patients with early-stage cervical cancer surgically. At the population level, it hopefully improved outcomes for women.”

In cancer prevention, Columbia doctors are studying the effectiveness of prophylactic surgical removal of the fallopian tubes, the

source of more than half of ovarian cancers, if a patient is already undergoing a hysterectomy or tubal ligation. June Hou, MD, co-director of the hereditary breast and ovarian cancer program, leads the study at Columbia.

Thanks to medical advances at Columbia and beyond, more people are surviving cancer. But sometimes treatments that save lives lead later to heart problems. Columbia established a cardio-oncology program to support and treat cancer patients and survivors. A multidisciplinary team including cardio-oncologists and imaging

**“We’re analyzing tumor samples from patients who have done amazingly well and comparing them to tumors from patients who have not done so well to identify targets that can be exploited.”**



Gulam Manji

specialists work to control cardiovascular risk factors ahead of cancer treatment, monitor heart function throughout treatment, and work with cancer survivors who develop heart disease.

Cancer is a moving target, so beating it means staying one step ahead of its progression, says Gulam Manji, MD, PhD, director of gastrointestinal medical oncology and pancreas translational research at the Herbert Irving Comprehensive Cancer Center. Dr. Manji's lab is digging into Columbia's thousands of frozen pancreatic tumor samples—the pancreatic cancer surgery program at

Columbia is among the highest volume centers in the country—to analyze the samples for clues about why pancreatic cancer sometimes recurs in the liver or lungs and other times never returns.

“We are not studying cells that are grown in the lab or that are from genetically engineered mice,” Dr. Manji says. “We’re analyzing tumor samples from patients who have done amazingly well and comparing them to tumors from patients who have not done so well to identify targets that can be exploited.”

Researchers separate the tumors into two groups: those from patients whose cancer recurred within 18 months and those from patients who had no recurrence after at least five years. “What is it about that tumor that makes it go to one place versus the other, and how can we exploit that finding as a drug target?” says Dr. Manji, who has patients in clinical trials. “We need to stop thinking about pancreatic cancer as one disease. We need to start thinking about it as different pathways with different clinical implications.”

Such deep, broad-ranging work is possible due to Columbia's strong collaboration among clinicians and scientists dedicated to untangling the intricacies of cancer development and tumor micro-environment, Dr. Manji says. “In order to be smarter than the tumor, we need to try to predict what the tumor is going to do next.” ❖

**“Cancer is a moving target, so beating it means staying one step ahead of its progression.”**

### Who's Who

- Andrea Califano, Dr, the Clyde '56 and Helen Wu Professor of Chemical Biology (in Systems Biology), professor of biomedical informatics, and professor of biochemistry & molecular biophysics (in the Institute for Cancer Genetics)
- June Hou, MD, associate professor of obstetrics & gynecology
- Jennifer Hong Kuo, MD, associate professor of surgery
- Gulam Manji, MD, PhD, associate professor of medicine
- Bryan P. Stanifer, MD, assistant professor of surgery
- Jason Wright, MD, the Sol Goldman Associate Professor of Gynecologic Oncology

# THE STATE OF CARE: THE BRAIN

## Novel Ways to Treat Aggressive Diseases and Disorders

By Christine Yu

**D**uring his residency in radiation oncology at Columbia, radiation oncology faculty member Cheng-Chia Wu, MD, PhD, spent nine months working in the lab of Elisa Konofagou, PhD, a faculty member in radiology at VP&S and engineering at Morningside. While pursuing research is not uncommon among medical students and residents, the cross-disciplinary collaboration between radiation oncology and bioengineering was unusual.

Dr. Konofagou has pioneered the use of focused ultrasound, a noninvasive technology, to open the blood-brain barrier temporarily and has worked with colleagues across campus to use the technology in treating Alzheimer's, Parkinson's, and brain cancer. "It sounded like an amazing tool to fight cancer," says Dr. Wu. He asked Dr. Konofagou if she would teach him and explore whether the technology could be used to treat brain cancer. "It was the perfect match—the right timing, the interest—to work together," he says.

When it comes to diseases of the brain, treatment is often a combination of science, art, and a little magic. Bringing those pieces together requires collaboration—within the clinical environment, in the laboratory, and across departments. "It's about translational research, taking something all the way from the clinic or the OR to the laboratory and back. The diversity and breadth of that kind of effort requires multiple expertise," says Peter Canoll, MD, PhD, director of neuropathology. "It wouldn't be possible if we weren't working in such a collaborative environment."

VP&S faculty members are pioneering new ways to treat aggressive and drug-resistant conditions of the brain. These innovations have the potential to transform patient care through improved outcomes.



Cheng-Chia Wu and Elisa Konofagou

### BYPASSING THE BLOOD-BRAIN BARRIER

For brain tumors, including glioblastomas, standard treatment usually involves surgery to resect as much of the tumor as possible, followed by chemotherapy and radiation. Even then, "these tumors still grow back 100% of the time," says Jeffrey Bruce, MD, co-director of the Brain Tumor Center. The median survival rate is just over 12 months.

The biggest obstacle isn't necessarily the cancer; it's the blood-brain barrier that keeps toxins and infectious agents away from the brain but also blocks therapeutic medications.

"The problem isn't that we don't have good drugs. The problem is that the drugs can't get into the brain safely at levels that are effective at killing tumor cells," Dr. Bruce says. Doctors can try to bypass the barrier by administering stronger doses but that typically leads to debilitating side effects and leaves brain tumors under-treated.

For the past decade, Dr. Bruce has worked to develop a way to transport drugs directly into the brain called convection-enhanced delivery. Surgeons implant a catheter in the vicinity of the tumor using stereotactic techniques. The catheter is attached to a pump that provides a continuous infusion of therapeutics.

"If you infuse the medication very slowly, it sets up a pressure gradient at the catheter tip, which pushes the drugs into the microscopic space around the tumor," Dr. Bruce says. "The concentration of drugs you can get with this are 1,000-fold greater than

# The Mind

VP&S is not just a leader in the clinical treatment of aggressive conditions of the brain. Three examples of innovative leadership in mental health:

**Decision Support for Depression Treatment**—Outpatient providers, such as primary care doctors, nurse practitioners, physician assistants, and residents, are on the front lines of treating patients with depression but they may not always know the latest clinical guidance. Columbia Psychiatry Pathways was designed to support clinicians in providing mental health services. The mobile and web-based tool walks providers through a step-by-step evaluation—including an assessment of depression severity and screenings for suicide risk and bipolar disorder—and offers treatment recommendations and medication information with titration recommendations. It also helps providers monitor a patient’s progress. It was developed by **J. John Mann, MD**, and **Ravi N. Shah, MD**, former chief innovation officer for Columbia Psychiatry, in partnership with clinical decision support platform avoMD.

**Early Psychosis Care**—Schizophrenia can be a disabling disorder, but a model of early psychosis care is changing the trajectory for adolescents and young adults experiencing their first episode of psychosis. OnTrackNY is a New York state initiative designed to reduce the duration of untreated psychosis and enhance access to care. Its multidisciplinary model of coordinated specialty care is person-centered and focuses on helping young people recover and achieve their goals for school, work, and relationships. A multidisciplinary team provides family support and education, peer support, supported education and employment, suicide prevention, substance abuse, and case management services in addition to CBT-based psychotherapy and psychiatric care. Studies have found that the program helped increase education and employment rates and decreased hospitalization rates for participants. Currently, New York has 28 program sites across the state and others are in development. The program is led by **Lisa Dixon, MD**, and co-directors **Ilana Nossel, MD**, and **Iruma Bello, PhD**.

**Brief Supportive Psychotherapy**—While cognitive behavioral therapy and interpersonal therapy are well-known psychotherapies, another talk therapy may work just as well but has often been misunderstood—until recently. Brief supportive psychotherapy, or BSP, was developed more than 30 years ago by **John Markowitz, MD**, as a “control” treatment in psychotherapy research. The bare-bones approach is time-limited and explores emotions. Therapists help people normalize feelings, particularly tolerating negative feelings instead of avoiding them. Interest in BSP is growing because of its proven results for people with depression and potentially those with anxiety disorders.

anything you could possibly hope to achieve with intravenous or oral drugs.” This method also avoids systemic toxicity and side effects that most chemotherapies cause.

Earlier versions of the prototype required an external pump. But doctors could provide a single treatment only over four days before they had to remove the catheter because of the risk of infection. “To be effective, chemotherapy needs to be given multiple times and for longer periods of time,” Dr. Bruce says. “That became the new problem.”

The current prototype is completely internal, eliminating the risk of infection. The pump (the size of a hockey puck) is implanted in the abdomen. Tubing is tunneled under the skin and connected to the catheter in the head. The pump is controlled by wireless technology and can be refilled via a port and a syringe.

Physicians can now deliver a higher concentration of drugs for longer. In a trial of five patients with recurrent glioblastoma, patients received four rounds of treatment over one month—two days of infusion with the chemotherapy drug topotecan followed by a five-to-seven-day washout period before the next infusion. Dr. Bruce’s lab has shown that topotecan, a chemotherapy drug typically used to treat lung cancer, is effective in killing active tumor cells and doesn’t damage brain tissue in animal models.

The results of the phase 1 trial, published in a 2022 issue of *Lancet Oncology*, showed that this technique effectively killed the proliferating tumor cells and was not toxic to the surrounding noncancerous brain cells.

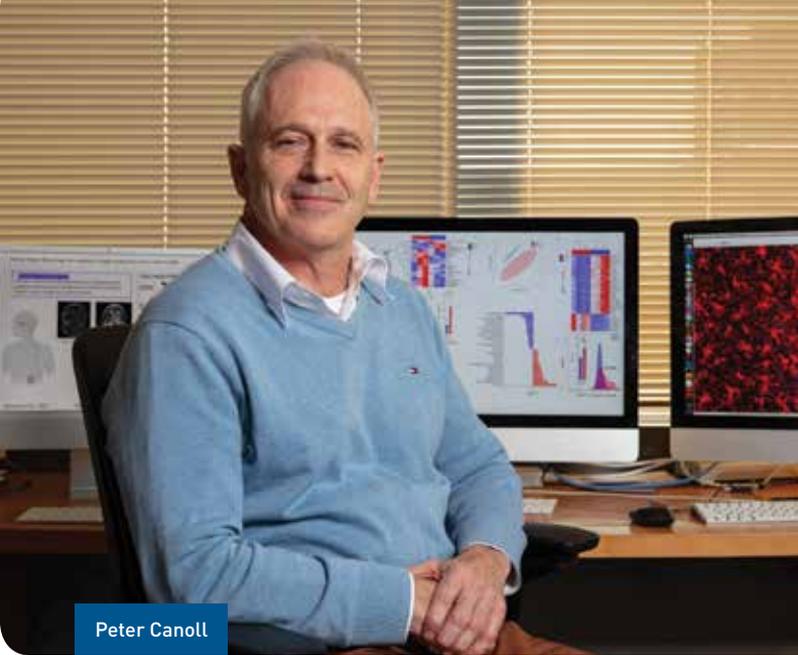
The researchers also did something unprecedented: They took multiple MRI-localized biopsies before and after treatment and analyzed the tissue to study the individual cell’s molecular biology, histology, and genomics. “This is totally unique. I don’t know of any other trial that’s ever done that in a brain tumor setting,” says Dr. Canoll.

This allowed the team to study the population of nonproliferating, quiescent cells left behind, the population of cells doctors worry about because they can lead to recurrent tumors. Peter Sims, PhD, a systems biology researcher who focuses on development of new technology to apply systems biology in patient care, used advanced single cell sequencing to characterize the cellular and molecular signatures of the cells. The researchers used the sequencing to identify potential drugs that could target these residual cells and work with topotecan. They hope to take this combination to a clinical trial.

The idea of leveraging local delivery could signify a paradigm shift not only for brain tumor treatment but for other brain diseases. “Most neurological diseases—Parkinson disease, epilepsy, Huntington’s disease, and Alzheimer’s—don’t have very effective treatments. We have some drug treatments, but they work modestly, and, in many cases, there are a lot of side effects,” Dr. Bruce says. This drug delivery system, and its ability to bypass the blood-brain barrier, could offer a solution. “It opens up a whole new area of how we treat brain diseases.”

## A NEW PARADIGM

On another part of campus, Dr. Wu and his colleagues are also looking for ways to circumvent the blood-brain barrier. Preliminary data from Dr. Wu’s research during his residency garnered a lot of excite-



Peter Canoll



Jeffrey Bruce

ment for the potential of focused ultrasound as a tool to deliver therapeutics in the treatment of aggressive pediatric brain cancer.

While ultrasound is commonly used to image the body—the heart, breast, and abdominal organs—and to monitor fetal development, Dr. Konofagou’s pioneering use of focused ultrasound for therapeutic intervention has put Columbia at the forefront of studying the use of this technique in a variety of other settings, including neurodegenerative disease and tumors.

What differentiates focused ultrasound is its noninvasive nature. Microbubbles—gas-filled, lipid-coated bubble solution—are injected intravenously and travel to the target site in the brain. Once there, beams of ultrasound are directed to the area of the tumor. “The sound waves have a frequency, and the microbubbles start growing and shrinking to the rhythm of the beat,” Dr. Wu says, like they are dancing.

This interaction causes a disruption, mechanically separating the cells of the blood-brain barrier. The barrier becomes tempo-

## Bypassing the blood-brain barrier would open up a whole new way to treat brain diseases.

rarily permeable, which allows drugs to reach the brain. In animal studies, Dr. Konofagou, Dr. Wu, and colleagues have shown that this technique is safe and effective. The technique also allowed physicians to treat tumors with a higher dose of chemotherapy medication without harming the surrounding brain tissue.

Using the focused ultrasound system that Dr. Konofagou’s team built to open the blood-brain barrier safely in patients, Dr. Wu, pediatrician Luca Szalontay, MD, and others, through the Initiative for Drug Delivery Innovations for Childhood Brain Tumors, are leading a clinical trial to test the feasibility of the system to treat pediatric patients with diffuse midline glioma. Median survival for midline glioma, which is diagnosed in between 200 and 300 children in the United States each year, is nine to 12 months from diagnosis.

The team plans to treat 10 patients by using ultrasound then confirm through MRI that the blood-brain barrier opened. Patients will take oral etoposide daily for 21 days. Jovana Pavisic, MD, a pediatric oncologist, used mathematical modeling to predict which drugs would be most effective, based on RNA sequencing data and analysis.

“We chose etoposide because this medicine has an oral version,” Dr. Wu says. “We’re really hoping to keep the kids out of the hospital as much as possible. If they don’t have to get infusions, it makes life easier.” After 21 days of treatment, patients will have one week of rest before continuing for four cycles of chemotherapy.

If this proof-of-concept trial demonstrates the ability to deliver a drug across the blood-brain barrier safely and effectively, it would create numerous opportunities to improve patient care. Dr. Wu says it opens the doors for medications that previously failed to show any benefit in treating brain tumors. What if those drugs were delivered through this mechanism? Would they work better? “There’s a big component of hope,” he says.

What’s more, the research team will collect blood that escapes from behind the blood-brain barrier, which may carry genetic material from the cancer. It could offer doctors insight into the cancer and how to adjust treatments. “It creates opportunities for surveillance and prevention,” Dr. Wu says. “Instead of doing biopsies, could we use sound waves to open the blood-brain barrier and make a diagnosis through that? Can we predict how the brain tumor will respond to treatments and can we more efficiently fight the tumor with targeted therapy?”

The Initiative for Drug Delivery Innovations was established with support from the Fegel Family Foundation and sustained support of Hope and Heroes. In addition to supporting new technologies with focused ultrasound, the initiative also supported a phase 1 trial using convection enhanced delivery of MTX110, a water soluble form of panobinostat, to the brainstem of children with a type of fatal brain tumor known as diffuse intrinsic pontine glioma. These advancements in the treatment of childhood brain tumors are only made possible through the multidisciplinary collaborations of neurosurgery, pediatrics, bioengineering, pathology & cell biology, radiology, and radiation oncology at Columbia.

Dr. Konofagou's group is also working with colleagues in neurology to carry out clinical studies to determine the effect of focused ultrasound in mitigating neurodegenerative diseases such as Alzheimer's and Parkinson's.

### EXPANDING MINIMALLY INVASIVE OPTIONS

Patients with drug-resistant epilepsy sometimes feel there aren't any good options. Fewer than 3% will become seizure-free with additional medication.

While open surgical resection can potentially prevent seizures and improve neurological function in appropriately selected patients, the procedure is underutilized. "Very few patients are actually referred or evaluated for these procedures," says neurosurgeon Brett Youngerman, MD. It's an invasive procedure and some are worried that surgery will lead to worse neurological function. "We often see patients who have been on five or 10 medications for 10 to 20 years before they're willing to consider surgery as a last resort."

Dr. Youngerman, along with Guy McKhann, MD, and other VP&S faculty, is working to develop minimally invasive, patient-centered treatment options for patients who have epilepsy that doesn't respond to standard medication. One emerging treatment is magnetic resonance-guided laser interstitial thermal therapy, or MRgLITT. Doctors can selectively target and remove areas of the brain where they believe the seizures originate.

It's part of an evolution within epilepsy surgery toward less invasive procedures. Laser ablation was initially developed to treat other



Brett Youngerman

diseases. "It quickly became clear that it would be useful in the brain where we often are trying to reach deep structure and we don't want to cause damage to the overlying area," Dr. Youngerman says.

Because laser ablation is minimally invasive, patients think about it differently. "It's opening up the door to many patients with drug-resistant epilepsy who otherwise were unwilling to consider surgical options because they perceived them to be too invasive," says Dr. Youngerman.

The ideal candidate for MRgLITT is someone with focal-onset epilepsy that is not controlled with medications and whose seizures are believed to originate from the mesial temporal structures or other relatively small area. Doctors make an incision in the skull that is less than 1 centimeter long and guide a laser fiber to the area of interest. Heat from the laser removes the brain area generating seizures. During the ablation, temperature is monitored in real time using MR thermometry to prevent damage to the overlying cortex and white matter. "This allows us to preserve the vast majority of the brain while targeting just the area that we believe the seizures are coming from," says Dr. Youngerman.

The results of a multicenter retrospective study were published in the *Journal of Neurology, Neurosurgery & Psychiatry*. Among a cohort of 268 patients across 11 comprehensive epilepsy centers, researchers found that approximately half of the patients remained seizure-free at their most recent follow-up, a period ranging from 12 to 95 months and with a median of four years. It's the largest published series to date to examine the long-term outcomes of MRgLITT for temporal lobe epilepsy. Dr. Youngerman was the lead author on the study.

The results fall short of the 60% to 80% of patients who achieve seizure freedom with temporal lobectomy, but are close, Dr. Youngerman says. "This is still early data so the results may improve as we improve patient selection and targeting." Patients can still opt for a traditional open surgical procedure if they continue to experience seizures.

Laser ablation is also being used to treat other types of epilepsy, such as cases caused by hypothalamic hamartoma, focal cortical dysplasia, and cavernous malformations. ❖

### Who's Who

- Iruma Bello, PhD, associate professor of clinical psychology (in psychiatry)
- Jeffrey Bruce, MD, the Edgar M. Housepian Professor of Neurological Surgery Research
- Peter Canoll, MD, PhD, professor of pathology & cell biology and neurosurgical sciences (in neurosurgery)
- Lisa Dixon, MD, professor of psychiatry
- Elisa Konofagou, PhD, the Robert and Margaret Hariri Professor of Biomedical Engineering, professor of radiology, and professor of neurological surgery
- J. John Mann, MD, the Paul Janssen Professor of Translational Neuroscience (in Psychiatry and in Radiology)
- John Markowitz, MD, professor of clinical psychiatry
- Guy McKhann, MD, professor of neurological surgery
- Ilana Nossel, MD, associate clinical professor of psychiatry
- Jovana Pavišić, MD, assistant professor of pediatrics
- Peter Sims, PhD, associate professor of systems biology
- Luca Szalontay, MD, assistant professor of pediatrics
- Cheng-Chia Wu, MD, PhD, assistant professor of radiation oncology
- Brett Youngerman, MD, assistant professor of neurological surgery

# THE STATE OF CARE: AT THE HEART OF IT

Cardiology Advances Care Through Remote Monitoring,  
New Technology, Unique Collaborations

By Christine Yu

In the spring of 2020, at the height of the pandemic, Columbia's cardiologists faced a dilemma. Not only were physicians pulled off their service and into COVID-19 hospital units, members of the advanced heart failure and transplant cardiology team needed to figure out how to continue to care for their patients. "We realized we had to do something right now," says cardiologist Kelly Axsom, MD.

So they created a centralized, multidisciplinary team. Any patient with a device capable of monitoring patients—such as a weight scale, blood pressure cuff, or CardioMEMS unit that tracks pressure in the pulmonary artery—was pulled into a remote monitoring program. The program started with 90 patients in April 2020.

The devices allowed doctors to see when something changed, like blood pressure that was too high or too low or atypical changes in weight. They also worked seamlessly with the electronic medical records system to treat patients immediately and adjust medication dosages without an office visit.

Since its inception, the program has served over 1,000 patients with heart failure from across the New York metropolitan area. "Patients can't stop raving about how excellent the care is, how much better they feel, how quality of life has improved being in a program like this," says Dr. Axsom, who leads the centralized team.

Chronic heart failure affects more than 6 million Americans and doesn't exist in isolation. Patients often have multiple medical problems in addition to heart failure, making it a complex condition to treat. It's deadly too. "It's worse than having metastatic cancer, especially if you've had a hospitalization for heart failure," says Dr. Axsom. Heart failure costs an estimated \$30 billion each year in treatment, medication, and lost working days.

Columbia serves one of the largest heart failure and cardiac transplant patient populations in the country and is committed to changing the trajectory for these patients. The remote monitoring program is just one example of an evolving suite of diagnostic and treatment options to help physicians identify patients early and get them the care they need. It's part of Columbia's ongoing commitment to ensure that all heart failure patients get the best quality of care and live longer and better lives.



Kelly Axsom

## PROACTIVE MANAGEMENT

A major constraint to the treatment of heart failure patients is the capacity of specialists. Not enough specialists are available to care for these patients.

Historically, doctors have relied on patients to tell them when they felt unwell, so doctors may miss opportunities to intervene early. Symptoms ebb and flow and the debilitating symptoms that patients report can be a late sign of decompensation.

"There are physiological changes that happen about a month prior to someone feeling sick enough that they end up in the emer-



Jay Leb, Michael DiLorenzo, and Matthew Crystal

## A More Robust Clinical Picture

The multidisciplinary model isn't just a cornerstone of clinical care at Columbia. It's an essential element of programs in lymphatic imaging and intervention and advanced cardiac imaging. These programs help guide patient care in important ways, thanks to advances in technologies and imaging techniques over the past several years. Advances have led to imaging studies that give physicians a deeper understanding of a patient's clinical picture.

The genesis of the lymphatics imaging and intervention program can be attributed to a little bit of kismet, fate, and location. The interventional radiology, MRI, and interventional cardiology suites are located next door to each other. "In our close proximity, we realized that we were all caring for similar patients with similar problems," including patients with congenital heart disease who have lymphatic disorders, says Sheryl Tulin-Silver, MD, director of pediatric interventional radiology.

Lymphatic disorders are complex and present in many different ways. Dr. Tulin-Silver, along with Michael DiLorenzo, MD, a pediatric cardiologist who specializes in noninvasive imaging, and Matthew Crystal, MD, a pediatric interventional cardiologist, saw an opportunity to improve patient care and treatment. "It was an 'aha!' moment. We have the imaging opportunity, the interventional opportunity, and the clinical expertise. We can make this work," Dr. DiLorenzo says.

The team adapted imaging techniques used for other organ systems and applied them to the lymphatic system. The process takes a team of 15 to 20 people to coordinate all the details. The patient is placed on a special MRI- and fluoroscopy-compatible board. In the fluoroscopy suite, Dr. Tulin-Silver uses ultrasound to place small needles into the patient's inguinal lymph nodes and glues them in place.

The patient is then transferred to the MRI suite. "I'm in the scanner with the patient injecting contrast into the lymph nodes," says Dr. Tulin-Silver, while Dr. DiLorenzo performs the imaging. The contrast tracks the flow through the lymphatic system in real

time and with fine detail to identify leakages, blockages, anatomical variations, or other concerns. If an intervention is appropriate, the patient is transferred to the interventional suite.

The imaging studies have assisted the care team in making important decisions. "It's helped us down that fork in the road," Dr. Tulin-Silver says, "either medical, surgical, or just answered the question of what a patient's anatomy looks like." They have identified important blood vessel problems. Other patients have gone on medical therapy, which improved their condition based on what was found in the studies.

Similarly, the advanced cardiac imaging group is an important part of care for patients with advanced cardiac disease. "We are consultants to our cardiology and cardiac surgery colleagues," says Jay Leb, MD, director of cardiac imaging in radiology. "It is our role to utilize advanced cardiac imaging techniques to help explore complex clinical questions and guide patient management." The imaging modalities include echocardiography, CT, MRI, and nuclear medicine.

The group is composed of both cardiologists and radiologists who work collaboratively—each bringing their respective clinical perspective and imaging expertise—to interpret the images and arrive at the correct diagnoses. Imaging is also critical in planning complex surgical and percutaneous procedures, such as transcatheter valve replacement, and in evaluating the results of these procedures.

Additionally, improved technology has made it possible to better assess patients' risk for heart disease. CT scanners are now so fast they can image the heart in one heartbeat with exceptional clarity. As the demand for cardiac imaging has exponentially increased, Columbia and NewYork-Presbyterian continue to invest in new and advanced scanners and technology. "This allows for greater patient access to cutting-edge cardiac imaging technologies and enables the physicians to explore complex clinical questions with greater accuracy," says Dr. Leb.

gency room or need an IV dose of diuretics,” Dr. Axsom says. “If we can prevent those symptoms, we can probably prolong the life of these patients and the viability of their hearts.”

It also takes time to get patients on the right pharmacological therapy. With patient visits scheduled every three to six months, it can take a year or more to get a patient on the maximal tolerated dosage in a safe manner. However, remote treatment can reach the goal in three to six months.

Treating patients outside of the clinic and asynchronously increases the heart failure team’s capacity. Using remote monitoring devices and standardized care protocols, the program proactively observes and treats patients between visits to prevent decompensation. The devices flag changes in a patient’s status, even if they are not experiencing symptoms, potentially catching problems early. Patients can message the team any time of day with questions or concerns.

Dr. Axsom describes the remote monitoring program as “checking in with a purpose.” Patients are contacted if they require ongoing attention, had an event that resulted in hospitalization, or are referred by their provider. The program has between 350 to 400 active patients.

Remote monitoring has improved quality of life for patients too. For instance, the team noticed that one patient’s numbers spiked every Sunday. It turned out that Sunday was family dinner, an important tradition. Instead of telling the patient to abstain from the meal, the team advised the patient to adjust the medication beforehand to avoid an episode the next day that might require medical attention. “It’s not to take away people’s joy,” Dr. Axsom says.

Patients in this program have experienced an 81% reduction in heart failure hospitalization and a 64% reduction in other hospitalizations.

## LIFE EXTENSION OPTIONS

While medication and programs like remote monitoring can improve the health and quality of life of heart failure patients, some people eventually stop responding to treatment and may qualify for a heart transplant or heart pump, such as a left ventricular assist device (LVAD).

LVADs haven’t always had the best public image. In many cases, these surgically implanted pumps have been considered a temporary fix until a donor heart becomes available. Plus, early versions were bulky, noisy machines that weren’t durable. They were associated with high rates of stroke, bleeding, and clotting. Patients had to exchange their pumps because of clots, which meant an additional surgery and hospital stay.

The LVAD field has made major advances over the past 20 years. Modern heart pumps are much smaller and more durable and are no longer implanted just as a bridge to transplantation. They can extend a patient’s life with survival rates on par with heart transplant recipients. “This is great news for patients. It’s yet another option that can save the life of a heart failure patient,” says Paolo Colombo, MD, medical director of the mechanical circulatory support program.

The current heart pump available—HeartMate 3—is a fully magnetically levitated centrifugal continuous flow LVAD. The pump accelerates and decelerates every two seconds, essentially shaking the blood in the pump and preventing clots from forming.



Paolo Colombo

Columbia was one of the first institutions to make HeartMate 3 available to patients as part of the MOMENTUM 3 (Multicenter Study of MagLev Technology in Patients Undergoing Mechanical Circulatory Support Therapy with HeartMate 3) clinical trial.

The trial—Columbia enrolled the largest number of participants—randomized patients to receive either the old HeartMate II or the new HeartMate 3 to compare outcomes. The results, published in the *New England Journal of Medicine*, found significant improvements in HeartMate 3 patients. At two years, the survival rate was 80%, the stroke rate fell below 10%, and pump clotting was only 1%. Most recent MOMENTUM 3 data show that the survival at five years was 58.4% with fewer complications compared with HeartMate II. Columbia results are even better with a survival rate in patients who received HeartMate 3 of 88% at two

**“The ability to collaborate and innovate, in a way it’s like you’re an artist. You’re able to push the science because you have so many different experts in their respective fields working together.”**

years and 70% at five years. Complications are also less at Columbia compared with the MOMENTUM 3 results. “Not only were we leaders in testing this new device, if you look at the results of our program in isolation, we were able to do much better than what was published, despite the fact that our center implanted the device in much sicker patients than reported in the trial,” says Dr. Colombo.

He believes that part of the reason Columbia’s patients fared better is the team charged with caring for them. “We have a very

organized, well-oiled system,” he says, one that spans multiple disciplines and specialties. The team is in constant communication. Pre- and post-surgery huddles allow the team to review the case in detail and make a plan. Well-defined protocols are followed if complications occur during and after hospitalization.

With results like this, LVADs are no longer just a stopgap. “My patients with LVAD play full rounds of golf and travel everywhere. Their quality of life has totally changed. They get back the energy that they didn’t have before,” Dr. Axsom says. “It’s not perfect but we’ve come a long way.”

### MULTIDISCIPLINARY MODEL

The strong results achieved by the remote monitoring program, the LVAD team, and other cardiology programs all hinge on a multidisciplinary model of clinical care to treat complex conditions. “The ability to collaborate and innovate, in a way it’s like you’re an artist. You’re able to push the science because you have so many different experts in their respective fields working together,” says Erika Berman Rosenzweig, MD, director of adult and pediatric pulmonary hypertension comprehensive care at NewYork-Presbyterian/Columbia.

Pulmonary hypertension affects the blood vessels in the lungs. As pressure increases, it puts strain on the right side of the heart. If untreated, it can lead to right heart failure. When Dr. Berman Rosenzweig started in the field in the 1990s, a diagnosis of pulmonary hypertension was considered fatal: no cure and significant morbidity and mortality. Still, Dr. Berman Rosenzweig says, “I don’t ever want to tell a patient I can’t help them. My team and I create solutions so that I never have to say we don’t have anything to offer.”

Columbia’s Pulmonary Hypertension Comprehensive Care Center is one of the largest programs of its kind in the country and among the first to be accredited by the Pulmonary Hypertension Association in both adult and pediatric pulmonary hypertension. It serves patients of all ages, from newborn to adult, and treats all forms of pulmonary hypertension, ranging from idiopathic pulmonary hypertension to secondary forms of the disease caused by other underlying conditions.

The center began under the leadership of the late Robyn Barst, MD. Her work ignited an important period of drug discovery for



Erika Berman Rosenzweig

the condition. When Dr. Berman Rosenzweig became the center’s director in 2008, she continued Dr. Barst’s legacy and commitment to improved patient outcomes. Dr. Berman Rosenzweig realized patients needed more than just medication and began to build a multidisciplinary team. “It was very important to me to have these collaborations and to be able to offer every patient every option, whether it was surgical, medical, or interventional,” she says.

The center has been at the forefront of clinical trials that have led to new FDA-approved drugs, genetic discovery, multiomics research to understand the underlying fingerprints associated with pulmonary hypertension, and specialized surgeries that have transformed treatment options.

The team at Columbia was the first to perform a unidirectional-valved shunt in a young adult with idiopathic pulmonary hypertension, a potential alternative to lung transplantation. It’s one of only a few programs to offer pulmonary thromboendarterectomy, where clots are removed from the lungs of patients with chronic thromboembolic pulmonary hypertension, which is potentially a cure for some patients. Columbia was also one of the first to apply extracorporeal membrane oxygenation (ECMO) to stabilize adult patients with pulmonary hypertension. “Nobody would previously put a patient with pulmonary hypertension on ECMO because they never thought they’d survive. We changed the whole paradigm,” says Dr. Berman Rosenzweig.

“I’ve seen incredible advances over the years, from saying, ‘We don’t have anything to offer you,’ to being able to tell people, ‘We’ve got this. We’re going to work on this together,’” Dr. Berman Rosenzweig says. She’s cared for some patients for 25 years. “It’s a miracle. No one ever imagined that we could manage patients for so long with this previously universally fatal disease.” ❖

### Who’s Who

- Kelly Axsom, MD, assistant professor of medicine
- Erika Berman Rosenzweig, MD, professor of pediatrics (in medicine)
- Paolo Colombo, MD, the Sudhir Choudhrie Professor of Cardiology (in Medicine)
- Matthew Crystal, MD, associate professor of pediatrics
- Michael DiLorenzo, MD, assistant professor of pediatrics
- Jay Leb, MD, assistant professor of radiology
- Sheryl Tulin-Silver, MD, assistant professor of radiology

# THE STATE OF CARE: CHILDREN'S HEALTH

"Children are Not Little Adults"

By Christina Hernandez Sherwood

**A** 15-year-old girl had been living for years with a second heart after cardiomyopathy damaged her first heart. But her immune system had been fighting her transplanted heart. The longtime Columbia patient was in heart failure, which can cause extreme nausea, shortness of breath, poor blood flow, and other devastating symptoms that wreak havoc on the life of a high schooler.

"Routine things like walking or going up and down stairs became enormous challenges," says Christopher Petit, MD, chief of pediatric cardiology in the Department of Pediatrics and co-director of the NewYork-Presbyterian Children's Heart Center. "She was at the point where not only were those challenging, but her heart wasn't going to last much longer."

Removing the teen's failing heart and immediately transplanting a new donor heart was a risky option. In its heightened state, her immune system was likely to attack the new heart, setting her up for another failure. Instead, surgeons at Columbia decided to replace the failing heart with a medical device.

In a first for Columbia doctors—and first in the northeastern United States—surgeons removed the girl's failing heart and replaced it with a pediatric-sized total artificial heart in November 2022. The device, a smaller version of the model used frequently in adults, performs all the functions of the heart without stimulating the immune system, giving the teen time to recover from her heart failure. "It was kind of a perfect set of circumstances for her," Dr. Petit says. "It was the right fit between patient need and a novel device."

The teen lived with the device for nearly five months while her immune system cooled down and she waited for a new donor heart. In April, her total artificial heart was removed and replaced by a donor heart. As of the summer, she was recovering well.

Ask any pediatric clinician about treating kids and they'll tell you: Children are not "little adults." Children have thinner skin than adults. They breathe in more air and have less body fluid. Not to mention their bodies are growing and changing at a rapid rate. So when it comes to clinical care, children are much more than smaller versions of grownups.

With this understanding, VP&S faculty are at the forefront of pediatric patient care. They are intervening earlier, collaborating widely, and pushing boundaries to ensure that the sickest children receive treatment that is both advanced and age-appropriate. In recent years, Columbia doctors have performed a first-ever heart procedure in infants, used rapid genomic sequencing to diagnose and begin treatment of a newborn's rare eye disease, treated children with debilitating gastrointestinal conditions using Botox, and more.

"Our people, our professionals, are the best to be found and create a culture of going above and beyond," says Jordan S. Orange, MD, PhD, chair of the Department of Pediatrics. "We consistently go to whatever lengths necessary to find the solution for a child."

The teen with the total artificial heart was not the only child to undergo a first-of-its-kind heart procedure performed by VP&S faculty. Just weeks after the teen received her new donor heart, two infant girls were treated by Columbia doctors as part of the first infant "domino" heart valve transplant procedure.

A 2-month-old was born with severe valve disease, and an 8-month-old girl was in heart failure due to cardiomyopathy but had healthy valves. When a donor heart became available for the 8-month-old, Columbia pediatric cardiology and surgery teams realized the healthy valves from her original heart could be transplanted into the 2-month-old. Both infants were discharged from the hospital about two weeks after their "domino" transplant surgery and are recovering without problems.

The infants' pre- and postoperative medical care teams were led by pediatric cardiologist Marc Richmond, MD, director of the pediatric cardiomyopathy, heart failure, and transplantation program at NewYork-Presbyterian Morgan Stanley Children's Hospital. "Seeing how grateful the families are really just motivates us to continue to push the envelope, continue to offer these newer techniques," says Dr. Richmond. "To be able to make a difference in the lives of patients is a gift. It's why we're here."

Before their surgeries, the babies had spent most of their lives in the Infant Cardiac Intensive Care Unit, the hospital's first-of-its-kind facility dedicated to babies with heart problems. Led by a

team of neonatal intensivists, pediatric cardiac surgeons, and pediatric cardiologists, the specialized unit reported some of the lowest mortality and morbidity rates after cardiac surgery in preterm infants in the recent era, according to a 2022 retrospective review published in the *Journal of Thoracic and Cardiovascular Surgery*.

“Our Columbia model offers a potential structure to optimize outcomes of preterm infants with congenital heart disease,” says the paper’s lead author Nimrod Goldshtrom, MD, a neonatologist and pediatric cardiac intensivist in the unit.

Nearly 300 babies with heart disease are admitted to the unit each year, and the volume allows Columbia researchers to study this population in the hopes of finding new and better treatments. A newborn boy critically ill with congenital heart disease took

## “It takes a village to care for patients like these with multiple complexities and pain predominant symptoms.”

part in a prospective study to determine whether rapid genomic testing—results in less than a week—of infants with congenital heart disease would impact patient management and improve care. The newborn’s genetic test revealed that he also had cat eye syndrome, a chromosomal abnormality that often causes malformations of the eye. He was referred to an ophthalmologist before symptoms appeared.

“Sure enough, that changed the patient’s management,” says neonatologist Thomas Hays, MD, PhD. “If we can improve that child’s vision or prevent vision from getting worse, he’s going to be able to read better and see faces better and grow and thrive. Finding that information as soon as possible is crucially important.”

The study, reported in *Circulation: Genomic and Precision Medicine*, was the first prospective study in which neonatologists

quickly identified babies with congenital heart disease who were likely to benefit from genomic sequencing, says Dr. Hays. Of the 48 babies in the cohort, 13 were found to have genetic disorders related to their congenital heart disease. Eight of those infants, including the boy with cat eye syndrome, benefited from a change in management after genomic sequencing.

“Looking at the baby in front of you in the first days of life, it’s impossible to make that determination without doing the genome sequencing,” says Dr. Hays. “That’s really a paradigm shift in how clinical medicine is practiced.”

Columbia faculty have been using genetics in patient care for the past decade. The precision in pediatric sequencing program has provided clinical genomic sequencing of tumors in patients with high-risk or relapsed cancers. The program’s mission is to use cancer genomic data to guide personalized, effective treatment as clinicians make complex patient care decisions.

“We have also integrated a community-based sequencing program for any patient diagnosed with high-risk cancer residing in the New York, New Jersey, and Connecticut tri-state area,” says program leader Jennifer Oberg, EdD. “Doctors can submit their patients’ tumor samples to Columbia and we will clinically sequence those tumors to guide their physicians in making decisions about treatment.”

In another use of genetics to inform patient care, Columbia researchers joined an international, multicenter study to understand the role of genetics in the development of congenital diaphragmatic hernia, or CDH. Published in the *American Journal of Human Genetics* in 2021, the study found that babies with CDH who also had variants in a specific gene had a higher mortality rate.

Co-author Aliva De, MD, a pediatric pulmonologist, says the finding is critical for clinicians preparing to deliver these babies. “It also impacts the future care of these newborns,” Dr. De says, “because they will require extra respiratory support and care.”

With new centers and programs focused on specific diseases and conditions, Columbia faculty are taking multidisciplinary care of pediatric patients to a new level. Launched last year, the pediatric endocrine lipids program provides diagnosis and treatment options for children and adolescents with cholesterol disorders. “The teenage years are a prime time to intervene and prevent the adult-onset complications of elevated LDL and triglycerides, such as heart disease and stroke,” says pediatric endocrinologist J. Nina Ham, MD. “The adage, ‘an ounce of prevention,’ truly does apply in this case.”

The Pediatric Gastrointestinal Motility Center at Morgan Stanley Children’s Hospital is one of only a few comprehensive pediatric neurogastroenterology and motility programs in the Northeast. Consider a tween with gastroparesis, a rare condition that impairs the stomach from properly emptying, leading to chronic GI symptoms. Nausea, distention, abdominal pain, and postprandial emesis often lead to school absenteeism and decreased quality of life. After falling behind in school, the child may develop anxiety or depressive symptoms. Such patients often have undergone an evaluation by several gastrointestinal specialists and tried a number of therapeutics that may not improve or resolve their symptoms.

### Who’s Who

- Aliva De, MD, associate professor of pediatrics
- Nimrod Goldshtrom, MD, assistant clinical professor of pediatrics
- J. Nina Ham, MD, associate professor of pediatrics
- Thomas Hays, MD, PhD, assistant professor of pediatrics
- Julie Khlevner, MD, associate professor of pediatrics
- Jennifer Oberg, EdD, assistant professor of pediatric hematology, oncology, and stem cell transplantation
- Jordan S. Orange, MD, PhD, the Reuben S. Carpentier Professor of Pediatrics and chair, Department of Pediatrics
- Christopher J. Petit, MD, the Welton M. Gersony Professor of Pediatrics
- Marc Richmond, MD, associate professor of pediatrics



Thomas Hays, Julie Khlevner, and Christopher J. Petit

“We tend to see patients who have been evaluated and treated by many other pediatric GI specialists,” says pediatric gastroenterologist Julie Khlevner MD, who was recruited in 2012 to launch the multidisciplinary neurogastroenterology and motility center. “We might be the fifth, sixth, seventh opinion. It’s frustrating for families, and also for patients, to deal with disorders and chronic GI symptoms that are not necessarily understood or adequately addressed by many providers.”

At the Pediatric Gastrointestinal Motility Center, all providers are pediatric experts who are well-versed in the complexity of these conditions. Along with Dr. Khlevner, the team includes a nurse practitioner, GI psychologist, pediatric surgeons, pulmonologists, otolaryngologists, and speech language pathologists. “It takes a village to care for patients like these with multiple complexities and pain predominant symptoms,” says Dr. Khlevner.

The team sees pediatric patients with a host of motility disorders and disorders of the gut-brain interaction, from more common conditions like irritable bowel syndrome, functional constipation,

and feeding intolerance to rare esophageal motility disorders and pediatric pseudo-obstruction. These conditions can be difficult to diagnose, especially when there is an overlap with other organic disorders—data from adults do not translate to children—with often limited treatment options because developing therapeutics for pediatrics is not always a top priority. The Pediatric Gastrointestinal Motility Center has access to clinical trials, including many with Dr. Khlevner as principal investigator, and innovative technology giving patients access to cutting-edge treatments. One option for a patient with gastroparesis, for instance, is a Botox injection to the pyloric sphincter to relax it and allow food to pass through more easily and improve the symptom.

From a new wearable percutaneous electric nerve stimulator to reduce pain in children with irritable bowel syndrome to innovative research to increased interest in the neurogastroenterology and motility specialty among gastroenterology trainees, Dr. Khlevner is hopeful about the possibilities and future for pediatric patients with neurogastroenterology and motility disorders. ❖

# Alumni News & Notes

Julia Hickey González, Alumni Writer  
Bonita Eaton Enochs, Editor

## 1961

See Alumni in Print to read about a book written by **John Curran**. After medical school, John completed a medical surgical internship at St. Luke's Hospital and a psychiatric residency at the New York State Psychiatric Institute in New York City. He is certified by the American Board of Psychiatry and Neurology. His book is based on 50 years of experience providing consulting services at state and private mental hospitals, county and private mental health centers, nursing homes, and residential treatment centers for adolescent sexual offenders and adult alcoholics. John, who lives in Minneapolis, writes that he is now "finally, happily, and fully retired," which gave him time to finish his book. "Otherwise I'm hanging out with my children, step-children, and their grandchildren, fussing over my tomatoes, and catching up on my reading. And I now have the chance to study painting, especially the work of Edward Hopper, one of my favorites. His work both subtracts and adds, hypnotizing and ironic. Life would be so dull without irony."

## 1962

**Norbert Hirschhorn** received this year's Michael Pupin Medal for Service to the Nation In Engineering, Science, or Technology beyond the candidate's professional field.

The medal was presented by the Columbia Engineering Alumni Association. The medal recognized Norbert for his life-saving development of oral rehydration therapy, which has saved an estimated 50 million lives worldwide. He co-founded John Snow Inc., a firm working in public health with government and non-government agencies in the United States and abroad. He has published a number of articles and books and advocated for free and open access of published scientific work.

## 1973

**Katherine A. Hawkins** received a St. Luke's-Roosevelt Distin-



Katherine A. Hawkins '73

guished Alumni Award for 2023 at a dinner held at the New York Academy of Medicine. Katherine, who also has a law degree, is associate professor of medicine, hematology, and medical

oncology at the Icahn School of Medicine at Mount Sinai. After an internship at Columbia, she completed a residency in internal medicine at St. Luke's-Roosevelt Hospital Center and a fellowship in hematology at NYU.

## 1979 PhD

**Adele J. Wolfson** has been chosen to receive the Sustained Leadership Award from the American Society for Biochemistry and Molecular Biology. The award, which will be presented at next year's annual ASBMB meeting, recognizes individuals who have a strong commitment to advancing the careers of women in bio-



Adele J. Wolfson '79 PhD

chemistry and molecular biology and have demonstrated excellence in research and/or service.

## 1982

The Hospital for Special Surgery in New York City honored **Frank P. Cammisa Jr.** with a Lifetime Achievement Award during the hospital's annual tribute dinner in June. Frank is chief emeritus of the Hospital for Special Surgery's spine service and professor of clinical orthopedic surgery at Weill Cornell Medicine. The award honors an individual who has made significant standing contributions to the advancement of musculo-



Frank P. Cammisa Jr. '82

skeletal medicine. Frank is founder of SpineCare of NY and specializes in the surgical treatment of spinal disorders. His areas of expertise include spinal reconstructive surgery, minimally invasive surgery, athletic spinal injuries, and motion preservation techniques. He also engages in research to advance the innovative treatment of complex spine conditions.

**Risa Gold**, a child, adolescent, and adult psychiatrist with a private practice on Long Island, has started a non-profit called Miracle of Help to provide free maternal and general health care in a remote rural region of eastern Sierra Leone in West Africa. Miracle of Help won the 2023 Impact Company of the Year Award from DotCom Magazine. In partnership with the Sierra Leone government,



Risa Gold '82

↘ *send your news via mail or email:*

Mail: *Columbia Medicine* Editor  
Vagelos College of Physicians & Surgeons  
630 W. 168th Street  
New York, NY 10032

Email: [columbiamedicine@columbia.edu](mailto:columbiamedicine@columbia.edu)



Risa writes, the non-profit has renovated an existing maternal child health post, run monthly pop-up clinics with all Sierra Leone medical staff, started two malnutrition programs to respond to the 80% malnutrition among the children there, and started a surgical program. The non-profit has raised funds for 12 scholarships for Sierra Leone doctors, nurses, midwives, and lab techs to staff the new maternity hospital the group is raising funds to construct. Other assistance includes teaching organic agriculture, forming a co-op of 500 cocoa farmers, and teaching skills to indigent mothers of malnourished children. Future goals include a psychiatry clinic to treat PTSD caused by war and Ebola and an HIV/AIDS education and outreach program to combat stigma and provide treatment. To help or offer expertise, contact Risa through [miracleofhelp.org](http://miracleofhelp.org).

### 1983

**Lee Jones** has been elected chair of the Association of American Medical Colleges Board of Directors for 2023-24. Lee is dean for medical education and professor of psychiatry at Georgetown University School of Medicine.

### 1984

See Alumni in Print to read about a book by **Beatriz Olson**. Betty, who is board-certified in endocrinology, metabolism & diabetes, and internal medicine, has led an integrative medicine practice in Connecticut for 15 years and has three decades of experience and expertise caring for patients by combining evidence-based science, mind-body-spirit aligning techniques, and integrative and functional medicine. She has certifications in age management medicine and feminine power transformational leadership. She completed a residency in internal medicine and a research-clinical fellowship in endocrinology at the University of Pittsburgh, then



Beatriz Olson '84

served as a clinician-scientist at the NIH before joining the faculty at Yale University's medical school. She has published numerous first-author publications in basic science and clinical peer-reviewed journals and has contributed chapters to several textbooks. Betty lives in Connecticut with her husband, medical school classmate **Eric J. Olson**.

### 1988

**Robert Gaiser** has been named to the board of directors of the American Board of Medical Specialties, which oversees certification of physicians and medical specialists in the United States. Bob is president of the American Board of Anesthesiology and professor of anesthesiology at Yale medical school. He is also anesthesiology residency program director at Yale.

See Alumni in Print to read about a book co-edited by **Rajveer Purohit**. Rajveer is professor of

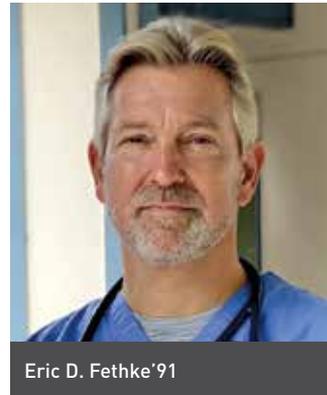


Rajveer Purohit '88

urology at the Icahn School of Medicine at Mount Sinai. He is also director of reconstructive urology at Mount Sinai Hospital.

### 1991

Read Alumni in Print about a book by **Eric D. Fethke**, a pediatric cardiologist who, since completing his medical training at Columbia, has been practicing and teaching in academia and on the front lines of community medicine in New York's Greater Hudson Valley for 25 years. In his book he expresses his concerns about the significant changes in U.S. health care over this timeframe. Because



Eric D. Fethke '91

he believes that "health care belongs to everyone," through his book, podcast, and daily work, he strives to point all of us toward a more constructive horizon.

### 2002

**Clara Keegan** received the Graduate Medical Education Educator of the Year Award from the University of Vermont Health Network. Clara is associate professor of family medicine at the University of Vermont and core faculty for the school's family medicine residency.

### 2003

**James Wolak** has been named vice president of medical affairs, intensive services for Maine Behavioral Healthcare. James is a board-certified psychiatrist who previously served as the medical

director of hospital psychiatry and director of psychiatric emergency services at Maine Medical Center. In his new role, he will lead a team to oversee the delivery of intensive behavioral health services and oversee all aspects of clinical operations, including quality assurance and safety standards. He is also assistant professor of psychiatry at Tufts University.

### 2007

**Judith Joseph** was honored in Washington, D.C., in June during Caribbean American Heritage Month with a U.S. House of Representatives proclamation recog-



Judith Joseph '07

nizing her research and advocacy in the Caribbean-American community and her social media reach. She was nominated by Florida Congresswoman Sheila Cherfilus-McCormick, who presented the award to Judith. Remarks about her work were read on the House floor and will be part of the Congressional Record. Judith, a board-certified psychiatrist, is PI at Manhattan Behavioral Medicine and clinical assistant professor in NYU Langone Medical Center's Department of Child and Adolescent Psychiatry. She also has an MBA from Columbia. She chairs the VP&S Alumni Women in Medicine Collaborative.

### 2007 PhD

**Philip R.O. Payne** was named an inaugural Janet and Bernard



Philip Payne '07 PhD with his wife, Tara, a 2005 graduate of Columbia's Graduate School of Arts and Sciences, and his daughter, Hailey.

Becker Professor at Washington University School of Medicine in St. Louis. Philip, professor of general medical sciences and of computer science and engineering at Washington University, oversees the university's Institute for Informatics, Data Science and Biostatistics and the Bernard Becker Medical Library. He also is associate dean for health information and data science and chief data scientist at the School of Medicine.

## 2008

See Alumni in Print to read about a book to which [Andrew T. Turk](#) contributed. Andrew is



Andrew T. Turk '08

associate professor of pathology & cell biology at VP&S.

## 2009

See Alumni in Print to read about a book co-edited by [Marc Manseau](#). Marc co-authored two chapters in the book with



Marc Manseau '09

his fellow editor, VP&S faculty member Michael Compton. Marc is clinical assistant professor of psychiatry at the NYU Grossman School of Medicine.

## 2011

[Uzodinma Iweala](#) and the Africa Center, which he joined as CEO in 2018, received this year's Leo Award from ICI (Independent Curators International). ICI is committed to advancing curators in contemporary art, and the award recognizes individuals and organizations that have supported curators and artists and created new infrastructures that serve a broader art world. Uzodinma and his team sponsor programming that promotes cross-cultural understanding and collaboration. The center has created a new space for African art and produced several public art installations on the plaza of its Harlem building as a focal point for communities to come



Uzodinma Iweala '11

together through art. Uzodinma is an award-winning writer and filmmaker. As the CEO of the Africa Center, he is dedicated to promoting new narratives about Africa and its Diaspora. He is a faculty member at New York University's creative writing program, where he teaches fiction and creative non-fiction courses. Uzodinma was the CEO, editor-in-chief, and co-founder of Ventures Africa magazine, a publication that covers the evolving business, policy, culture, and innovation spaces in Africa. His books include "Beasts of No Nation," a novel released in 2005 to critical acclaim and adapted into a major motion picture; "Our Kind of People," a nonfiction account of HIV/AIDS in Nigeria released in 2012; and "Speak No Evil" (2018), a novel about a queer first-generation Nigerian-American teen living in Washington, D.C. His short stories and essays have appeared in numerous publications including the New York Times Magazine, Vanity Fair, and the Paris Review. His films have appeared at Sundance and on Al Jazeera. Uzodinma was also the founding CEO of the Private Sector Health Alliance of Nigeria, an organization that promotes private sector investment in health services and health innovation in Nigeria. He sits on the boards of the Van Leer Foundation, the International Center for Photography, the Sundance Institute, and the International Rescue Committee. He is also a Fellow of the Radcliffe Institute at Harvard University. He lives in Brooklyn.

See Alumni in Print to read about a book to which [Danny Neghassi](#) contributed. Danny co-wrote the chapter on the Civil Rights Act of 1964. He is

assistant clinical professor of medicine at VP&S.

## 2012

[Pamela Good](#) is one of four VP&S physician-scientists who were named 2023 Gerstner Scholars. Gerstner Scholars receive funding for up to three years to support their research. Pamela, assistant professor of pediatrics in neonatology at VP&S, heads



Pamela Good '12

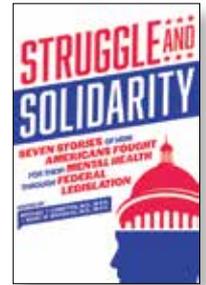
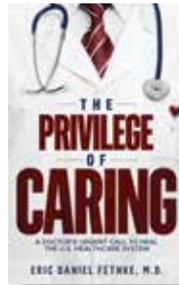
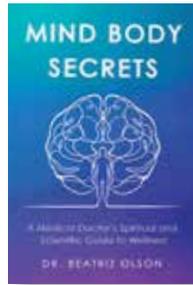
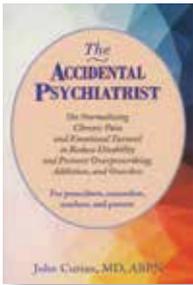
a lab that investigates the causes of acute kidney injury in newborns. After medical school, she completed a pediatric residency at Columbia and served as chief resident before beginning subspecialty training in neonatology.

## 2021

See Alumni in Print to read about a book to which [Taiwo Alonge](#) contributed. Taiwo co-wrote the chapter on the Civil Rights Act of 1964. He is a psychiatry resident at Yale.



Taiwo Alonge '21



## The Accidental Psychiatrist: On Normalizing Chronic Pain and Emotional Turmoil to Reduce Disability and Prevent Overprescribing, Addiction, and Overdose

**John Curran '61**

*Bidwell Learning Institute, 2023*

Dr. Curran's book, intended for prescribers, counselors, teachers, and parents, details his journey to medical school and his unexpected 50-year career in psychiatry. He writes of insights he has gained by working with people hospitalized with psychosis, chronic pain sufferers, addicts, and troubled adolescents. Among the insights: All anxiety is rooted in the fear of separation from others, the loss of attachment; trauma results in the loss of trust and difficulties in forming healthy attachments, a phenomenon Dr. Curran calls attachment disability; labeling such inevitable suffering as disease risks creating a double disability, "a disability about the disability"; and normalizing such suffering rather than pathologizing it reduces any associated attachment disability.

## Mind Body Secrets: A Medical Doctor's Spiritual and Scientific Guide to Wellness

**Beatriz Olson '84**

*Spotlight Publishing, 2023*

Dr. Olson's book discusses care of our bodies and minds and the importance of spirit to well-being. The book shows how it is possible to overcome the metabolic dissonance that causes obesity, diabetes, heart disease, isolation, depression, and burnout. This information prepares us to make lifesaving choices that keep us from becoming sick and can reverse diseases we already have. Dr. Olson shares personal anecdotes and insightful reflections about her own journey of self-discovery and

how it has influenced her medical practice. The book blends her knowledge as an endocrinologist with mind-body medicine and spirituality to provide readers with a holistic approach to wellness. The book explores how nutrition, lifestyle, habits, stress, and relationships affect physical wellness and disease.

## The Privilege of Caring: A Doctor's Urgent Call to Heal the U.S. Healthcare System

**Eric D. Fethke '91**

*Paper Raven Books, 2023*

Dr. Fethke's book is part memoir, part call to action from a doctor who wants to fix what's gone wrong in American health care. "Both patients and medical doctors in America are realizing there are deep-rooted and seemingly insurmountable problems throughout our health care system," says Dr. Fethke. His two decades of experience as a physician in diverse settings has helped him weave his personal story into a narrative about the past and future of American health care, all with an intention to start a conversation about how to get American health care to live up to its full potential. "I am determined to provide lay people with the knowledge and motivation they need to be proactive voices in determining the future of American health care."

## Atlas of Operative Techniques in Gender Affirmation Surgery

**Rajveer S. Purohit '98**  
(co-editor)

*Academic Press, 2023*

The textbook co-edited by Dr. Purohit is a comprehensive guide to new techniques in transgender surgery to help surgeons master the complex operative procedures that this field demands. The number of transgender and gender non-binary individuals is growing, and the number

of patients seeking gender confirmation surgery is increasing. This book is an illustrated guide to the different types of gender affirmation surgery. The book illustrates top and bottom surgeries, including facial feminization, mastectomy, techniques in phalloplasty, metoidioplasty, and different approaches to vaginoplasty. Management of complications of gender affirming surgery is included. The book describes recent surgical updates, including the comparative advantages and disadvantages of each surgery.

## Struggle and Solidarity: Seven Stories of How Americans Fought for Their Mental Health Through Federal Legislation

**Marc W. Manseau '09 and Michael T. Compton, Editors**

*American Psychiatric Association Publishing, 2022*

Dr. Manseau and Columbia psychiatry professor Dr. Compton have put together a case study of seven federal laws that demonstrate how public policies, even when not explicitly mental health-related, can shape social determinants and improve mental health. For each of the seven laws, the book describes the crisis in society that spurred the law's inception, key individuals and groups that influenced passage, how the law has evolved over time, and how the law can continue to affect mental health. The co-editors also contributed chapters. Other VP&S alumni who contributed by co-authoring chapters: **Elizabeth Haase, MD**, who completed residency training at Columbia, received a certificate from Columbia's Center for Psychoanalytic Training and Research in 2004, and is a former faculty member; **Andrew T. Turk '08**, **Danny Neghassi '11**, and **Taiwo Alonge '21**. **Flavio Casoy, MD**, a faculty member in psychiatry, also contributed to the book. **Brie Garner**, another chapter co-author, received her MPH from Mailman School of Public Health in 2020.

● ALUMNI PROFILE

## To Learn Grace Under Pressure, Study Taison Bell'09, Master of Flow

By Eric Williamson, University of Virginia Communications // Photographs by Sanjay Suchak

*This profile is reprinted from a March 2023 faculty profile published by the University of Virginia, where Dr. Bell is associate professor in the Division of Pulmonary and Critical Care Medicine.*

**“W**hy don't we just plan our drama ahead of time?” Anyone who has worked for Taison Bell'09 in the intensive care unit he runs at the University of Virginia Medical Center has likely heard some variation of those words.

The medical ICU requires the ability to move fluidly from step to step. One way to accomplish that, Dr. Bell says, is to reduce stress before encountering it.

“If the patient starts to breathe poorly, let's have a plan for what we're going to do,” he tells his team. “If their blood pressure goes down, let's work out what we're going to do. And let's do it now, while our heart rates are normal, we're not stressed out, we're drinking our coffee.”

Inevitably, some patients crash. Some require mechanical ventilation. By then, he says, “You've rehearsed it hundreds of times before you actually go in to do it.”

That's just one of the ways Dr. Bell, an associate professor in the University of Virginia School of Medicine and a specialist in infectious diseases and critical care, has become a master of flow.

He moves seamlessly from bedside to courtside to coach his son's basketball games, from a recruiting session for the

Summer Medical Leadership Program he directs to an elementary school career talk, and ever-faithfully on.

He's vice chair of faculty affairs for the School of Medicine, and he produces his department's podcast. He is associate editor of an infectious diseases journal and co-directs fourth-year medical student rotations in the medical ICU. He's co-founder of a medical startup aiming to provide early colon cancer detection using infrared imaging.

For Dr. Bell, this is 40. Like that famous painting of “The Great Wave,” his career has been a boat pointing toward an oncoming tsunami, and that's intentional. The bigger the wave, the more movement and change created.

“I'm an ‘intensivist,’” he says. “So ‘intense’ is literally in the name of my job. I got into intensive care medicine knowing that there probably should be some expiration date on it. It can be stressful and taxing, emotionally and physically. But I don't know when that point is going to be.”

Don't expect it to be tomorrow or the next day. The hectic, expansive nature of his work suits him. By combining his medical practice with teaching and mentorship, he facilitates progress in others as well.

“I like having conversations with people and trying to help them figure out, ‘Are you getting what you need?’” he says. “And if you're not, ‘How do we pull the levers to get you to a point where you are?’”

He reflected on the irony involved in his ability to pull a lever for anyone.

He's not supposed to be here, he says.

### The Sick Kid They Called ‘Doctor’

It's not that Dr. Bell thinks he shouldn't be in medicine or working at UVA, where he earned his bachelor's degree in African American and African studies in 2005 and a master's degree from the Darden School of Business in 2020.

Rather, as a young Black male from a disadvantaged background, “the stars had to line up exactly perfectly,” he says.

In Dr. Bell's experience, the ability to achieve flow involves recognizing one's potential, having access to opportunities, and being able to persevere long enough to build confidence and maintain focus.

But from that first trickling interest he had in medicine, on to matriculation, higher education was never a given. A recent trip to attend the graduation ceremony of a family member in Dorchester, Massachusetts, where he might have grown up, reinforced this reality.

“There were students who had been shot and killed,” he says. “They held a special ceremony for them. And I remember thinking to myself, ‘This would have been the high school I'd have gone to.’”

Fate intervened, however. At the age of 2, Dr. Bell's parents sent him to live with his great-grandmother, Christine Taylor, in Lynchburg.

In conversation, he sometimes just refers to her as “Grandma.”

“I don't fully know the circumstances of why I stayed with my grandmother,” he says. “But instead of growing up in a major urban disadvantaged area, I lived in a smaller city, where I had more access to resources and more of the chance to have success.”





As the entire team gathers for rounds, Dr. Bell asks rhetorical questions that help move the problem-solving forward.

The move didn't solve all his problems, of course. Dr. Bell also struggled with asthma. The severe episodes landed him in his local emergency room on multiple occasions. He had to receive immunotherapy, which required weekly visits to a Lynchburg pediatric clinic.

In an unexpected way, his ill health turned out to be fortuitous.

"I remember telling the staff at a young age that I wanted to be a doctor, and they started calling me 'Dr. Bell,'" he says. "When I showed up, they even wrote it on the chart. They are the ones who kind of normalized the dream of being a doctor for me."

Dr. Bell circulated among the children being seen, telling them things like, "I know this shot's going to hurt, but it's good for you."

His age was still in the single digits, yet he was serving as a cultural ambassador for health care, a role he would embrace later in life, too.

### Mediocrity Was Not an Option

Though being a doctor had been his dream for as long as he could remember, the would-be physician became distracted during high school. He needed to buckle down.

For his speech to graduating students in UVA's professional schools in 2022, Dr. Bell talked about the concept of flow, and how it involves just the right amount of pressure.

He spoke lovingly of his 11th and 12th grade civics teacher, Holly Frazier, who "pulled me aside one day and turned up the pressure. She told me I needed to get my act together, and from then on, I was going to take advanced courses and make As in them."

She didn't present the situation as a challenge to accept or decline. What she expected wasn't optional.

Holly Frazier, the teacher, confirmed the story, and says she told his other teachers not to let up on him either. She didn't know he had been identified in elementary school as gifted. All she knew was that he was smart enough to do more.

In response, Dr. Bell stepped up in his academics, including taking multiple advanced placement classes offered his senior year.

Ms. Frazier to this day refers to Dr. Bell as her "greatest success story."

"The next year she encouraged me to apply to UVA and I was accepted with the help of her letter of recommendation and some late-breaking all-A report cards," Dr. Bell said in his speech. "So a little pressure definitely benefited me. And what's interesting is this concept of pressure for performance is true in human physiology

as well. For example, if a patient is placed on a ventilator, we have to apply a minimal level of pressure to the lungs to prevent them from collapsing."

But, he cautioned graduates, overdoing it is something to be mindful of as well.

"In the ICU, we know that if the lungs receive too much pressure, we can actually cause damage," he said.

As an undergraduate Dr. Bell first learned to strike a balance in the pressure that he allowed on himself. He met his future wife, Kristen, and began to say "yes" to a lot of opportunities—but not every opportunity.

After all, he had started out as a chemistry major.

"I wasn't doing well in my biochemistry course, so I went to see my professor about withdrawing," Dr. Bell said in his speech. "We sat down, and he told me, 'Look, I'm going to sign this withdrawal form for you, and you can do what you want with it. But I believe in you, and I know you can do this. I hope you throw it away.'"

"And I have to tell you, it was a good pep talk. I was inspired. I was inspired to walk even quicker to the registrar's office and withdraw. It was too much pressure!"

The audience of graduates chuckled; they could relate.

Removing pressure is something he not only did for himself, but for his great-grandmother.

When he knew that his tuition invoices would be mailed, even though they would eventually be covered by scholarships and grants, he routed them to his dorm, so as not to worry her.

### An Emerging Leader in Critical Care

Dr. Bell says he has gotten so many good breaks in life that if he were to be born again, he probably wouldn't be a doctor. So much had to go just right.

His big opportunity after UVA was studying medicine at Columbia University, from 2005 to 2009.

"I first met Taison when he was an undergraduate student in one of our summer pipeline programs," says Hilda Hutcherson, MD, then the dean for diversity. "At that time, I was impressed with his determination and grit. He took every bit of advice and put it into practice. He voiced, even then, a commitment to helping disadvantaged communities. As a medical student, he proved to be a natural, calm, and gifted leader. It was obvious that Taison was special."

Dr. Bell completed his residency in 2012 at Harvard University's Massachusetts General Hospital. He was chief resident for a year, then completed an infectious disease fellowship in the Mass General Brigham program.

A critical care fellowship at the National Institutes of Health and other opportunities followed.

"You could see that he was an emerging leader," says Nitin Seam, MD, fellowship director in the critical care medicine department at NIH. "He has an openness to questioning the status quo and the curiosity to look at all the options. He would love to tackle a clinical problem that was getting in the way of patient



Dr. Bell examines a patient during rounds.

care, figure out the impediments to progress, bring the relevant stakeholders together, and find ways to collaborate on solutions.”

The stars indeed had aligned for Dr. Bell. It’s clear that the astrological straight line, though, was as much the result of hard work and tenacity as it was fate for the young doctor, who always planned to return to Virginia to give back.

UVA hired him in 2017. Charlottesville was where he would make his home and raise his family.

## After Opportunity, the Wave Hits

As he rose to medical ICU director in 2020, however, the stars unfortunately crossed. COVID-19 held the world in its grip.

Early that year, Dr. Bell thought a lot about his family and what was unknown about the new, highly contagious virus. His father, Clarence Bell, was a bus driver, and his mother, Deborah Bell, worked in retail, both high-risk jobs.

“Those concerns about front-line workers were forefront of my mind, because I always worried about getting that phone call,” he says.

He worried about the future of the local community, too, and his own small children.

This was an inflection point in Dr. Bell’s life. He couldn’t say yes or no to the amount of incoming pressure that the virus was exerting. But what he could do was feel more in control, and that, too, helps with flow.

Rather than just bracing for the worst, he decided to share information as a science communicator, to help even people he had never met achieve their best health outcomes.

“This was when we were having waves in New York,” he says. “We were seeing what we were worried about was going to happen here. The requests for information from the public and then from the media were very overwhelming. And our experts here, Dr. [William] Petri, Dr. [Costi] Sifri, were just working overtime-plus to try to keep up with all the requests.”

Dr. Bell was still a relatively young faculty member. He knew he had a relevant skill set, but he wondered if he should leave the talking to others.

“I fell into this trap of, ‘I’m not the perfect person to do this, so therefore, I should take a backseat,’” he says. “And there was a moment—I can point to my degree at Darden because I was in the midst of the executive MBA program there. They talked a lot about leadership training and stepping up to the moment, and how it’s rare that you feel that you’re right, or that you’re worthy. But that doesn’t mean you shouldn’t do it.”

Dr. Bell didn’t wait for his shoulder to be tapped. He tapped the shoulder of UVA Health’s public information officer, Eric Swensen, and volunteered to take media requests if other doctors couldn’t.

## Reporting from the Front Line

He soon became an in-demand communicator who could speak not only from the front line, but also to the concerns of the African American community, which included early hesitance to the vaccine.

In 2021, Dr. Bell addressed the vaccine debate in a soft-sell manner—within the context of his own family—in an interview with the *New York Times*. The article was titled “Dad Got the Vaccine, but No One Else Did—Yet.”

He keeps a framed copy on his office wall.

The year before, however, he was still feeling like an inadequate messenger. He recalled preparing for a live remote interview with the BBC for the first time: “They had you on this long wait. You’re staring at a blank screen that has these instructions about, ‘Look at the camera, don’t look down, make sure your lighting is good.’ I remember thinking to myself, ‘I am not the person for this.’”

“But I had a little conversation with myself, and I said, ‘Actually, I am the right person to talk about this. Because of what I’ve been through and what I worry about and what I know about this, I am prepared for this moment.’ And once you believe that you have value and worth, then the mistakes you make are just things you learn from and not things that you use to beat yourself up. That’s when I felt like I was truly walking the path that was set out for me.”

For the better part of two years, the path was fraught. The ICU intermittently filled with COVID-19 patients. Among the stricken was the grandmother of a nurse he worked with in the same unit. The older woman was so sick she would have to go on a ventilator, but while she could still speak, Dr. Bell asked how she was feeling.

She responded, “I’m doing okay, but how are you doing? This must be really stressful taking care of all these patients.”

He would write about the encounter and the pandemic’s toll on health care professionals for a *MedPage* article titled “I Can’t Do This Again.”

“It was really the first time that a patient had actually shown concern for me, even while she was on the brink of having to be intubated,” he says.

## The Art of Flow and Family

These days, variants of COVID-19 ebb and flow, as do the media’s requests for Dr. Bell’s time. That gives the doctor opportunities to keep the flow going in other areas.

During a recent span of a little over a week, planning for his summer leadership program bled into an overnight clinical shift and meetings with medical students to go over rotation feedback.

Somehow, he also worked in podcast production, toured public housing redevelopment sites with leaders of UVA’s Equity Center,

and made a trip to Greer Elementary School with his 9-year-old son, Alain.

At the school talk, Alain lay on the floor, simulating a patient, as the doctor showed his son's heart beating with a portable ultrasound machine and introduced the rapt young audience to his profession.

Dr. Bell has developed a few tricks over the years to keep up with his challenging schedule. The ICU, of course, has gotten him used to interruptions and continuing his lines of thought later. But he also uses a notetaking and task management app to "brain dump." He relies on his trusted assistant, Emily Wells, to ensure his day stays on track.

"I never feel like I'm on top of everything," Dr. Bell says. "But I kind of feel like no one really does. So I try to learn how to normalize that feeling."

No matter how busy he is, the doctor finds ways to meaningfully incorporate his family into his day.

The obvious example is coaching Alain's basketball team, but he also makes sure he's fully present when he shares a meal with Kristen, Alain, and daughter Ruby, who is about to turn 5, or when he attends one of his wife's singing gigs around town.



Dr. Bell coaches his son's basketball team during a tournament at an elementary school.

Ever present in his thoughts is Julian, his oldest child, who was stillborn in 2012, a subject he is not afraid to talk about. Dr. Bell is mindful of honoring the past in his daily life. His children were named for three Black leaders who inspired him and his wife (civil rights leaders Ruby Bridges and Julian Bond, who was also a UVA professor, and writer-educator Alain Locke, PhD).

When he travels for work, he often takes the family with him.

Dr. Bell cringes at the expression "work-life balance," though. To him, "balance" implies that one's profession and the rest of one's existence are at odds. He prefers to think of it as "work-life integration." The two should naturally blend as much as possible.

## Pulling the Levers for Others

Pulmonary critical care medicine fellow Claire Davis says she has been fortunate to return to UVA for her residency and to have Dr. Bell as a key adviser.

"When I was coming back, a lot of the fellows said, 'Get ready, you're going to love working with Taison,'" Dr. Davis says. "He's now become a centerpiece for my fellowship program, and he has inspired a lot of people to say they're interested in critical care, even if they haven't done the pulmonary side."

One of her projects has been improving the treatment of sepsis, a potentially deadly blood infection. Although Dr. Bell wasn't her direct supervisor on the effort, he was all-in to help.

"He invited me to participate on UVA's Sepsis Mortality Coalition, and he was a mentor on developing an order set to improve antibiotic delivery times," she says. "He would meet with me sometimes three times a week on the project, providing encouragement consultations. Overall, he's a huge presence in the process of quality improvement. His work has been enduring despite whatever project I am on."

Among the reasons she enjoys interacting with Dr. Bell is his "safe delivery" of critiques.

"His feedback never feels like it's a personal failing," she says. "It feels like an opportunity for growth. He brings it like, 'I'm on your team.'"

She also appreciates that he's transparent about life outside of the hospital.

"He invited our whole program to one of his wife's performances, and I know his son is in a basketball tournament tomorrow," Dr. Davis says. "That level of sharing makes him accessible to trainees."

No matter how busy Dr. Bell gets, in giving back, it seems he has found his own perpetual energy machine.

When he's not teaching his mechanical ventilation course, for example, he's thinking about how he can bring his lifesaving skill set to the community. He's currently working with the UVA Health Office of Diversity and Community Engagement to plan a series of free CPR courses at the Boys and Girls Clubs of Central Virginia.

Investing in others doesn't just enhance community efficacy and the sense of collective flow, it also provides Dr. Bell endless joy.

"I'm involved in so many things," he says. "But I think the core at the middle of all of it is education and mentorship. That's what drives me, having those sorts of interactions. I help people get to wherever the point B is for them."

"I'm 40 years old at this point. So I know, whatever that next step is going to be for me, it's going to have to involve that, or I don't think I will get as much enjoyment out of it. Because if you can think about the impact that you can have on people, that's how you exponentially multiply your influence in what you can do for the world."

Again, he knows someday he'll have to slow down. But it won't be today, tomorrow, or the next day.

He can't. He is a wave now, and the crest is still yet to be realized.

## FACULTY

**Vincent Beltrani, MD**, retired associate clinical professor of dermatology, died June 24, 2023. Read more in Alumni In Memoriam (Class of 1957).

**Stanley Bone, MD**, a faculty member in the Center for Psychoanalytic Training and Research, died March 21, 2023.

**Filippo Giancotti, MD PhD**, the Herbert and Florence Irving Professor of Basic Science in Genetics & Development (in the Herbert Irving Comprehensive Cancer Center), died July 14, 2023.

**Burton A. Lerner, MD**, a faculty member in the Center for Psychoanalytic Training and Research, died Dec. 4, 2022.

**David Y. Levine, MD**, a faculty member in the Center for Psychoanalytic Training and Research, died Jan. 2, 2023.

**Shearwood McClelland, MD**, retired director of the Department of Orthopedic Surgery at Harlem Hospital Center and associate professor of clinical orthopedic surgery, died Aug. 13, 2023. Read more in Alumni In Memoriam (Class of 1974).

**Herbert J. Schlesinger, PhD**, professor of clinical psychology (in psychiatry), died Sept. 16, 2022.

## ALUMNI

### 1946

**Martin "Marty" Beller**, a retired orthopedic surgeon residing in Gaines, Pennsylvania, died June 6, 2023, at age 99. He was a Phi Delta Epsilon and Alpha Omega Alpha member during medical school. He served as a U.S. Army captain before an orthopedics residency at New York's Hospital for Joint Dis-

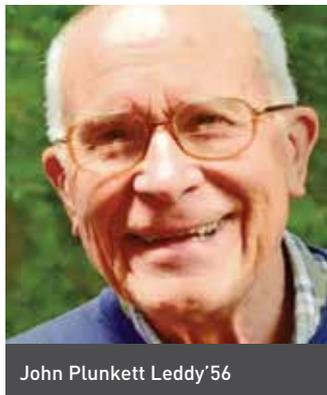


Martin "Marty" Beller '46

eases. He joined the orthopedics partnership of brothers Dr. Irvin Stein and Dr. Raymond Stein in Philadelphia, where he practiced until 1997. He was a clinical professor at the University of Pennsylvania and chair of orthopedic surgery at Albert Einstein Medical Center in Philadelphia. With the Steins, he authored a book in 1955 titled "Living Bone in Health and Disease." In 1963, he toured Great Britain as a member of the prestigious American-British-Canadian Traveling Fellowship program of the American Orthopedics Society. He enjoyed humor, spending time with his grandchildren, and serving his church's vestries. Dr. Beller is survived by three children, 10 grandchildren, and seven great-grandchildren.

### 1956

**John Plunkett Leddy**, who served as chief of allergy, immu-



John Plunkett Leddy '56

nology, and rheumatology at the University of Rochester for 26 years, died March 19, 2023. He completed his internship and residency in internal medicine at Boston University Medical Center. As a member of the U.S. Army, Dr. Leddy completed a fellowship at Walter Reed Medical Center and, after military service, completed another fellowship at the University of Rochester. His greatest joy was mentoring younger faculty and teaching at the University of Rochester Medical Center, where he was honored with multiple awards for teaching. A humorous storyteller and avid outdoorsman who appreciated music and art, Dr. Leddy is survived by three children and four grandchildren.

**Nicholas Yankopoulos** of Malibu, California, died April 27, 2022. He was 93.

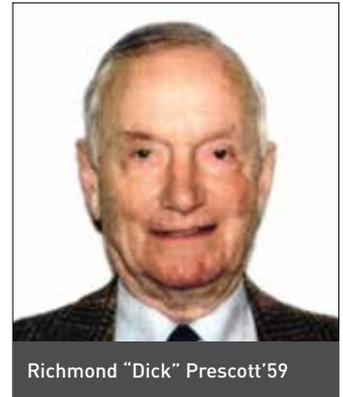
### 1957

**Vincent Beltrani**, an allergist and dermatologist who practiced in



Vincent Beltrani '57

the Hudson Valley for 55 years, died June 24, 2023. He was 92. The proud son of Italian immigrants, his first language was Italian, and he obtained Italian dual citizenship at age 87. He enjoyed family, food, opera, and classical music. He is survived by four children, seven grandchildren, and eight great-grandchildren.



Richmond "Dick" Prescott '59

### 1959

**Richmond "Dick" Prescott**, an internist and cardiologist, died March 1, 2023. He was 95. He earned a law degree from Harvard and practiced corporate law in New York City before pursuing medicine. He completed internship and residency at the Massachusetts General Hospital. In 1971, Dr. Prescott joined Kaiser Permanente's South San Francisco Medical Center as chief of medicine. He retired as an associate executive medical director for the Permanente Medical Group. After purchasing a cottage built by his uncle, he spent many summers of retirement in Nonquitt in his hometown of Dartmouth, Massachusetts. Dr. Prescott is survived by three daughters, six grandchildren, and one great-granddaughter.

### 1961

**Griffin "Grif" Bates Jr.**, a psychiatrist and painter, died April 21, 2023, in Audubon, Pennsylvania. He was 87. He completed internship and residency at Mary Bassett Hospital and Strong Memorial Hospital in Rochester, New York, before moving to Vermont in 1970. He worked in the emergency room at Rutland Regional Medical Center in Vermont and the nearby Dartmouth-Hitchcock Hospital and retired from practice in 1997. He served for years on the VP&S



Griffin "Grif" Bates Jr. '61

Lawrence J. Durante Scholarship Fund committee, established in 1964 for a former classmate. Dr. Bates started painting the summer before medical school and continued until two weeks before his passing. He is survived by his wife, three children, seven grandchildren, and three great-grandchildren.

**1962**

**William Klein Jr.**, an internist and nephrologist, died June 8, 2023. He was 87. From 1963 to 1965 he served in the Peace Corps as a physician in Ghana, West Africa. He completed an internal medicine residency and nephrology fellowship at Duke University Medical Center, where he was a Mead Johnson Scholar. After a career in academia, he practiced nephrology in Reading, Pennsylvania. He served as chief of the medical staff and was on the board of Reading Hospital



William Klein Jr. '62

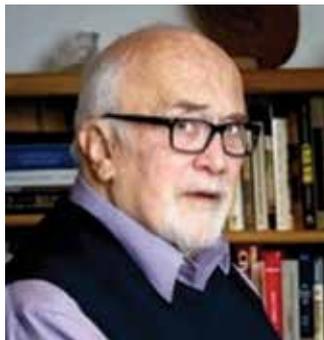
and Medical Center. Dr. Klein was an avid skier who loved Vail and retired in Colorado Springs, Colorado. He is survived by his wife, Sybil, three children, and four grandchildren.

**1964**

**Kenneth Marshall**, a plastic surgeon who taught at Harvard medical school, died July 30, 2023. He was 84. Following two years of training in general surgery, he joined the flight surgeon program in Pensacola and from 1966 to 1969 made two cruises on the USS Intrepid to Tonkin Gulf and Vietnam. He and his colleagues were awarded the Navy Commendation Medal for providing emergency care to the injured in the USS Forrestal Fire in 1967. Dr. Marshall completed training in plastic surgery and established a medical practice affiliated with several Boston area hospitals, including Mount Auburn, where he served as chief of plastic surgery. He was president of the Massachusetts, New England & Northeastern societies of plastic surgery. In retirement, he continued to serve on the board of Former Crew Members of the Intrepid and traveled the world, including to Guatemala, where he assisted with volunteer surgical and medical work. He enjoyed squash, skiing, and tennis. Dr. Marshall is survived by two sons and four grandchildren.



Kenneth Marshall '64



David Svahn '65

**1965**

**David Svahn**, a longstanding attending physician in internal medicine at Bassett Hospital in Cooperstown, died July 24, 2023. He was 84. He trained at Columbia affiliates in Cooperstown (Bassett Hospital) and New York City (Presbyterian and Harlem hospitals). He served three years with the U.S. Army in Germany before returning to Bassett, where he was lauded for teaching. He was an inaugural member of the American Society of Hypertension and was active in regional and state American Heart Association organizations. Following retirement in 1999, he continued at Bassett supervising residents in primary care. Dr. Svahn developed a new interest in the medical humanities and served as executive editor for a book of medical student writings, "Let Me Listen to Your Heart." Until 2010, he taught nurse-practitioner students at Binghamton University. He sang for years in choral societies and acted with the Leatherstocking Theatre Company. Dr. Svahn is survived by his wife, Karin, three children (including Jennifer Svahn '91 and Jonathan Svahn '97) and four grandchildren.

**1968**

**Edward Mullin Jr.**, a urologic surgeon for 40 years in Allentown, Pennsylvania, died June 4, 2023. He was 80. He trained at

Massachusetts General Hospital and Duke University Hospital before serving in the U.S. Public Health Service at the NIH in Bethesda, Maryland. In Allentown, he served as chief of urology, president of the medical staff, and interim chair of surgery at Lehigh Valley Hospital. He was also a clinical professor of surgery at Penn State Hershey Medical School. His world travels included running across the original Olympic field in Greece and summiting Mount Kiliman-



Edward Mullin Jr. '68

jaro. He was a member of Allentown's St. Thomas More Catholic Church, where he served on the parish council. He is survived by his wife, Patricia, three children, and seven grandchildren.

**1969**

**Robert "Bob" Titzler**, a general practitioner, died May 13, 2023. He was 83. He worked at Floyd County Comprehensive Health Program in Wheelwright, Kentucky; Rutgers University in New Jersey; Mercy Hospital in Anoka, Minnesota; and Group Health Inc. of Minnesota. In retirement, he worked part time covering for physicians on leave. He held extensive volunteer roles, including serving in the Peace Corps in Ijebu-Ode, Nigeria, and Monrovia, Liberia. Other international volunteerism included Rural Hospital Doctors in Dimitrov, Russia,

and a Methodist mission in India. He volunteered with the New York City Mission Society; Hands on America in Biloxi, Mississippi, after Hurricane Katrina; Audubon Society; Sherburne Wildlife Refuge; and Wisconsin Citizen Scientists. An avid birder, Dr. Titzler loved the outdoors, teaching his children and grandchildren an appreciation for nature. He is survived by two daughters and two grandchildren.

## 1970

**James "Jim" Taylor**, a cardiologist, died July 27, 2023. He was 78. He served in the U.S. Air



James "Jim" Taylor '70

Force and joined UAB Hospital in Birmingham, Alabama, as a cardiologist and professor. Dr. Taylor is survived by three children and seven grandchildren.

## 1971

**Charles Max Jones**, a general surgeon in private practice at Piedmont Hospital in Atlanta, Georgia, for 28 years, died June 10, 2023. He was 76. Dr. Jones was a chief resident at Emory University and also trained at Grady Memorial Hospital. He spent two years in Florida in service to the U.S. Navy, where he was on active duty as a lieutenant commander for the Naval Reserve. He served as chief of general surgery at Piedmont Hospital and was a longtime member of the Southeastern

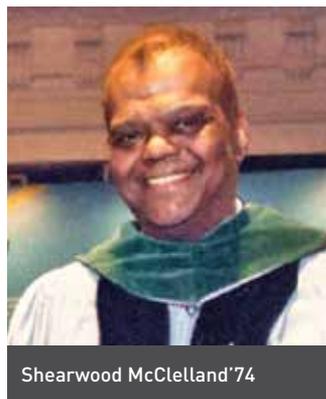


Charles Max Jones '71

Society of Clinical Surgeons. He attended Peachtree Presbyterian Church. Dr. Jones was a gifted vocalist who also enjoyed playing the piano. He is survived by his wife, Sandra, one daughter, and two grandchildren.

## 1974

**Shearwood McClelland**, associate professor of clinical orthopedic surgery at VP&S and director of the Department of Orthopedic Surgery at Harlem Hospital Center for 25 years, died Aug. 13, 2023. He was 76. Dr. McClelland was a beloved and long-standing member of BALSO (Black and Latino Student Organization) at VP&S and mentor of students, served on the VP&S medical school admissions committee, and was a former president of the VP&S Alumni Association. As an undergraduate student, Dr. McClelland joined his father working in the steel mills of Gary, Indiana, during summers to help pay his way to Princeton University. He completed an orthopedics residency at Columbia and volunteered with his wife, Yvonne Thornton '73, for active duty in the U.S. Navy. They were commissioned as lieutenant commanders and were stationed at the National Naval Medical Center in Bethesda, Maryland, where Dr. McClelland served as chief of total joint surgery. In 1996, he and Dr. Thornton



Shearwood McClelland '74

earned executive master of public health degrees in health policy and management from the Mailman School of Public Health. In addition to being a skilled surgeon in musculoskeletal trauma, he completed a fellowship in joint implant surgery at the Ohio State University. He joined Harlem Hospital in 1983, where he was dedicated to serving the underserved. He was a member of the New York State Board of Professional Medical Conduct for nine years and a senior oral examiner for the American Board of Orthopedic Surgery for 25 years. In 2005, Dr. McClelland was selected to be a Health Policy Fellow of the National Association of Public Hospitals. He is survived by his wife, two children, and a granddaughter. His son, Shearwood McClelland III, graduated from VP&S in 2004.

## 1989

**Ramin Oskoui**, a cardiologist associated with Sibley Memorial Hospital and owner of Foxhall Cardiology in Washington, D.C., died May 5, 2023. He was 60. Sibley Memorial Hospital honored Dr. Oskoui as Physician of the Year in 2015.

## 1998

**Lawrence Cheung**, a dermatologist and public health advocate, died July 17, 2023, from esophageal cancer. He was 51.



Lawrence Cheung '98 with family

Dr. Cheung was born in Hong Kong and moved to New Jersey as a child. In medical school he started Columbia's first course on cultural diversity in medicine and was the first national president of the Asian Pacific American Medical Student Association. He completed a psoriasis research fellowship and served as co-chief resident of his dermatology program at Washington University in St. Louis before establishing a thriving solo dermatology practice in San Francisco. He specialized in the care of patients with psoriasis and eczema, and his practice offered clinical trials and a phototherapy unit. Dr. Cheung served the indigent clinic at St. Mary's and established the tele-dermatology service for Asian Health Services. He was president of the San Francisco Marin Medical Society, commissioner for the San Francisco Health Authority, and vice speaker of the California Medical Association House of Delegates. He played a pivotal role in initiating San Francisco's successful soda tax initiative and a ban on flavored tobacco products. Dr. Cheung was a passionate amateur gourmet chef. As a former member of the Harvard Glee Club, he loved vocal music and served as a board member for the Young Women's Choral Projects of San Francisco. He is survived by his wife, Angela Wong, and twin children.

# DR. WILLIAM GOMEZ, MD

Dr. William Gomez, MD is an orthopedic surgeon in New Jersey, a member and representative of the VP&S Class of 1982, and a generous supporter of scholarships at VP&S. In a recent conversation with members of the Office of Development, Dr. Gomez explained how he chose Columbia and the importance of paying it forward and supporting financial aid at VP&S.

When asked about his decision to attend Columbia, Dr. Gomez said: *“It was a great surprise that I was able to be accepted. Fortunately, I had a mentor who was in medicine and let me know that of the places that I had been accepted to that Columbia was definitely the school to attend. He felt that Columbia would help me for the rest of my life and he was absolutely right.”*

For more than 40 years, along with his classmate Marguerite Pennoyer, MD, Dr. Gomez has served as co-class representative for the VP&S class of 1982. He says, *“it gives me the opportunity to contact my classmates.”*

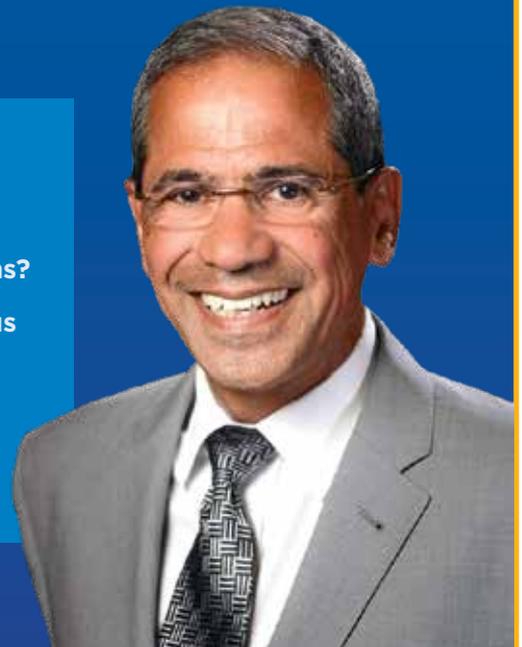
In 2008, the Class of 1982 started a class scholarship for VP&S students. Dr. Gomez explained: *“It’s been funded over the last 15 years. As people get further away from the school and graduation, then you’re financially able to help the school the way they helped us when we were students. Certainly, there were a number of us who needed financial aid and loans to be able to go to school—so, it’s a great way of paying it forward.”*



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