

20 YEARS
OF THE
CENTER FOR
INNOVATIVE
MEDICINE

20 WAYS
WE ARE
CHANGING
MEDICINE

THE JOHNS HOPKINS CENTER FOR INNOVATIVE MEDICINE

breakthrough

WE BRING
THE BRIGHTEST
MINDS IN HEALTH
CARE TOGETHER
TO ADDRESS THE
CHALLENGE OF
FINDING AND
EXPLORING THE
MOST EFFECTIVE
WAYS TO MAKE
MEDICINE A BETTER
PUBLIC TRUST.

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SPECIAL ISSUE
FALL 2024

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True to the Mission



As we celebrate the 20th anniversary of the Center for Innovative Medicine, I'm proud to bring you this special edition of *CIM Breakthrough*, which is chock-

full of more stories than ever about the extraordinary people and programs that have coalesced under CIM's umbrella to dramatically improve patient care at Johns Hopkins – and around the world.

So much has happened at CIM over these two decades, and it's impossible to capture every seminal moment in these 48 pages. Instead, in keeping with the theme of 20 years, we've captured 20 key accomplishments that exemplify work unfolding within areas key to CIM's mission: clinical excellence, humanizing medicine, healthier aging, pioneering research and making medicine a public trust.

The scope of this work is breathtaking, and I am humbled to bear witness to the way our initial founding objective – to bring the best minds together to make medicine better, day by day, year by year – has expanded in scope. From CIM's origins as a think tank at Johns Hopkins Bayview Medical Center, we have grown into a universitywide enterprise that now serves as a model for cross-disciplinary academic collaboration.

How have we accomplished this? That's a question I've given a lot of thought to of late. As a native of Kentucky, I grew up when Col. Sanders was hawking his Kentucky Fried Chicken all over the world by claiming that it had a unique taste thanks to his "secret recipe of 23 herbs and spices!" But unlike Col. Sanders, I am happy to spill the beans about the "secret sauce" that has made the Center for Innovative Medicine so impactful.

First, from the very beginning, with the encouragement of then Johns Hopkins University President **Bill Brody**, we aimed high. Borrowing from the mission of Johns Hopkins – which from its founding has sought to revolutionize teaching, research and clinical care – we've reached for the stars. Modeled as well on President John F. Kennedy's bold proclamation in 1962 that the United States would send a man to the moon, not because it was easy, but because it was very difficult, CIM's aspirational goal of making medicine a better public trust has galvanized our best people, stimulated their most inspiring ideas, and unleashed their undaunted efforts. So, for example, in establishing the *Miller Coulson Academy of Clinical Excellence* to nurture and reward superlative doctors, the Academy's founders developed a research-based process for measuring excellence that has become the standard not just at Johns Hopkins, but also at several important academic medical centers around the country (p. 6). And in launching the *Aliki Initiative* to improve

"In creating opportunities for lawyers to sit alongside Nobel laureates, for nursing leaders to swap ideas with biomedical engineers, we have created a fertile, cross-disciplinary environment that might best be described as 'Johns Hopkins without borders.'"

the way young doctors can be trained to provide patients with more humanized care, we didn't limit the reach to the Department of Internal Medicine at Johns Hopkins Bayview. Today, it's estimated that residents trained through the Aliki initiative have touched the lives of nearly 1 million patients. What's more, the Aliki Initiative has inspired creation of CIM's far-reaching new *Initiative for Humanizing Medicine* (p. 14).

Second, with our clarion call for big ideas that will change medicine and improve the patient experience, we've extended a *wide welcome* to big thinkers of every stripe, not just doctors and researchers, and not just members of one department. Through our *CIM Seminars*, *Miller Lectures*, book clubs and annual retreats (p. 42), we've brought together brilliant minds from business, nursing, public health, engineering and more to brainstorm creative solutions to some of the biggest challenges in health care today. In creating opportunities for lawyers to sit alongside Nobel laureates, for nursing leaders to swap ideas with biomedical engineers, we have created a fertile, cross-disciplinary environment that might best be described as "Johns Hopkins without borders."

Thirdly, thanks to the incredible generosity of our donors and the visionary leadership and philanthropy of my partner **Stephanie Cooper Greenberg**, chair of our International Advisory Board, we have committed to *inspiring and treasuring* Johns Hopkins' most promising clinicians and researchers. In today's cash-strapped world of academic medicine, it's never been more difficult for junior researchers to procure funding from agencies like the National Institutes of Health. Time and again, CIM donors have stepped up to change that grim equation – to support the people whose big ideas have gone on to change the standard of care for a wide range of debilitating diseases (p. 30).

Of course, the final ingredient to the secret sauce, that one that binds the other three together, has been our shared commitment at CIM to *listen to our patients*. It is only by keeping patients at the center of everything we do that we can succeed in our mission to make medicine a public trust.

While I'm proud of all we've accomplished at CIM these past 20 years, I'm even more excited about what's to come. By staying true to our recipe, I'm confident that CIM will continue its high-flying trajectory, reaching new heights we can't even imagine today. Thank you so much for your support – and I hope you enjoy the ride!

David B. Hellam, M.D.

CLINICAL

EXCELLENCE

SUPERLATIVE DOCTORS WHO FOCUS ON PROVIDING OUTSTANDING PATIENT CARE CAN NOW FIND RECOGNITION, SUPPORT AND INSPIRATION AT JOHNS HOPKINS.



Driving high-value health care, bolstering bedside medicine and inspiring clinicians the world over with [CLOSLER.ORG](https://www.closer.org).

Recognizing and Rewarding Great Clinicians

No. 1 When Rosalyn Stewart, director of the Johns Hopkins Hospital Substance Use Consultation Service, was promoted to full professor in November 2020, it marked a welcome new day for many faculty members across Johns Hopkins Medicine.

That's because Stewart was the first to be promoted on Hopkins' new Clinical Excellence track, which recognizes and rewards faculty members whose professional focus is on providing outstanding patient care.

In the four years since then, more than 100 superlative clinicians from departments throughout Johns Hopkins Medicine have been approved for promotion on the new track — and dozens more are now at various stages of the evaluation process.

"In terms of applications, the pace has really picked up. The Clinical Excellence track is absolutely thriving," says Hopkins psychiatrist **Meg Chisolm**, who initially co-led the track's promotions committee, which is now co-led by ophthalmologist **Sharon Solomon** and CIM Director **David Hellmann**.

This momentous step forward, Hopkins leaders agree, can be directly attributed to the foundation laid by CIM's *Miller Coulson Academy of Clinical Excellence*, which launched in 2008 with **Scott Wright** as director.

"At Johns Hopkins, we pride ourselves on doing things rigorously and objectively, but up until the Miller Coulson Academy, there was general skepticism that clinical excellence could be measured in a clear and consistent way."

Cynthia Rand

"At Johns Hopkins, we pride ourselves on doing things rigorously and objectively, but up until the Miller Coulson Academy, there was general skepticism that clinical excellence could be measured in a clear and consistent way," notes **Cynthia Rand**, senior associate dean for faculty.

The design of the Miller Coulson Academy reflected nearly two years of research and interviews with experts throughout the country conducted by four Miller Coulson Scholars —

Driving High-Value Health Care

No. 2 The figures are both sobering and staggering. Nearly 20% of American households reported medical debt in 2019, and it remains the leading cause of bankruptcy, while also contributing to food insecurity, utility debt, eviction and foreclosure.

Meanwhile, experts estimate that \$700 to \$900 billion in annual health care expenditures is wasted — through unnecessary tests and treatments, and failures in delivering and coordinating care.

Into this breach stepped Johns Hopkins radiologist **Pamela Johnson**, *Stanley Levenson CIM Scholar*.

"I knew a problem of this magnitude could not be solved by a single medical institution," she says. "As a nation, we needed to move from 'high volume' to 'high value.'"

So in 2017, she and her Hopkins colleagues convened 100 academic medical centers partners from across the country to form the High Value Practice Academic Alliance. The cornerstone of this national alliance is an annual conference, held each

year in Baltimore, where clinicians disseminate their initiatives to improve health care quality while driving down unnecessary costs. The alliance also zeroed in on training tomorrow's physicians in the principles of high-value health care. The impact has been far-reaching, with more than 1,000 abstracts presented to date.

In the first years of the alliance, says Johnson, physicians focused on reducing "low-value" tests as part of the national Choosing Wisely campaign, which has successfully eliminated unnecessary lab and radiology tests at Johns Hopkins and across the country.

"Over time, we realized we needed to shift from single-resource issues to more broadly improving

the effectiveness of clinical care and coordination to protect patients from potentially avoidable emergency department visits and hospital stays," says Johnson. Toward that end, alliance faculty are publishing a "roadmap" — a series of manuscripts — to guide hospitals across the country in delivering patient-centered, high-value care.

"Our mission is to dramatically improve the reach and quality of health care for patients throughout the United States," Johnson says, "which will drive measurable reductions in health care spending."

In addition to her national leadership, Johnson has been a key driver of change at Johns Hopkins. In 2020, she was appointed vice president of care transformation for the entire Johns Hopkins Health System (see p. 40). "The funding I received as CIM's *Stanley Levenson Scholar* has been absolutely critical to this work," Johnson says. "It has been used to support the national alliance, the creation of continuing medical education programs and the awarding of seed grants to Hopkins faculty."

Colleen Christmas, Chris Durso, Steve Kravet and Scott Wright — who were supported in their work by a gift to CIM from Johns Hopkins Medicine trustee *Sarah Miller Coulson*.

The scholars, who published their findings in *Mayo Clinic Proceedings* in 2008, were inspired by a provocative question asked in 2006 by *Mrs.*

Anne Miller: "Why aren't there more **Dr. Philip Tumultys**?" She was referring to a man who had been her doctor, a legendary Hopkins clinician known for his "back-to-basics, humanistic approach to the treatment of patients." She was concerned that — despite their remarkable success in scientific discovery — academic

medical centers were not producing skilled, thoughtful clinicians of the caliber of Dr. Tumulty.

Says Rand: “The Miller Coulson Academy really made a mark, both locally at Johns Hopkins and nationally, by developing a truly rigorous process — including extensive internal and external peer review and objective clinical metrics — for measuring excellence in clinical care.”

SHIFTING THE CULTURE

While Johns Hopkins Medicine has long operated under a tripartite mission — of research, education and patient care — when it came time to evaluate faculty members for recognition and promotion, excellence in research dominated.

“That means that there were faculty members who were pulled away from their true passion — caring for patients — because they needed to put so much time into research, writing papers and traveling to conferences in order to get promoted,” says Chisolm.

That culture saw a dramatic shift with the establishment of CIM’s Miller Coulson Academy, which has cultivated a community of standout clinicians — now numbering more than 100, from across Johns Hopkins Medicine — since its start 16 years ago.

“Membership in the Miller Coulson Academy has become an aspirational goal for many for whom excellence in patient care is their *raison d’être* and their passion,” says Wright, holder of *The Anne Gaines and G. Thomas Miller Professorship*. “Joining the Academy gives one the opportunity to regularly meet with other Academy members — leading clinicians from all across the institution — who are focused on

Bolstering Bedside Medicine

No. 3

A renowned pulmonologist and critical care physician, **Brian Garibaldi** has directed the Johns Hopkins Biocontainment Unit and the Johns Hopkins Precision Medicine Center of Excellence for COVID-19. But some of his most powerful work has been as a physician educator and tireless advocate for the revival of a once sacrosanct ideal — that learning and developing excellent bedside skills is essential to great patient-centered care.

It is also essential to physician morale. “No one becomes a doctor because they want to spend their time being a computer sleuth,” he says, pointing to studies showing that physicians spend more than half of their time on the computer and only about 13% with patients.

In 2016, Garibaldi co-founded the Society of Bedside Medicine, a global initiative that, among other things, supports a bedside medicine fellowship at Hopkins and other institutions. And his appointment in 2018 as the *Douglas Carroll, MD CIM Scholar* — funded to honor the legendary Hopkins bedside clinician by his daughter, Susan Immelt, and her husband, Stephen — has helped fuel his mission of reinvigorating the Hopkins culture of bedside medicine.

It helped support his expansion of the clinical skills curriculum he’d developed for the Osler Medical Residency Program to the Bayview Medical Residency Program as well as his creation of a novel bedside clinical skills assessment program. “Because we don’t spend a lot of time in the presence of patients and their families, fundamental clinical skills — such as how to conduct a physical exam and how to talk to patients — are in decline.”

Garibaldi believes that decline can be reversed — “by building back time at the bedside” using tools like AI to make the electronic medical record more navigable and point-of-care testing devices like ultrasound that require close physical engagement with patients. “And we have to build back a culture where assessment of a physician’s skills is part of all levels of training,” he says.

On Sept. 1, 2024, Garibaldi left Hopkins to become the *Charles Horace Mayo Professor of Medicine* and inaugural director of the new Center for Bedside Medicine at the Northwestern University Feinberg School of Medicine in Chicago, Illinois. His legacy at Hopkins includes the now well-established bedside medicine curriculum, the clinical skills assessment program, and the hundreds of students, residents, fellows and faculty who have participated.

No. 4

Inspiring Clinicians the World Over

For Scott Wright, a 2 p.m. meeting every Wednesday is among his favorite hours of the work week. That’s when he gathers with the other five members of the CLOSLER.ORG editorial team to refine takeaways from articles that have been

contributed by clinicians from all over the world — valuable reflections and insights on how best to provide exceptional care to patients.

The CLOSLER site, launched in 2018 by CIM’s *Miller Coulson Academy of Clinical Excellence* to bring today’s doctors “closer to Osler,” has really taken off in its first six years.

“We now have thousands of health care professionals and trainees from all over the world — doctors, nurses, medical students, trainees, pharmacists and more — who are regularly visiting CLOSLER and learning about how best to serve patients and work

how to provide superb, patient-centered care.” Being elected to the academy is valued so highly that many academy members note their membership in the signature line of their emails.

Importantly, Academy members also serve as role models and teachers to the next generation of physicians by mentoring trainees, presenting at Ground Rounds and through continuing medical education courses.

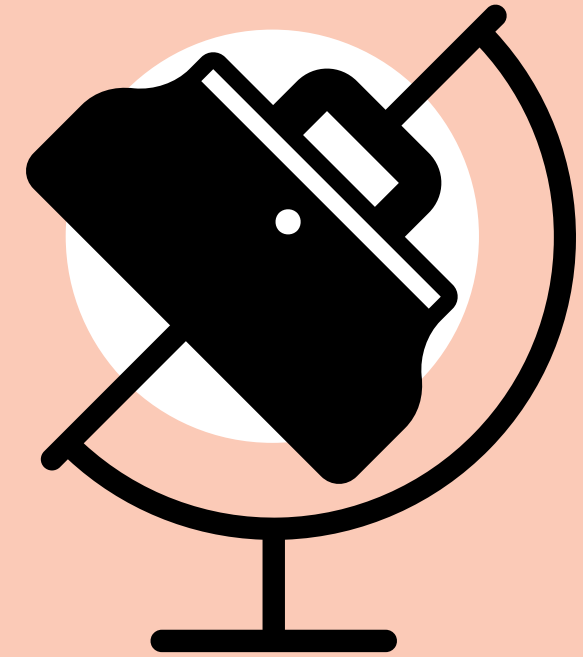
more effectively across clinical settings,” says Wright, director of the Miller Coulson Academy and holder of *The Anne Gaines and G. Thomas Miller Professorship*.

He notes that CLOSLER’s content is shared beyond the website to those who subscribe to the site’s weekly email (more than 10,000 individuals) and with many more people across numerous social media platforms, including Twitter/X, Instagram, TikTok, LinkedIn and Facebook.

CLOSLER has also seen additions to its offerings beyond the typical clinical care articles that are a mainstay. In response to increasing interest in the humanities in medicine,

the editorial team launched a new forum for “creative arts in medicine” that has quickly gained a following. In one recent entry, Hopkins internist Sujay Pathak performed a song he had created, “Heal Me,” which was inspired by an end-stage patient with heart failure.

Says Wright, “It’s really been a joy to see CLOSLER expand and evolve, as it has made the Johns Hopkins name synonymous with clinical excellence.” He adds, “I can’t wait to see what the future will hold as we grow in our mission to inspire clinicians the world over to provide more humanistic and clinically excellent care.”



element to the process is external evaluation: Master clinicians from top academic institutions around the country review and score the clinical portfolios that are submitted.

“As the Miller Coulson Academy advanced,” says Rand, “we were able to use its groundbreaking work as part of our rationale in our presentation to school of medicine leaders that yes, indeed, we do know how to measure clinical excellence fairly and to create a rigorous promotional pathway. Without the Miller Coulson Academy, we never would have been able to successfully make that argument.”

The Miller Coulson Academy has also made a significant impact across the broader landscape of academic medicine, with institutions including Ohio State College of Medicine, Columbia University’s Vagelos College of Physicians and Surgeons, and Harvard Medical School adopting aspects of the model for their physician training and faculty promotion.

A CLEAR PATH FORWARD

When the first round of faculty candidates came up for promotion on the Clinical Excellence track in 2020, Chisolm says, “It brought tears to my eyes to discover top clinicians who had spent decades devoting themselves to the service of patients and their families, and yet they were languishing at the lower promotion ranks. What’s more,” she adds, “they had mentored younger trainees who had gone on to become physician scholars who were recognized and promoted. It was both ironic and startling.”

Now there is a clear path forward for promotion, which begins with a 360-degree review, through which nominees are evaluated by clinical peers, leaders, staff members and learners, as well

as from patients and their family members (when applicable). To be promoted to associate professor, applicants must be rated in the top 25% of their field. To attain full professor, they must be rated in the top 10%. Many applicants far exceed those levels, Chisolm says.

Applicants are evaluated based on several domains of clinical excellence. “They must be clinical leaders,” says Chisolm. “Most have built clinical programs, instituting innovations and improvements in the way patient care is provided, and their work is being emulated across the country. Some have established programs in other countries.”

In addition, successful applicants must be actively engaged in teaching the next generation — teaching, mentoring and encouraging young health care professionals and family members. Finally, they must be actively engaged in the mission of discovery, pursuing quality improvement projects or participating as a clinical expert on a scientific project.

“The Miller Coulson Academy really gave us the ‘bones’ for building this new pathway, and we wanted to be very clear that ‘excellence’ is key to how clinicians will be evaluated,” Rand says.

Already the new promotion track is proving crucial to retaining top clinicians who might otherwise have been recruited away to other institutions — and to attracting clinician leaders who previously would not have considered joining Johns Hopkins. “Who wants to go from being a full professor at one institution to being an assistant professor with no real plan for promotion?” says Chisolm. “We saw firsthand how difficult it was for department chairs to recruit outstanding new faculty from outside.”

“Not only did the Miller Coulson Academy create the bedrock for the Clinical Excellence track to launch — it has been key to the expansion of clinical excellence beyond the mothership of The Johns Hopkins Hospital.”

Cynthia Rand

With the new Clinical Excellence track, the prospects for recruitment and retention have dramatically improved, she says. “There’s a validation that comes with this. You belong here. You are valued. That’s immeasurable.”

The timing of the new Clinical Excellence track “was just about perfect,” says Rand, “because Johns Hopkins Medicine leaders had been

thinking about a broad clinical expansion, which means we need to bring in many more outstanding, clinically excellent physicians and offer them a way to build a career here.”

Rand continues, “Not only did the Miller Coulson Academy create the bedrock for the Clinical Excellence track to launch — it has been key to the expansion of clinical excellence beyond the mothership of The Johns Hopkins Hospital. We now have a basis for expanding and growing our clinical faculty and recognizing their clinical excellence.”

She pauses, then adds, “I feel like a proud godparent.”

A POWERFUL FORCE

“What started out 20 years ago as a humble directive — to make medicine a better public trust — has flourished into a full-fledged cultural crusade in medicine. Through its many transforming initiatives, CIM has provided gravity-defying lift to a medical world, where excellence and collaboration are the norm; where patients are seen and cared for as people; and where caring, creativity, ingenuity, humility and an unstoppable desire to do more are everyday beliefs. As a CIM board member and supporter, I’ve been honored to watch, experience and

admire CIM’s towering achievements and impact. Simply put, CIM is a force for good in medicine and in our world.”

Stephanie Cooper Greenberg, Chair of International Advisory Board

“From a 10,000-foot view CIM has been astonishingly effective. CIM started out with small, focused projects — all based on this idea of medicine as a public trust, together with the constant theme of keeping patient voices heard — and has amazingly grown into a powerful force for growing medicine in a way that always keeps patients at the center.”

Cynthia Rand, Senior Associate Dean for Faculty

HUMANIZING MEDICINE

THANKS TO GROUNDWORK LAID BY THE ALIKI INITIATIVE, CIM'S FAR-REACHING INITIATIVE FOR HUMANIZING MEDICINE IS PUTTING A PRIMACY ON GETTING TO KNOW PATIENTS AS PEOPLE.

+ Focusing on the patient experience, 21 years of the Miller Lecture and a collaborative microgrants program.

Creating a Model for Humanized Health Care

No. 5 **There is a CIM-led** revolution brewing across the Johns Hopkins Medicine enterprise – one that is forward-looking while also steeped in history, namely William Osler’s guiding ethos: “The good physician treats the disease; *the great physician treats the patient who has the disease.*”

The importance of getting to know patients as people has been a pillar of CIM’s mission since its founding 20 years ago, perhaps most notably through the establishment of the *Aliki Initiative* in 2007, which created a new model for the way young doctors should be trained.

Today – with patients increasingly feeling dehumanized in the face of rapid technological advances and with doctors experiencing burnout at unparalleled rates – it is more crucial than ever to focus on the Oslerian tradition. Enter, CIM’s *Initiative for Humanizing Medicine (IHM)*, an ambitious, institution-wide effort launched in fall 2022 that aims to make Johns Hopkins nothing less than the national model for humanized health care.

To do that, IHM’s leaders are starting close to home. “In our first two years, we have been working hard to identify clinicians across our schools of medicine, public health, nursing and other divisions who are committed to the values and the vision of the Initiative for Humanizing Medicine – that is, to ensure that every patient is treated with dignity and respect and gets compassionate care,” says IHM Co-Director **Mary Catherine Beach**, a professor of medicine and *Mary Gallo CIM Scholar*.

IHM Co-Director **Scott Wright** likes to use a gardening metaphor to describe the far-reaching effort underway. “We’ve been planting seeds and establishing fertile soil so that humanized

“We’ve been planting seeds and establishing fertile soil so that humanized medicine can take further root and sprout up across all of Johns Hopkins Medicine.”

Scott Wright

Focusing on the Patient Experience

No. 6 It’s been more than a year since Josh suffered severe burns from a gasoline fire that ultimately brought him to the Burn Center at Johns Hopkins Bayview Medical Center for reconstructive surgery. While the toughest part of his recovery is behind

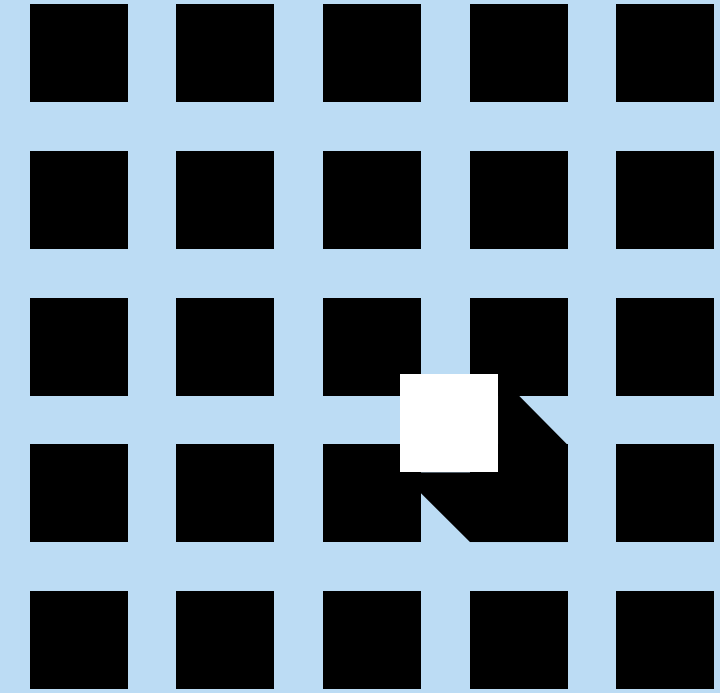
him, the young adult carries scars on his neck and arms that have given him a new way of looking at life.

Josh recently shared his perspectives with two plastic and reconstructive surgery residents at Johns Hopkins – **Cecil Qiu** and **Patrick Keller** – in a powerful conversation and photo session. “His experience has given him a whole new perspective in his interactions with family members and co-workers,” says Qiu. “How they respond to him, Josh told us, offers him real insight into their character.”

Qiu and Keller plan to publish Josh’s account, with that of other Johns Hopkins patients they interview and photograph, in an online forum. The young doctors’ goal? To capture individuals’ “moments of hope, unforeseen challenges and the transformative experience of reconstructive surgery.”

The undertaking is just one of nearly a dozen “Personomics Projects” that have been funded through the *Barbara and Peter K. Miller Scholars Personomics Initiative*, part of CIM’s *Initiative for Humanizing Medicine*.

“Personomics” is a term first coined by Johns Hopkins cardiologist **Roy Ziegelstein** in a widely cited editorial in *Journal of the American Medical*



Association, which launched a powerful movement at Hopkins – and beyond (see box). The central premise? In the rush to embrace the high-tech advances of precision medicine, “patients can wind up feeling left out, and that’s not what doctors want,” says Ziegelstein, a Miller Coulson master clinician and the *Sarah Miller Coulson and Frank L. Coulson, Jr. Professor of Medicine*. Personomics is aimed at refocusing clinicians’ attention on the unique life experiences of individual patients.

The first round of Personomics Projects, selected for funding in late 2022 and now in full swing, run the gamut – from two dermatology residents who are investigating the factors that lead patients to miss their appointments to the implementation of a “personal snapshot” to the electronic medical record, a project led by radiation oncologist **Annie LaVigne**, who is joining forces with journalist/chaplain Elizabeth Tracey (see p. 17).

Says LaVigne, “I think our discovery of this shared vision and one another has been the greatest impact of our Personomics grant.”

In 2017, thanks to the leadership of CIM’s **David Hellmann** and **Roy Ziegelstein**, *The American Journal of Medicine* launched a new “Personomics” essay series, featuring compelling accounts of how knowing the patient as a person has contributed to scientific discovery, diagnosis, treatment or the joy of being a physician. The journal, which reaches 130,000 readers each month, has published close to 60 “Personomics” essays since the series’ launch – further amplifying the reach of CIM’s mission to humanize medicine.

Expanding the Audience for Humanism in Medicine

No. **7**

Over the 21 years of the annual *Miller Lecture*, the speakers have varied — from authors to physicians, from poets to economists — but all have touched on a common theme: the crucial importance humanism holds for health and medicine.

“I was in the process of laying out plans for my new book, which would become a cultural history of the treatment and healing of mental suffering, when I gave the 2017 Miller Lecture,” says renowned Hopkins psychologist **Kay Redfield Jamison**. “In ‘Healing the Mind: Writing Takes the Ache Away,’ I talked about the nature of being human and what it means to heal. The audience of physicians, trainees and CIM friends was engaged and had many great questions.”

Indeed, since the very first Miller lecture in 2004, hundreds have turned out each May to soak up the inspirational wisdom of speakers like **Susan Magsamen**, founder and executive director of the International Arts + Mind Lab, who presented, “Your Brain on Art: How the Arts Transform Us.”

“The Miller Lecture began in 2004 in the learning environment of the Department of Medicine Grand Rounds with lectures focused on clinical excellence and the holistic

role physicians play in improving the lives of their patients,” explains **CIM Director David Hellmann**. The impactful series would not be possible, he emphasizes, without the generosity of the Miller family — the late *Mr. G. Thomas Miller* and *Mrs. Anne G. Miller*, and their daughters and sons-in-law, *Mrs. Sarah Miller Coulson* and the late *Mr. Frank L. Coulson Jr.* and *Mrs. Leslie Anne Miller* and *Mr. Richard Brown Worley*.

Hellmann himself gave a Miller Lecture in May 2020, “Bayview: Johns Hopkins’ Ode to Joy,” with insightful remarks that were enriched by a string trio of Hopkins physicians who captured Hopkins’ tripartite mission: the strand of caring (oncologist/cellist **Matthias Holdhoff**); the innovative strand of science (then-resident **Bela Turk** on viola) and the strand of justice related to health (endocrinologist/violinist **Nestoras Mathioudakis**).

During the musicians’ performances, which culminated in Beethoven’s stirring “Ode to Joy,” Hellmann encouraged the audience to reflect on caring, science and justice in health — and how powerful they are together in making medicine a better public trust.

medicine can take further root and sprout up across all of Johns Hopkins Medicine,” says **Wright**, *Mary Gallo CIM Scholar*, director of CIM’s *Miller Coulson Academy of Clinical Excellence* and holder of the *Anne Gaines and G. Thomas Miller Professorship*.

Beginning with a kickoff half-day retreat at Folly Farm, the home of **Stephanie** and **Erwin Greenberg**, which drew more than 50 clinician leaders from across Johns Hopkins in September 2022 (and again in 2023) to brainstorm about potential collaborations, IHM leaders have convened quarterly dinners on different campuses where like-minded participants can catch up, bond, and discuss opportunities and initiatives.

“By convening regularly, we aim to gather ideas and guide and help participants so they can be agents of change within their own clinical areas.”

Scott Wright

“By convening regularly, we aim to gather ideas and guide and help participants so they can be agents of change within their own clinical areas,” says Wright.

Already, through a series of “microgrants,” IHM leaders have funded 14 projects initiated by teams across Johns Hopkins — many led by nurses — that are dedicated to making changes aimed at improving the patient experience (see p. 19). **Martha Abshire Saylor**, the *Mary Ousley CIM Scholar* and the first CIM nurse scholar,

who is co-leading the microgrants program with **Beach** and **Wright**, notes that they received close to 100 creative proposals from across Johns Hopkins.

In one, radiation oncologist **Annie LaVigne** is working with journalist **Elizabeth Tracey**, who is also a chaplain at The Johns Hopkins Hospital, who in 2020 launched “This Is My Story,” a two-minute audio clip that includes lots of personal details about a patient based on interviews with patients and family. The recorded files are attached to the electronic medical records of patients to give doctors and nurses a picture of the patient’s individual story.

“We have been working to not only expand TIMS, over to my domain in the cancer center,” says LaVigne, “but to truly push forward the notion of having a ‘Personomics’ tab in the electronic medical record, which would ideally incorporate the ‘personal snapshot’ that I had envisioned.” That snapshot aims to “amplify the patient voice,” she says, by integrating patient-centered audio, visual and written components within the electronic medical record.

IHM leaders have also funded five larger research grants — chosen from among 46 proposals — through which faculty/student/staff teams are working creatively to lay the groundwork for substantive improvement in humanized care. In one project, a team is exploring the role that storytelling takes when patients are awake for surgical procedures. In another, which is ultimately aimed at alleviating burnout and increasing empathy in early-career ICU providers, a research team is recording and analyzing video interviews with ICU patients and their caregivers.

“In addition to providing funding of up to \$25,000 for each project, we are actively mentoring these research teams,” says Beach. “We want to help participants build a career within this discipline of humanized medicine and take the field even further.”

“We want to help participants build a career within this discipline of humanized medicine and take the field even further.”

Mary Catherine Beach

AN IMPACT IMPOSSIBLE TO ESTIMATE

The groundwork for the Initiative for Humanizing Medicine was laid in the early years of CIM through the Aliko Initiative, named for funder *Aliko Perroti*.

Janet Record was a chief medical resident at Hopkins Bayview Medical Center when the Aliko Initiative was launched in 2007. Record’s experience helping to design and implement this patient-centered care curriculum was so formative that she has focused her career on advancing its central tenets among today’s trainees through her curriculum building, clinical teaching and published research. “I was so lucky to be at the right place at the right time, to have this chance to help build and sustain the Aliko program,” says Record, today co-president of the national Society of Bedside Medicine, launched in 2016 by **Brian Garibaldi**, the *Douglas Carroll, MD CIM Scholar* (see p. 8).

While the Aliko curriculum has evolved over the years, its foundational pillars remain intact. It begins at patient admission, with residents

being trained to ask a series of questions “that make a big difference in providing humanistic, patient-centered care,” Record says. Questions go beyond simply asking about what medication a patient takes, to exploring what concerns a patient may have about their medications, such as cost, regimen complexity, side effects or other barriers to taking prescribed medications. In a series of prompts now built into the electronic medical record, trainees on the Aliko service also ask about life outside the hospital, such as, “What is a typical day like for you? Who lives with you? What is most important to you?” Record explains.

Other important Aliko elements include spending a greater balance of time at the patient bedside rather than the conference room during medical rounds, where patients can hear and participate in more of the discussions, and clinical skills can be fostered at the bedside; communicating with a patient’s outpatient clinicians; and following up with patients after they are discharged.

Surveys of trainee participants conducted by Record and her Hopkins colleagues have found that residents who participate in the Aliko program are indelibly impacted. “The Aliko experience will go with me in all walks of my

“The Aliko experience will go with me in all walks of my professional life. It has a direct influence on me as the chair of our hospitalist group ... [and] I also find myself drawing from my Aliko experience in most patient encounters.”

Collaborating to Improve Patients’ Lives

No. 8

Across the Johns Hopkins Medicine enterprise, there are many, many clinicians — doctors, nurses, social workers and more — who are dedicated to getting to know their patients as people. And these clinicians are eager to do everything they can to

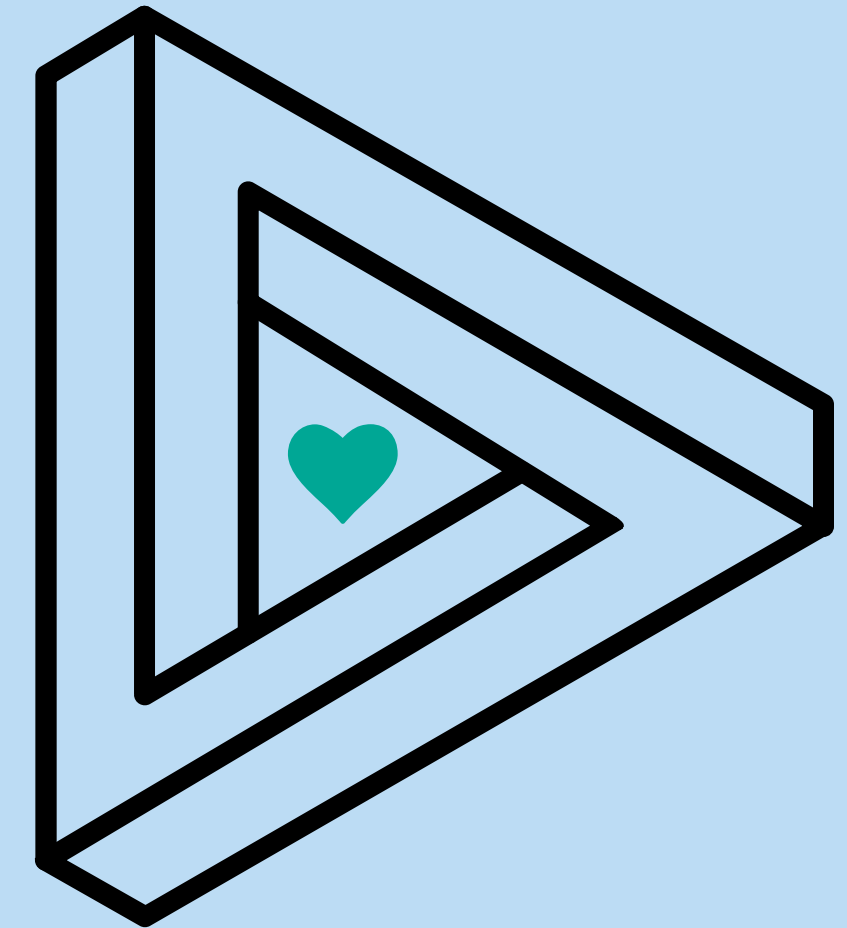
improve the lives of their patients.

That was the realization that struck **Martha Abshire Saylor**, the *Mary Ousley CIM Scholar* and the first CIM nurse scholar, when she and colleagues **Scott Wright** and **Mary Catherine Beach** put out a request for proposals in early 2024 for ideas aimed at humanizing the patient experience.

“Through this new microgrants program, we received close to 100 proposals from teams all across The Johns Hopkins Hospital, Bayview Medical Center and Suburban Hospital,” says Abshire Saylor.

“Many proposals were spearheaded by nurses, whose entire mission it is to treat the whole patient, and many came out of specialties that are dedicated to getting to know patients as people — such as pediatrics, psychiatry, palliative care and women’s health.”

The microgrants program is among the first outreach efforts of CIM’s new *Initiative for Humanizing Medicine* (IHM). And already, the program has gone a long way



in starting conversations and inspiring collaborations among people who might not otherwise have ever met to share ideas and dreams for improving care for their patients, says Abshire Saylor.

Ultimately, 14 projects were chosen to receive grants of \$1,500, and the selected teams are now busy putting their plans into action. One team led by psychiatrist **Idris Leppla**, for example, is equipping patient safety attendants to use activity boxes to help keep delirious patients engaged. Another project is providing professional-quality photos of infants in the pediatric cardiac ICU soon after their birth and prior to heart surgery.

The microgrants program was inspired by the earlier success of CIM’s “pyramid grants” program, launched in 2011, which **Cynthia Rand** — the *Mary Gallo CIM Scholar* (2022) and an active member of the Initiative for Humanizing Medicine — oversaw at Bayview.

professional life. It has a direct influence on me as the chair of our hospitalist group ... [and] I also find myself drawing from my Aliko experience in most patient encounters,” noted one participant in a 2020 study led by **Colleen Christmas** and **Record** published in the *Journal of Graduate Medical Education*. “During busy days with numerous encounters, my training helps me to keep the patient at the center. It reminds me that I am dealing with an individual (a father, a husband, or brother), and not just an ‘n’ in a randomized controlled trial,” observed another.

Each year, about 60 medical residents cycle through the Aliko rotation. They then carry what they learn to all other experiences, including the other general medical services and intensive care units, notes Vice Dean for Education **Roy Ziegelstein**, the *Sarah Miller Coulson and Frank L. Coulson, Jr. Professor of Medicine*.

“Because the graduates who leave our residency programs take with them what they’ve learned to other institutions and practice settings, the true number of patients impacted over these past 16 years is almost impossible to estimate,” he says.

“It is estimated that since the inception of the Aliko Service, residents trained on Aliko have —

“It is estimated that since the inception of the Aliko Service, residents trained on Aliko have — during and after their training — touched the lives of nearly 1 million patients.”

David Hellmann

during and after their training — touched the lives of nearly 1 million patients,” notes **CIM Director David Hellmann**.

In his book *Let Me Heal: The Opportunity to Preserve Excellence in American Medical Education*, noted medical historian **Kenneth Ludmerer, M.D. ’73**, highlighted the Aliko Initiative as a model for fixing graduate medical training. As Ludmerer has written: “The Aliko Initiative is the most important innovation in graduate medical education in a generation.”

A DEMAND FOR CHANGE

While the patient-centered focus of the Aliko Initiative has primarily been on early-career physician trainees, the Initiative for Humanizing Medicine is casting a wider, institution-wide net, “creating a connective tissue across Johns Hopkins that will allow us to rebuild the health care system and make Johns Hopkins a model for the world,” says **Cynthia Rand**, senior associate dean for faculty and *Mary Gallo CIM Scholar*, who co-led the Aliko Initiative.

While the Initiative for Humanizing Medicine is still in its early years, its work has already earned significant financial support through more than \$11 million over the next five years in grants (primarily from the NIH and CIM supporter *Mary Gallo*) supporting multidisciplinary projects spanning the schools of medicine, nursing, public health and business. Most of those projects are led by Beach, who is renowned for her research on improving doctor/patient communication and ensuring respect for all patients.

“If we can create a place where people come together and think about what needs to change, they will demand more from our health system. This could be a revolution.”

Mary Catherine Beach

Over the course of just the past year, Beach has published 17 manuscripts in peer-reviewed journals, submitted three new grants for funding, and has worked extensively in mentoring postdoctoral fellows, medical

students and junior faculty on projects related to humanizing medicine. Most recently, she and an interdisciplinary Hopkins team received a prestigious 2024 Discovery Grant from the university for their research project “The Dynamics of Trust: An Interdisciplinary Approach to Improving Health Care.”

Says Beach, “If we can create a place where people come together and think about what needs to change, they will demand more from our health system. This could be a revolution.”

INVESTING IN PEOPLE

“CIM has invested in people and good ideas — but primarily in people. That has allowed Johns Hopkins to retain really talented, ethical, wonderful people to practice medicine in a more relaxed manner and to support their desire to educate the next generation of physicians to be more humanistic. What makes Hopkins great is the people. CIM has been crucial to keeping great people.”

Mary Catherine Beach, Co-Director, CIM’s Initiative for Humanizing Medicine

“Every time I go to a CIM retreat or a small group gathering, I think, ‘This is what it means to be a physician. To be somebody who sees themselves as a healer and part of a wonderful tradition.’ CIM puts me in a room — or sometimes, literally a field, as when we meet at Folly Farms — with other people who see medicine truly as a healing art, profession and a calling.”

Jessica Bienstock, Director of Graduate Education

HEALTHIER

AGING

THE HUMAN AGING PROJECT IS BRINGING TOGETHER CLINICIANS AND ENGINEERS TO BETTER THE LIVES OF OUR NATION'S RAPIDLY GRAYING POPULATION.

+ Easing isolation for better health, music-making for measurable gains and deepening the dialogue in advance care planning.

Toward Living Better, for Longer

No. 9 With the aging of the baby boomer generation and ever-increasing life expectancy, our nation faces a “silver tsunami”: the number of Americans ages 65 and older is projected to nearly double between 2018 and 2060 – from 52 million to 95 million, according to the U.S. Population Reference Bureau. That means the number of people with conditions associated with old age – notably dementia, heart disease, osteoarthritis and diabetes – will skyrocket unless something changes.

Enter the CIM-supported **Johns Hopkins Human Aging Project (HAP)**, led by geriatrician and gerontologist **Jeremy Walston**, the *Salisbury Family Foundation CIM/HAP Scholar*. The bold undertaking, launched in 2021 and based at Johns Hopkins Bayview Medical Campus, is ambitious in its scope: The HAP is assembling the very best minds at Johns Hopkins to slow aging’s impact and improve life for the nation’s rapidly aging population.

“In just four short years, the Human Aging Project has become a national leader in translating scientific advances into clinical breakthroughs that will dramatically improve the lives of older adults, allowing them to live independently for longer and with a better quality of life,” says Walston, the Raymond and Anna Lublin Professor of Geriatric Medicine.

The Human Aging Project has already attracted more than \$60 million in funding, and 13 faculty members are now supported in aging research as HAP Scholars. Eleven of those HAP Scholars have been funded through CIM, Walston notes.

One component critical to the mission of HAP is the important role played by biomedical engineers at Johns Hopkins – work fueled by recent dramatic advances in computer networking capabilities, innovations in artificial intelligence, and “our ability to produce and handle data and do computation at unimaginable scales,” says **Ed Schlesinger**, dean of Hopkins’ Whiting School of Engineering, an important HAP partner. “All of these tools allow us to address complex problems, such as the infirmities of old age, that until just recently we considered intractable,” Schlesinger says.

Walston, whose own research focuses on the biology of frailty, says that early funding – and vision – provided by CIM has been key to HAP “building a bigger tent” for aging research and clinical advances.

Easing Isolation for Better Health

No. 10

Johns Hopkins geriatrician **Thomas Cudjoe** remembers his disbelief when he discovered that many of the older East Baltimore adults participating in his “Ask the Doctor” talk had never met some

of their next-door neighbors.

“They shared that they didn’t really feel connected to one another or the community. They didn’t really engage with people outside of their building. It puzzled me that these people lived so close to one another but, for whatever reason, didn’t feel connected,” says Cudjoe, who is the *Caryl & George Bernstein CIM/HAP Scholar*.

So Cudjoe set out to explore the health risks of social isolation, especially for those who are aging. Although many scholars have discussed the effects of individual loneliness, he says, few examined how the phenomenon of social isolation might contribute to higher levels of illness and even death.

It’s a critical question given that one in four Americans aged 65 or older who are living in a community

experiences social isolation, according to his research.

Among his various studies, Cudjoe has investigated how social isolation may lead to elevated inflammatory biomarkers in older adults as well as how isolation can increase one’s risk for functional decline. And last year, he published a report in the *Journal of the American Geriatrics Society* suggesting that social isolation may influence whether older people develop dementia. In a nine-year study of 5,022 Medicare beneficiaries who were community dwelling, Cudjoe and colleagues found the risk of developing dementia was 27% higher in those people who were socially isolated.

Cudjoe believes that clinical screening to identify social isolation may help older adults take steps to become more socially connected in order to maintain their physical and mental health.

Since COVID-19 brought national awareness to the dangers of social isolation, he says, more researchers are developing novel programs and interventions to help to decrease it.

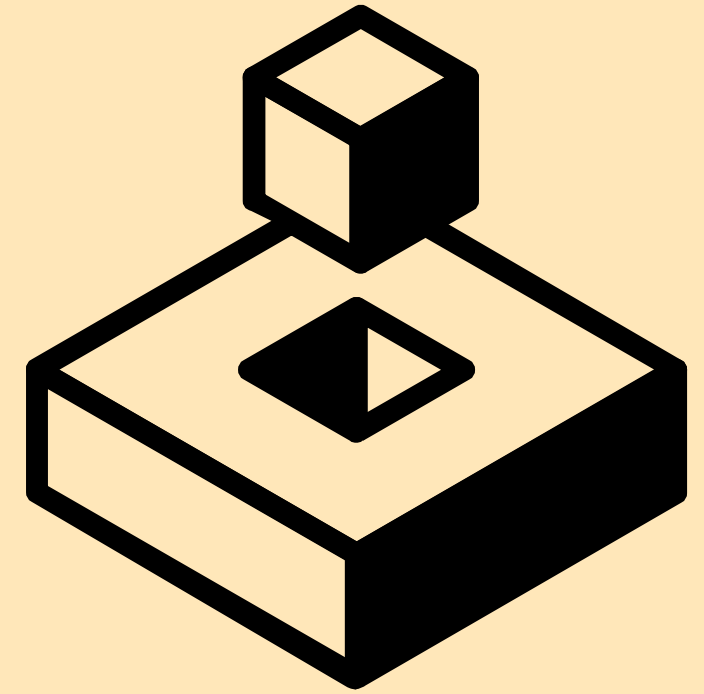
Cudjoe is also pushing to develop home-based solutions for his patients by working with School of Nursing researchers who use the Community Aging in Place—Advancing Better Living for Elders (CAPABLE) program. The brainchild of School of Nursing Dean **Sarah Szanton**, CAPABLE earned a prestigious Heinz Award in 2019.

Cudjoe is grateful to CIM and the Human Aging Project for encouraging such cross-disciplinary collaborations. “The CIM has been a great incubator of my ideas,” Cudjoe says. “It also continues to be a source of innovation and inspiration.”

“CIM has allowed us to dramatically expand the field of aging research at Johns Hopkins by bringing together faculty members who may not have been focused on aging – in fields like engineering, oncology, neurology, even business – and having them work directly with those providing patient care to older adults, such as

nurses and geriatricians, who have identified problems that need to be solved,” says Walston.

He adds, “We’re building bridges in a way that can rapidly accelerate treatment advances for older adults.”



LEVERAGING TECHNOLOGY

Some of those important breakthroughs will no doubt unfold in an expansive new HAP hub for collaborative research, housed on the Bayview Medical Campus in space that was formerly a cavernous gymnasium.

The 10,000-square-foot center marks the first time that engineering students and faculty members from Johns Hopkins' Homewood campus will have a dedicated research home for collaboration with clinicians and researchers at Johns Hopkins Bayview, a campus with a rich array of geriatrics-related clinics, centers and labs.

"The new space offers an exciting opportunity for our engineers to work together with clinicians, nurses, older adults and their caregivers to come up with technology-driven solutions to some of the biggest challenges older people face, such as social isolation or mobility issues," says **Najim Dehak**, an associate professor of electrical and computer engineering and the 2021 *Whiting School of Engineering/HAP Scholar*. "We aim to leverage technology to extend the time that older adults can remain living safely and independently at home."

"We aim to leverage technology to extend the time that older adults can remain living safely and independently at home."

Najim Dehak

With its plentiful conference rooms, labs and offices, the space will provide a new home for engineers affiliated with the Johns Hopkins Artificial Intelligence & Technology Collaboratory

Music-Making for Measurable Gains

No. 11

Johns Hopkins neurologist **Alexander Pantelyat** is exploring ways to use one of the world's oldest healing therapies to improve the lives of patients confronting such debilitating neurodegenerative diseases as Parkinson's and Alzheimer's.

Supported as the *Alafouzos Family CIM/HAP Scholar* since 2021, the physician/violinist aims to make music and rhythm

an integral part of treating aging-related illnesses.

Already, his studies have demonstrated that singing can help mood, speech and quality of life in patients with Parkinson's disease. And in a study of patients with Parkinsonian disorders and poor gait, he showed that walking to a marchlike beat improved walking — even after the music stopped.

Another innovative study, supported by a generous donation from *Anne and Eugene Fife*, is evaluating the benefit of music therapy for patients with mild cognitive impairment and mild dementia due to Alzheimer's disease in their homes. In virtual music therapy sessions intended to stimulate their autobiographical memory, participants first listen to their favorite piece of music, such as Frank Sinatra's "My Way." Then they listen to a scrambled version of the piece as well as to a song that is similar but lacks personal meaning for them.

MRI testing looks for differences in brain connectivity before and after the eight-week study. Pantelyat and his team are looking for improvements in patients' memory, mood and well-being, and they are testing whether the MRI findings can help explain which participants are more likely to benefit from music therapy.

"Previous studies have suggested that exposure to music even for a short period of time could lead to measurable changes in the brain," Pantelyat says. "We're seeing how various networks of the brain respond to music and how that could potentially link back to improving memory loss."

Justin McArthur, director of the Department of Neurology and a member of the CIM Committee, points out that the CIM/HAP scholarship has been instrumental in supporting Pantelyat's work at Johns Hopkins, as well as the work of vascular neurologist **Elizabeth Marsh**, the *Rubenstein Family CIM Scholar*.

Says Pantelyat, "The CIM support has tremendously accelerated our pace of discovery and enabled us to take on several key projects that would otherwise have been delayed or may not have moved forward at all!"

Deepening the Dialogue in Advance Care Planning

No. 12

Most of us think of advance care planning as simply filling out a form designating someone to make health care decisions when we can't and expressing our general wishes about the decisions

we hope they'll make on our behalf.

But for **Jessica Colburn**, who in 2019 was named the *Mary Gallo CIM Scholar* to support her innovative work in geriatric medicine, advance care planning is so much more: a unique opportunity to deepen the dialogue between aging patients and their primary care providers.

"I like to think of it as part of a continuum of thinking," she says. "What is important to me in my health care? How am I making choices with my primary care provider about my health care? And, ultimately, if I couldn't speak for myself, who would I want to make those choices for me?"

An associate professor of medicine in the Division of Geriatric Medicine and Gerontology, Colburn came to

Hopkins as a trainee in 2005 and joined the faculty in 2011 because "geriatrics was embedded in the curriculum and the fellowship, and because there was such a strong focus, led by **David Hellmann**, on the importance of knowing your patients as people," she says.

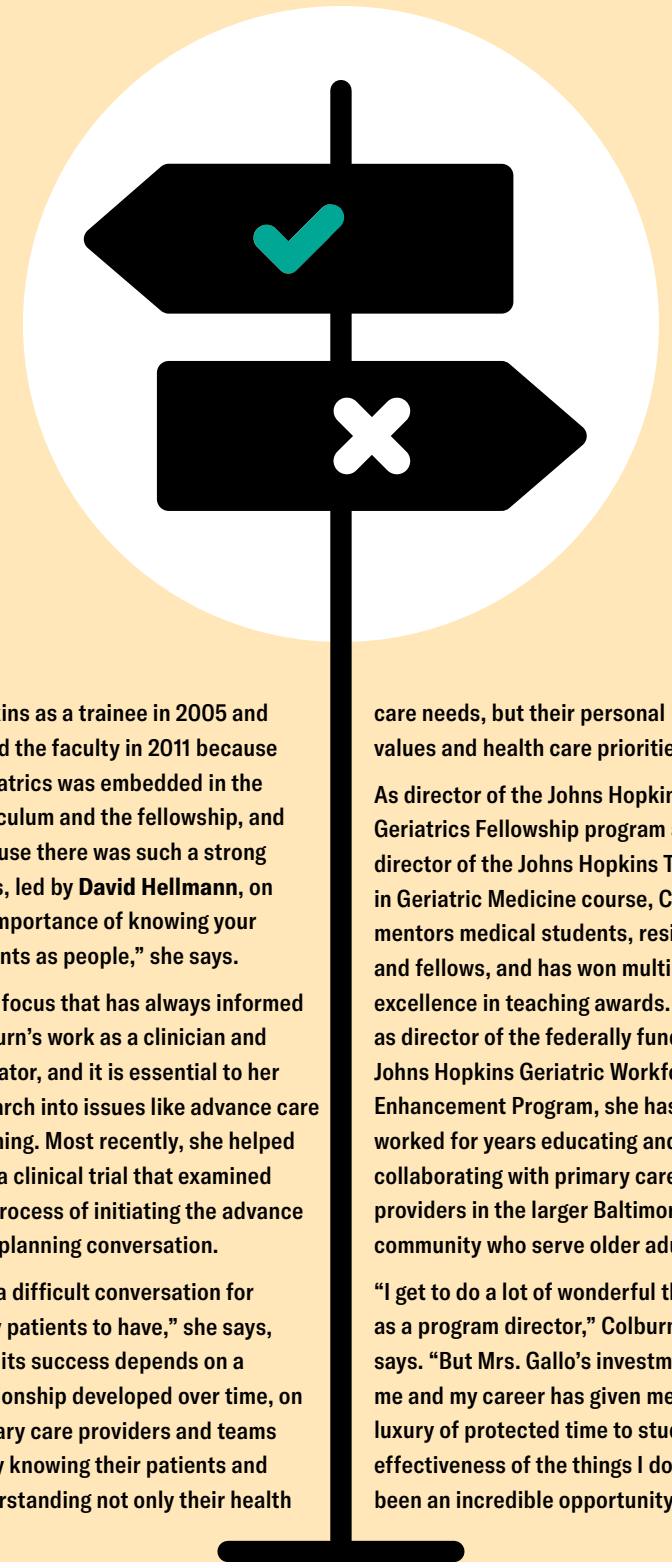
It's a focus that has always informed Colburn's work as a clinician and educator, and it is essential to her research into issues like advance care planning. Most recently, she helped lead a clinical trial that examined the process of initiating the advance care planning conversation.

"It's a difficult conversation for many patients to have," she says, "and its success depends on a relationship developed over time, on primary care providers and teams really knowing their patients and understanding not only their health

care needs, but their personal values and health care priorities."

As director of the Johns Hopkins Geriatrics Fellowship program and co-director of the Johns Hopkins Topics in Geriatric Medicine course, Colburn mentors medical students, residents and fellows, and has won multiple excellence in teaching awards. And as director of the federally funded Johns Hopkins Geriatric Workforce Enhancement Program, she has worked for years educating and collaborating with primary care providers in the larger Baltimore community who serve older adults.

"I get to do a lot of wonderful things as a program director," Colburn says. "But Mrs. Gallo's investment in me and my career has given me the luxury of protected time to study the effectiveness of the things I do. It's been an incredible opportunity."



for Aging Research (AITC) — which was established in November 2021 with \$20 million in funding from the National Institute on Aging — and for multidisciplinary teams working within the Gerotech Incubator Program.

The Gerotech teams bring together engineering students with nursing doctoral students,

medical residents, business students and faculty mentors to tackle an aging challenge, develop a prototype solution and — in some cases — move the product through to commercialization.

The centerpiece of the new space, which is slated to open in late 2024, is a model

apartment. It is equipped with many of the features of an actual home. “It will be here that we can bring older adults and their caregivers to conduct clinical tests of devices that have been developed through the AITC and by Gerotech teams,” says Dehak, who co-directs the Gerotech Incubator Program together with gerontologist **Peter Abadir**, the *Salisbury Family Foundation CIM/HAP Scholar*.

Technological solutions for healthier aging will run the gamut, Dehak says, from robotic social companions to sensors that could help prevent falls.

“It will be wonderful to have space for older adults to try out and test wearable devices and sensors that are being developed to monitor their health,” says Dehak, who is a leader of the technology core of the Johns Hopkins University Claude D. Pepper Older Americans Independence Center at Johns Hopkins Bayview, which was launched in 2003 and recently received a five-year renewal of federal funding.

THE SECRETS IN OUR CELLS

Of course, biological processes are key to aging, and toward that end, some of the most exciting work coming out of the Human Aging Project is happening at the cellular level, as HAP researchers tease out just what goes wrong as our cells age.

Consider the research of cell biologist **Hiromi Sesaki**, the *Karen and Ethan Leder CIM/HAP Scholar*, who focuses on the “mighty mitochondria” — the powerhouses of our cells, which toil away to give our heart and brain and lungs the energy they need to function effectively. To do that work, the mitochondria are constantly dividing in a crucial process that

“serves as a type of ‘quality control’ within the cell by removing damaged mitochondrial DNA that accumulates,” explains Sesaki.

This damage removal process is known as mitophagy. And as we age, our mitochondria become less adept at mitophagy — at removing the “trash” (DNA mutations and deletions) and other toxins that accumulate in our cells.

Sesaki and his lab are zeroing in on the biology of the mitophagy process. “We hypothesize that decreased mitophagy contributes to reduced mitochondrial health during aging, leading to neurodegenerative diseases such as Parkinson’s disease and Alzheimer’s,” he says. But there’s a bright side, he notes: “We also think that enhancing the mitophagy process could allow us to slow — or even reverse — some of the ravages of human aging.”

Ultimately, Sesaki and his colleagues aim to provide insights to allow for the future development of drugs “that could target cellular mitophagy to improve the quality of life during aging — and therapeutic interventions for neurodegenerative diseases,” he says.

Age-related frailty, both physical and cognitive, is another key area of study for HAP researchers. Two recent studies led by Abadir, associate professor of medicine in the Division of Geriatric Medicine, are particularly exciting. His team’s findings lay the groundwork for developing blood tests that could identify individuals at risk of physical and cognitive decline, potentially leading to earlier and more effective interventions.

In the first study, involving more than 600 adults, Abadir and his team discovered that higher levels of circulating cell-free DNA (ccfDNA) in the bloodstream may serve as a

“With a simple blood draw, it may soon be possible to detect the earliest signs of aging-related decline, allowing for timely interventions that could extend the health span of millions of people.”

Peter Abadir

warning sign for dementia and frailty. These DNA fragments, released during natural cell death, can trigger chronic inflammation — a key factor in tissue and organ degradation, including the brain. This study was published in the *Journal of Alzheimer’s Disease* in October 2022.

Building on this research, Abadir’s subsequent study expanded the focus to mitochondrial DNA fragments. Unlike genomic DNA, which is inherited from both parents, mitochondrial DNA, found in the “power plants” of cells, is maternally inherited. This new study, which Abadir conducted with Lolita Nidadavolu, assistant professor of medicine, was published in *Immunity & Ageing* in June 2023. It showed that higher levels of mitochondrial DNA

fragments in the blood are closely linked to chronic inflammation and physical decline. This provides further evidence, the researchers say, that these DNA fragments could serve as reliable biomarkers for aging.

Interestingly, notes Abadir, while both genomic and mitochondrial DNA fragments were associated with cognitive and physical decline, “the mitochondrial DNA was more strongly linked to physical deterioration.” This distinction highlights the potential for more targeted interventions to prevent frailty and preserve quality of life in older adults, he says.

“The implications of these findings are profound,” says Abadir. “With a simple blood draw, it may soon be possible to detect the earliest signs of aging-related decline, allowing for timely interventions that could extend the health span of millions of people.”

CROSS-DISCIPLINARY DISCOVERY

“Early funding from CIM for the Johns Hopkins Human Aging Project has been crucial, allowing us to build a very diverse network of clinical researchers, biology researchers and engineering researchers who are working together to tackle some of the biggest challenges in aging. They have embarked on projects that have subsequently garnered millions

of dollars in grant funding from the National Institutes of Health and other agencies.”

Jeremy Walston, Director of the Johns Hopkins Human Aging Project

“There is really no university today that is better equipped to lead in the area of healthy aging than Johns Hopkins. If anyone can do this, we can.”

Ed Schlesinger, Dean of the Whiting School of Engineering

FUNDED

RESEARCH

BY “FEEDING AND WATERING”
PIONEERING CLINICIAN-SCIENTISTS, CIM
HAS HELPED RESEARCHERS CHANGE THE
STANDARD OF CARE FOR A WIDE RANGE
OF DEBILITATING CONDITIONS.

+

Tackling COPD one breath at a
time and finding answers for
adults with immunodeficiency.

Pioneering Dramatic Advances in Patient Care

No. **13** **Alfredo Quinones-Hinojosa** is a world-renowned brain surgeon whose research in finding better treatments for brain cancer has dramatically improved life for thousands of patients. Holder of more than a dozen patents, he has started several companies to translate his labwork back to the patient.

And there is even more hopeful news on the horizon.

AN AMAZING LIFE STORY

Alfredo Quinones-Hinojosa's 2011 memoir, *Becoming Dr. Q: My Journey From Migrant Farm Worker to Brain Surgeon*, tells his amazing life story — from his impoverished childhood in the tiny village of Palaco, Mexico, to his harrowing border crossing and his transformation from undocumented worker to American citizen and gifted student at the University of California, Berkeley and at Harvard Medical School. Hailed as “a testament to persistence, hard work, the power of hope and imagination, and the pursuit of excellence,” *Dr. Q* won first place in the 14th International Latino Book Award for Best Biography.

Earlier this year, he and colleagues at Mayo Clinic published details of a biospecimen repository they have developed — the first of its kind in the world — that promises to unlock new insights into brain cancer and to speed treatment advances through new collaborations and clinical trials.

For Quinones-Hinojosa, the repository marks the culmination of a career-long quest (see box) that got its start at Johns Hopkins. As a young physician-researcher, he led the Brain Tumor Surgery Program at Johns Hopkins Bayview as well as the Brain Tumor Stem Cell Laboratory. It was during these years that he came into the orbit of **David Hellmann** and the *Center for Innovative Medicine*, when the clinician-scientist was invited to Hellmann's office for early-morning leadership gatherings.

“I felt so blessed at the time to be part of something so spectacular,” says Quinones-Hinojosa. “We talked not just about leadership but about health care and politics, about the future not just of Johns Hopkins, but of medicine itself.”

Quinones-Hinojosa also shared with Hellmann his hopes and dreams for building a biospecimen laboratory that could revolutionize treatment for brain cancer and other neurological disorders. This was in the first decade of the new millennium, before today's advances in high-speed data gathering and artificial intelligence.

“We were getting brain tissue samples from patients in the OR, but we weren't able to collect

Tackling COPD, One Breath at a Time

No. **14**

When people are asked what poses a risk to their lungs, they typically bring up smoking. Then they may mention vehicle and industrial emissions as well as smoke from wildfires. Few consider the quality of the indoor

air in their homes and offices, says Johns Hopkins pulmonologist and critical care specialist **Nadia Hansel**. And even fewer think of the food they're eating.

Thanks to funding as the *Lavinia Currier CIM Scholar*, stretching back several years, Hansel is researching whether healthy diets that include a higher intake of such omega-3-rich foods as salmon and walnuts help participants with chronic obstructive pulmonary disease (COPD) to breathe more easily. She is also examining risk from chronic exposure to low levels of indoor air pollution.

According to the Centers for Disease Control and Prevention, more than 14 million Americans live with COPD, a lung disease that makes breathing difficult and may lead to other conditions. Its prevalence is nearly doubled among individuals with a household income below the poverty level.

So Hansel has zeroed in on the social causes of health-related risk factors for COPD, including poverty, obesity, diet and indoor air pollution. Her work has produced groundbreaking

research showing indoor air cleaners may improve symptoms and reduce the risk of COPD flare-ups.

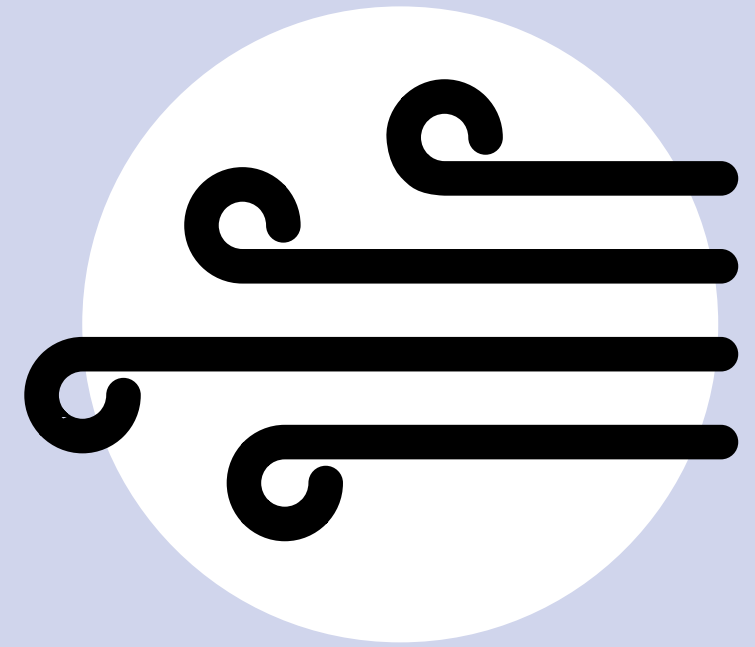
Hansel's research also suggests that access to healthy food and the ability to afford it can become critical factors. One study of “food-insecure” participants living in the Baltimore area reported more respiratory symptoms. And she has shown that people with COPD who reported eating more omega-3-rich foods or had higher levels in their blood had fewer respiratory flare-ups, better quality of life and better lung function. She is currently studying whether those who receive three months of free deliveries of healthy food to their homes may have fewer respiratory flare-ups.

Taken together, such findings offer up the tantalizing possibility that a healthy diet and nutritional supplements could be key to improving the lives for millions in underserved communities who are struggling with respiratory disease.

As the newly named director of the Department of Medicine (see p. 44),

Hansel praises CIM's support for allowing early-career faculty “the flexibility to ask and answer important questions that can pave the way to government-funded research.” In her own case, support that she received from CIM was instrumental in helping her receive NIH grants to lead her current two clinical trials.

“The work at CIM is helping to change the face of medicine, and that's really exciting,” Hansel says. “It's also encouraging both our medical trainees and our rising stars in medicine to really think about how we can give back to our patients: both one on one, and in terms of the clinical trials we develop, our community partnerships and our policies.”



Finding Answers for Adults with Immunodeficiency

No. **15**

The CIM faculty scholars program is a powerful way to help jumpstart the promising work of clinicians and researchers early in their careers.

CIM Director David

Hellmann has compared it to the McArthur “genius” award — “an investment in a person’s originality, insight and potential.”

Few have done more to realize that investment than CIM scholar **Antoine Azar**, whose mission when he joined the Hopkins faculty in 2015 as clinical director of the Division of Allergy and Clinical Immunology was to create a center of excellence dedicated to the understanding and treatment of an extremely difficult to diagnose complex of disorders known as adult PID (primary immunodeficiency disorders).

It’s a condition thought to impact one in 1,200 people, though Azar believes it is more common than people think, and that’s because it requires a lot of time and detective work — and specialized testing — to pinpoint the precise failure in the immune system a particular case

represents. As many as 90% of PID cases have likely gone undiagnosed.

“I wanted to extend the knowledge of immunology in adults, and I wanted to create a home for patients living with adult PID,” he says.

Azar’s appointment in the spring of 2018 as the *Tara & Richard Parker CIM Scholar* afforded him the support he needed to make that dream a reality. Generous and ongoing support from *Cindy and Bart McLean* allowed Azar to enhance his clinical work and research, and help devise and explore additional therapies for many patients with atypical disorders affecting their immune systems.

Immediately after his appointment as a CIM scholar, Azar launched the Adult Primary Immunodeficiency Center of Excellence — one of the only centers of its kind — at the Johns Hopkins Bayview Medical Center. He secured space for a lab, and hired and trained a full-time nurse and nurse practitioner to work with patients who come from all over the world, often after years of struggling with infections and other symptoms that have defied diagnosis.

Today he works tirelessly to promote collaboration with other departments at Johns Hopkins Medicine — including rheumatology, pulmonology, neurology, otolaryngology and nephrology — whose specialists are often key in the diagnosis and treatment of adult PID. And he has traveled extensively to educate his fellow physicians within and outside of the allergy/immunology specialty.

“We have learned so much about the immune system over the past 20 years, how it works, how it is affected by genetics and other factors,” he says. It is easier now to tease out how and why a patient’s immune system is failing and to identify targeted therapies to treat them.

Azar was a primary investigator, for instance, on a study published in *Blood* in July 2024 describing a new targeted therapy, a pill recently approved by the FDA to treat a rare but extremely debilitating immunodeficiency disorder called WHIM syndrome.

“I am so proud and honored to be a CIM scholar,” Azar says.

and analyze other vital clinical data, such as imaging studies, family history, pathology reports, social history,” says Quinones-Hinojosa. “It was like trying to navigate the sea without a compass.”

Crucially, he says, Hellmann recognized the incredible promise of his ambitious quest — to create a biospecimen repository that would bridge the OR with the basic science laboratory — and provided CIM funding that proved pivotal to getting the biorepository off the ground.

Quinones-Hinojosa left Johns Hopkins in 2016 to join Mayo Clinic as the William J. and Charles H. Mayo Professor and Chair of Neurologic Surgery, and to direct the Neurosurgery Brain Tumor Stem Cell Laboratory, where his vision would ultimately come to fruition.

“The Mayo Clinic got a tree complete with leaves and branches,” says Quinones-Hinojosa, now the James C. and Sarah K. Kennedy Dean of Research at Mayo Clinic in Florida.

“David Hellmann got a seed. He had to plant it and water it — and that ‘watering’ was the financial support for what today has become the most prominent biobank in the world for human tissue linked with data.”

Alfredo Quinones-Hinojosa

“But David Hellmann got a seed. He had to plant it and water it — and that ‘watering’ was the financial support for what today has become the most prominent biobank in the world for human tissue linked with data.

“None of this would have happened,” says the esteemed neurosurgeon, “without that seed being watered and planted back then.”

ALWAYS BREAKING NEW GROUND

Quinones-Hinojosa’s experience is hardly an isolated one. Time and again, over these past 20 years, Hellmann has identified physician-scientists with pioneering ideas, and CIM donors have generously come through with funding to jumpstart their pathbreaking research. The pay-off for patients at Johns Hopkins — and beyond — has been significant.

Consider those suffering from vasculitis, an autoimmune disease that causes inflammation of the blood vessels. Rheumatologist **John Stone**, who received early funding from CIM as a *Cosner CIM Scholar in Translational Research*, pioneered a game-changing new treatment, called rituximab, for a common form of the disease (ANCA-Associated Vasculitis HRAVe). Since the breakthrough was first published in *The New England Journal of Medicine* in 2010, rituximab

has become the treatment of choice for vasculitis patients the world over, in what has been hailed as one of the most important advances in rheumatology in the 21st century. Stone, who co-founded the Vasculitis Center at Johns Hopkins, is now director of clinical rheumatology at Harvard’s Massachusetts General Hospital.

Rheumatologist **Antony Rosen** has served as vice dean for research at Johns Hopkins Medicine since 2013 and as director of the Division of Rheumatology from 2002 to 2022. Under his leadership, the division grew from 14 to 26 faculty and began its run of being ranked #1 in the country by *U.S. News* — now extended under Director **Ami Shah** — for 21 years in a row.

He’s seen firsthand the impact that CIM funding has had in advancing bench-to-bedside research in key areas.

“David Hellmann is an iconoclast at heart. He is always wanting to break new ground,” says Rosen. “To do that, he is focused on identifying the best young researchers with the best ideas — and keeping it tied to what really matters to real patients.”

Pulmonologist **Michelle Sharp**, a *Mary Gallo CIM Scholar*, can attest to that. Since joining the faculty at Johns Hopkins Medicine five years ago, she has led efforts to improve care for individuals living with sarcoidosis, a difficult-to-diagnose inflammatory disease in which the immune system overreacts.

While 90% of patients with sarcoidosis experience inflammation in their lungs, the condition can also impact the heart, eyes, nervous system, kidneys, bones, joints and skin. Every person with sarcoidosis is affected differently.

Sharp quickly moved to strengthen the multidisciplinary approach of the Johns Hopkins Sarcoidosis Program, which today cares for more than 2,000 patients a year. She's also launched efforts to address disparities in care through new patient education efforts and established a Patient Advisory Board and Patient Support Group. "As we have been building our capacity, it has been so important to me that we hear from our patients so that we can learn firsthand their needs and the challenges they face," she says.

The research side of Sharp's work has gotten a significant boost from her *CIM Scholar* funding from *Mary Gallo* and also from the late *Everardo and Elena Goyanes*, she notes gratefully. She and her colleagues are building a biorepository holding patient data and biological samples. "Working together as a team," she says, "we are well positioned to solve the mysteries that have remained in sarcoidosis for more than 100 years."

For Johns Hopkins gastroenterologist **Pankaj "Jay" Pasricha** and psychiatrist **Glenn Treisman**, CIM funding enabled them to launch what was considered to be the first clinic in the world that brings together gastrointestinal and psychiatric experts to treat patients in both physical and psychological distress. Established in 2014 thanks to a generous gift from *Courtney and Paul S. Amos*, the Amos Food, Body and Mind Center has focused on studying the links between diet and disease, and also the role of good and bad bacteria in making us sick and keeping us healthy.

"People have talked about the gut-brain connection for a long time, but usually in the context of people who are depressed or anxious and, as a result, have physical symptoms. But that's not the whole story," says Treisman.

"For me as a physician-scientist, the dream is to work on a project that somehow changes the way we diagnose and treat patients."

Bruce Bochner

"We are emphasizing that this is bidirectional. Signals emanating in the gut can influence how the mind feels."

He estimates that close to 600 patients have come to the Amos Center for treatment — "complicated patients" who have been struggling for years to find relief. "We helped a lot of these people get better," he says.

WELL-PLACED 'BETS'

Bruce Bochner was already a professor of medicine and division chief, leading the Division of Allergy and Clinical Immunology at Johns Hopkins Bayview, when he received CIM funding as the *CIM Cosner Scholar in Translational Research*.

"The support that I received from CIM toward my salary was almost as good as having an endowed chair. It allowed me to do all the administrative things I needed to do as division chief and also see patients and do research in a way that was very impactful. That ability to wear all three hats at once was extremely important," he recalls.

Wearing his physician-scientist hat, Bochner focused on advancing his research to find therapeutic targets for patients suffering from allergic and allergic-like conditions — ranging from gastritis to eczema to hives — caused by a problematic build-up of eosinophils (a type of white blood cell) and mast cells. Ultimately, he zeroed in on a surface protein called Siglec-8,

developing an antibody that was licensed by Johns Hopkins to a start-up company, Allakos, with Bochner as co-founder.

Bochner left Johns Hopkins in 2013 to return to his hometown of Chicago, becoming the Samuel M. Feinberg Professor at Northwestern University School of Medicine's Division of Allergy and Immunology. Once there, his work with Siglec-8 continued, hitting a high-water mark with a successful phase 2 clinical trial reported in *The New England Journal of Medicine* in 2020. More recently, Allakos, where Bochner continues to consult, has shifted its focus to a mast cell-specific target, Siglec-6.

"For me as a physician-scientist, the dream is to work on a project that somehow changes the way we diagnose and treat patients," says Bochner, now professor emeritus at Northwestern. "It's

been a real thrill for me to have co-discovered and co-founded aspects of projects that have the potential to help many patients."

Early support from CIM, he says, was crucial to his journey in academic medicine — and that of so many other physician-scientists at Johns Hopkins. "David Hellmann has an uncanny ability to place bets on people he thinks will not only succeed in various aspects of academic medicine, but also help them to go above and beyond what they are already accomplishing," says Bochner. "CIM's support enables them to thrive."

FAR-REACHING IMPACT

To date, there are more than 60 CIM Scholars at Johns Hopkins — hailing from two different schools, seven departments and 11 divisions within the Department of Medicine — pursuing pathbreaking avenues of research aimed at speeding new treatments for devastating diseases.

TACKLING TOUGH CHALLENGES

"It's the three words in CIM's name that have made it so enduring. It's a center — not an individual, but an aggregate of many, many talented people coming together to tackle large problems. It embraces *innovation*; rather than only pursuing the classic way of doing things, CIM is broad in its view, looking across the breadth of possibility. And it is unashamed about pursuing *medicine in its role as a public trust*; that is CIM's essence.

Those were the animating principles that breathed life into CIM, and that is why CIM will flourish into the future."

Antony Rosen, Vice Dean for Research

"Under David Hellmann's leadership, CIM has taken on issues that aren't easy to solve. My own interests in life involve swinging for the fences — so I appreciate CIM's swinging for the fences."

Kay Redfield Jamison, Psychologist and Award-Winning Author

**MAKING
MEDICINE A**

PUBLIC TRUST

CIM-SUPPORTED CLINICIANS ARE
TEARING DOWN IVORY TOWERS TO
IMPROVE THE LIVES OF PATIENTS WELL
BEYOND THE HOSPITAL'S WALLS.

+

Building a model for community
health, convening to create
impact, building trust among the
underserved and nurturing future
health care professionals.

Catalyzing the Rise of Impactful Leaders

No. 16 Survey any of the dozens of Hopkins faculty members who have received CIM funding early in their careers, and you'll hear a common theme: Receiving CIM recognition and support has been nothing short of life-changing – and in many cases has ultimately helped catapult them to top leadership positions.

Consider the experience of Hopkins radiologist **Pamela Johnson**, a very early leader in advocating for “high-value” medical care – moving away from unnecessary, high-cost medical testing and procedures that can harm patients and lead to financial ruin.

“David Hellmann believed in the importance of my work so much that he secured generous funding to make me the *(CIM) Stanley Levenson Scholar*. It was the honor of my life, and it effectively launched my career,” Johnson says. The funding proved crucial to her co-leading the launch of the High Value Practice Academic Alliance, a national organization of academic partner institutions collaborating on high-value quality improvement.

“The funding I received as a CIM Scholar was like a stamp of approval; it set off a cascading effect that led to this major appointment.”

Pamela Johnson

She says it also shone the light on the value of her work among Johns Hopkins leaders. In 2020, she was appointed vice president of care transformation for the entire Johns Hopkins Health System. “The funding I received as a CIM Scholar was like a stamp of approval; it set off a cascading effect that led to this major appointment,” she says. In her role as vice president, Johnson – who also continues as a national leader in high-value care – leads frontline clinical teams across Johns Hopkins Medicine in improving patient care (see p 7).

Building a Model for Community Health

No. 17 The idea that medicine is a public trust is foundational at CIM, and it fully informs the work of *Aliki Perroti CIM Scholar Panagis Galiatsatos* – not only as a deeply empathic physician, but as the award-winning co-founder and co-director of Medicine for the Greater Good (MGG).

“CIM was our first funder, our first advocate,” says Galiatsatos of the program he helped formally establish at Johns Hopkins Bayview in 2013 that promotes community engagement – among Bayview medical residents and other providers, as well as among hundreds of volunteers across Hopkins – as a powerful way to address inequities in health care. “It was clear from the beginning that Dr. Hellmann saw this as a way medicine could have a real impact on people beyond the hospital walls.”

Working with Baltimore City churches, schools and community groups, MGG teams have trained an army of lay health educators, created “caregiver cafes,” staffed health fairs, and organized lice eradication and smoking cessation workshops. Galiatsatos is a lung and critical care specialist who runs the Hopkins Tobacco Treatment Clinic, so MGG launched the Lung Health Ambassador Program to teach middle and high school students about respiratory health, and even how to successfully advocate for public policy changes – like the bill passed by the Maryland state legislature in 2019 to raise the smoking age in the state to 21.

“Our biggest allocation of resources at the moment is collaborating with the many people who are trying to create a sustainable model for the deployment of community health workers (CHWs),” Galiatsatos says. CHWs are professional lay health educators who serve as health care liaisons within their own communities, certified by the state and typically paid.

“The volunteer model is great, but we want people to be able to devote their time to helping their neighbors without worrying about their own income security,” he says.

MGG has made a difference in the lives of thousands of Baltimore residents, not least because of the trust Dr. G., as he is fondly known, and his colleagues have built in the community.

“He was building those bridges by coming, and that meant a lot to us,” the Rev. Ernest King, an early MGG partner and youth advocate at the Poe Homes housing project, once told an interviewer. Trust, King said, is a big issue “in our community because we get a lot by people wanting to bring programs in and... they might stay a month and after they get what they need they leave.” Dr. G stuck to his promises, showed up when he said he would, and just keeps coming. “So we knew he was concerned about our community.”

But MGG has also made a difference in the lives of the Bayview physicians and other health care providers who have participated, Galiatsatos says.

“One of the most rewarding things I hear from my residents, pre-meds and med students who go out and do MGG is, ‘I feel like I’ve made a bigger

difference in more lives in a few hours than I ever could as a clinician,” he says. “Of course, it’s incredibly rewarding to be a clinician, but when you participate in these community engagement efforts, you realize the impact you can have, just spending a few hours working on a project the community has asked us to dive into.”

The mission of Medicine for the Greater Good also resonates with public figures from across the region and around the country. Each year, MGG takes center stage at Johns Hopkins Bayview when the Department of Medicine dedicates an entire session of Medical Grand Rounds to highlight the program’s impact. In 2016, the now late Congressman Elijah Cummings addressed a packed Grossi Auditorium, where he lauded the work of MGG and other Bayview programs in fortifying the communities he represented. In November, the Grammy-winning opera singer Renee Fleming will take the podium to share her support for the program.

Galiatsatos’ long-term vision for MGG is no less than a revolution in the practice of medicine.

“My hope is that the MGG concept becomes commonplace, a new paradigm, and that every health care institution training the next generation of physicians and nurses recognizes that while they need to know the science and medicine, they also need to know the communities where patients are coming from, because that contextual level of interaction will dictate better outcomes.”

Convening to Create Impact

No. 18

Question:
What do the following have in common?

The rolling fields of Folly Farm, the beautiful Baltimore County home of **Stephanie Cooper Greenberg**, chair of CIM's International Advisory

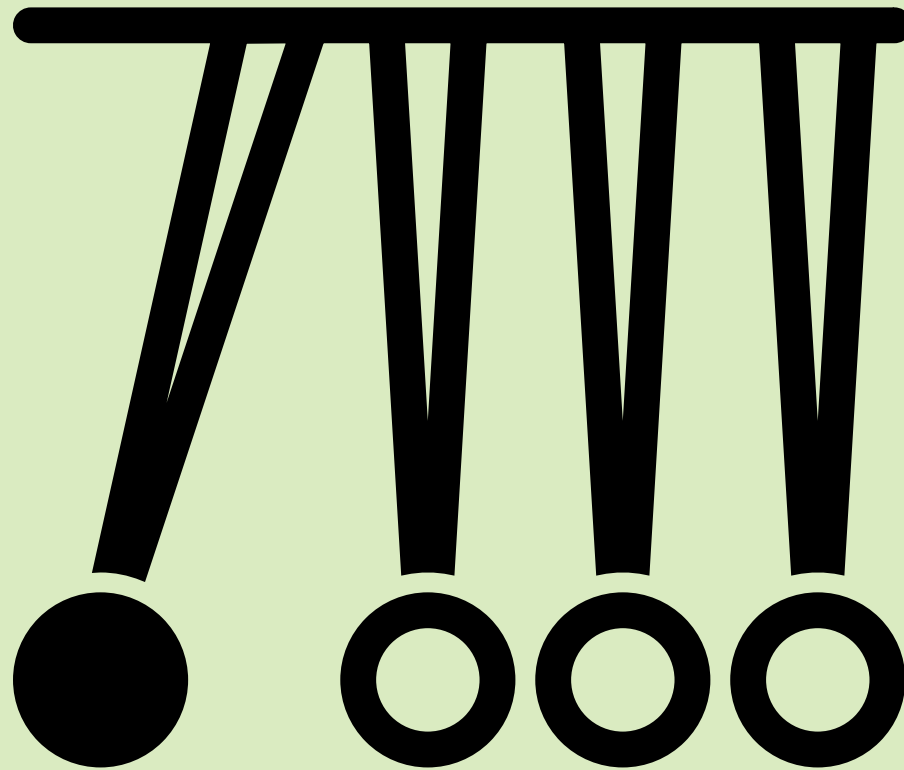
Board. The conference room table in the office of **CIM Director David Hellmann**. A Zoom screen. The faculty dining room at Bayview Medical Center.

Answer: All are venues where CIM faculty and friends have gathered over the years, in groups large and small, to hatch exciting ideas, forge powerful new collaborations, explore what it means to be human and, more often than not, to dream big — all fueled by a shared vision to advance medicine as a public trust.

These gatherings are key to what makes CIM unique within the wider Johns Hopkins universe, and so valuable, say longtime Hopkins leaders.

"Hopkins is a collection of like-minded individuals; however, we are not organized ideally to facilitate group interactions," observes Vice Dean for Education **Roy Ziegelstein**, the **Sarah Miller Coulson and Frank L. Coulson, Jr. Professor of Medicine**. "Many of us may only rarely have the occasion to speak to each other. It limits the ability for Hopkins to be even more impactful.

"I think the real benefit, the 'secret sauce,' to me of CIM, is its ability to bridge unconnected networks and groups and individuals for the betterment of what we do at Hopkins



— and beyond," adds Ziegelstein. "Through CIM, I've met colleagues I never would have otherwise interacted with. I've learned about their work and found collaborations."

Among CIM's notable regular convening events:

BOOK CLUB DISCUSSION

At the twice annual directors' meetings at Bayview, held over dinner during Hellmann's long tenure as director of the Department of Medicine, the second portion of the evening was devoted to discussion of a literary work — including classics in poetry, history and fiction.

David Wu, director of palliative care at Bayview, who was invited to lead a book discussion on Leo Tolstoy's *The Death of Ivan Ilyich* in early 2020, recalled it as "a powerful example of how a work of literature can cut through a lot of the facades of regular life and get right down to the heart of big questions: of life and death, of loss and suffering, of love and God, and of what's truly important."

CIM SEMINARS

When Hellmann first launched the CIM Seminars series, the meetings were held in his office at Johns Hopkins Bayview. This limited participation to just 25 or 30 people — primarily fellow doctors with expertise and interest in the seminar topic. Once the COVID-19 pandemic hit, Hellmann moved the seminar series online, which opened the door to vastly expand the list of invitees and speakers.

"We've gone from a few dozen people in my office to sometimes more than 200 or 250 people participating online," says Hellmann. "And we've been able to invite a much broader array of participants, including patients, donors and former faculty members who want to stay connected to Johns Hopkins and informed about the latest research and findings in clinical care."

Most of the speakers are CIM Scholars who provide fascinating updates on their work. In addition, other faculty member whose work epitomizes the CIM philosophy that "medicine is

a public trust" have participated, including **Henry Brem**, the Harvey Cushing Professor and director of neurosurgery; **Patrick Walsh**, former longtime director of the Brady Urological Institute; **Justin McArthur**, the John W. Griffin Professor and director of the Department of Neurology; **Jimmy Potash**, the Henry Phipps Professor and director of the Department of Psychiatry and Behavioral Sciences; **Peter Agre**, Bloomberg Distinguished Professor and winner of the 2003 Nobel Prize in Chemistry; **Sarah Szanton**, the Patricia Davidson Professor and dean of the School of Nursing; and **Alfred Sommer**, winner of the prestigious Lasker Award (known as "America's Nobel") and former longtime dean of the Johns Hopkins Bloomberg School of Public Health.

CIM ANNUAL RETREAT

Since 2014, CIM has sponsored a late summer retreat at Folly Farm, a 100-acre rural villa in northern Baltimore County that is the home of **Stephanie Cooper Greenberg**, chair of CIM's *International Advisory Board*, and husband **Erwin L. Greenberg**. It is here that CIM faculty and leaders from across Johns Hopkins Medicine come together to talk and dream about what's next for CIM.

The 2021 and 2022 annual retreats proved fertile ground, for example, in planting the seeds for CIM's far-reaching *Initiative for Humanizing Medicine* (see p. 14). "We're able to offer a rural setting that's beautiful and calming, where you can breathe the country air. That's when the ideas can start to flow!" says Stephanie Greenberg.

From his vantage point as vice dean for research at Johns Hopkins, rheumatologist **Antony Rosen** has witnessed, over and over, the "highly catalytic" impact that CIM support has had. "Through David Hellman's leadership, CIM has really been able to ignite the careers of so many promising individuals, myself included," says Rosen, *Cosner CIM Scholar in Translational Research*.

"So many of today's leaders at Johns Hopkins — and others who have gone on to lead at academic medical centers around the world — have been in the orbit of CIM."

Antony Rosen

"So many of today's leaders at Johns Hopkins — and others who have gone on to lead at academic medical centers around the world — have been in the orbit of CIM," says Rosen.

Indeed, Rosen is among a very long list of *CIM Scholars*, now numbering more than 60, who have risen to key leadership positions across Johns Hopkins Medicine — and at prominent academic medical institutions across the country. Individuals on this list include:

- **Steven Kravet**, a *Miller Coulson CIM Scholar*, president of Johns Hopkins Community Physicians, the largest primary care group in Maryland

- **Landon King**, an early *CIM Scholar*, who is executive vice dean for the Johns Hopkins University School of Medicine
- **Cynthia Rand**, *Mary Gallo CIM Scholar* and co-leader of the Aiki Initiative, who is senior associate dean for faculty at the Johns Hopkins University School of Medicine
- **S. Chris Durso**, *Miller Coulson CIM Scholar*, who became director of the Division of Geriatric Medicine and Gerontology and is now director of the Department of Medicine at Johns Hopkins Bayview Medical Center
- **Colleen Christmas**, an early *Miller Coulson CIM Scholar*, who directs the Primary Care Care Leadership Track at the Johns Hopkins University School of Medicine as well as the Medical Student Training in Aging Research program
- **Cynthia Boyd**, an early *Lavinia Currier CIM Scholar*, who is director of the Division of Geriatric Medicine and Gerontology
- **Constantine G. Lyketsos**, *Alafouzos CIM Scholar*, who is director of the Department of Psychiatry and Behavioral Sciences at Johns Hopkins Bayview
- **Jeremy Greene**, *Jacobs & Rosenthal Family CIM Scholar*, who is director of the Department of the History of Medicine and the Center for Medical Humanities and Social Medicine

- **Erica Johnson**, a *Mary Gallo CIM Scholar*, who was recently named senior vice president for academic and medical affairs at the American Board of Internal Medicine (see p. 45 for more about her work)
- **John Stone**, a *Cosner CIM Scholar in Translational Research*, who is professor of medicine at Harvard’s Massachusetts General Hospital, where he is also director of clinical rheumatology
- **Linda Fried**, a *Cosner CIM Scholar in Translational Research*, who has served as dean of Columbia University’s Mailman School of Public Health since 2018

In August, **Nadia Hansel**, a *Lavinia Currier CIM Scholar*, became perhaps the latest CIM affiliate to be tapped for top leadership at Johns Hopkins when she was named director of the Department of Medicine, a position she had filled as interim since 2022.

“Dr. Hansel will be the first woman to lead the storied Department of Medicine in its 131-year history,” noted Dean/CEO **Theodore DeWeese** and **Kevin Sowers**, president of the Johns Hopkins Health System and executive vice president of Johns Hopkins Medicine, in the announcement of the appointment, which praised Hansel’s work as “a world-renowned investigator and accomplished physician leader.”

“Young superstars, incredibly talented individuals who make a huge difference at Johns Hopkins and in medicine around the world, are hungry for inspiration and support.”

Roy Ziegelstein

Building Trust in Underserved Communities

No. 19

In September, **Erica Johnson** took a group of internal medicine residents to an underserved community only 5 miles down the road from their state-of-the-art clinics.

That visit to Turner Station, like others led by Johnson, aimed to bridge the gap between Johns Hopkins health care professionals and the communities they serve.

“It is crucial for our resident physicians to be deeply rooted in the communities they serve,” Johnson told members of the historic African American community, adding, “This visit is just one of many steps towards building a more inclusive and empathetic health care system.”

As director of the Internal Medicine Residency Program at Johns Hopkins Bayview Medical Center since 2015, Johnson has expanded the mission of the first-year Foundations of Clinical Excellence course, thanks to “transformative” support as a *CIM Mary Gallo Scholar*.

Now, as well as offering instruction in specific clinical skills and “relationship-centered care,” the two-week course helps trainees better

understand the health of their patients by directly observing how they live and listening to their concerns. Johnson says the experience helps young doctors learn how to form identities as physician citizens and leaders.

“They’re seeing the impact of the breakdown of trust between many communities and health care organizations, and they see themselves as actors in helping to rebuild that trust,” says Johnson, who is also a co-director of Medicine for the Greater Good (see p. 41).

In addition, as associate vice chair for diversity, equity and inclusion in the Department of Medicine, she has improved the percentage of under-represented minority interns and residents at Bayview from 9% in 2017 to 41% in 2018. Since then, it has ranged from 22% to 38% annually. Her work earned the 2019 award in excellence from the Alpha Omega Alpha Honor Medical Society.

Johnson served 11 years as a medical corps officer in the U.S. Army and

researched areas such as combat trauma and deployment diseases control. She says becoming a *CIM Mary Gallo Scholar* “happened at a really pivotal time in my career and helped change its direction pretty dramatically.

“CIM gives us the opportunity to think strategically about the big ideas in health care and about how Hopkins can act within them to benefit the public,” she says. “It helps us think about how we can operationalize that mission in ways that would be difficult in a typical academic environment.”



(Read more about Hansel and her translational research aimed at improving the lives of people living with chronic obstructive pulmonary disease on p. 33.)

Cardiologist **Roy Ziegelstein** has spent his entire career at Johns Hopkins. The very first *CIM Scholar* (made possible by support from the *Miller family*), he rose to become vice dean for education at the Johns Hopkins University School of Medicine, as well as vice chair of humanism in the Department of Medicine.

He adds his voice to the chorus of CIM believers. “Young superstars, incredibly talented individuals who make a huge difference at Johns Hopkins and in medicine around the world, are hungry for inspiration and support,” says Ziegelstein, a Miller Coulson master clinician and the *Sarah Miller Coulson and Frank L. Coulson, Jr. Professor of Medicine*.

“The Center for Innovative Medicine has offered both – by providing a community of established clinicians who serve as trusted mentors and by providing financial support, which is in such short supply for early-career physician-scientists.”

Roy Ziegelstein

“The Center for Innovative Medicine has offered both – by providing a community of established clinicians who serve as trusted mentors and by providing financial support, which is in such short supply for early-career physician-scientists,” says Ziegelstein.

Nurturing Future Health Care Professionals

No. 20

CIM Director David Hellmann still remembers the joy that lit the face of the high school senior. He had just presented her with a copy of the rheumatology textbook he had co-edited. Excitedly, she asked if he would pose for a photo with her holding the book. As they positioned themselves to say “Cheese!”, she

shared why she wanted a photo: This was the first time in her life anyone had ever given her a book.

The young student, who had attended one of Baltimore City’s most disadvantaged public high schools, would go on to the University of Pennsylvania and later complete her medical degree at Penn’s school of medicine. What inspired her path to academic accomplishment? A program known as *MERIT* – the Medical Education Resources Initiative for Teens Health Leadership Academy – which received early support from the Center for Innovative Medicine.

Launched in 2010, *MERIT* provides Baltimore students from underrepresented backgrounds a holistic support system, beginning in their sophomore year of high school, which is aimed at preparing them to become health professionals. *MERIT* scholars take advanced academic classes on Saturdays, work in hospitals and labs during paid internships, and receive long-term college and career mentoring.

Notably, 100% of the students who have completed the *MERIT* program have been accepted to college – at schools both near (Johns Hopkins, McDaniel College, UMBC) and far (Stanford, University of North Carolina). They have financed their college education by attracting millions of dollars in scholarships.

THE BEST IS YET TO COME

“CIM has provided a model for other groups at Johns Hopkins and also beyond Hopkins – a model that we really need now more than ever. And that is how to engage each other in a world that is increasingly divided by Zoom meetings, that is divided by people who are busy and protective of their time, and geographically separated. CIM has created a model for how to use philanthropy to bring people together to make the world a better place – to make medicine a public trust.”

Roy Ziegelstein, Vice Dean for Education

“It’s exciting to think about where CIM will go in the future. We now have a new chair of the Department of Medicine, Nadia Hansel, who herself is an example of the fruit CIM has borne. She embraces the values and goals of CIM. I see tremendous opportunity in using the structure and philosophy of CIM to create a really novel partnership going forward, with CIM being deeply integrated within the mission of the Department of Medicine and beyond, at Johns Hopkins. There are so many great opportunities for where CIM will go next. That’s a story for the 25th anniversary issue. Stay tuned!”

Cynthia Rand, Senior Associate Dean for Faculty

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