breakthrough

NUMBER 28 • WINTER 2021

Putting the Person in Personalized Medicine

From 'No Me' to 'Know Me'

The Humanities in Health Care

Bringing Good Things to Life for Seniors

Medicine is a public trust

THE JOHNS HOPKINS CENTER FOR INNOVATIVE MEDICINE

breakthrough

In this Issue

David B. Hellmann, M.D., M.A.C.P.
Aliki Perroti Professor of Medicine

RELENTLESSLY DETERMINED

Many of you know that I am huge fan of the musical *Hamilton* and one of its central themes of relentless determination, which inspired a subsequent rap song with the catchy lyrics: "Immigrants: We Get the Job Done."

Time and again, I see this determination to "get the job done" play out among the faculty and friends of the Center for Innovative Medicine, in ways big and small. Consider CIM's annual retreat in late August, which we'd planned to revive (after a one-year hiatus due to COVID-19) at Folly Farm, the beautiful Baltimore County home of **Stephanie Cooper Greenberg**, who is chair of CIM's International Advisory Board. While an in-person gathering of 75 to 100 was realistic last spring, when vaccination rates seemed to have COVID-19 on the wane, the Delta variant made those plans increasingly less likely as the summer wore on. But thanks to the pluck, ingenuity and generosity of Stephanie, who truly "got the job done," the show did go on! In the course of a week, she had an enormous tent erected on her bucolic property, which allowed for about 50 thought leaders from across Johns Hopkins to meet, talk and dream about what's next for CIM — including, importantly, an ambitious new Institute for Humanizing Medicine. The institute will be led by visionary physician and bioethicist **Mary Catherine Beach** and **Cynthia Rand**, senior associate dean for faculty and professor of medicine (p. 2). I'm thrilled that key Johns Hopkins leaders at the retreat — notably Johns Hopkins Hospital President **Redonda Miller**, Director of the Department of Medicine **Mark Anderson** and **Landon King**, executive vice dean for the school of medicine — all spoke compellingly about the importance of this far-reaching initiative.

As you'll read on p. 6, the Institute for Humanizing Medicine builds on the ideas and advocacy of many clinicians with strong ties to the CIM, including **Roy Ziegelstein**, the *Sarah Miller Coulson and Frank L. Coulson, Jr. Professor of Medicine*, whose concept of "personomics" is influencing clinicians far and wide, as well as **Jeremy Greene**, the *Jacobs and Rosenthal Family CIM Scholar*. Jeremy is leading the charge, at Johns Hopkins and nationally, to make the humanities and social sciences critical forces in the preparation of tomorrow's doctors (p. 8).

CIM Scholars in other vital areas are also committed to "getting the job done" — including those at CIM's Human Aging Project (p. 10), pulmonologist and *CIM Lavinia Currier Scholar* **Nadia Hansel**, who is investigating dietary changes to aid people with respiratory diseases (p. 12), and leaders of the new faculty promotion track for clinical excellence, which builds on the work of the Miller Coulson Academy of Clinical Excellence.

To all who are working so tirelessly to advance the mission of the CIM, including you, our friends and supporters, I offer sincere thanks and a hearty "Job well done!"

David B. Hellmann, M.D.

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WE BELIEVE

Medicine belongs to the public. Our mission is to create a different kind of academic medicine, to tear down ivory towers, share knowledge and dedicate ourselves toward one goal – making life better for patients.

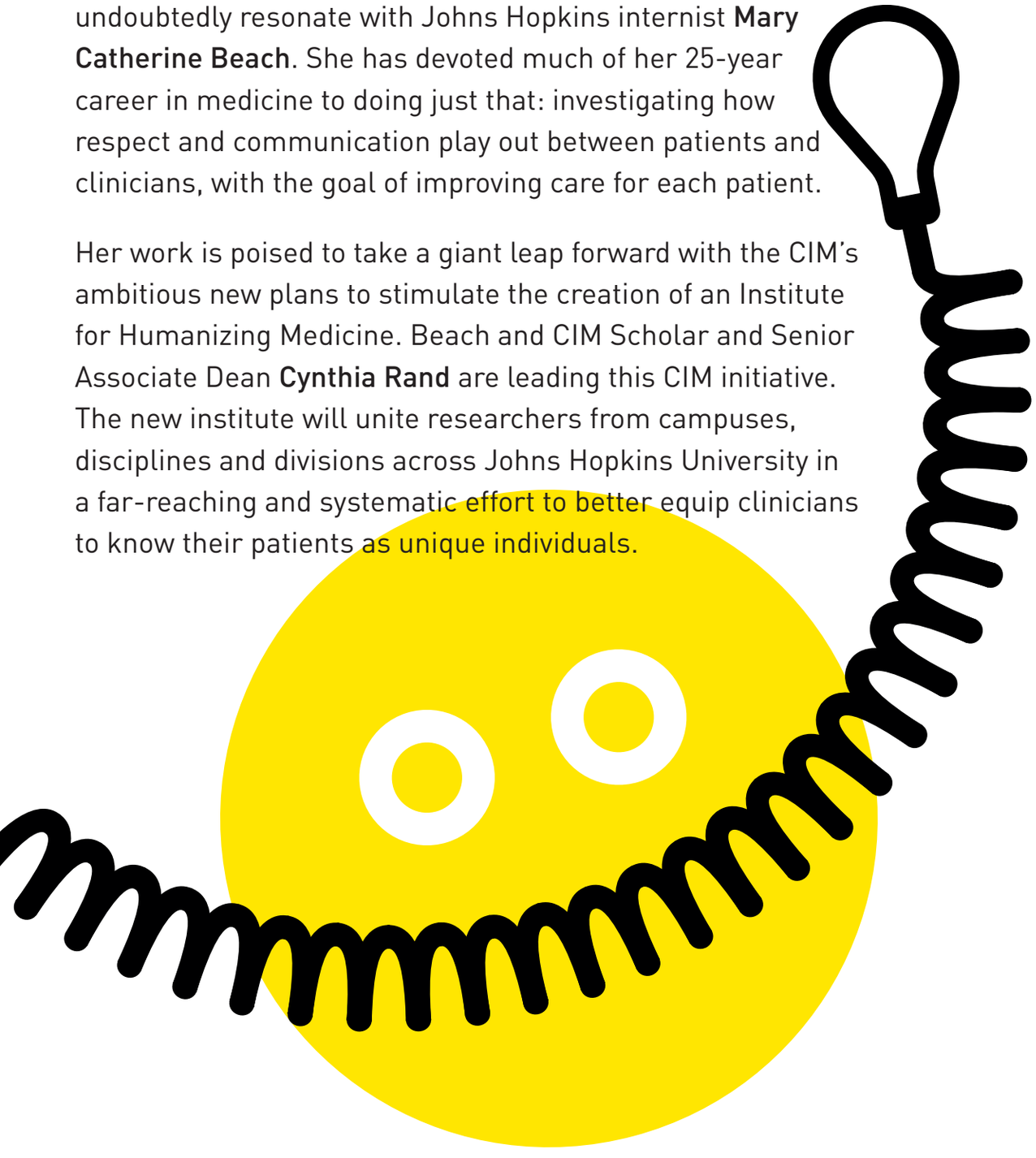
on the web

If you'd like to learn more about the Johns Hopkins Center for Innovative Medicine, please visit our website: hopkinscim.org or follow us on Twitter.

Putting the Person in Personalized Medicine

"R-E-S-P-E-C-T … Find out what it means to me…"

Those lyrics from Aretha Franklin's 1967 hit song undoubtedly resonate with Johns Hopkins internist **Mary Catherine Beach**. She has devoted much of her 25-year career in medicine to doing just that: investigating how respect and communication play out between patients and clinicians, with the goal of improving care for each patient.



Her work is poised to take a giant leap forward with the CIM's ambitious new plans to stimulate the creation of an Institute for Humanizing Medicine. Beach and CIM Scholar and Senior Associate Dean **Cynthia Rand** are leading this CIM initiative. The new institute will unite researchers from campuses, disciplines and divisions across Johns Hopkins University in a far-reaching and systematic effort to better equip clinicians to know their patients as unique individuals.

"Everyone would agree that all patients need to be treated with respect," says Beach, who holds a joint appointment with Johns Hopkins' Berman Institute of Bioethics. "But we're not taking this seriously enough if we don't have an entity within Johns Hopkins that is addressing this from a tripartite perspective: through rigorous scholarship in education, research and patient care."

"An Institute for Humanizing Medicine can help Johns Hopkins become as famous for its care as it is for its science," says CIM Director David Hellmann. "To do that, we will be taking an 'all in' approach, drawing in nurses, chaplains, doctors, administrators, medical coordinators and more — from all campuses and for all patients, including outpatients."

The work of the new institute will be particularly valuable for advancing a patient-centered approach among researchers and clinicians associated with the Johns Hopkins Precision Medicine Centers of Excellence, through which multidisciplinary teams across Johns Hopkins are harnessing the power of big data to improve clinical care for a rapidly growing number of illnesses and conditions.

SMALL ACTS, OUTSIZED IMPACT

In Beach's own award-winning research — which has focused on patients in the primary care setting who are being treated for HIV, substance use disorder and sickle cell disease — she has found that it's the small acts that can make an outsized impact on patients feeling respected by their clinicians.

"We often think of ethics within medicine around big concepts like informed consent, but I have learned that for most patients, respect is a series of micro-events throughout the course of a day that add up," she says. "Do we, as doctors, apologize if our patient has had to wait 90 minutes to be seen? That's so important in recognizing that their time matters. Or does someone on the ICU team take a few minutes to brush the patient's hair, so that family members can be reassured that their loved one looks like themselves? That's a small act that recognizes that patient as an individual."

"It's so important to get diverse perspectives from patients on what respect means to them. If you've never been dismissed or not believed, then you're not going to embed that in a definition of respect."

Mary Catherine Beach

Another dominant theme that has come up in Beach's work with patient focus groups: Among African-American men and women, many expressed the need to have their health problems taken seriously, she says, "to be believed, and listened to, and not to have their concerns dismissed." A concurrent study that Beach conducted, which examined patient health records, bore out their frustration. "Our analysis of medical record language suggests Black patients are less likely to be believed by physicians," she says.

Working with a linguist and a computer scientist, she and her team identified three aspects of language in clinic notes by which physicians communicate disbelief of patients:

- Quotation marks around patients' words (e.g., had a "reaction" to the medication)
- Specific judgment words that suggest doubt (e.g., "claims" or "insists")
- Evidentials, a sentence construction in which patients' symptoms or experiences are reported as hearsay

"It's so important to get diverse perspectives from patients on what respect means to them. If you've never been dismissed or not believed, then you're not going to embed that in a definition of respect. As academics, we tend to be respected. The theory needs to be grounded in the experiences of many people," notes Beach, who intends to further pursue this line of research through the Institute for Humanizing Medicine.

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NAVIGATING UNCERTAINTY

Taking the time and asking the right questions to get to the bottom of a patient's story — where they live and who they live with, the stresses inherent to their job (or joblessness), their financial situation, their ability to access healthy foods and get exercise — are crucial to arriving at an accurate diagnosis and providing the most effective treatment, says **Brian Garibaldi**, the *Douglas Carroll, MD, CIM Scholar*, whose ongoing research into bedside care will also be furthered under the new institute.

Garibaldi, recent co-president of the Society of Bedside Medicine, worked with Hopkins colleagues several years ago to craft a curriculum for medical trainees that has improved attitudes, confidence and skill among residents at The Johns Hopkins Hospital.

Taking the time and asking the right questions to get to the bottom of a patient's story are crucial to arriving at an accurate diagnosis and providing the most effective treatment.

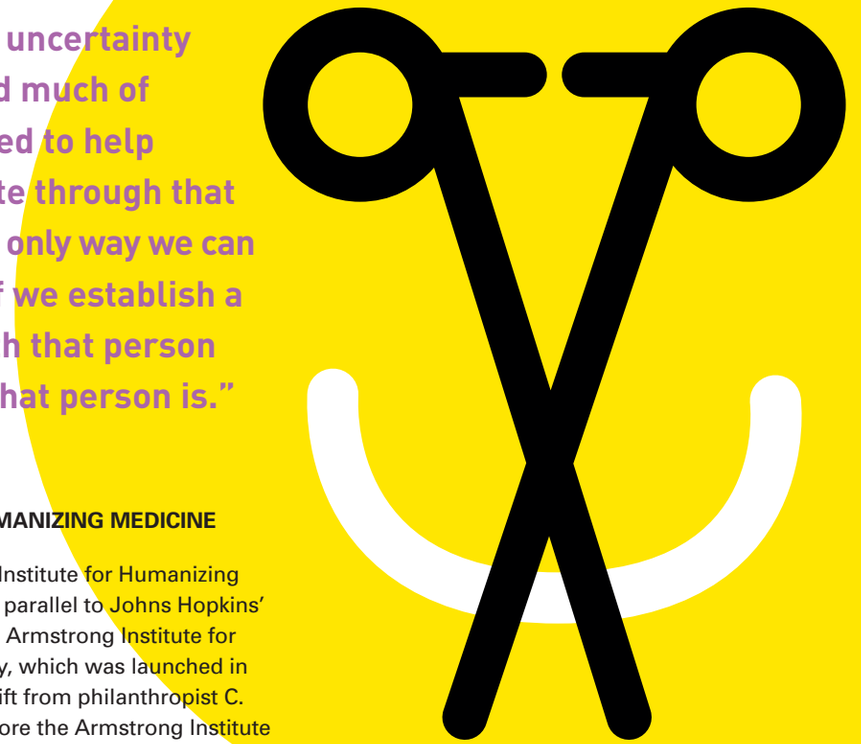
He has also championed the use of "point-of-care" (POC) ultrasound at the bedside with several Hopkins colleagues. "We're finding this little gadget opens up communication between doctor and patient," says Garibaldi. "We can point to fluid that's accumulated and say, 'This is what a sick heart looks like — this is why you have this symptom.' Or, 'Here is how you know that your medication is actually working.' It engages patients in becoming more motivated to get better, and it allows medical residents to have eureka moments of shared discovery with their patients."

Most recently, Garibaldi and colleagues published a study in the journal *Chest* that laid out recommendations for conducting an effective physical exam. Among them: Take a moment to pause and "center yourself" on the individual patient's needs before going in to meet them. Also: Pursue a "hypothesis-driven" approach to the physical exam. "There are so many directions you can take with a physical exam. It's really important to know the patient so that you can ask questions that help direct your diagnostic investigations," he says.

The bottom line, says Garibaldi: "There is a lot of uncertainty in medicine, and much of the time, we need to help patients navigate through that uncertainty — to know what test to order next or what treatment to pursue. The only way we can do that well is if we establish a relationship with that person and know who that person is. I am absolutely in a better position to get to that shared decision-making sooner if I know my patient better. That is likely to translate into more efficient and cost-effective treatment. And most importantly, it allows us to get to the answer that is right for that individual person."

"There is a lot of uncertainty in medicine, and much of the time, we need to help patients navigate through that uncertainty. The only way we can do that well is if we establish a relationship with that person and know who that person is."

Brian Garibaldi



AN EPICENTER FOR HUMANIZING MEDICINE

In her vision for the new Institute for Humanizing Medicine, Beach draws a parallel to Johns Hopkins' internationally renowned Armstrong Institute for Patient Safety and Quality, which was launched in 2011 with a $10 million gift from philanthropist C. Michael Armstrong. "Before the Armstrong Institute was established, few disagreed that patient safety was important, but there was no systematic program in place to measure patient safety and to define — and fix — preventable medical errors," says Beach.

In a similar fashion, Beach, Rand, Hellmann and other Johns Hopkins leaders — notably Berman Institute Director **Jeffrey Kahn** and **Jeanne Marie Clark**, director of the Division of General Internal Medicine — see an opportunity for Johns Hopkins to become the international epicenter for research and scholarship that will better equip clinicians to humanize their approach to patient care.

"The Center for Innovative Medicine was founded with the mission of making medicine a better 'public trust,'" says Hellmann.

"This new institute, which will bring together clinicians and researchers from medicine, nursing, public health and other areas across Johns Hopkins, will be critical to continuing to advance that mission." ■

From 'No Me' to 'Know Me'

The new Institute for Humanizing Medicine builds on the ideas and advocacy of many doctors with strong ties to the Center for Innovative Medicine — chief among them cardiologist **Roy Ziegelstein**, a Miller Coulson master clinician, the Sarah Miller Coulson and Frank L. Coulson, Jr. Professor of Medicine, and vice dean for education at Johns Hopkins University School of Medicine.

In a widely cited 2015 editorial in the *Journal of the American Medical Association*, Ziegelstein first coined the term "personomics" — making the case that in the rush to embrace the high-tech advances of precision medicine, we mustn't lose sight of the individual patient's unique life experiences.

In the years since that editorial appeared, the personomics concept has gained traction within the medical community, influencing physicians far and wide. *CIM Breakthrough* magazine checked in recently with Ziegelstein to find out how his vision continues to shape the national discussion around patient-centered care.

"The vast majority of physicians got into this field because they wanted to make a difference in the lives of individual patients."

Roy Ziegelstein

"Personomics" is an intriguing term. What inspired you to come up with it?

The suffixes, "-ome" or "-omics" are often added to an area of human biology — witness the rise of genomics, proteomics, metabolomics, epigenomics and pharmacogenomics, for example. These high-tech fields are critical to the precision medicine toolkit. They give us a wonderful understanding of how a disease may progress in an individual patient and the unique course a treatment might take.

But what was in danger of getting lost in the discussion was that individuals are not only distinguished by their biological variability — they are also impacted by their personalities, health beliefs, social support networks, financial resources and other unique life circumstances. The same disease can alter one individual's personal and family life completely and not affect that of another person much at all. So, I argued that these components of individuality are just as critical to patient care as any of the more traditional "-omics."

Your editorial found a receptive audience.

Yes, indeed. It's unusual for me to get an email response after I publish a paper, but I received many, many emails after this article appeared. They were all positive. Perhaps more important, and a bit surprising to me, is that I had expected that those who wrote would be from psychosocial fields. Instead, I was hearing from doctors from hard science fields like genomics and other related "-omics" disciplines. They said that while they believed that these "-omics" would be crucial for guiding precision medicine in the years ahead, they'd long thought that this work would need to be informed by knowledge of the patient as an individual. This was very rewarding for me to hear.

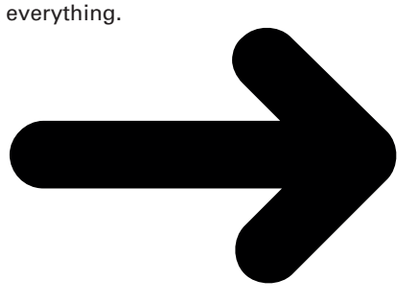
A short time later, in September 2017, I was invited to present on personomics at an international meeting of the European Congress of Internal Medicine in Milan. Then I was asked to join the editorial board of a new, international journal, the *Journal of Personalized Medicine*, a board on which I continue to serve today. Most recently, I authored an essay on personomics that appeared in the two-volume work *The Road from Nanomedicine to Precision Medicine*.

And others have taken up writing about the importance of personomics as well?

Yes. David Hellmann and I reached out to the editors of *The American Journal of Medicine* to see if they would consider publishing a series in their Green Journal that would invite essays from clinicians who prize patient-centered care. The idea was for essayists to provide examples of how knowing the patient as a person helped solve a diagnostic enigma, fortified the patient's dignity, illustrated the hazards of making assumptions about people, or added awe and wonder to the daily work of a doctor. The response has been wonderful. Since the series launched in 2018, the *AJM* has published more than 20 essays.

Why do you think that personomics is resonating so widely with fellow physicians?

Well, I think that advances in technology have been a driving force. These days, most health care practices rely on electronic health records, which of course have many upsides. A patient's care can be better coordinated among many different providers, for example, and data can be pooled and analyzed to drive development of personalized treatments and therapeutics. The downside is that doctors have to spend a lot of their time tethered to computers, examining lab test results and radiographic images and documenting everything.



Patients, in what some describe as a "no me" experience, can wind up feeling left out. With the advent of precision medicine, the personal nature of the relationship may be even further strained. And that's not what doctors want. The vast majority of physicians got into this field because they wanted to make a difference in the lives of individual patients. So, I think the interest in personomics among clinicians reflects the disconnect that many doctors have been feeling — and want to fix.

What steps must be taken within the U.S. health care system to put the individual patient at the fore?

We need to start during the training years. Physicians and trainees must be taught the most effective, efficient and reliable techniques to understand each individual's situation, including psychological, social, cultural, behavioral and economic factors — and how those factors impact the person's experience of health and illness, as we do in the CIM's Aliki Initiative (see sidebar).

Shifting from a "no me" to a "know me" approach does not simply improve patient satisfaction or contribute to the joy of medical practice. Getting to know our patients actually contributes importantly to identifying the correct diagnosis and optimal treatment for each individual. ■

The Transformative Power of the Aliki Initiative

Through the generosity of Aliki Perroti, a philanthropist from Greece, the CIM's David Hellmann, Roy Ziegelstein and Cindy Rand launched the Aliki Initiative in 2007. Its goal: to teach Johns Hopkins internal medical house officers and medical students to get to know their patients as people. Through the groundbreaking program, trainees learned that relationships don't end when a patient leaves the hospital and that by knowing each patient as a person, evidence-based medicine can be custom-tailored for individual needs.

The Humanities: Critical to Tomorrow's Doctors

There was a time, not so long ago, when aspiring young doctors who enrolled as undergraduates at Johns Hopkins University had to be laser-focused on pursuing a traditional "pre-med" path: coursework in biology, chemistry and other hard sciences.

That academic landscape has changed in recent years, and internist **Jeremy Greene**, a driving force behind that change at Johns Hopkins, couldn't be more heartened. A new undergraduate major that launched in 2015 — Medicine, Science and the Humanities (MSH) — has quickly become the fastest-growing major at Hopkins' Krieger School of Arts and Sciences, with more than 100 students currently enrolled.

"At this moment in time, there is increasing recognition that we cannot think of health and medicine in American society as something that can be explained by the biological sciences alone," says Greene, the *Jacobs and Rosenthal Family CIM Scholar*, who is chair of the new major. "The increased recognition over the past year that we are living through a *dual* pandemic — of COVID-19 and structural racism — has underscored for many pre-med and medical students the vital role that humanities and the social sciences must play in the training of what it takes to become a good doctor who can think critically and be an effective advocate for patients and for the communities they serve."

This changing landscape is not confined to Johns Hopkins.

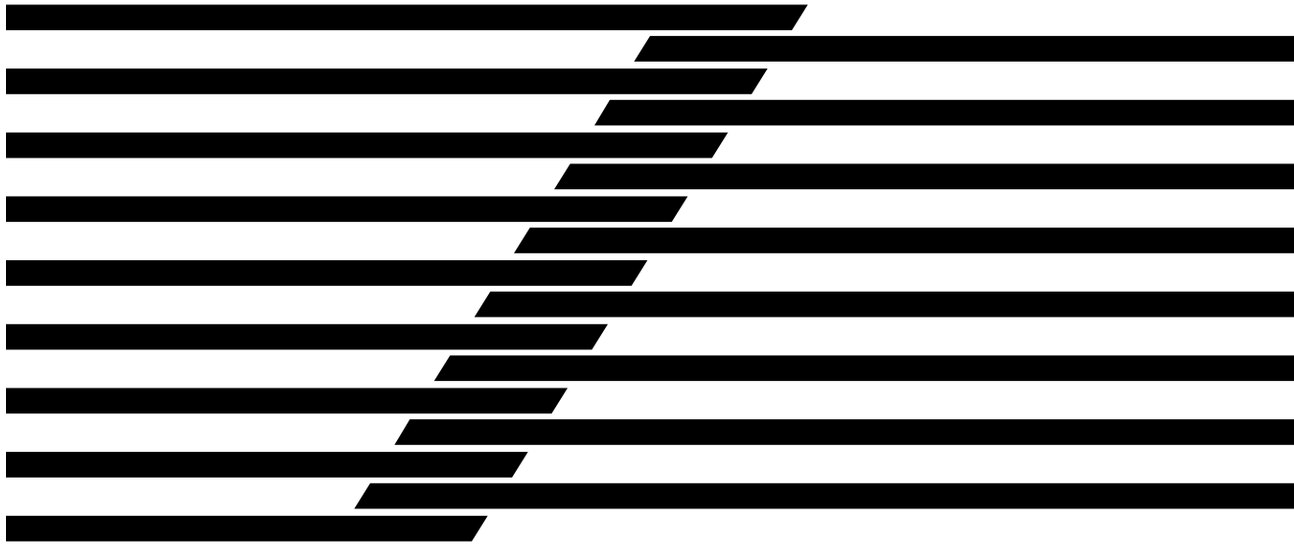
Greene recently worked with the Association of American Medical Colleges (AAMC) on a monograph released last December: *The Fundamental Role of the Arts and Humanities in Medical Education*. For medical school leaders across the country, the monograph provides an in-depth overview of the role that arts and humanities play in educating a physician workforce to meet 21st-century health care needs, including enhancing the patient experience, improving population health, reducing costs and promoting clinician well-being.

This broadening within medical education — coupled with a reformulation of the MCAT (medical college admission test) in 2015 to begin measuring students' preparation in behavioral and social determinants of health and well-being — "sends a clear message to pre-med and medical students that humanities, the social sciences and critical analysis are a vital part of what it means to be a physician today," says Greene, who himself is the embodiment of a Renaissance man.

In addition to seeing patients each week at the East Baltimore Medical Center, Greene directs the Institute of the History of Medicine, is founding director of Hopkins' Center for Medical Humanities and Social Medicine, and is the author of several books, including *Generic: The Unbranding of Modern Medicine*. His newest book, tentatively titled *The Anywhere Clinic: How Health Became Electronic*, is due out next summer from University of Chicago Press.

"Students are looking at the world around them," says Greene, "and they are demanding an approach to medical education that takes into account the broader structural problems facing our society and the tools that physicians will need to be sensitive to the way these problems impact the patients in front of them."

Consider the example of Javier Jurado Vélez, who graduated from Johns Hopkins University last May after designing his own academic path within the MSH major. Vélez is now enrolled in medical school at the University of Alabama.



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Jeremy Greene

"What I'm taking away from the program is an interdisciplinary mindset, in order to connect different areas of thought," says Vélez. One concrete way that might play out, he says: "I've always thought about the idea of making a community center, either within my own private clinic or wherever I'm working — just an open area for people in the community to hang out, talk with each other, have lectures or rent the space if they want to," he says. "That way they can come into the clinic outside of illnesses and hopefully have a more positive experience."

Greene directs the new major alongside with anthropologist Nicole Labruto and a host of committed faculty members from a wide range of humanities and social sciences departments. This fall semester, Greene has been co-teaching an introductory course with Bernadette Wegenstein, director of the Center for Advanced Media Studies, and Annette Porter, the director of the JHU/MICA Film Center, on Science, Medicine and Media. That class, which included examining misinformation around COVID-19, gave students theoretical tools to critically assess the technologies that inform our knowledge of health, as well as hands-on experience with filmmaking and multimedia production.

"The first week of classes," says Greene, "I looked around the lecture hall full of freshmen and sophomores and it was so exciting to see a group of students at the beginning of their undergraduate studies who are so broadly open to a synthesis between their training in the sciences and their studies in the humanities." ■

Bringing Good Things to Life for Seniors

In the year since we first announced the launch of CIM's Human Aging Project (HAP), the ambitious alliance has seen some exciting developments.

In September, HAP Director **Jeremy Walston**, geriatrician **Peter Abadir** and colleagues at Johns Hopkins' Whiting School of Engineering received news that the National Institutes of Health has funded a $20 million grant that will support important HAP initiatives in artificial intelligence and technology. And over the summer, the first multidisciplinary team in HAP's Gerotech Incubator Program began working to identify a clinically relevant problem to be solved.

"This $20 million grant brings a lot of pilot money to HAP investigators who have these great ideas that are just getting started, and there is a network of businesses connected with the grant that will allow us to quickly implement many of the solutions for older adults that we have been thinking about," says Walston. "It's also wonderful," he adds, "that the funding will meld nicely with the Gerotech Incubator Program."

He is referring to a series of seven innovation incubator hubs — focused on challenges in aging including fall prevention, neurodegenerative diseases, sociodemographic stressors and more — which bring together teams that include two to three engineering students, one medical resident or nursing doctoral candidate, two business students from Hopkins' Carey Business School and several faculty mentors.

In Phase 1 of their work, the teams identify a specific problem to solve, perform a market analysis and ultimately develop a prototype or product. Phase 2 is the "accelerator" mode, during which the teams find funding, test prototypes and develop patents, and solicit support from industry.

To date, more than two dozen master's students and two dozen faculty members from across Johns Hopkins have signed on to work within these incubators, notes **Peter Abadir**, a co-leader of the Gerotech program and the *Salisbury Family CIM HAP Scholar*.

With the nation's rapidly graying population, there are a variety of important health concerns that need to be addressed — ranging from frailty to incontinence to dementia — says Abadir. "On the other side," he says, "there is a surge of technologies, an explosion of artificial intelligence, machine learning, robotics and sensing. But for some reason, there have been barriers to working between the technology side and the clinical, health care side. This is where we are putting our innovation hubs to work together."

Over the summer, the first incubator team of master's students began an exhaustive investigation in their initial effort to identify an area of focus for their innovation.

Human Aging Project Scholars

Peter Abadir, the Salisbury Family CIM HAP Scholar, is an associate professor of medicine in the Division of Geriatric Medicine and Gerontology.

Thomas Cudjoe, the Caryl & George Bernstein Family CIM HAP Scholar, is an assistant professor of medicine.

Najim Dehak, a HAP Scholar, is an associate professor in the Department of Electrical & Computer Engineering at Hopkins' Whiting School of Engineering.

Bryan Hansen, a HAP Scholar, is an assistant professor at Johns Hopkins School of Nursing and principal faculty of the Center for Innovative Care in Aging.

Rasika Mathias, the Miller Coulson CIM HAP Scholar, is a professor of medicine.

Alexander Pantelyat, the Alafouzos Family CIM HAP Scholar, is an assistant professor of neurology.

Qinchuan Wang, the Ethan and Karen Leder CIM HAP Scholar, is an assistant professor of medicine.

"We had a really busy summer, shadowing doctors for days — in the ventilator care unit, the memory clinic," says team member Joshua Blair, a master's student in the Whiting School of Engineering's Center for Bioengineering Innovation and Design program. "We went on home visits, and we shadowed many nurses and physical therapists. We also interviewed a lot of people," he says, including patients, caregivers, quality assurance workers, hospital administrators, researchers, med-tech executives and more. The team aimed to complete its discovery process and define its project by mid-autumn.

"All of us on the team chose to focus on geriatrics when we came to Johns Hopkins for personal reasons," says Blair. "From a young age, we were all in positions of being a caregiver for an older person or seeing our grandparents go through something challenging, and this really inspired us to go into the field."

CIM Director **David Hellmann** is excited by the rapid progress of initiatives within CIM's Human Aging Project. Noting that there are currently 10 faculty scholars working within the center, with eight of those scholar posts funded by donors (see sidebar box above), he says, "By leveraging our remarkable assets from across Johns Hopkins, we have the potential to dramatically improve the lives of older adults and to make significant advances within the field of geriatrics." ■

Recipe for Easier Breathing

Foods that are rich in omega-3 polyunsaturated fatty acid — such as broiled salmon or oatmeal sprinkled with flax seeds and walnuts — are not only delicious: They may also help those suffering from chronic obstructive pulmonary disease (COPD) to breathe easier.

That's the hypothesis being tested by Johns Hopkins pulmonologist **Nadia Hansel**, whose team is pushing to improve the lives of people with COPD who live in disadvantaged communities — neighborhoods where food insecurity is an issue and indoor and outdoor air pollution exacerbate respiratory problems.

"Think about it: There are diets for cardiovascular disease and diabetes and even kidney disease. But when it comes to lung disease, no one really talks about a dietary intervention."

Nadia Hansel

"We're really excited about this new study that we are embarking upon," says Hansel, the *CIM Lavinia Currier Scholar*. "Think about it: There are diets for cardiovascular disease and diabetes and even kidney disease. But when it comes to lung disease, no one really talks about a dietary intervention."

Hansel's new research study, which involves 200 people with moderate to severe COPD living in urban Baltimore, is informed by important earlier work. One project, which followed 112 participants with COPD living in the Baltimore area, found that those with higher intake of omega-3-rich foods had fewer respiratory flare-ups and "a trend toward higher lung function," she notes. Another of her studies, published in June 2019, focused on school-age children with asthma who live in urban Baltimore. That project included placing sensors in participants' homes to measure levels of indoor particulate matter. "We found that higher omega-3 intake was associated with diminished harmful effect of indoor air pollution exposure on the children's respiratory symptoms," says Hansel, who is director of the Division of Pulmonary and Critical Care Medicine.

But gaining access to foods with omega-3 is challenging for many people living in under-resourced communities. "We've found that low-income individuals with COPD often have diets well below the recommended levels of omega-3, and there are several reasons for that," says Hansel, the David Marine Professor of Medicine. "People often live far from grocery stores that offer fresh, healthy foods that are rich in omega-3, and these items tend to be more expensive, which can be prohibitive. There's also personal food preference, and there may be some unfamiliarity with preparing healthful foods."

"It really is a shift in the paradigm to think that healthier eating can impact inflammatory lung diseases such as COPD or asthma."

Nadia Hansel

A Costly Chronic Condition

Chronic obstructive pulmonary disease affects more than 15 million people and is a leading cause of death in the United States. The prevalence of COPD is nearly double among individuals with household income below the poverty level. In 2020, the total economic burden of COPD in the United States was estimated at nearly $50 billion.

To overcome those obstacles, in this latest study, Hansel and her team will be providing $50 weekly vouchers to Amazon Fresh. "These groceries will be delivered directly to their door each week," she says — particularly helpful for COPD sufferers, who often are homebound.

Participants in one arm of the randomized study will receive vouchers for foods that are rich in omega-3, as well as personalized counseling from a dietary health coach who will offer culturally informed education around nutrition and food preparation. Participants in the other arm of the study will receive $50 vouchers for food of their choice. They will receive phone calls with nutrition information that is more generally available, without it being personalized.

To measure levels of indoor air pollution, Hansel and her team will use low-cost sensors that have been shown to be very accurate in measuring indoor particulate matter (as well as carbon dioxide concentration) over several months. The scientists will measure participants' respiratory health through blood and urine tests, questionnaires, and exercise tests.

Once the 12-week study is complete, the team will follow up with participants over three more months to see how well they sustain healthy eating after the food vouchers end. And the scientists will conduct informal interviews to find out ways in which the nutritional counseling was effective or could be improved. "The goal is to develop an intervention that can be successfully sustained once the study period is over," says Hansel, who is associate dean of research at Johns Hopkins Bayview Medical Center.

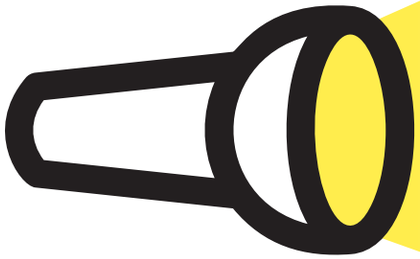
Dietary solutions could be a real game-changer, she believes.

"To date, few studies have examined COPD intervention strategies beyond smoking cessation. It really is a shift in the paradigm to think that healthier eating can impact inflammatory lung diseases such as COPD or asthma," says Hansel, whose team includes physicians Pete Miller, Michelle Eakin, Kirsten Koehler, Emily Brigham, Nirupama Putcha, Meredith McCormack and Susan Oh.

"Our hope is that we can ultimately provide a framework for dietary interventions that could be used to combat other chronic conditions that disproportionately impact low-income communities." ■

A Path Forward for Outstanding Clinicians

Providing outstanding patient care has long been central to the work of many faculty members at Johns Hopkins, and since 2008, outstanding clinicians have been recognized with induction into the *Miller Coulson Academy of Clinical Excellence*, a key initiative of the Center for Innovative Medicine.



But until recently, clinical excellence hasn't been rewarded on the promotions track.

"The general sentiment is that while we have a tripartite mission at Hopkins — research, education and patient care — it was really a pogo stick when it came to evaluations for promotion: Research was dominant," says **Rosalyn Stewart**, director of the Johns Hopkins After Care Clinic and director of the Johns Hopkins Hospital Substance Use Consultation Service.

Now, that's changed. In November 2020, Stewart became the first faculty member at Johns Hopkins Medicine to be promoted to full professor on the new Clinical Excellence track.

As of June 30, 15 faculty members from hospitals across Johns Hopkins Medicine had been approved for promotion on the new track, with six achieving full professor and nine attaining associate professor status. Two dozen more faculty members are at various stages of the evaluation process.

"It's been a very moving experience," says psychiatrist **Meg Chisolm**, who co-leads the promotions committee, with ophthalmologist (and Miller Coulson Academy member) **Sharon Solomon** and CIM Director **David Hellmann**. "People on our committee were brought to tears to see that great clinicians at Johns Hopkins — many of whom had trained hundreds of outstanding clinicians who went on to get promoted at other institutions — are finally getting recognized."

Chisolm credits leaders of the Miller Coulson Academy for establishing the criteria to measure clinical excellence, including a "360-degree" review. "They set the bar very high," says Chisolm, herself a Miller Coulson Academy scholar.

"As an institution, 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," says **Cynthia Rand**, senior associate dean for faculty. "But the Miller Coulson Academy really made a mark, both locally at Johns Hopkins and nationally, by developing a truly rigorous process for measuring excellence in clinical care."

With the 360-degree review, nominees in the new promotion track are evaluated by clinical peers, leaders, staff members and learners, as well as from patients and their family members (when applicable). There are 25 to 30 evaluations in all. 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 has found.

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 made a mark, both locally at Johns Hopkins and nationally, by developing a truly rigorous process for measuring excellence in clinical care."**
>
> Cynthia Rand

Chisolm believes the new promotions track will be crucial to attracting and retaining top clinicians at Johns Hopkins in the years ahead. Perhaps even more importantly, it will give clinicians across Johns Hopkins a way forward to pursue the calling that drew them to medicine in the first place.

"Before this track was established," says Chisolm, "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."

Stewart couldn't agree more. Winner of a 2016 Innovations in Clinical Care Award for work done in establishing the Johns Hopkins After Care Clinic team, the newly minted full professor says, "The new track really adds value to the work clinicians love doing!" ■

The Model for Measuring Clinical Excellence

The Miller Coulson Academy of Clinical Excellence, which now numbers more than 100 scholars, was made possible through the vision of Mrs. Anne Miller and the support of Mrs. Miller's daughter and son-in-law, Sarah and Frank Coulson.

Because the Miller Coulson Academy is a "working academy," the exemplary clinicians in the academy come together to collaborate on programs and initiatives. And they have become role models to clinical students and trainees across the institution, who are able to watch and learn from them every day.

On Oct. 11, 2021, 11 superlative clinicians were inducted into the Miller Coulson Academy:

Lili Barouch, M.D., *Department of Medicine, Division of Cardiology*

Amy DeZern, M.D., M.H.S., *Department of Oncology*

Matthias Holdhoff, M.D., Ph.D., *Department of Oncology*

Mary C. Deirdre Johnston, M.B.B.Ch. B.A.O., M.R.C.Psych., *Department of Psychiatry and Behavioral Sciences*

Kendall F. Moseley, M.D., *Department of Medicine, Division of Endocrinology, Diabetes and Metabolism*

Tim Niessen, M.D., M.P.H., *Department of Medicine, Division of Hospital Medicine*

Rodney Omron, M.D., M.P.H., *Department of Emergency Medicine*

Carisa Parrish, Ph.D., *Department of Psychiatry and Behavioral Sciences*

Kristin Redmond, M.D., M.P.H., *Department of Radiation Oncology and Molecular Radiation Sciences*

Nina Wagner-Johnston, M.D., *Department of Oncology*

KUDOS

Bayview Honored for Social Responsibility

In September, the Lown Institute released its annual hospitals index, and Johns Hopkins Bayview Medical Center ranked #3 in the nation — out of 3,709 U.S. hospitals — in social responsibility. The think tank assessed hospitals across eight areas. Two in which Bayview scored especially strongly were inclusivity (how well it serves people of color, those with lower incomes and those with lower levels of education) and community benefit (how well the hospital invests in community health).

"No discussion about Bayview and social responsibility would be complete without mention of **Dr. David Hellman**, professor of medicine, director of the Center for Innovative Medicine and former vice dean for Bayview, for whom this has long been a major focus," notes **Jimmy Potash**, Henry Phipps Professor of Psychiatry and Behavioral Sciences, department director and psychiatrist-in-chief.

Potash continues: "In an interview, Dr. Hellmann said: 'I firmly believe that medicine is a public trust and that it is our joyful opportunity and obligation to get up each day and ask how we in health care can pay back society a higher dividend for the extraordinary investment society has made in us.' Amen."

A Calling Inspired by Classic Movies

Jade Cobern, a preventive medicine resident at Johns Hopkins, has earned international distinction for medical writing in social media by FPM, the Fellowship of Postgraduate Medicine, in the United Kingdom. Cobern was honored for her online essay, "A Calling to Medicine from Hollywood," which appeared on **CLOSLER.org**, the website of the Miller Coulson Academy of Excellence. In the article, Cobern shares how a childhood watching classic movies — notably those starring Audrey Hepburn — inspired her decision to become a doctor.

CIM Scholars on the Move

CIM scholars, as was said about immigrants in the play *Hamilton*, "Get the job done!" Congratulations to **Jessica Colburn**, who became director of the fellowship program for geriatrics; **Michelle Sharp**, who was awarded a National Institutes of Health grant to expand her research on sarcoidosis; **Erica Johnson**, who was appointed associate vice chair for diversity, equity and inclusion in education for the Department of Medicine; and **Kim Peairs**, who has functioned as the JHM medical director for COVID-19 vaccinations, providing more than 250,000 vaccinations to Johns Hopkins employees and patients. All four serve as *Mary & David Gallo CIM Scholars*.

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BREAKTHROUGH is published by The Johns Hopkins Medical Institutions, Baltimore, MD 21287-2101. If you do not wish to receive this newsletter, please write to us at the address above.

Director: David Hellmann, M.D.
Writer/Editor: Sue DePasquale
Design: Skelton Sprouls

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