

# breakthrough

NUMBER 21 • HOLIDAY 2017

## Breaking the Cycle of Opioid Dependence

Celebrating 10 Years of the Aliko Initiative

Miller Coulson Academy Goes Digital

Autoimmunity and the Gut



Medicine is a public trust  
THE JOHNS HOPKINS CENTER  
FOR INNOVATIVE MEDICINE

# breakthrough



David B. Hellmann, M.D., M.A.C.P.  
Aliko Perroti Professor of Medicine; Vice Dean, Johns Hopkins Bayview Medical Center; Chairman, Department of Medicine

**A SEASON FOR OPTIMISM**

Reading the headlines and listening to the news these days, it can be easy to feel overwhelmed by the magnitude of the challenges facing our society. In the health care arena alone, the issues are significant and daunting. Among them: a growing opioid epidemic, health disparities that unfairly impact our most disadvantaged citizens and a health care insurance system that seems designed to prioritize efficiency over patient-centered doctoring.

Take heart! I'm here to assure you that these issues are not intractable, and to let you know that there are countless people across Johns Hopkins who are zeroed in on finding solutions to these problems. That's the heartening reality I was reminded of when I looked around the room at our annual CIM retreat in August. As you'll read in "Making Space for Big Ideas," p. 12, more than 70 people from different "silos" across Johns Hopkins gathered to dream big and develop concrete action plans for moving forward. The energy in the room that day was palpable, and I left Folly Farm more excited than ever about the transformative role the Center for Innovative Medicine is playing.

In this issue of *Breakthrough*, you'll read some of those transformation stories. In our cover article, for example, you'll find out how Dr. Mike Fingerhood is making a big dent in the nation's opioid addiction crisis right here in the neighborhoods surrounding Johns Hopkins Bayview (p. 2). He and his colleagues have developed a comprehensive new model of care – one that is already saving lives by combining better addiction screening with improved treatment and follow-up.

If that's not enough to make you feel more optimistic, then be sure to check out "Celebrating 10 Years of the Aliko Initiative" on p. 6. Made possible by a visionary gift from philanthropist Aliko Perroti, this initiative – dedicated to advancing "good doctoring" and patient-centered care – has made an enormous impact at Johns Hopkins over the last decade. And its reach doesn't stop at our walls. I'm pleased to let you know that elements of the Aliko model are now being adopted by hospitals and programs across the country and around the world.

In other good news, we will also soon be exporting important lessons learned through the CIM's Miller Coulson Academy of Clinical Excellence. As you may recall, this academy was created nine years ago as a "working academy" to recognize and promote those at Johns Hopkins who exemplify what it means to be a great doctor. The academy now includes 70 of the institution's top physicians, who daily serve as role models to medical students and trainees. Soon we'll share their expertise with medical professionals around the globe with the launch of a new website: CLOSLER (a portmanteau of "Closer" and "Osler"). I invite you to read more about what the site will offer in "Getting Closer to Osler" on p. 18. And to be sure to visit CLOSLER once it goes live in early 2018.

Feeling more upbeat about the future of health care? I hope so. As we approach the holiday season, please be assured that thanks to your unflagging support, the Center for Innovative Medicine will continue its mission of transformation in the months to come.

*David B. Hellmann, M.D.*

**2** **Breaking the Cycle of Opioid Dependence**  
Michael Fingerhood and his team are redesigning opioid-related care delivery from top to bottom.

**Celebrating 10 Years of the Aliko Initiative**  
In the decade since it was launched, the program has flourished and its impact has come to be felt well beyond Johns Hopkins.

**10** **Building Resiliency as We Age**  
Why do some older people bounce back from serious medical procedures while others don't?

**Making Space for Big Ideas**  
Last August's CIM annual retreat offered an unparalleled opportunity to trade ideas and share thoughts.

- 15** Expanding Our Definition of Diversity
- 18** Miller Coulson Academy Goes Digital
- 20** Autoimmunity and the Gut

**6**

**12**

**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.

**CO-FOUNDERS**

David Hellmann, M.D., *Director*  
Richard Paisner, J.D.

**CHAIR OF INTERNATIONAL ADVISORY BOARD**

Stephanie Cooper Greenberg

**COMMITTEE**

- Richard G. Bennett, M.D.
- Scott Berkowitz, M.D.
- Clifton O. Bingham III, M.D.
- Tina L. Cheng, M.D.
- Colleen Christmas, M.D.
- Lisa Cooper, M.D.
- Michelle D'Alessandro, R.N., D.N.P.
- Chris Durso, M.D.
- Elliot Fishman, M.D.
- Panagis Galiatsatos, M.D.
- Kirsten Gercke, M.P.A.
- Khalil G. Ghanem, M.D., Ph.D.
- Rebecca Gottesman, M.D., Ph.D.
- Jeremy Greene, M.D., Ph.D.
- Dan Hale, Ph.D.
- Nadia Hansel, M.D.
- Hilary Hatch, Ph.D.
- Jennifer Haythornthwaite, Ph.D.
- Melissa Helicke, M.B.A.
- Eric E. Howell, M.D.
- Jacky Jennings, Ph.D.
- Erica Johnson, M.D.
- Jill Kearney, M.H.A.
- Landon S. King, M.D.
- Steven Kravet, M.D.
- Bruce Leff, M.D.
- Rafael H. Llinas, M.D.
- Constantine Lyketsos, M.D.
- Tyler Mains, M.D.
- Francoise Marvel, M.D.
- Pankaj Pasricha, M.D.
- Cynthia S. Rand, Ph.D.
- Charles Reuland, Sc.D.
- Antony Rosen, M.D.
- Carol Sylvester, R.N.
- Michael T. Smith, Jr., Ph.D.
- Ashlyn W. Sowell, M.Ed.
- Jeremy D. Walston, M.D.
- Scott M. Wright, M.D.
- Jonathan M. Zenilman, M.D.
- Roy C. Ziegelstein, M.D.

BREAKTHROUGH is published by The Johns Hopkins Medical Institutions, Baltimore, MD 21287-2101.

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

**on the web**

If you'd like to learn more about the Johns Hopkins Center for Innovative Medicine, please visit our website: [hopkinscim.org](http://hopkinscim.org) or follow us @Hopkins\_CIM

## Breaking the Cycle of Opioid Dependence

Even before Michael Fingerhood arrived for his residency at Johns Hopkins Bayview Medical Center (then Francis Scott Key Medical Center) in 1986, he knew that he wanted to devote his career to caring for people with opioid use disorders.



As a medical student in the Bronx, Fingerhood often witnessed patients who happened to be heroin users. “They’d be admitted for fevers or for local infections at their injection sites, and once that problem was solved, we’d discharge them and say, ‘See you later,’” he recalls. “We didn’t seem to address why they were injecting drugs. I thought: Why can’t we do something about this?”

In 1993, when he was just a few years out of residency, Fingerhood persuaded the Johns Hopkins Bayview Medical Center board of trustees to invest in a small outpatient clinic dedicated to providing primary care to patients with addiction. In the years since then, Fingerhood has built one of the country’s most respected chemical dependence clinics. One of the clinic’s central tools is buprenorphine, an under-the-tongue medication that blocks cravings for opioids. That treatment model is not new – buprenorphine was synthesized more than 40 years ago – but until recently, federal regulations made it difficult for outpatient practices to treat more than a handful of patients at a time.

Now Fingerhood and his colleagues are demonstrating that it can be done at scale: As of October 2017, they have more than 600 patients being treated for opioid use disorder with the use of buprenorphine. The need for this kind of simple treatment is obvious, Fingerhood says: The national crisis has grown worse each year, with more than 52,000 lives lost to opioid-related overdoses in 2016. Maryland has not been immune: During the first three months of 2017, there were 473 opioid-related deaths in the state, up from 132 during the comparable period a decade earlier.

But Fingerhood’s clinic is about much more than buprenorphine. He and his colleagues are trying to redesign opioid-related care delivery from top to bottom. Fingerhood hasn’t forgotten the questions that first bothered him in the Bronx in the 1980s: What do you do with an opioid-dependent person when he or she is discharged from the hospital? In a severely fragmented health care system, how can we help people find their way to the treatment they need?

To that end, Fingerhood has worked with colleagues across the Bayview campus to design new models of care for opioid disorders. Together with other attending physicians in his service, Fingerhood has tightened protocols to help keep patients from getting lost after they’re discharged from Bayview’s inpatient chemical dependence unit. They’ve deployed community health workers to stay in contact with patients in their homes. They’ve developed interventions for formerly opioid-dependent people who’ve just been released from jail – a point when the risk of overdose is high. Most ambitiously, they’ve built new systems for screening all patients in Bayview’s Emergency Department for opioid-use disorders.

“We put the new screening protocol into place at the end of June,” says Carol Sylvester, vice president for care management services at Bayview. “When patients are identified as opioid-dependent, they’re referred to Dr. Fingerhood’s clinic and others in Baltimore City for follow-up. In the month of August, 43 percent of patients who received referrals for treatment showed up for the follow-up visit with treatment programs.”

**“When you screen someone and find that they’re using opioids, there’s usually a lot of emotion in that conversation,” says Fingerhood. “You can tell someone, ‘I can help your tomorrow be better than today, if you’d like to try.’”**

CONTINUED ON PAGE 4

Fingerhood would like to push this model even further, and to train emergency department doctors not only to offer referrals but actually to initiate treatment on the spot.

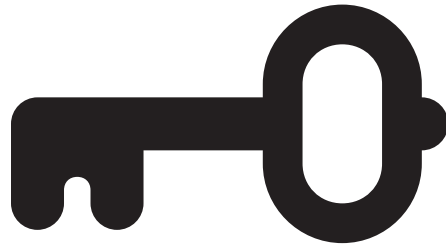
“When you refer someone out, you’ve often lost them,” he says. “You’ve lost the moment of impact. When you screen someone and find that they’re using opioids, there’s usually a lot of emotion in that conversation. You can tell someone, ‘I can help your tomorrow be better than today, if you’d like to try.’” Giving an initial dose of buprenorphine during that very first encounter, Fingerhood says, can be a powerful tool. When a patient experiences a day without cravings, the idea of recovery suddenly seems more tangible.

Sylvester agrees that this approach is worth trying. “We know that we need to have the capacity to offer buprenorphine at the time of the visit to truly help these patients,” she says.

The care delivery integration in Fingerhood’s clinic works in both directions: He also strives to weave together opioid disorder treatment with all the other kinds of medical treatment that his patients receive at Bayview.

“The fact that we’re seeing our patients so frequently for their buprenorphine treatment means that we’re also keeping an eye on everything else,” he says. “If they have hypertension, we’re looking at that. If they have diabetes, I say, ‘Bring in your meter and we’ll look at your numbers.’ If they have HIV, we can check on their medication adherence.”

All of this work has been supported in part by the Center for Innovative Medicine. With future support from CIM donors, Fingerhood says, even greater gains will be possible.



**“The fact that we’re seeing our patients so frequently for their buprenorphine treatment means that we’re also keeping an eye on everything else,” says Fingerhood. “If they have hypertension, we’re looking at that. If they have diabetes, I say, ‘Bring in your meter and we’ll look at your numbers.’ If they have HIV, we can check on their medication adherence.”**

Reducing overdose deaths, Fingerhood says, could be a powerful way of meeting the center’s goal of increasing life spans in the neighborhoods surrounding the Johns Hopkins hospitals.

Some of the patients at Fingerhood’s clinic have been through many cycles of detox, but many others had never previously received any treatment for their addictions. In 2017, opioid-dependent patients come from the full spectrum of society: urban, suburban, affluent, marginalized. Whatever the patient’s background, Fingerhood trains his staff members and residents to offer a maximum of comfort and a minimum of stigma. He never

delivers fire-and-brimstone sermons about the risk of fatal overdose. Instead, he offers respect and hope.

Even if patients don’t enroll during the initial consult, he says, “We’ve planted a seed. About a year ago, I saw a woman with diabetes who was clearly terribly abusing prescribed opioids. I said, ‘What about trying buprenorphine?’ And she said, ‘No, no, no. You don’t understand. This is for pain.’ And she walked out without making a follow-up appointment. But six or eight months later, I came in one day and there she was on my schedule. She’s on buprenorphine now and doing very well.”

Buprenorphine was originally synthesized by chemists who hoped to create an opioid painkiller with a diminished risk for overdose. A few years later, in 1978, Donald Jasinski, the founder of Johns Hopkins’ chemical dependency program, co-authored the first paper to identify buprenorphine as a potential aid in treating people with existing opioid addictions. It was not until 2000, however, that the federal government began to permit primary care physicians to prescribe the drug for that purpose. There were originally tight strings on the therapy, but the rules have recently become more flexible. Fingerhood believes primary care doctors across the country should embrace the practice.

“If you regularly prescribe oxycodone, if you regularly prescribe morphine,” Fingerhood says, “you may not realize it, but eventually you’re going to create someone with an addiction. And that means you should feel an obligation to help that person get out of their mess.”

But even as the tide of overdose deaths continues to rise, few primary care doctors feel comfortable offering treatment for opioid dependence. Kelly Dunn, an associate professor of psychiatry and behavioral sciences at Johns Hopkins, co-authored a 2017 study that explored why so few primary care

physicians – even those who have been through the training – prescribe buprenorphine. One of the primary reasons offered by doctors is that they didn’t feel they had time available to take on new patients or to do this work adequately. “Quite a few more resources are being mobilized to deal with the opioid crisis,” Dunn says, “but we still haven’t found a model that primary care doctors feel fully comfortable with.”

Sylvester agrees. Even with buprenorphine therapy, patients fighting addiction still need counseling to help them make behavioral changes. “And if as a doctor you’re only being scheduled for a 15-minute appointment,” Sylvester says, “you may feel that you just don’t have the time. Maybe primary care practices with robust support from allied health professionals can do it, but many don’t have that resource.”

Fingerhood acknowledges that those structural barriers are real. But he also believes some primary care doctors avoid opioid use disorder treatment because of sheer ignorance and stigma. “Some doctors think, ‘I don’t want to have that kind of person in my waiting room,’ he says. “But those patients are already in your waiting room, and you’re not treating them.” ■

**“If you regularly prescribe oxycodone, if you regularly prescribe morphine, you may not realize it, but eventually you’re going to create someone with an addiction. And that means you should feel an obligation to help that person get out of their mess.”**

Michael Fingerhood



## Celebrating 10 Years of the Aliko Initiative

Ten years ago, thanks to a generous and visionary gift from philanthropist Aliko Perroti, the Aliko Initiative was launched at Johns Hopkins Bayview Medical Center by the Center for Innovative Medicine, creating a new model for the way young doctors today should be trained.

The goal of the Aliko Initiative is beautiful in its simplicity: to give medical trainees the time they need to get to know their patients as people. By talking with patients and their families, by calling and making home visits once these patients are discharged from the hospital, Aliko trainees and medical students can see just how patients are doing – and make it more likely for them to get and stay well.

In the decade since it was launched, the Aliko Initiative has flourished, and its impact has come to be felt well beyond Johns Hopkins Bayview. To celebrate the program's anniversary, we bring you 10 highlights of the Aliko Initiative's first 10 years:

### 1 More than 100,000 patients have been touched.

Each member of the internal medicine house staff at Bayview (about 15 to 20 doctors per year) participates at some point in his or her training in the Aliko Initiative. These medical residents then carry what they learn to all other experiences, including the other general medical services and intensive care units.

"So basically, the Aliko experience touches every internal medicine house officer here at Bayview," says cardiologist Roy Ziegelstein, who is co-director of the program. "If you think about it that way, the Aliko Initiative has permeated the entire teaching service and affected all patients admitted to the Department of Medicine over the past 10 years."

And Ziegelstein doesn't stop there: "I would say the impact is even greater than 100,000 patients," he says. "Because the graduates who leave our residency programs take with them what they've learned to other institutions and practice settings. So the true number of patients impacted is almost impossible to estimate."

### 2 New collaborations have broadened the Aliko Initiative's impact on medical education.

"An important part of knowing a patient as an individual is understanding his or her spiritual needs as well," notes Cynthia Rand, a professor of medicine and also co-director of the Aliko Initiative. Toward that end, members of the chaplaincy trainee program at Bayview have begun serving on the Aliko team, together with medical residents. "It's a

natural alliance for a program that is focused on the whole patient," says Rand, since chaplaincy trainees – who talk closely with patients about their spiritual concerns – gain insights into a patient's life that can then be shared with the medical team.

More recently, components of the Aliko model were applied in the training program for medical house staff in the ICU and cardiac ICU. When patients are critically ill and often unable to communicate, their stories can get lost. Through this new initiative, trainees learn the importance of including family members when discussing the patient's goals of care, Rand explains. Just as important, she says, "the trainees learn to document that information in the medical record so that it doesn't get lost as the patient moves to the next point of care."

Nursing, too, has been drawn into the Aliko program, with the addition of a "nurse attending" on the patient care team during medical rounds. Because nurses are on the front lines of patient care, "nursing has a great deal to teach the medical team," says Rand.

### 3 Aliko faculty have become leaders across Johns Hopkins Medicine.

Faculty members who train young doctors in the Aliko Initiative curriculum also hold important leadership positions across Johns Hopkins. Consider the case of Laura Hanyok, who completed her residency training at Bayview and now directs the faculty development program of the Aliko Initiative. She was recently appointed assistant dean for graduate medical education. She is just one of many faculty members who are extending the reach and impact of the patient-centered Aliko mission across Johns Hopkins.

"Whenever people become leaders in medical education or clinical care, they have the potential to influence how medicine is practiced and how it's taught to the next generation of doctors," says Ziegelstein, who himself is the vice dean for education at the school of medicine.

**"So basically, the Aliko experience touches every internal medicine house officer here at Bayview. If you think about it that way, the Aliko Initiative has permeated the entire teaching service and affected all patients admitted to the Department of Medicine over the past 10 years."**

Roy Ziegelstein

### 4 The Aliko Initiative has gained honor in Greece.

Earlier this year, the prestigious Pro Bono Humanum Award was bestowed upon Aliko Perroti "for her domestic and international contribution in the fields of Health, Social Medicine and Education." The humanitarian award, which comes under the auspices of Prix Galien Greece (an international awards program that promotes significant advances in pharmaceutical research), recognized Mrs. Perroti's important contributions in her home country, where her philanthropy made possible the Konstantopoulou General Hospital N. Ionia and the expansion of the American Farm School.

The award also praised Mrs. Perroti for her humanitarian work abroad, specifically mentioning the Aliko Initiative at Johns Hopkins Bayview, "which places the patient at the center of medical education, research and care."

CONTINUED ON PAGE 8

**The Aliki Initiative has garnered notice in leading scholarly journals.**

Johns Hopkins faculty members have written many articles about the initiative, which have appeared in a wide variety of important publications – including the *New England Journal of Medicine*. Perhaps most notably, Roy Ziegelstein, the Sarah Miller Coulson and Frank L. Coulson, Jr. Professor of Medicine, coined the term “personomics” in a viewpoint piece he wrote for the *Journal of the American Medical Association*. Noting that “precision medicine” is the leading force in medicine today, with its reliance on genomics, proteomics and other so-called “-omics”, along with big data and cutting-edge technology, he emphasized the importance of adding “personomics” to the precision medicine toolkit – the study of the unique person at the heart of the data.

“Physicians-in-training must learn all aspects of precision medicine, and they must be provided the time, opportunity and resources needed to master personomics and to understand and appreciate its importance to patient care,” he wrote.

The personomics concept has caught on well beyond strictly medical circles. In fact, Johns Hopkins University President Ronald Daniels was so taken with it that he cited personomics and Roy Ziegelstein in his universitywide commencement address last spring. While it’s important to understand the “collective evidence” in all that you examine, Daniels told the Class of 2017, “you must never lose sight of the incredible richness of the human story.”

**The Aliki Initiative was featured in an influential book by a prize-winning author.**

When Kenneth Ludmerer, M.D. ’73, set out to write a prescription for fixing the system for graduate medical education, the noted medical historian turned to the Aliki Initiative as a model. As Ludmerer has written: “The Aliki Initiative is the most important innovation in graduate medical education in a generation.”

In his book, *Let Me Heal: The Opportunity to Preserve Excellence in American Medical Education*, Ludmerer discusses how improving resident training in the United State is key to improving our broken health care system. Key to that training, he argues, is giving young doctors the time they need to get to know their patients as people. When discussing *Let Me Heal* at national meetings, says Cynthia Rand, “Dr. Ludmerer has said without any hesitation that the Aliki Initiative should be adopted by every hospital and medical school in the country.”

**Hospitals and programs across the country have adopted elements of the Aliki Initiative.**

The Aliki curriculum is publicly available online through the MedEd Portal, making it widely accessible to medical training programs everywhere. In addition, Aliki faculty leaders and alumni are frequently called upon to give talks at leading medical conferences. Among those institutions that have already incorporated parts of the Aliki curriculum are the University of

Virginia and Brown University. Aliki concepts have also been presented (or will soon be presented) at Grand Rounds at New York University, Yale University, Stanford University, Brown University, the University of Virginia and at Johns Hopkins All Children’s Hospital in Florida.

**The Aliki Initiative has achieved a global reach with patients.**

Over the 10 years of the program, Aliki graduates have gone on to serve as doctors at hospitals and academic medical centers across the country – from Maine to California – and around the globe: in far-flung locations, including Nepal, South Africa and Thailand. Wherever they go, Aliki alumni take the patient-centric model they trained under with them to share with colleagues and to call upon in their care of patients.

**“Dr. Ludmerer has said without any hesitation that the Aliki Initiative should be adopted by every hospital and medical school in the country.”**

Cynthia Rand

**Numbers speak to the success of the Aliki Initiative.**

Medical students, residents and patients uniformly give high evaluations to the program. In addition:

- 99 percent of graduates report that the lessons of Aliki last for years beyond training.
- Patients with heart failure who were treated on the Aliki Initiative team were 71 percent less likely to be readmitted within 30 days of discharge than their counterparts.

**99 percent of graduates report that the lessons of Aliki last for years beyond training.**

**Aliki Scholars are pushing to advance and broaden the impact of the Aliki Initiative.**

Aliki Scholars are an integral part of the Aliki mission – a cadre of 18 doctors serve as attending physicians on the Aliki Service at Bayview. In addition to overseeing training and education for medical residents and medical students, the Aliki Scholars also meet four times a year to discuss and brainstorm ideas for new innovations in patient-centered care. Thanks to the fresh thinking, commitment and energy of the Aliki Scholars, we can rest assured that the Aliki Initiative will reach new and even greater heights over the next 10 years. ■

**“Physicians-in-training must learn all aspects of precision medicine, and they must be provided the time, opportunity and resources needed to master personomics and to understand and appreciate its importance to patient care.”**

Roy Ziegelstein

# Building Resiliency as We Age

We all know older friends or family members who find themselves in need of a serious medical procedure. For some, it's a hip replacement. For others, it's cardiac surgery or a cancer-related treatment.

Most sail through these procedures and make a quick and resilient recovery. For others, recovery is slow and they don't bounce back. Sometimes a cascade of complications follows.

Why are some older people more resilient than others? That's the question that geriatrician Jeremy Walston, the Raymond and Anna Lublin Professor of Geriatric Medicine, and his team at Johns Hopkins Bayview Medical Center have set out to explore, under a new five-year \$11.5 million grant from the National Institutes of Health (NIH).

"This grant will allow us to identify the biological underpinnings of resilience, which we believe are related to the stress response systems in the body," explains Walston, who co-directs the Biology of Healthy Aging program at Bayview. "Someone who is resilient is more likely to have more stable and less easily broken down stress responses during a stressful period."

**If the researchers can identify biological markers for resiliency, doctors will be able to figure out in advance which patients might be more susceptible to complications – and take preventive measures to ward off those problems.**

Walston and his team will soon be recruiting older patients who are undergoing one of three medical procedures: hip replacement, hemodialysis (for chronic kidney disease) or bone marrow transplant (for hematological cancer).

"Some of these patients will do very well, while others will suffer many complications. We aim to study both groups and identify subsets of biological differences between them," says Walston.

## "Instrumental" Funding

Thanks to funding from Mr. and Mrs. Charles H. Salisbury, Jr., Jeremy Walston and his team were able to establish an earlier research program that focused on measurements of and treatments for chronic inflammation in older adults.

"The Salisburys' philanthropy has helped make it possible to put in place the infrastructure we needed – in terms of staffing and lab equipment – to compete for the \$11.5 million NIH grant," says Walston. "The Salisbury Family Foundation's financial support has been absolutely instrumental to our work."

If the researchers can identify biological markers for resiliency, doctors will be able to figure out in advance which patients might be more susceptible to complications – and take preventive measures to ward off those problems.

Walston believes that an overactive inflammatory system may be involved. "If we do find the inflammatory system is over-responsive in those who are less resilient, we could potentially develop methods to modify that response in susceptible patients *before* they undergo the medical procedure," he says.

He is in fact already working toward that goal of developing a suitable treatment for chronic inflammation – thanks in part through funding from philanthropist Charles H. Salisbury, Jr., a Center for Innovative Medicine International Advisory Board Member, and his wife Bunny Salisbury (see sidebar).

Ultimately, identifying the biological underpinnings of resilience could have a dramatic impact on improving the quality of life for *all* older people. The long-term goal, says Walston, is to keep these stress response systems intact and operating normally as we age. "Through this research, we hope to help people live longer, healthier lives – and to help them bounce back quickly if and when a medical problem does crop up." ■

## Making Space for Big Ideas

Folly Farm is just 22 miles from downtown Baltimore, but with its rolling green fields and lush trees, the 100-acre rural villa feels worlds away. And that's precisely why Stephanie Cooper Greenberg and husband Erwin L. Greenberg graciously opened their home on August 31 to host the Center for Innovative Medicine's third annual retreat.

"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 Cooper Greenberg, who is chair of CIM's International Advisory Board.



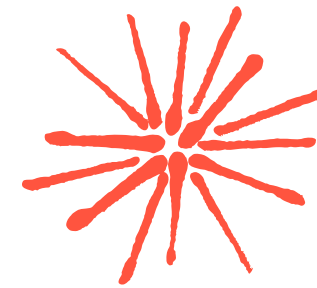
Indeed, with more than 70 people participating from across Johns Hopkins' vast enterprise – representing the fields of medicine, nursing, public health and more – the retreat offered an unparalleled opportunity to trade ideas and share thoughts about how Johns Hopkins can achieve greatness as a public trust over the next several years.

"In our busy lives, we tend to go from meeting to meeting, sticking to our own departments and staying in our own silos," says Johns Hopkins Hospital President Redonda G. Miller, who led the retreat this year. "To have people from different schools and different disciplines, all sitting together in the same room thinking and talking about key issues ... that was absolutely invaluable."

The Greenbergs first hosted the CIM retreat in summer 2015. There were 50 people on the guest list, Cooper Greenberg recalls. "It took our breath away – to see people from so many Johns Hopkins disciplines who were so eager to engage with one another and work across departments, diseases and boundaries. My immediate thought was: We need to make this an annual event."

The theme for this year's retreat was inspired by the hit musical *Hamilton* – the song "History Has Its Eyes on Us" and the lyrics, "The Room Where It All Happened." As Cooper Greenberg and CIM Director David Hellmann noted in their invitation to the retreat, "With history's eyes on us, let's aim high and enjoy. Let's be in 'the room where it all happened!'"

And indeed, a lot did happen during the nearly daylong event, which started with an early breakfast and stretched into the afternoon. The retreat featured an opening perspective by Sarah Hemminger, founder and CEO of Baltimore's Thread, Inc., which engages underperforming high school students by connecting each one with an extended "family" of committed volunteers – up to five volunteers per student – for nearly 10 years.



Launched in 2004, Thread is already changing the fabric of Baltimore, Hemminger noted: 87 percent of students who have been in Thread for five years have graduated from high school and 84 percent have been accepted to college. It's worth noting that many of the 800-plus volunteers in Thread have Johns Hopkins connections – as students, faculty members and alumni.

**"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!"**

Stephanie Cooper Greenberg

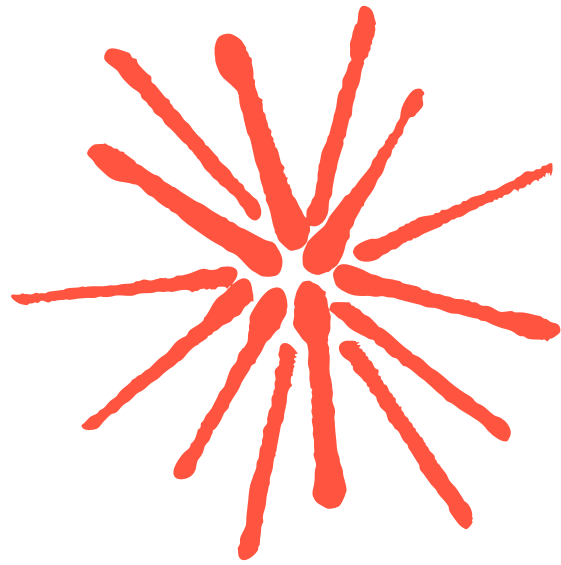
Those at the retreat also heard from Mercedes Ferandes, a recent graduate of the MERIT Health Leadership Academy, which is focused on transforming underrepresented high school students in Baltimore into health care leaders. "She is only a sophomore in high school and already she has her sights set on becoming a doctor and treating HIV. She is the future," says Cooper Greenberg.

Both presentations inspired thinking around one of the retreat's central issues of focus: How can we better tackle health disparities within Baltimore City by embracing population health? "That's a theme that really resonated with everyone there," says Miller.

CIM has been a leader in partnering with community groups in Baltimore to improve health by addressing health disparities, notably by enthusiastically supporting Medicine for a Greater Good and Centro Sol. CIM's aim now is to focus

CONTINUED ON PAGE 14





these programs and launch new ones to increase health outcomes and life expectancy for the disadvantaged who are living in the neighborhoods surrounding Johns Hopkins.

Along those lines, participants in two small groups focused on this issue. They discussed the fact that those born in poverty in Baltimore City live on average to age 61, while those with resources make it to age 82. What steps can be taken to improve the health odds of those living in poverty? While proposed solutions were wide-ranging, says Miller, most people agreed: “We need to think outside our historical model, where patients are sick and

they come to us to be treated, and instead move toward preventing illness by focusing on the social determinants of health.”

Throughout the morning, retreat participants also discussed and brainstormed around two other vital issues:

- *Precision medicine*, and how it can be harnessed to improve patient outcomes by meeting a specific unmet medical need.
- How CIM can build on its leadership in recognizing, defining and rewarding “*great doctors*” at the senior level (through the Miller Coulson Academy for Clinical Excellence) by creating a pathway for clinical excellence for physicians during their first five years at Johns Hopkins. Among other questions discussed: “Could support for great clinicians be embedded in the development of service line models?” And, “What are we currently doing to identify individuals early on who will grow to become clinicians with distinction?”

As she sat in on small-group sessions and the full group wrap-up, Cooper Greenberg says that the spirit of synergy that filled the room was overwhelming. “It’s a really collaborative environment,” she says. “No one over speaks or steals the spotlight. People really listen to one another.”

Miller agrees and says she can’t wait to attend the retreat again next year. “It’s so energizing,” she says. “The CIM retreat creates a safe space to think outside the box – and to share thoughts that could be considered controversial or even crazy.

“If you’re going to have a big idea,” she says, “you need that kind of space.” ■

**“To have people from different schools and different disciplines, all sitting together in the same room thinking and talking about key issues ... that was absolutely invaluable.”**

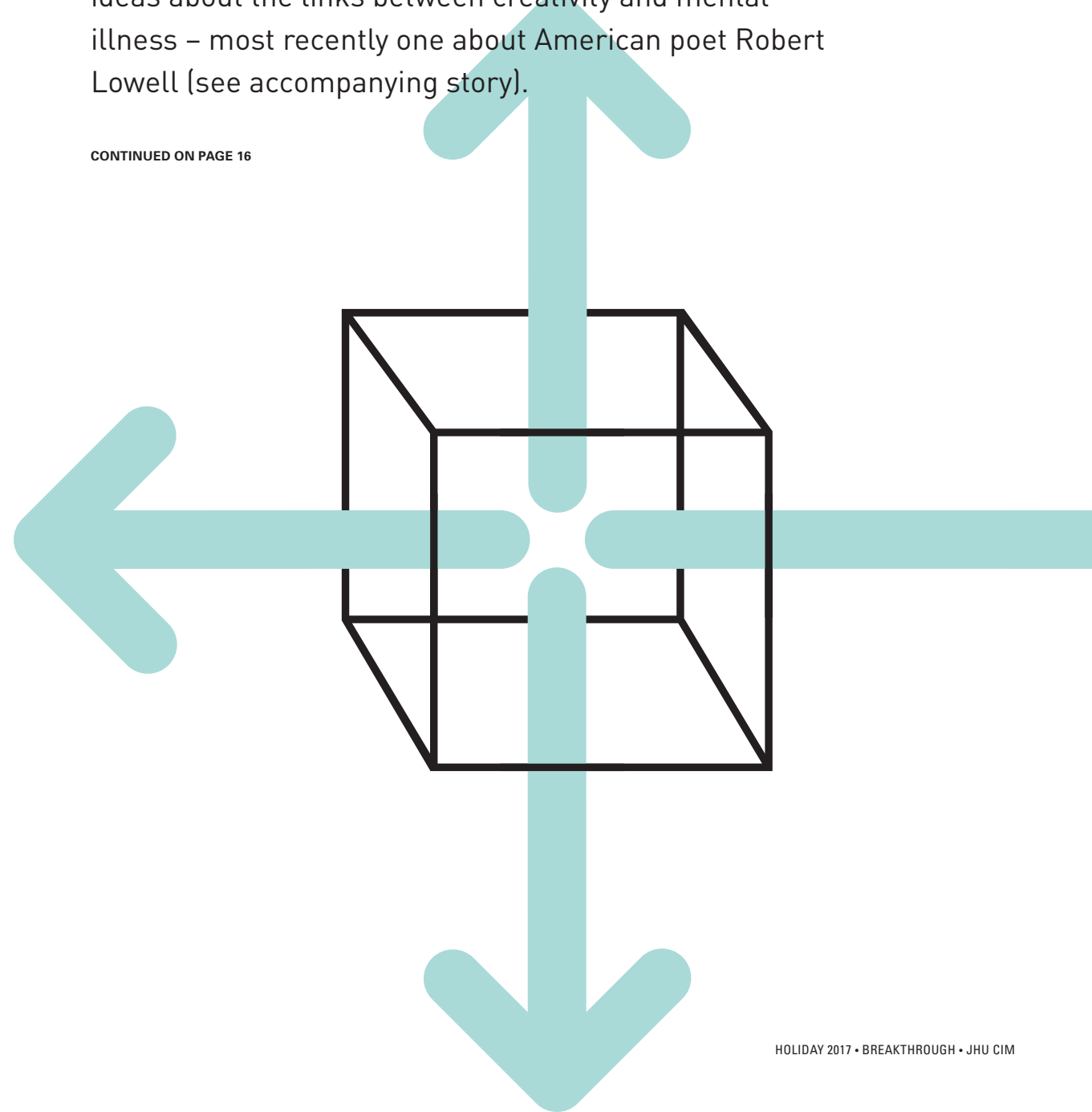
Redonda G. Miller

## Expanding Our Definition of Diversity

Johns Hopkins psychologist Kay Redfield Jamison, the Dalio Professor of Mood Disorders, has forged an influential career by thinking outside the box.

The recipient of a MacArthur “Genius Grant,” she’s written several well-received books that offer thought-provoking ideas about the links between creativity and mental illness – most recently one about American poet Robert Lowell (see accompanying story).

CONTINUED ON PAGE 16



**“When it comes to medical school admissions, people with mental illness are pretty much ruled out, and this has had real consequences. We are excluding people from the field of medicine who have some very interesting ways of thinking.”**

Kay Redfield Jamison

As someone who has lived with manic depression (bipolar disorder) since early in her academic career – she was diagnosed soon after joining the UCLA faculty as an assistant professor in the early 1970s – Jamison knows firsthand the challenges the illness can present. But, she points out, there are also positives. And it’s precisely these positives that have led to her latest outside-the-box idea, which she shared in early October at the Center for Innovative Medicine Board Retreat. “When it comes to medical school admissions, people with mental illness are pretty much ruled out, and this has had real consequences,” she says. “We are excluding people from the field of medicine who have some very interesting ways of thinking.”

“If we want to achieve true diversity in medicine,” Jamison says, “we must begin talking about ways to identify and admit people with mental illness to medical school.”

There are certain kinds of temperaments, Jamison goes on to explain, that are more frequently associated with bipolar disorder and depression. “People with these illnesses often have a fiery curiosity. They are risk takers. And in academic

medicine, we need this kind of temperament: People who are willing to take risks, both intellectually and scientifically. People who are willing to push the envelope by asking new questions.”

In addition, and crucially important to the goal of good doctoring: Those with mental illness have a deep understanding of what it’s like to live with suffering. “They learn from this suffering and can bring it into their work with patients,” she says.

But under the current medical school admissions system, there is no systematic effort to identify and attract candidates with mental illness. In fact, the system is set up to exclude them, Jamison says. “If you’ve taken a semester or two off for hospitalization for treatment for bipolar disorder, you almost certainly won’t be considered,” she says, “which is unfortunate since these are relatively common illnesses and they are very treatable.”

While conceding that there are no “easy answers” for changing the current system, Jamison would at least like to get the conversation started, perhaps with a national summit meeting right here at the Center for Innovative Medicine at Johns Hopkins.

“We need to seriously start talking about this,” says Jamison, “and to expand our definition of ‘diversity’ in medical school admissions to include people with mental illness.” ■

**“We need to seriously start talking about this, and to expand our definition of ‘diversity’ in medical school admissions to include people with mental illness.”**

Kay Redfield Jamison

## Taking the Ache Away

Kay Redfield Jamison found a rapt audience when she delivered the 2017 annual Miller Lecture in May. The focus of her talk was powerful indeed: the experience of “losing your mind” – and the important relationship between doctor and patient that is needed for true healing. Calling on insights shared in her most recent book, *Robert Lowell: Setting the River on Fire*, she also examined the restorative role that writing has played for writers and poets (like Lowell) who have struggled with mental illness.

Jamison, who is the Dalio Professor of Mood Disorders at Johns Hopkins, noted that manic depression, or “mania,” was described long before Hippocrates as a sort of “burning passion” or “ferocity without fever.” While flowers and herbs were used to treat mania in the 1500s, methods grew much less humane by the 1700s. As evidence, she shared disturbing images of shackles and chains, and a close-topped iron “restraining crib” – tools commonly used during that time to control those in the throes of mania. Fortunately, treatments improved over the ensuing centuries and today include medications (such as lithium, anticonvulsants and antipsychotics), electroconvulsive therapy and psychotherapy.

It is this last, psychotherapy, that proved critically important in the wake of World War I for soldiers beset by “shell shock” from what they’d experienced on the battlefield. “They had, quite literally, lost their minds,” notes Jamison. Into the breach jumped Dr. W.H.R. Rivers, a British psychiatrist (he founded the *British Journal of Psychology*), who specialized in treating such soldiers. Among his patients was Siegfried Sassoon, one of the period’s great poets.

The two developed a close doctor/patient bond that proved critical to Sassoon’s ultimate healing. Rivers explained his approach to psychotherapy this way: “The doctor should make intolerable memories tolerable; he should use the controlled reflection of horror to understand what the patient has been through, to allow him to meet the horror in his own strength.”

Jamison underscored for her listeners that when it comes to mental illness, “there’s a difference between treatment and healing. Healing requires patients to be actively involved, and it demands an almost mystical relationship between patient and doctor.”

Fast forward 30 years to the rise of Lowell as one of America’s leading postwar poets. Lowell struggled with manic depression all his life. Frequently hospitalized, subjected to electric shock, and later heavily medicated with chlorpromazine and lithium, Lowell lived through periods of exultant mania and ensuing deep depression, notes Jamison.

Like Sassoon, Lowell used writing as a way to distance himself from the horror he experienced. “Writing fell to me like a life preserver,” he told one doctor in the mid-1950s. And in a 1976 letter to a friend, he penned, “How often writing takes the ache away.”

**“Writing brings structure to disorder, provides escape and mastery, gives vocation and salvation, and resurrects and renews.”**

Kay Redfield Jamison

“Writing heals,” affirmed Jamison, to those assembled for the Miller Lecture: “Writing brings structure to disorder, provides escape and mastery, gives vocation and salvation, and resurrects and renews.”

Lowell appears to have welcomed the earliest stirrings of oncoming mania as much as he dreaded them. As Jamison notes in her book, the words and ideas mania revealed were a creative trove. “I write my best poetry when I’m manic,” he once professed. Later he wrote: “Darkness honestly lived through is a place of wonder and life. So much has come from there.”

## Miller Coulson Academy Goes Digital

Launched nine years ago, the Miller Coulson Academy of Clinical Excellence at Johns Hopkins has now grown to include more than 70 of the institution's top doctors.

These are clinicians who exemplify what it means to be a great doctor: They take the time to ask questions and listen; they are good at explaining, and are discerning and wise; they have a wonderful bedside manner and always put the patient first. Because the Miller Coulson Academy is a "working academy," these exemplary doctors have become role models to medical students and trainees across Johns Hopkins, who are able to watch and learn from them every day.

Soon the impact of the Miller Coulson Academy and its scholars will be felt far beyond Johns Hopkins, with the launch of a new website. Dubbed CLOSLER (a portmanteau of "Closer" and "Osler"), it will provide the latest news and perspectives about clinical excellence to doctors all over the country and around the world.



"We learn so much by watching great people," says internist Scott Wright, director of the Miller Coulson Academy and the Anne G. and G. Thomas Miller Professor of Medicine. "We aim to take the outstanding role models we have right here and share them far beyond the confines of Johns Hopkins."

"The idea is to create a 'community of practice,'" adds psychiatrist Meg Chisolm, a Miller Coulson Academy scholar and website planner. "Studies suggest that people learn best when they are part of a learning community where they can share and exchange information and resources, and be exposed to role models."

**"As doctors, we are being deluged by an explosion of science and technology. Now more than ever, we need to hold up doctors who are devoted to the human side of medicine as role models for the world."**

Meg Chisolm

The new website will include original content submitted by Miller Coulson scholars and other exemplary doctors. It will also feature "curated content" – pertinent articles from the *New York Times*, *Wall Street Journal* and other publications that offer thought-provoking insights and perspectives on great doctoring.

The goal is nothing less than to make CLOSLER the "go-to" site for physicians and doctors-in-training around the world, whether they are working at a busy hospital in Idaho or a remote clinic in Zimbabwe.

When they log on, they'll find content organized around four central "buckets" that are so crucial to clinical excellence: connecting with patients, clinical and diagnostic reasoning, maintaining passion in medicine, and the importance of lifelong learning. These are areas where Miller Coulson fellows have been making their mark at Johns Hopkins. "Now we aim to scale up what we are doing here to doctors everywhere," says Chisolm.

As it evolves, planners expect CLOSLER to offer resources such as a monthly book club, a "question of the week" and monthly webinars on important issues that will be hosted by Miller Coulson Academy scholars.

CLOSLER, which will go live by early 2018, will fill an important void: Just as the Miller Coulson Academy was the first of its kind, the website will be the first online resource devoted to clinical excellence, its planners say.

And it's crucial to get this information out there now. "There's a sense of urgency," says Chisolm. "As doctors, we are being deluged by an explosion of science and technology. In the face of the computer in the exam room, and all the data we must focus on, there's been an erosion of good clinical practice. Now more than ever, we need to hold up doctors who are devoted to the human side of medicine as role models for the world."

Fittingly enough, the new website is named for William Osler, the "father of modern medicine" and one of the "Big Four" founding professors at Johns Hopkins Hospital. He famously admonished his colleagues to "care more for the individual patient than for the special features of his disease."

Explains Wright with a smile, "With the new website, CLOSLER, we aim to get 'closer' to 'Osler.'" ■

## Autoimmunity and the Gut

Week after week, Pankaj “Jay” Pasricha and his Johns Hopkins colleagues at the Amos Food, Body and Mind Center see patients whose lives have been turned upside down by motility disorders.

While their symptoms may vary, all of these patients have one thing in common: the nervous system of the gut, known as the “enteric nervous system,” has gone awry. The result? These patients – men and women, young and old – must cope daily with debilitating chronic symptoms, including abdominal pain, bloating and distention, nausea and vomiting, and diarrhea and constipation.

Many patients who suffer from motility disorders have seen specialist after specialist, over many years, only to be told that the cause of their pain and discomfort is unknown.

When they arrive at the Amos Center, they find hope. Launched in 2014 with the help of a generous gift provided by Mrs. Courtney Amos and Mr. Paul S. Amos, the center is one of a few places in the world dedicated to studying the links between diet and disease, and also the role of good and bad bacteria in making us sick and keeping us healthy.

“In the Amos group, we are working to figure out what causes the motility disorders our patients come to us with, so we can work toward finding the best treatments,” says Pasricha, who is also director of the Center of Neurogastroenterology at Johns Hopkins.

“Part of this process,” he explains, “is identifying patterns of symptoms that occur together in certain patients, which provides clues into what the underlying cause may be and helps point us in the right direction in terms of selecting a treatment.”

Recently, Pasricha has described a new syndrome based on his team’s observations of a particular subgroup of patients. He’s dubbed this syndrome “JAG-A,” for the conditions it encompasses. The acronym stands for:

- **Joint hypermobility**  
or any type of connective tissue disease, such as Ehlers-Danlos syndrome
- **Autonomic dysfunction**  
such as postural orthostatic tachycardia syndrome, or POTS, which involves an abnormal heart rate increase upon standing
- **Gastrointestinal dysmotility**  
such as gastroparesis or slow-transit constipation
- **Autoimmunity**  
or predisposition to any underlying autoimmune disease

**The Amos Center is one of a few places in the world dedicated to studying the links between diet and disease, and also the role of good and bad bacteria in making us sick and keeping us healthy.**

“Describing the JAG-A syndrome and the criteria by which a patient may fit into the group has helped us identify patients who may have an underlying autoimmune problem that is contributing to or causing their motility disorder,” says Pasricha.

**Many of those who have completed a four-month trial of IVIG infusions have reported significant improvement in their motility symptoms. “This lends support to our hypothesis of an underlying autoimmune condition at least in some patients with motility disorders,” says Pasricha.**

“This has helped guide our decision to treat them in a new and different way—with an infusion medication called IVIG.”

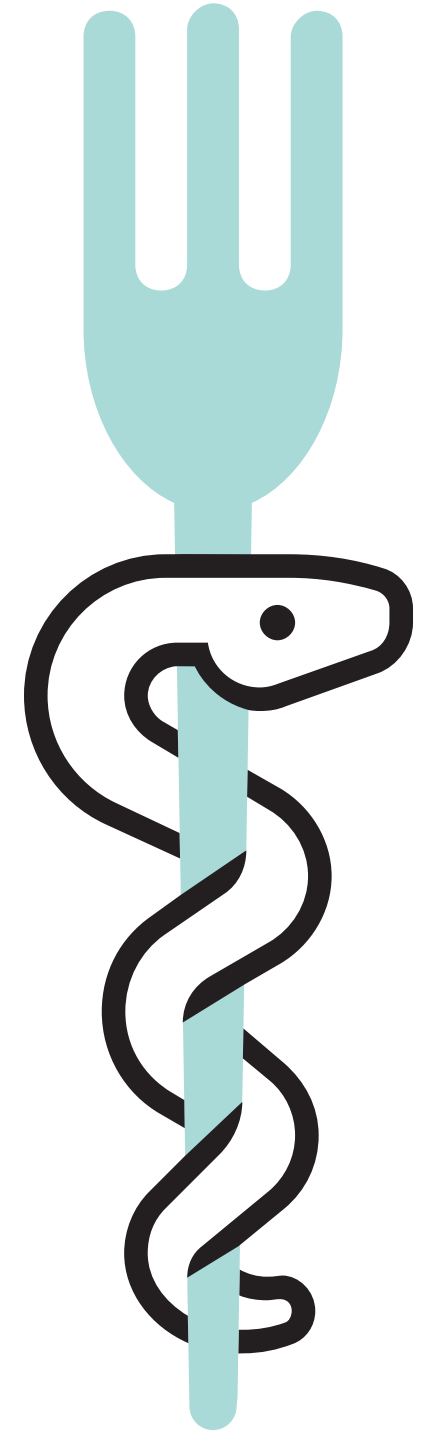
Doctors have typically used IVIG to treat immunodeficiencies, certain inflammatory conditions and nervous system conditions, such as Guillain-Barre or stiff person syndrome. “Currently,” says Pasricha, “its only rarely been tried in patients with motility disorders.”

So far he and his team have treated 10 JAG-A patients with IVIG, “and we anticipate beginning many more in the near future,” he says. The good news? Many of those who have completed a four-month trial of IVIG infusions have reported significant improvement in their motility symptoms.

“This lends support to our hypothesis of an underlying autoimmune condition at least in some patients with motility disorders,” says Pasricha.

The Amos Center team has an ongoing study tracking the progress of patients who undergo IVIG infusion and will be sharing the results of their work once the study is complete.

“Ultimately, we hope to help not only the patients we see but countless others through our research efforts at the Amos Center,” says Pasricha. ■






# Medicine is a public trust

## THE JOHNS HOPKINS CENTER FOR INNOVATIVE MEDICINE

5200 Eastern Avenue  
Mason F. Lord Building  
Center Tower, Room 319  
Baltimore, MD 21224  
410-550-0516

 HOPKINSCIM.ORG

 FOLLOW US @HOPKINS\_CIM

IF YOU DO NOT WISH TO RECEIVE THIS NEWSLETTER,  
PLEASE WRITE TO US AT THE ADDRESS ABOVE.

### FRIENDS OF THE JOHNS HOPKINS CENTER FOR INNOVATIVE MEDICINE

**“In our busy lives, we tend to go from meeting to meeting, sticking to our own departments and staying in our own silos. To have people from different schools and different disciplines, all sitting together in the same room thinking and talking about key issues ... that was absolutely invaluable.”**

Dr. Redonda G. Miller, Johns Hopkins Hospital President, who led CIM's 2017 retreat

Mr. & Mrs.\* George Aidinis<sup>o</sup>  
Mr. Aristidis Alafouzos\*  
Ms. Monica Goes de A. Mendes De Almeida<sup>o</sup>  
American Legacy Foundation  
Mr. Daniel P. Amos,  
Daniel P. Amos Family Foundation  
Mrs. Courtney & Mr. Paul Amos<sup>o</sup>,  
The Paul & Courtney Amos Foundation  
Ms. Jean Amos  
Anonymous  
Mr. & Mrs. Charles R. Ballard, Jr.  
Mrs. Grace Bender  
Dr. Richard Bennett  
Mr. & Mrs. David Bentz  
Mrs. Caryl<sup>o</sup> & Mr. George Bernstein  
Drs. Joel & Risa Bordman  
Drs. John & Lynda Burton  
Mrs. Joan Carl & Mr. Bernard Carl  
Ms. Dana L. Case RN<sup>o</sup>  
Clearshot Holdings  
Mr. Roger M. Cline  
Mrs. Eleanor Connors\*  
Mr. & Mrs. Hugh C. Cosner  
Mr. Frank L. Coulson\* & Mrs. Sarah Miller Coulson<sup>o</sup>,  
Frank L. & Sarah Miller Coulson Foundation  
Mr. & Mrs. George Coumantaros  
Mr. James Crystal  
Ms. Lavinia Currier  
Mr. & Mrs. Neil Dahlmann  
Mr. & Mrs. Michael J. Davies  
Ms. Mary Neil Donald  
Mr. George C. Doub & Ms. Mary Tyler Doub  
Mr. & Mrs. Juan Eljuri  
Mr. David B. Ford  
Mr. & Mrs. David B. Ford, Jr.  
Mr. & Mrs. Brian Finn  
The family of Mr. & Mrs. Leonard S. Fiori, Sr.  
Lema Corporation  
Mr. Michael Fiori  
Ms. Lenora Irwin

Mr. Seth E. Frank,  
Georges Lurcy Charitable & Educational Trust  
Mr. & Mrs. Bernard Garil, Elmwood Country Club  
The Deane A. & John D. Gilliam Foundation  
Mrs. Suzanne<sup>o</sup> & Mr. William Gooch  
Mrs. Clairborne W. Gooch III  
Mrs. Clare Goodman\*  
Mr. & Mrs. William O. Goodwin  
Mr. & Mrs. Steven T. Gorski  
Mrs. Stuart S. Graham\*  
Mrs. Stephanie Greenberg<sup>o</sup> & Mr. Erwin Greenberg  
Jerome L. Greene Foundation, Inc.  
Dr. Daniel Hale  
Dr. & Mrs. Barry Halpern  
Dr. Ingeborg Hanbauer-Costa  
Mr. Edward Hanmer<sup>o</sup>  
Dr. Sidney Harman\*,  
Harman International Industries  
Dr. & Mrs. David B. Hellmann  
Ms. Virginia Henderson  
Mrs. Wilhelmina C. Holladay<sup>o</sup> &  
Mr. Wallace F. Holladay, Sr.\*  
Mr. B. Judson Honaker  
Mrs. Leslie & Mr. Scott Jacobs<sup>o</sup>  
Mr. & Mrs. Robert J. Katz  
Mr. Christos D. Lambrakis\*  
Mr. & Mrs. L. Douglas Lee  
Dr. Stanley Levenson<sup>o</sup>\*  
Mr. & Mrs. Adam M. Lewis  
Mrs. Fotini Livanos  
Mr. & Mrs. David L. Lowe  
Ms. Ann L. Marsh  
Mr. Harvey M. Meyerhoff  
Mrs. Anne G. Miller & Mr. G. Thomas Miller\*  
Mrs. Leslie A. Miller & Mr. Richard B. Worley,  
Miller-Worley Foundation  
Mr. & Mrs. Fred Mirmiran,  
The Mirmiran Foundation  
Mr. & Mrs. George Miron  
Dr. & Mrs. Mack C. Mitchell, Jr.

Mrs. Betty & Mr. Walter S. Montgomery, Jr.  
The Arkwright Foundation  
Mr. Melvin C. Muntzing  
Mrs. Julie & Mr. C. Patrick Oles, Jr.<sup>o</sup>  
Ms. Mary K. Ousley, RN<sup>o</sup>  
Ms. Jenny Pao & Mr. Bo Shao<sup>o</sup>  
Esther S. Pearlstone<sup>o</sup>,  
The Pearlstone Fund, Inc.  
Mrs. Aiki Perroti<sup>o</sup>  
Mr. Ralph Prettyman  
Mr. Max S. Pudelkewicz & Family  
Mrs. Marjorie S. Roosevelt  
Mr. Robert R. Rosenheim  
Mr. & Mrs. George M. Ross  
Mrs. Robin & Mr. Mark E. Rubenstein<sup>o</sup>  
Mrs. Edith & Mr. Charles H. Salisbury, Jr.<sup>o</sup>  
Dr. Gary P. Schoppert  
Mr. Thomas Selck  
Mr. Alan A. Shuch  
Mr. Neil W. Silverstein  
Mrs. Claudia Serwer<sup>o</sup> & Mr. Michael Skol  
Sonosite, Incorporated  
Mr. & Mrs. Stelios Spiliadis  
Mr.\* & Mrs. Richard L. Storch  
Mr. Ram Sundaram  
Ms. Nina Tao  
Mr. David Tepper  
Mr. & Mrs. James R. Thompson  
Mr. & Mrs. Richard D. Thurman  
Mrs. Mary<sup>o</sup> & Mr. Louis Trotter  
Mr. Dimitris H. Varvatsoulis  
Mrs. Sue & Mr. David Viniar  
Mrs. Meredith & Mr. Peter Wellington  
Ms. Christie Weiner & Mr. Richard Paisner  
Mr. & Mrs. A. Morris Williams  
Mr. & Mrs. Gregory Zehner  
Dr. & Mrs. Jonathan Zenilman

\* Deceased

<sup>o</sup> Johns Hopkins Center for Innovative Medicine  
International Advisory Board Member