breakthrough

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Nurturing the Best and Brightest

Critical Conversations in Advanced Care Planning

The Heart of the Matter

Filling the Gap in Cardio-Obstetrics

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

STAYING YOUNG AT HEART — AND MIND

What's the secret to staying young — or more accurately, staying intellectually young? The more birthdays I celebrate, the more I find myself returning to this question. I've concluded there are three essential keys to maintaining a youthful spirit, and I believe you will find vibrant examples of all three in this issue of *Breakthrough*.

CURIOSITY is the first key. It is the restless, inquisitive drive you'll find in **Elliot Fishman**, the new *Sarah Miller Coulson CIM Scholar*, who is leveraging artificial intelligence to improve the early detection of pancreatic cancer when it is most treatable. You will see it in **Roy Ziegelstein**, our 2026 *Miller Lecturer*, who coined the term "Personomics" — the vital science of knowing the patient as a unique individual. And you'll find it in **Michelle Sharp**, the *Mary Gallo CIM Scholar* and assistant director of CIM, whose seminars have brought polymaths like Alan Alda and Yo-Yo Ma into our orbit.

ADAPTABILITY — specifically the dedication to learning new skills — is the second force for maintaining vitality. **Cindy Rand**, a *Mary Gallo CIM Scholar*, and **Nadia Hansel**, director of the Department of Medicine and *Lavinia Currier CIM Scholar*, recognized that our CIM Scholars program could reach even greater heights by fostering a formal community. Thanks to their vision, we have launched the *Academy for CIM Next Generation Scholars* under the leadership of Bloomberg Distinguished Professor **Theodore (Jack) Iwashyna**, ensuring that mentorship remains at the heart of our mission.

What is the third secret?

LUCK. That is a quality CIM has in abundance. We are immensely lucky to work alongside such brilliant colleagues, and we are most fortunate to have the steadfast support of our readers and donors. Thank you for being part of our "fountain of youth."

David B. Hellmann, M.D.

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.

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Nurturing the Best and Brightest

For the 15 Johns Hopkins faculty members who have recently been selected as *CIM Next Generation Scholars*, the news just keeps getting better. The award, which brings up to $300,000 in funding over three years, has enabled them to continue their innovative work – threatened by federal funding cuts – aimed at advancing medicine as a public trust.

Now, with the launch of the new *Academy for CIM Next Generation Scholars*, these top clinician-researchers will find valuable mentorship and community, acquire valuable communication skills, and explore new models for philanthropic support — all aimed at equipping them to succeed amid an ever-evolving funding landscape in academic medicine.

With six to 10 new recipients expected to be added to the ranks of the Scholars every year, the Academy is quickly becoming a vibrant force, equipped to forge lasting advances for patients at Johns Hopkins and beyond, says **Theodore "Jack" Iwashyna**, a critical care physician and health services researcher who has been tapped to lead the program.

Iwashyna joined Johns Hopkins in 2022 as a Bloomberg Distinguished Professor (see sidebar). A central reason for his recruitment was his ability to contribute to Johns Hopkins recruitment and training of the absolute best in clinician-scientists. Thus his aim and CIM's aim aligned: to prepare cadres of leaders to enact transformational change in health care systems in the U.S. and around the world.

CONTINUED ON PAGE 4

Mentor Extraordinaire

Theodore "Jack" Iwashyna, who sees patients at both The Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center, is a medical intensive care physician whose health services research and clinical epidemiology seeks to improve the way patients (and their families) recover after critical illnesses — including pneumonia, sepsis, COVID-19, respiratory failure and cardiac arrest.

A leading physician-scientist, Iwashyna received the Extraordinary Achievement Award from the American Thoracic Society's Critical Care Assembly last year, and was named to *STAT News*' list of "50 influential people shaping the future of health and life sciences across biotech, medicine, health care, policy, and health tech" in 2025.

"My proudest professional accomplishment is that I have had the privilege of mentoring many clinicians who have gone on to become truly exceptional scientists and scholars," he says. In addition, Iwashyna has served in the role of mentor-the-mentor, "where I've supported some of them mentoring a second generation," he says.

His reach is broad; in addition to guiding many physicians in internal medicine, Iwashyna has mentored doctors from a wide-range of specialties, and other clinicians from across health care, including nurses, pharmacists, a patient care advocate and social scientists.

His close work with the next generation of clinician-scientists has him very concerned about the far-reaching impact of recent cuts to federal grant funding — concerns he shared recently in a *New Yorker* article, "The Unmaking of the American University," by Nicholas Lemann.

Iwashyna noted that even highly rated grant proposals are not being funded on time, leading to delays in potentially life-saving clinical research. As just one example he pointed to work by Johns Hopkins pulmonologist Ashraf Fawzy, a *Next Generation CIM Scholar*. It aims to test Fawzy's hypothesis that the pulse oximeter, which clips onto a patient's finger to measure oxygen levels, might regularly produce inaccurate readings.

Though Fawzy's proposal received an unusually high score from an expert panel last June, the notice of his grant award has still not arrived. Such delays not only imperil the public's health, Iwashyna said, but also undermine the future pipeline of talented researchers, creating lasting harm to the U.S. scientific enterprise.

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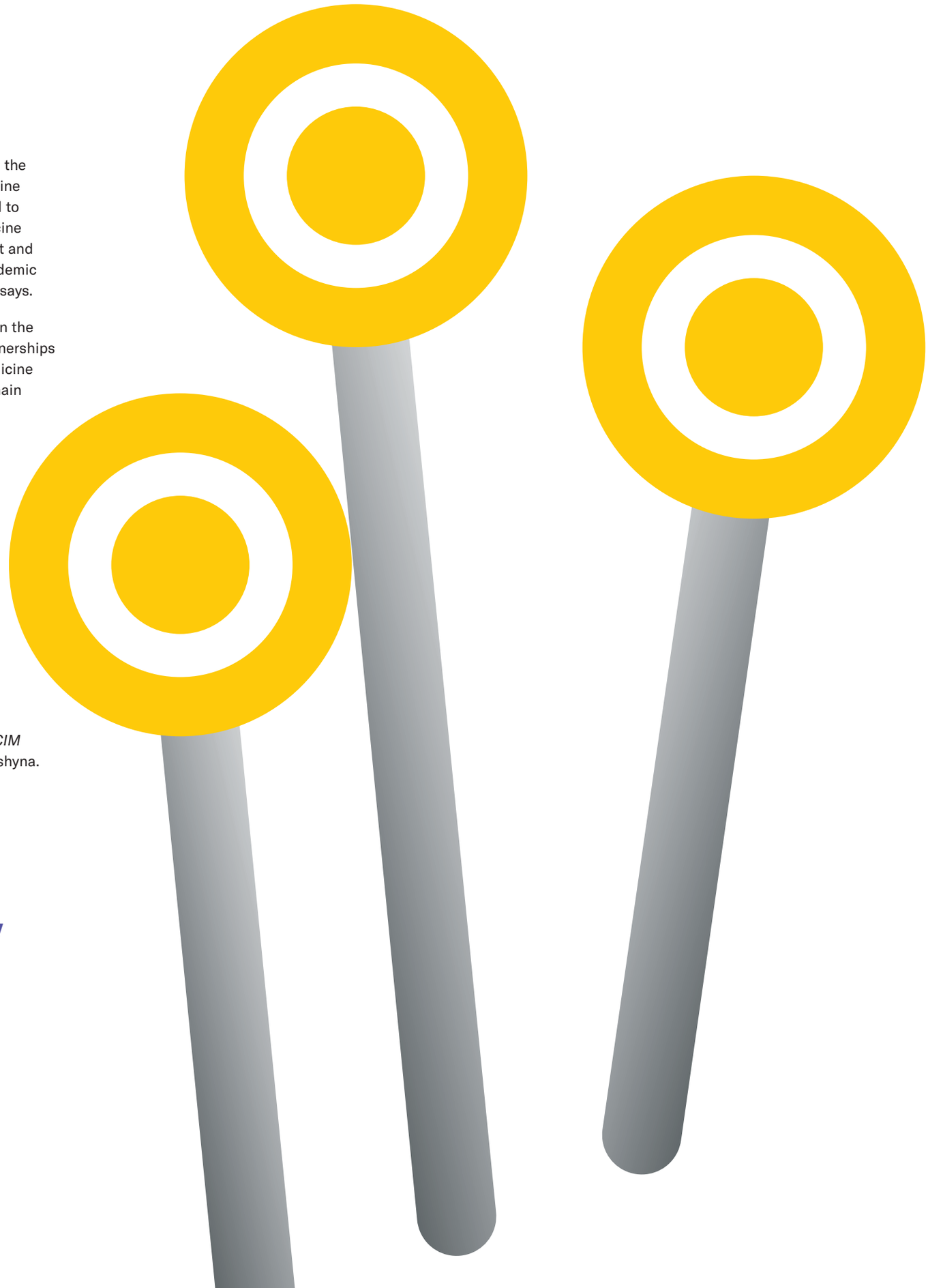
“Our goal with the Academy is to work with the best and brightest of Johns Hopkins Medicine — clinician-researchers who are committed to humanizing medicine and advancing medicine as a public trust — to give them the support and knowledge they need to succeed in an academic world that’s been turned upside down,” he says.

“While there have been dramatic changes in the government-university partnerships — partnerships that have made American science and medicine the best in the world — the core values remain irreplaceable,” he says. “The world still needs Hopkins to invent new futures of medicine. The Academy is our laboratory to figure out how to ensure the geniuses of these great clinician-scientists fully flower.”

The Academy is one part. Next Generation Scholars are also all paired with senior Hopkins faculty members who will serve as valued mentors, sharing their hard-earned wisdom and opening doors to collaborators, leadership opportunities and potential new funding sources, notes **Cynthia Rand**, senior associate dean for faculty at the school of medicine and *Mary Gallo CIM Scholar*, who is acting as an adviser to Iwashyna.



“The world still needs Hopkins to invent new futures of medicine. The Academy is our laboratory to figure out how to ensure the geniuses of these great clinician-scientists fully flower.”

Theodore “Jack” Iwashyna

Key to these mentoring relationships will be helping young faculty to effectively communicate their research and its impact to a wide variety of audiences, including potential donors.

“Currently during the training of physician-scientists, they may learn to write an NIH grant or a scholarly paper aimed at other scientists, but there’s no point when they learn how to communicate their work to the world, writ large,” says Rand. “This kind of communication is crucial now more than ever.”

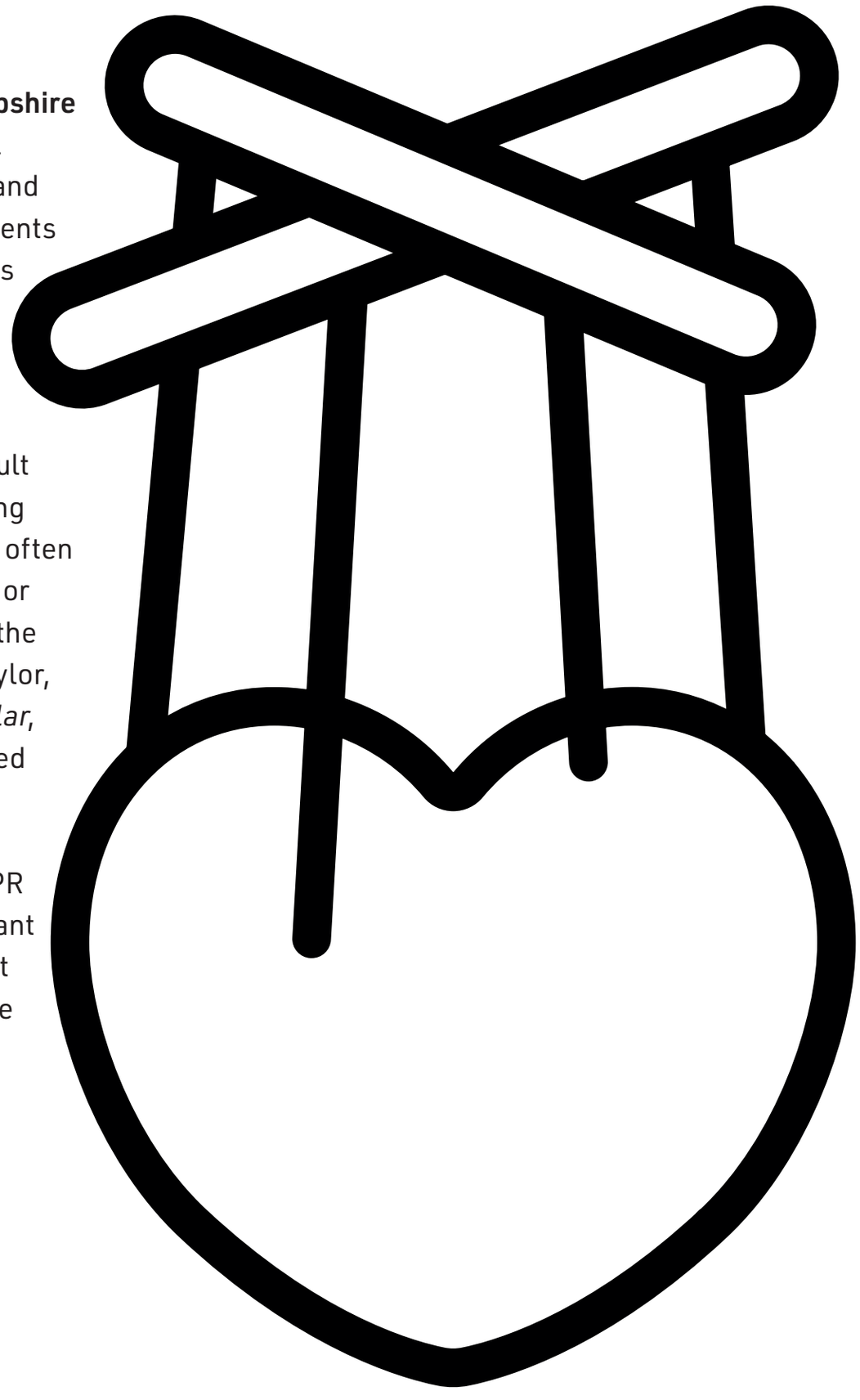
Iwashyna envisions a “bi-directional” flow of ideas and communication between the CIM Next Generation Scholars and interested donors, as they find areas of shared interest and identify ways that philanthropy can propel medical innovations forward for the greater good.

“We have always partnered with funding agencies,” he says. “We have learned over the last years how much better science can be when it is done in partnership with patients and families. In these new times, there are new opportunities and needs to build partnership between philanthropists and physicians much earlier in the physicians’ careers than has been traditional. We can invest in the future together.”

Through regular meetings and seminars, he also expects the Scholars to “build valued lateral networks” through which they become resources to one another in advancing their goals. “The community within the Scholars, and among the Scholars and Johns Hopkins broadly, is a unique resource,” he says. While the Scholars hail from a wide variety of disciplines and specialties — from lab-based science to addiction medicine to cardiology to infectious disease — all share a commitment to equity and justice in medicine, Iwashyna notes.

At a time when rapid advances in technology and other pressures risk dehumanizing health care for patients and their clinicians, says Rand, the Academy for CIM Next Generation Scholars aims “to keep the heart and soul in medicine, finding creative ways for young faculty to ensure biomedical science continues moving forward.” ■

Critical Conversations in Advanced Care Planning



In the years that **Martha Abshire Saylor** worked as a critical care nurse, she saw firsthand what can unfold when patients without advance care plans undergo procedures they may never have wanted.

"The lack of a documented advance care plan can result in painful and life-extending medical interventions that often don't ensure quality of life or even that a patient leaves the hospital," says Abshire Saylor, the *Mary Ousley CIM Scholar*, who specializes in advanced heart failure and palliative care. As an example, she remembers performing CPR – which can cause significant painful injury – on a patient of advanced age in multiple organ failure.

Overheard

In her recent study, which analyzed transcripts of conversations involving patients, care partners and advanced care planning facilitators, Martha Abshire Saylor found that the capacity for a patient with cognitive decline to "engage and decide" often relies on support of care partners, as demonstrated in the following excerpt:

Care Partner: What do we understand about advanced planning and advanced directives?

Patient: I don't know.

Care Partner: Yeah, we talked about this yesterday. It's what do you want if you have a very — like your stroke. When you had a stroke . . .

Patient: My daughter . . .

Care Partner: Yeah, I took care of it, but if you have a stroke and they say you need a feeding tube . . .

Patient: Oh, no, nothing like that.

Care Partner: Right. See? She knows.

From "Advance care planning in adults ages 80 years and older with impaired cognition: Using actual conversations to examine best practices," Alzheimer's & Dementia, *2025*

"Currently, recommendations in advanced care planning in those with cognitive impairment are based on clinical expertise without the evidence from actual conversations with patients and families."

Abshire Saylor

Such experiences have inspired Abshire Saylor in her clinical research efforts to make advanced care planning more widely accessible and effective in representing a patient's desires and values, particularly as patients age and experience cognitive decline.

"Currently, recommendations in advanced care planning in those with cognitive impairment are based on clinical expertise without the evidence from actual conversations with patients and families," she notes.

To address this shortcoming, Abshire Saylor led a recent study — published in *Alzheimer's & Dementia* — in adults age 80 and older, which analyzed transcripts of advanced care planning discussions (see sidebar). These discussions included the patients' care partners (typically family members) and ran for about 35 minutes. Of the 88 conversations analyzed, 15 participants had normal cognition, 13 had mild cognitive impairment and 60 had severe impairment (dementia).

CONTINUED ON PAGE 8

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"Being family-centered and inclusive of family members in health care makes advanced care planning conversations so much easier, particularly at the end of life — for patients, caregivers and clinicians."

Abshire Saylor

In analyzing the conversations, Abshire Saylor and her team identified key themes that can be used to inform best practice. One is that though cognitive impairment can inhibit a patient's participation in these discussions, individuals with dementia are still able to contribute. A second key insight: Care partners play a critical role in supporting advanced care planning across the spectrum of cognitive impairment.

For Abshire Saylor, whose clinical research has long emphasized the importance of supporting family caregivers of patients with serious illness, this second finding came as no surprise. "Being family-centered and inclusive of family members

"What is so beautiful about this work is that Martha is able to balance respect for autonomy with the lived reality of evolving cognitive impairment."

Mary Catherine Beach

in health care makes advanced care planning conversations so much easier, particularly at the end of life — for patients, caregivers and clinicians," she says. "We found that caregivers wanted to honor their loved one's wishes if they were known."

Mary Catherine Beach, co-director of the *Center for Humanizing Medicine* and a *Mary Gallo CIM Scholar*, praises Abshire Saylor's approach and notes that her clinical research is central to the mission of the CHM.

"What is so beautiful about this work is that Martha is able to balance respect for autonomy with the lived reality of evolving cognitive impairment," says Beach. "In doing so, she shows how clinicians can work collaboratively with patients and their families to preserve as much capacity as possible while also respecting the patient and family more holistically."

While discussions around advanced care planning involve many procedural questions — If your heart stops, do you want CPR? Defibrillation? Would you ever want to receive a feeding tube? — Abshire Saylor believes the most crucial decisions center on naming a surrogate decisionmaker in the event the patient can't communicate their wishes.

Moreover, "It's crucial for caregivers to understand the level of permission they've been given," she explains. "On one end are patients who say: 'I feel strongly about what I want and I want you to execute that.' On the other end of the spectrum are people who say, 'I understand that my medical situation may change in a way that I can't imagine; I trust that you'll do your best and I give you permission to do what you think is right by me.'"

This project is just one of several that Abshire Saylor has been pursuing and she is pleased to note that Johns Hopkins Community Physicians has committed to expanding services in advanced care planning throughout the health system.

CHM Co-Director **Scott Wright**, *Mary Gallo CIM Scholar* and holder of the *Anne Gaines and G. Thomas Miller Professorship*, sees such efforts as being important and timely.

"This study is a wonderful reminder for clinicians to partner with all patients — and caregivers," says Wright, who is also director of CIM's *Miller Coulson Academy of Clinical Excellence*.

"While this is a best practice for every clinical decision, it is especially critical for advanced care planning. Although there can be pressures in contemporary medicine that may conflict with patiently listening, this paper highlights the value of taking the time to hear and understand the perspectives of older adults with cognitive impairments." ■

The Heart of the Matter

As the organizer of the 2025–2026 CIM Seminars, pulmonologist **Michelle Sharp**, a *Mary and David Gallo CIM Scholar* and *Elena and Everardo Goyanes CIM Scholar*, has drawn an inspiring array of speakers who have shared their insights from both inside Johns Hopkins and from much farther afield.

In January, for example, audience members heard from actor **Alan Alda** and physician **Karl VanDevender**, his friend and collaborator, in a seminar on "Speaking Science, Hearing Humanity." And in early March, internationally renowned cellist **Yo-Yo Ma** spoke movingly about the healing power of music.

Sharp has served as the interviewer in this year's seminars, which unfold about twice a month over Zoom for an eager audience of patients, CIM donors, and current and former Johns Hopkins faculty members. Among the questions she asks is one that gets to the very heart of CIM's mission: *What does medicine as a public trust mean to you personally?*

In the excerpts that follow, we offer a sampling of responses to this question from a variety of speakers who led seminars this academic year. ■

"I was always struck with the things we ask patients to share with us – the precious information about themselves and their lives. And so obviously there's that trust. And then there's the trust where they are relying on us to use our knowledge, our experience and our wisdom on their behalf, and to always look after their interest. Those are the top two for me."

—William G. Kaelin Jr., 2019 Medicine Nobel Prize-winner and former Johns Hopkins Osler Medical resident, now on faculty at Harvard Medical School and the Dana-Farber Cancer Institute

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"I'm intrigued by the relationship between the language of public trust and public good. I think they're so deeply related, they could be used interchangeably. A public good is something that advances the collective well-being of society, as well as the well-being of individuals that comprise society. I can't imagine another social institution that more qualifies for the language of a public good than medicine, healthcare and public health. All constitute for me a public good, in the same way a free press does, a functioning educational system does, an independent judiciary does.

"Without these institutions we would have a very diminished collective experience, and as individuals, we would not flourish."

—Ruth Faden, founder, Johns Hopkins Berman Institute of Bioethics

"If you look in a dictionary, it will say that public trust means you have the public good at your heart. That you are there to serve your local community. When you work in health care and particularly in my role at The Johns Hopkins Hospital, being the anchor institution for your local community is really, really important.

"It's not just being here behind walls and delivering care when people come to us. It's being in the community, helping folks stay healthy. And that takes on a lot of different looks. That's chronic disease prevention, sure. But I think it goes beyond that. It's [considering] the social determinants of health. What are we doing to help housing? What are we doing for jobs?

"I can go into a lot of different programs we have here – from participating with city hospitals and providing shelter homes with wraparound services to local residents who are experiencing homelessness [to] what we're doing in hiring [such as removing questions about criminal history from initial job applications to foster opportunities for individuals with criminal records]. I do think we take that role seriously."

—Redonda Miller, president, The Johns Hopkins Hospital

"Everything is important for public trust, but one of the most important components of delivering and improving health is the capability and the wellbeing and the health of the physician workforce that's delivering that care. I think that's part of the public good, of the public trust."

—Sanjay Desai, formerly chief medical officer for the American Medical Association; recently named Vice Dean for Education, Johns Hopkins University School of Medicine

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"Over time, I've really come to appreciate that there are so many ways that we can impact health, and I think a lot about lung health. So beyond seeing patients in the clinic, which is a joy and a privilege, I also try to think about how I can be an ambassador for improving health – whether it's at a school, advocating for having buses not idle [out] front, or being a champion for air quality. And so thinking about population health in addition to the health of the individual is something that I've tried to lean into more over time, because I think we can broaden our impact in that way."

—Meredith McCormack, director, Johns Hopkins Division of Pulmonary and Critical Care Medicine

NEXT GENERATION SCHOLAR

Filling the Gap in Cardio-Obstetrics

During her fellowship in cardiology at Johns Hopkins, **Anum Minhas** was struck by a glaring gap in clinical knowledge and care.

“I noticed that there was very little evidence about how best to manage women who are pregnant with heart disease,” she recalls. “Pregnancy is one of the single most common experiences women will have. It was baffling to me why we lagged so far behind in knowing how to care for these patients and in researching how cardiac complications during pregnancy might impact women’s future heart health.”

Noting that “it felt like a place where there were a lot of questions to be answered,” Minhas set out to break new ground as a clinician-researcher. With the encouragement of her fellowship director Steve Schulman and Obstetrics and Maternal Fetal Medicine Directors Andrew Satin and Jeanne Sheffield, she launched a Cardio-Obstetrics Clinic at Johns Hopkins together with Jason Vaught, a maternal fetal medicine specialist.

The multidisciplinary clinic, one of just a handful across the country, follows women with heart disease throughout their pregnancy, as well as those who develop cardiac conditions in the midst of their pregnancy, such as preeclampsia. Characterized by sudden high blood pressure, preeclampsia — which occurs in roughly 1 in 25 pregnancies — can lead to organ damage and maternal/fetal death if not properly treated.

“From the very first day, high-risk OB patients sit down with both Jason and me and together we develop a plan and answer their questions,” says Minhas, who was recently named a *CIM Next Generation Scholar*. “Then we see patients with the most complicated conditions once a month.”

“What’s particularly unique about our clinic is that both Jason and I also practice as critical care intensivists, so we are very comfortable handling patients with high acuity,” says Minhas. “Some of our patients even deliver in the Cardiac Critical Care Unit with an ECMO unit [a form of advanced, temporary life support] at the ready.”

Minhas and Vaught also conduct pre-conception counseling visits for women with genetic disorders that puts them at risk for heart conditions such as cardiomyopathy. “They might not have the disease yet but we counsel them on the risks. Sometimes we make the hard call that it might be too risky for a woman to be pregnant and we suggest they consider other ways to expand their family,” says Minhas. “We have learned that patients will decide what is in line with their values and we support them in that. We say, ‘If you do decide to pursue pregnancy, we will be happy to be your physicians’”

“The field of cardiology research neglected women for a long time, and certainly pregnant women have traditionally not been included in research, so it’s time to expand the horizons of what we know.”

Anum Minhas

While providing these patients with the highest level of care, Minhas is also pursuing research that will help fill in existing gaps and allow for more individualized care for pregnant women with cardiac conditions. Her efforts on both fronts have received a big boost with her *CIM Next Generation Scholar* award.

The Next Generation Scholars program was created to support outstanding early-career faculty who are innovators in the areas of research, education and clinical care, and whose work will fortify medicine as a public trust. Each *CIM Next Generation Scholar* is eligible to receive up to $300,000 of funding over three years.

Minhas says the support will enable her to tap into advances in data science, informatics and machine learning in her pursuit of new treatments and preventative therapies for patients and their babies.

She has begun work on building a biobank, which will contain samples of blood and urine of pregnant patients treated at Johns Hopkins who are at risk of cardiac disease. The ultimate goal, she explains, is to develop biomarkers for different conditions that would allow clinicians to spot risks earlier on.

Minhas also plans “to dig deeper” by leveraging electronic health record data that exists for the more than 2.6 million patients in the Johns Hopkins Health System to investigate questions such as: If you experience heart complications during pregnancy, what does it mean for future heart health?

The answers she finds could inform precision medicine approaches to cardiac care during pregnancy. With preeclampsia, for example, she notes that some women who develop the condition have known risk factors, such as high blood pressure, diabetes or kidney disease. But others seem perfectly healthy. “We can’t just manage preeclampsia as a blanket condition,” she says. Through machine learning, she aims to identify different phenotypes — perhaps a maternal signature for some patients, a placental signature for others — that could inform more targeted treatments.

Minhas is also working to broaden clinical expertise in cardio-obstetrics. She created the first fellowship curriculum in the specialty area, which was published in 2021, and has mentored three fellows in the Cardio-Obstetrics pathway since she joined the Johns Hopkins faculty.

She sees considerable room for continued growth for Cardio-Obstetrics in research, education and patient care. “The field of cardiology research neglected women for a long time, and certainly pregnant women have traditionally not been included in research,” says Minhas, “so it’s time to expand the horizons of what we know.” ■

Sharing AI for the Greater Good

Pancreatic cancer is particularly deadly – mostly because by the time patients present with symptoms such as back pain and lack of appetite, the cancer has already spread too widely for a surgical cure, and for radiation and chemotherapy to be effective. The five-year survival rate is a dismal 13%, according to the American Cancer Society.

But what if pancreatic cancer could be caught much earlier?

“It’s been shown that about 40% of pancreatic tumors under 2 centimeters are missed,” notes Johns Hopkins radiologist **Elliot Fishman**, the newly named *Sarah Miller Coulson CIM Scholar*. “If we could catch these patients with low-stage disease, when surgical resection is possible, we could save 20,000 lives a year in the United States.”

That’s the quest that Fishman and a multidisciplinary team of researchers at Johns Hopkins and Microsoft have been doggedly pursuing in recent years, by tapping into the power of data analytics and artificial intelligence — and they are tantalizingly close to achieving this holy grail in cancer research. A paper recently submitted for publication details algorithmic advances “that accurately pick up small tumors in the range of 90%,” he says. “This can have a major impact on detection and survival. It’s truly state-of-the art.”

For Fishman, a longtime member of the *Miller Coulson Academy of Clinical Excellence* and regular participant in *CIM Seminars*, this latest breakthrough is just one of many trailblazing advances that have marked his 46-year career in medicine at Johns Hopkins — all aimed at improving care and outcomes for patients. The throughline of his innovative achievements: an eagerness to capitalize on the latest technology while soliciting expertise well beyond radiology, and even outside medicine.

In the late 1990s, for example, as he recognized that the internet was transforming communication, Fishman had the foresight to establish a website dedicated to providing radiology professionals with all the latest information on computed tomography and CT scanning. Today, “CT is Us” (CTisus.com) has more than 386,000 followers across its primary social media accounts.

Then there’s the legendary speaker series he launched in 2013, “Perspectives from Outside of Medicine,” which annually brings to Hopkins a wide array of innovators, entrepreneurs and industry leaders to share insights with the medical community. Over the years, speakers have included NVIDIA president Jensen Huang, PIXAR co-founder Ed Catmull, and David Isbitski, chief evangelist for Amazon’s Echo and Alexa.

“In the field of medicine, we tend to hear the same voices over and over,” says Fishman. “The Leading Change series provides a rare opportunity to listen and learn from the ‘best of the best’ and then apply their strategies into our world to improve the experiences of our ‘guests.’”

Fishman’s knack for soliciting advice and forging relationships outside medicine has been key to broadening the team currently pushing to advance early detection of pancreatic cancer — an effort supported by the Lustgarten Foundation, which recently renewed grant funding for three years.

While the project’s team includes an impressive array of Johns Hopkins’ heavy hitters — including oncologist Bert Vogelstein, molecular geneticist Ken Kinzler, radiologists Linda Chu and Satomi Kawamoto, and pathologist Ralph Hruban — Fishman has also tapped leading visual imaging and machine learning companies like Nvidia. Most recently, Microsoft has stepped up to provide expertise in deep learning and algorithm development through its “AI for Good” outreach program.

“I hope to be able to help other people move into the AI space, and to use the experience I’ve gained to help them move faster into that space.”

Elliot Fishman

While excited to continue leading this research forward, Fishman says the support he’s received as a *Sarah Miller Coulson CIM Scholar* will free him for vital new work: sharing the wisdom he’s gained in AI with Johns Hopkins Medicine scholars in other specialties.

“I hope to be able to help other people move into the AI space, and to use the experience I’ve gained to help them move faster into that space,” says Fishman, adding, “I’ve already heard from several researchers — in fields including diabetes and maternal health — who are eager to collaborate.”

For Fishman, whose ties to the Center for Innovative Medicine are long and deep, this latest pursuit reflects what makes CIM so successful in promoting medicine as a public trust.

“In medicine as in life, you’ve got to keep moving and trying to do great things,” says Fishman. “CIM keeps evolving and is doing a wonderful job of changing as medicine changes — of asking: Where are we going? Where do we need to be?” ■

Personomics: Progress and Promise

Just over a decade has passed since Johns Hopkins cardiologist **Roy Ziegelstein** coined the term "personomics" in a widely cited editorial in *Journal of the American Medical Association*, in 2015. In so doing, he set off soul-searching within the U.S. medical community, inspiring doctors and medical leaders to confront a painful reality: Given all the things that clinicians must do in a relatively brief time, too many doctors fail to get to know their patients as people.

"Patients can wind up wondering if the doctor really cares about them or if what is recommended applies to their unique situation and life experiences," says Ziegelstein, a member of the *Miller Coulson Academy of Clinical Excellence* and the *Sarah Miller Coulson and Frank L. Coulson, Jr. Professor of Medicine*.

In the ensuing years since his original article on personomics, Ziegelstein's clarion call has had an important impact at Johns Hopkins and beyond, inspiring many articles, essays, book chapters and presentations throughout the world. There is now even a special section in *The American Journal of Medicine* devoted to personomics that features articles on the importance of knowing the patient as a person in clinical care.

So has the dial been moved? When it comes to understanding the individual person beyond the disease, are patients and doctors better off today than they were a decade ago?

Those questions were key to the issues Ziegelstein addressed in May as the featured speaker of the 23rd annual *Miller Lecture* at Johns Hopkins. Launched in 2004, thanks to the generosity of *Anne G. Miller* and her family (*Sarah Miller Coulson*, *Leslie A. Miller*, and *Richard Worley*), the public lecture offers insights that go beyond the technical side of medicine to explore the human side of health care. Past speakers have included notable authors, musicians, artists and thought leaders, all who shared their valuable wisdom on medicine's mission, the patient experience and humanistic aspects of healing.

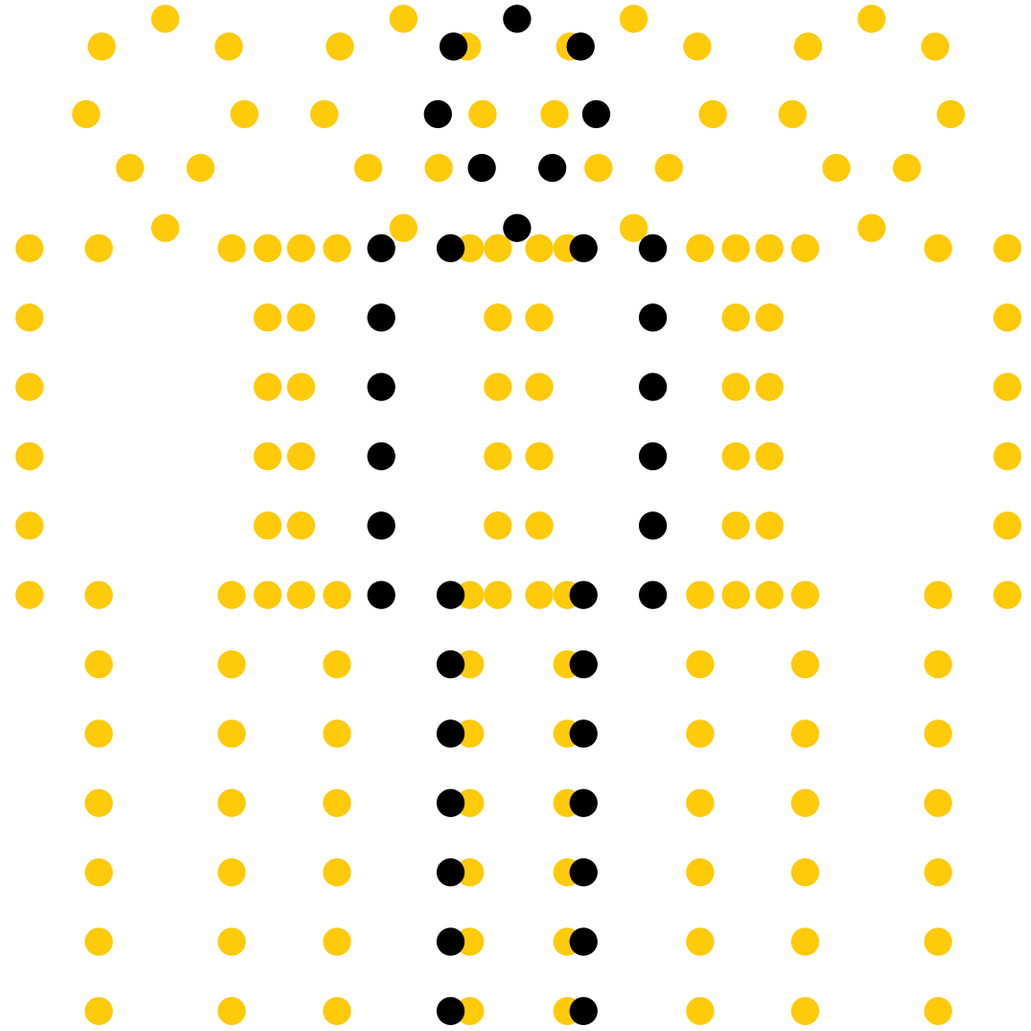
"It's a tremendous honor for me to be asked to deliver the Miller Lecture. I think of it as the Macy's Thanksgiving Day parade — an exciting celebration of what's important in medicine when it comes to taking care of patients better — of discussing what we're doing right and where we need to do more."

Reached in advance of the lecture, Ziegelstein expressed his belief that one part of what he describes as the "personomics equation" has gotten better since 2015.

"We are much more precise in our knowledge of medicine than we were 10 years ago," he says. One indicator: the 1.5 million new scholarly articles published each year in PubMed, the online database maintained by the National Library of Medicine. "As a result, there are diseases that are treatable today that were not treatable 10 years ago. That is totally amazing," he says.

The less heartening news, though, is that the other part of the equation — the opportunity for clinicians to get to know patients better as people — has gotten worse, he believes, and he cites a variety of burdensome barriers. These include the ever-growing requirements for electronic documentation, the pressure to squeeze more into shorter patient visits, and the time required to coordinate with other providers and insurance companies.

Further complicating the picture: While in the past, patients often maintained relationships with doctors over many years, that's become much less common, Ziegelstein says. "It's difficult to get to know a patient with just one visit. If you don't have that relationship that is developed over time, then providing personalized care is much more challenging."



"It's difficult to get to know a patient with just one visit. If you don't have that relationship that is developed over time, then providing personalized care is much more challenging."

Roy Ziegelstein

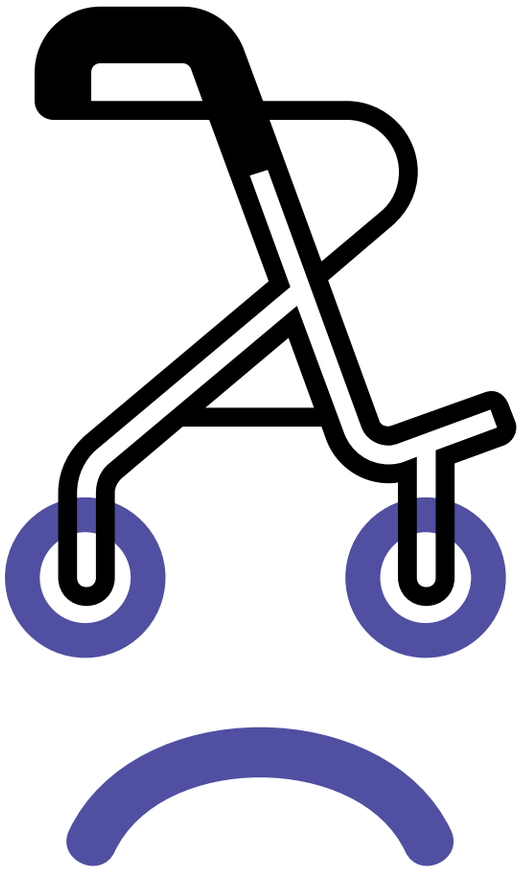
But there is a silver lining. Ziegelstein actually finds hope in current technological innovation, specifically in artificial intelligence. He believes AI holds promise for relieving clinicians of more mundane tasks — such as record summarization, charting and routine patient communication — and will vastly improve and speed physician access to the best evidence-based medical information and clinical decision support.

"The other day I saw a patient for the first time who came in from a different health system. There were 330 pages of medical records for me to go through, which took several hours," he says. AI will soon make it possible to digest a patient's records in seconds, Ziegelstein says, and to access the "golden nuggets" from those 1.5 million articles published annually in PubMed. "I am optimistic that this will allow more time for clinicians to get to know their patients and provide high quality, actionable clinical insights, right at the point of care." ■

BOARD MEMBER SPOTLIGHT

4 Questions with Mary Ousley

It's no exaggeration to say that **Mary Ousley**, a leading expert in nursing home quality and the regulatory system, has improved the lives of thousands – if not millions – over her 40-year career as a leader in long term care.



A registered nurse, nursing home operator and patient advocate, Ousley was among a select group of tacticians tapped to craft OBRA 1987, the landmark nursing home reform law, which set care standards and rights for nursing home residents in the United States.

"It was the honor of my life to be a part of developing this quality and regulatory framework that has pretty much stood the test of time and is still the platform that guides post-acute and long-term care operators," says Ousley. The core goal of their work, she says, was to improve quality of life for patients through more personalized care, a mission central to the Center for Innovative Medicine, where she serves on the *International Advisory Board*.

"With so many innovations in medicine, we can certainly enable individuals to live longer — but if their lives are not giving them meaning, then what have we accomplished?" she says.

In the years since OBRA, she has continued to lead quality improvement initiatives, as chair of the American Healthcare Association (which represents long-term care providers in the United States), and as a strategic leader for companies including Horizon, Marriott, Sunbridge and PruittHealth. Given her expertise and breadth of experience, Ousley has frequently been tapped as a spokesperson in congressional hearings and for national policy discussions. This year she will be honored with *McKnight's* Pinnacle Awards Career Achievement Award.

What varied perspectives have you brought to the table when it comes to quality improvement in long-term care?

I realized early on, when we met to develop a regulatory framework for OBRA, that you can have a beautiful set of regulations, but they are useless if it's impossible for nursing facility operators to implement them and for accrediting agencies to determine whether providers, including hospitals and skilled nursing facility, are in compliance. The real challenge is: How will they work in the real world?

"With so many innovations in medicine, we can certainly enable individuals to live longer – but if their lives are not giving them meaning, then what have we accomplished?"

Mary Ousley

As an individual who has owned and operated nursing centers, I bring the operations perspective as well as experience with the financing model. And of course, as a nurse, I know the clinical side of working with patients and families. I think this clinical side is the most important; bringing a practical, real-life voice to policy-making is so valuable.

The ongoing nursing shortage is a key challenge facing both hospitals and nursing care facilities today. What do you see as the best way forward?

I'm convinced that simply focusing on producing more nurses is not the whole solution. We need to give young people a reason for choosing a nursing career, whether in hospitals, nursing centers or home health positions. That requires continuing to change the culture to give nurses a leadership voice in the team-based health care model. After all, the nurse is the "patient-centered" in the patient-centered care model and nurses are integral to coordinating care, across all aspects of the healthcare system.

In your role on the board of CIM, you've encouraged increased representation of nurses, including funding the first nurse as a CIM Scholar, Martha Abshire Saylor.

Yes! I remember that soon after I joined the board, I looked around the room at all the physicians and whispered to my sister, Dana Case, a fellow nurse who was also joining the board: *Where are all the nurses?*

My observation resonated with **CIM Director David Hellmann**, and I so appreciate that since that time he has concentrated on making sure the nursing voice is really heard. I've been thrilled to see more nurses leading and attending CIM Seminars, for example. When it came time for me to choose a nurse to sponsor as the first nurse CIM Scholar, Martha was a natural, given her clinical and research work in helping patients better cope with heart failure and her recognition that taking care of the whole patient means giving equal attention to the caregivers who are providing care and support for the patient.

I am thrilled to see Martha taking a central role in CIM's *Center for Humanizing Medicine*. She is bringing her expertise regarding the impact of caring to the patient and family experience. No doubt Martha was humanizing medicine before we gave it a name. She is the first nurse CIM Scholar and I sincerely hope she is not the last!

Looking ahead, what worries you about the future of health care in the U.S. — and where do you find optimism?

Funding in all areas of health, of course, is a tremendous challenge, particularly in the wake of the federal legislation passed last July that included large reductions and restrictions affecting Medicaid. We need to advocate and speak out for the individuals who need health care. This is the idea, which CIM advances so powerfully, that medicine is a public trust. To me that means that health care is a human right and must be highly reliable. And we need to make sure our elected leadership understands what needs to happen.

I've devoted my career to post-acute and long-term nursing care, trying to ensure that every single facility in the U.S. is providing the highest quality of care. That said, older adults and disabled people also seek alternatives — and there are many available today to assist those wishing and able to stay in their homes, for as long as possible.

Johns Hopkins clinicians innovated the idea of "hospital at home." I would love to see that model used to provide skilled nursing at home. Medicare currently pays most costs for up to the first 20 days in a skilled nursing facility and with a copay for the remaining 80 days up to the full 100-day benefit period. Why couldn't we fund that same care in the home? Different groups are now working on this idea; it doesn't exist right now, but I really think it should. ■

Thinking Outside the Box

William R. Brody, a longtime supporter of CIM, had just begun his 13-year tenure as president of Johns Hopkins University (1996–2009) when he decided to teach an Intersession course for undergraduates.

"I had the feeling that students were getting great at solving problems where the answer is known, but were challenged to think critically about problems that have never been posed," he says. His remedy? A seminar titled Uncommon Sense, which he would go on to teach to an eager student audience (one year the waiting list topped 500 for 20 spots). It was, he says, "a crash course in outside-the-box thinking," with insights on "what separates the visionary who takes a risk and does amazing things from the regular person who clings to safety and merely gets by."

As a biomedical engineer and successful entrepreneur who had co-founded several medical device companies and helped pioneer heart transplantation, Brody certainly had ample wisdom to share. That wisdom was no doubt broadened by the years he served at Johns Hopkins as the Martin W. Donner Professor of Radiology and radiologist-in-chief of The Johns Hopkins Hospital (1987–1994).

Brody would go on to teach the course again after he retired as director of the Salk Institute (2009–2016), and settled in Baltimore. Now he's turned his insights into a book, co-written with Mike Field, which was published this spring by Johns Hopkins University Press. Filled with engaging real-world situations, *Uncommon Sense: Rethinking Ordinary Problems in Extraordinary Ways* aims to help readers — both young and older — grapple with problems for which the answers are not known ahead of time, he says.

"I had the feeling that students ... were challenged to think critically about problems that have never been posed."

William R. Brody

As president of Johns Hopkins University, Brody was an early advocate for the Center for Innovative Medicine, encouraging **Director David Hellmann** to "think big" when he established CIM in 2004. Thus, it should probably come as no surprise that CIM's central tenets — promoting medicine for the greater good, the need to humanize medicine in the face of technological advance — resonate with themes that permeate *Uncommon Sense*.

Brody emphasizes the importance of acting in a way to improve the lives of others. In developing our sense of what gives us satisfaction, he writes, "Much of that will come by way of interaction with other people and by giving back to society in one form or another."

"As I look back on my life," he says, "the opportunity to have mentored people like Dr. Hellmann and to see them succeed is so much more important to me than all the honors I collected."

In *Uncommon Sense*, Brody also emphasizes that good decision-making in situations involving other people should be anchored in paying close attention to human behavior — advice that is also crucial for effective doctoring, he notes. "Even though I was a surgical type, throughout my career I always believed that interaction with the patient, understanding their history, was critical," he says.

Lamenting how pressures in U.S. health care today — excessive workloads, heavy documentation, time constraints — have combined to "dehumanize" both patients and those who care for them, Brody points to the growth of the Center for Innovative Medicine as a reason for optimism.

"Medicine is in such need of rescue," he says. "CIM is more relevant today than it's ever been." ■

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