

All part of the game

AI-VR uses gamification to make cybersecurity lessons more engaging

Prove it

The key reason some green solutions aren't working

Bridging a gap for neurodiverse families

A young entrepreneur is pushing past the limits of typical care

JOHNS HOPKINS CAREY BUSINESS SCHOOL

MAGAZINE 2026

The cure for poor healthcare

Daniel Polsky, Ritu Agarwal and
Melinda Buntin share insights into
our ailing healthcare system.

8



**“THIS IS THE
ONLY MBA
SCHOOL I
SAW MYSELF
GOING TO.”**

IRA SHARMA, MBA '26

PAGE 21

FROM THE DEAN



**“At Carey, we
build for
what’s next®.”**

ALEX TRIANTIS

An entrepreneurial vision for the good of all

One hundred and fifty years ago, a Baltimore businessman had a vision to help address his city’s need. He turned his personal fortune into the foundation for America’s first research university. Johns Hopkins University has blazed an extraordinary trail of unrelenting innovation, shaping society and sparking countless discoveries, ever since. Carey Business School is founded on that legacy. And like a century and a half of Hopkins researchers, students, and alumni, we look beyond now. At Carey, we *build for what’s next*®.

That includes being the leader in the business of health. Our ecosystem for collaborative health-related research and learning is unparalleled. Our schools of medicine, nursing, and public health are world leaders. The Hopkins Business of Health Initiative, anchored at Carey, boasts more than 150 core faculty. HBHI is one of three research centers devoted to the field; you’ll meet some of their directors in our feature story beginning on page 8. More than half our 2025 Full-time MBA graduates secured jobs in the business of health. We have 17 business-of-health-related degrees, certificates, specializations, and academies across our full complement, including eight dual degrees. Quite simply, no one offers more, and no one does it better.

While health is the U.S.’s fastest-growing industry, AI’s growth is outpacing every other field in the world. Carey offered the first required MBA course

in AI, back in 2019. Since then, we’ve developed six degree programs, specializations, or certifications focused on AI, and we’ve integrated it across all our programs. Not only that, but our researchers are partnering with those at AI-dedicated centers across Hopkins divisions, and we’re using our expertise to build a stronger, more efficient, more effective system of teaching and learning.

Even as health and AI grow, recent economic forces and tight employment markets have spurred startups at record numbers. That’s why Carey is committed to entrepreneurship, building opportunities for MBA candidates to develop, launch, scale, fund, and market their own businesses. This commitment is significantly supported by another businessman’s philanthropic legacy in Baltimore. The W. P. Carey Foundation is helping propel our future through a new gift of \$50 million. (You can read more about this on page 71.)

I’m not sure there’s ever been a more fascinating, more consequential, more pivotal time to be part of graduate business education. I know my colleagues, our students, and our alumni, like me, are eager to embrace our chance to shape the next 150 years.

Thank you for being part of our collective privilege and responsibility.

Sincerely,
ALEX TRIANTIS, DEAN



Harbor East, Baltimore, Maryland

Baltimore is one of the country's oldest, largest, and most diverse cities, situated in the nation's economic, governmental, and cultural corridor. This exact neighborhood started out as the home of factories and businesses that comprised much of Baltimore's industrial heart. Now, it's Harbor East—the city's new pulse and direction-setter for business, from established firms to newly relocated ventures and thriving startups. For Carey students, it's like going to school in the corner office.



Washington, D.C.

The Johns Hopkins University Bloomberg Center at 555 Pennsylvania Ave. NW in Washington, D.C., brings 150 years of world-defining scientific and research leadership to Capitol Hill. At this high-profile, high-visibility nexus, several Carey programs, experts, and students exchange ideas and insights every day in classrooms, conferences, and collaborations. This is a place where policymakers, practitioners, and academics together take on the world's most pressing challenges.

PHOTOS: WILL KIRK, JOHNS HOPKINS UNIVERSITY





“Bold is in
our blood.”

TIM PARSONS

See story
on page 48.

Changing business



Johns Hopkins Carey Business School isn’t just teaching and researching business. We’re changing it.

Bold? Perhaps. But bold is in our blood.

We believe business is about relentless advancement. In the following pages, you’ll hear from some of the world’s most renowned and respected experts about not just what last year’s data showed, but what tomorrow’s needs will be—and how they’re addressing them today.

We believe business is about boundless curiosity. In this magazine, you’ll find more than 25 stories that wouldn’t exist without Carey researchers, students, or alumni pushing beyond their first question to find answers to the several that come after.

We believe business is about collaborative leadership. Here, you’ll see how faculty and students bring together physicians and corporate leaders from across the business-of-health industry—and around the world—to share insights and leverage discoveries.

We believe business is about unwavering humanity. We are here to be a force for good. That’s what motivated Johns Hopkins back in 1876, and it’s what animates our driving interests today. You’ll learn about how some of our student entrepreneurs are making an impact even before they graduate, and how we’re planning to expand what’s possible for more of them.

This issue zeroes in on where we thrive: the business of health and the promise and perils of AI. You’ll also find Carey’s research on ODTE, incentives for corporations to adopt green initiatives, and even a lively conversation that featured Mark Cuban.

At Carey, business is about much more than what we’ve learned over 150 years. It’s about confronting head-on what’s coming next, working across disciplines to reach beyond the academy, and putting the possible into practice.

That’s what it takes to change business. That’s what it takes to be Carey.

TIM PARSONS, EDITOR

JOHNS HOPKINS CAREY BUSINESS SCHOOL MAGAZINE

CHIEF MARKETING OFFICER

Kiera Hynninen

SR. DIRECTOR, STRATEGIC COMMUNICATIONS

Christine Collins

EDITOR AND DIRECTOR OF COMMUNICATIONS

Tim Parsons

DIRECTOR, CREATIVE AND BRAND, MARKETING & COMMUNICATIONS

Amy O’Connell

CREATIVE

Skelton Sprouls

CONTRIBUTORS

Richard Byrne

Holly Christy

Sue De Pasquale

Chris Hartlove

Chris Myers

Karen Nitkin

Maggie Ward

Johns Hopkins Carey Business School

100 International Dr.
Baltimore, MD 21202

555 Pennsylvania Ave. NW
Washington, D.C. 20001

carey.jhu.edu

8 INSIGHTS

Our researchers on how to make the **business of health** work for everyone in the age of AI

FEATURING:

- 8 The cure for poor healthcare
- 18 Disruption & discovery
- 24 Is AI a backhanded complement to physicians’ expertise?

32 FOREFRONT

Our experts on harnessing the **AI** revolution across the business landscape

FEATURING:

- 32 All part of the game
- 36 Smashing the button
- 40 Can we talk?

48 IMPACT

Our researchers on **impacts** that make business better for all

FEATURING:

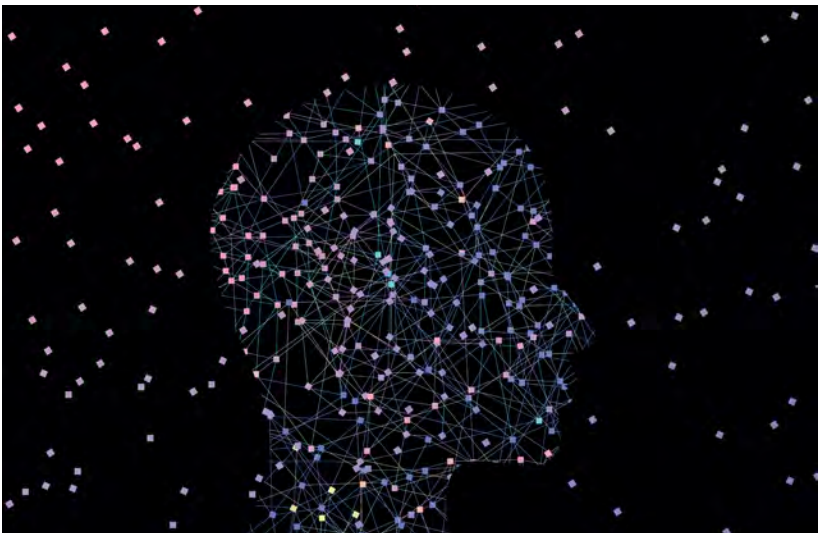
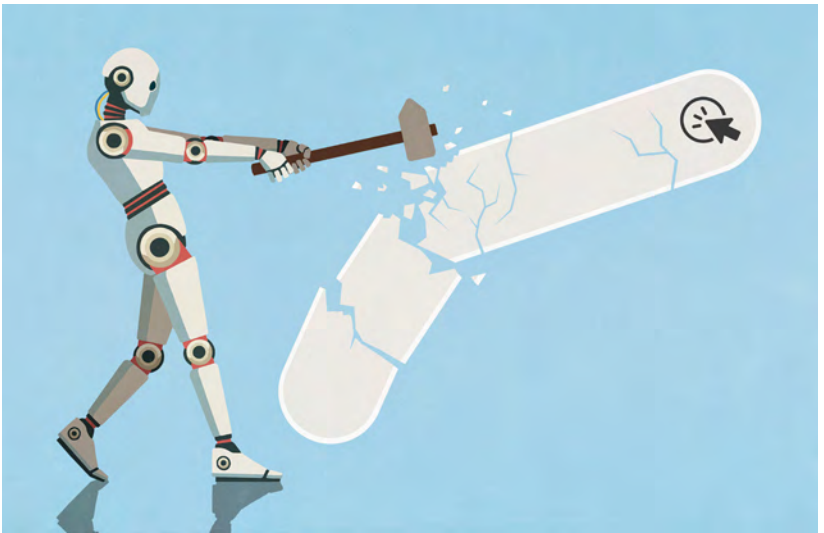
- 48 Prove it
- 52 Keeping the lights on
- 60 Instant gratification

64 WHAT’S NEXT

Our faculty, alumni, students, and supporters are leading us all toward **tomorrow**

FEATURING:

- 64 Bridging a gap for neurodiverse families
- 68 System reboot
- 72 Wired for exploration



Our researchers on how to make the business of health work for everyone in the age of AI

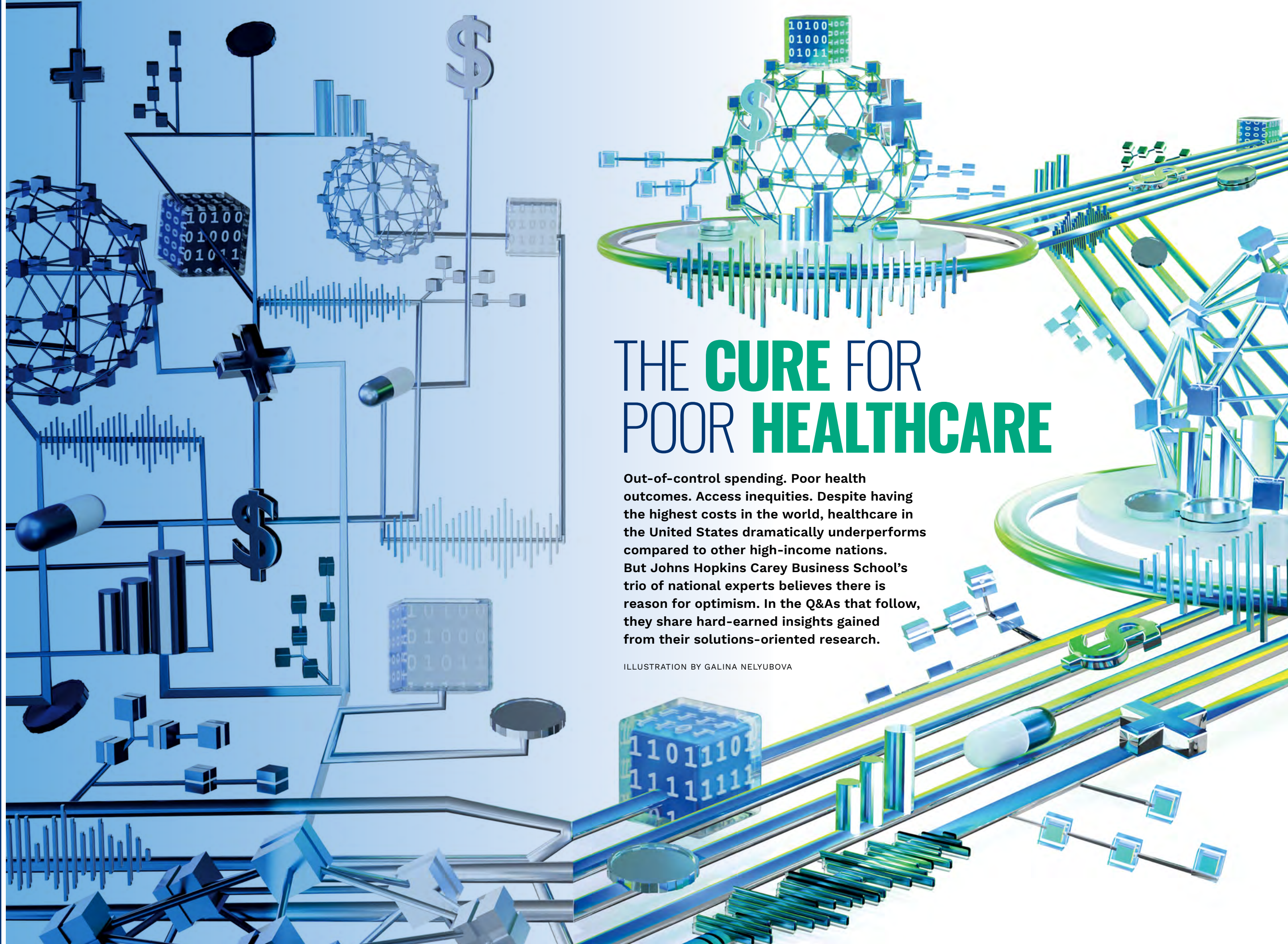
CONTENTS:

- 8 The cure for poor healthcare
- 16 Business of health
- 18 Disruption & discovery
- 22 Generation Next
- 24 Is AI a backhanded complement to physicians' expertise?
- 28 Cuban and Conway: Are PBMs a bitter pill?
- 30 At the center of the business of health

THE CURE FOR POOR HEALTHCARE

Out-of-control spending. Poor health outcomes. Access inequities. Despite having the highest costs in the world, healthcare in the United States dramatically underperforms compared to other high-income nations. But Johns Hopkins Carey Business School's trio of national experts believes there is reason for optimism. In the Q&As that follow, they share hard-earned insights gained from their solutions-oriented research.

ILLUSTRATION BY GALINA NELYUBOVA



RITU AGARWAL

You're an expert in the digital transformation of healthcare. How is AI really going to help?

Data is the lifeblood of healthcare, and every player in the healthcare ecosystem needs to access and use it. Of course, patients need access to their medical records, but so do insurers, hospitals, and clinicians, to provide effective and timely care.

I would make patient data truly interoperable, portable, and what I would call AI-ready. If all that the AI sees is a fragment of the patient and not the entire medical record, it is likely to learn erroneous patterns and relationships, leading to potentially bad outcomes.

If we can address those silos and interoperability challenges, I think we can start to truly leverage the power that AI and machine learning offer for healthcare practice and delivery.

So many chronic conditions that impose high morbidity and mortality burdens but also cost a lot—diabetes, cardiovascular disease, hypertension, and obesity—can be managed through self-care and through appropriate actions that patients take. With digital technologies, it is feasible to monitor vitals and gain actionable insights on a continuous basis, as opposed to episodic encounters with doctors every three months if you can afford it. Studies have started to show that patients will actually change their behavior, and that's huge. It can potentially be a game changer for disease management.

Why are you so sure AI agents are going to be positive players?

AI agents are going to help us, as patients, with a lot of tedious processes that healthcare is infamous for: the hassle of trying to find a doctor, schedule an appointment, complete that appointment, take care of necessary follow-ups, etc. From the physician's perspective, it's understanding all of the details about a specific patient prior to a clinical encounter. Or take billing and insurance: administrative activities that add tremendously to the total cost of healthcare. There are many workflows within healthcare that have a remarkable opportunity to be really streamlined, made efficient, and higher quality through the use of AI agents.

At the Center for Digital Health and AI, we have a couple of projects underway that involve agentic AI. In one project, we are exploring whether a patient agent can help patients be better prepared for an upcoming medical encounter. The second is more focused on clinical outcomes related to psychiatry. We're working with our medical colleagues in psychiatry to see if we might be able to use agentic AI to help medical residents and others learn more about how to interact with patients as they come in.

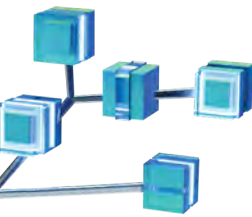
AI learns from humans, and humans haven't done a great job representing diverse populations in the data that's training AI models. How do you fix that?

A promising area that we're exploring is the generation and use of synthetic data for training health AI models. We've started studies investigating if you have data sets where certain populations are underrepresented, can we construct synthetic data, and what does that mean for the performance of the AI models that are trained on that data?

We are also developing novel methods for bias mitigation in the model training process. We show that when AI models learn from biased language, their predictions can become less reliable, which matters especially for vulnerable patients. By identifying this problem and testing ways to reduce its impact, our work helps move clinical AI toward tools that are fairer, more transparent, and supportive of health equity.

What about improving access to care? How can AI help there?

Unmet demand is a major challenge today. Physicians are scarce, they're costly, they're difficult to access, and they're overworked. AI, at least in theory, has the capacity to address this gap, providing some 24/7 support, triaging patient needs, and doing a whole host of things to take some of the burden off the healthcare providers. We haven't begun to see that in a robust fashion yet, but I'm still optimistic that we will.



"If you have data sets where certain populations are underrepresented, can we construct synthetic data, and what does that mean for the performance of the AI models that are trained on that data?"

RITU AGARWAL



RITU AGARWAL

Wm. Polk Carey
Distinguished
Professor of
Information Systems
and Health

Co-director: CDHAI,
the Center for Digital
Health and Artificial
Intelligence

Expert in the strategic
use of information
technology, digital
transformation of
healthcare, and
artificial intelligence
applications in health





MELINDA BUNTIN

Bloomberg
Distinguished
Professor of Health
Policy and Economics

Joint appointment:
Health Policy and
Management,
Bloomberg School
of Public Health

Director: Center for
Health Systems and
Policy Modeling

Health economist
shaping healthcare
payment, regulation,
and financing policy

MELINDA BUNTIN

If you could snap your fingers and change one single thing to improve healthcare in the United States, what would that thing be?

Healthcare is so big and so expensive. We're spending over \$5 trillion a year in the United States. We're spending close to 20% of GDP—almost \$1 in every \$5 in our economy. And we're not getting great outcomes.

I would suggest two things that would help people to focus on improving outcomes, given all the money that we're spending. One is that I would make sure that everyone involved in the healthcare system sees some way in which their payment is tied to quality and patient outcomes. The second is that I would work on getting patients access to their own comprehensive medical records and ensure they are portable, so that you could take your medical records to whatever provider you wanted and they could see your comprehensive history.

In our new AI-enabled future, technology would then be able to give us the biggest benefit from our data because it would be collected and accessible, and patients could control how AI is used with their data—whether and when—and get the benefits that can be brought from that.

What are you working on that could move the needle on improving access and value?

Many of my projects fall under the umbrella of looking at ways that policy or regulation have inadvertently created barriers, either for patients or for providers, to deliver the right care to the right person at the right price. One of them is our project related to what's called site-neutral payments, tied to the fact that Medicare currently pays hospital outpatient rates higher than ambulatory surgical centers and physicians' offices.

If you're delivering the same service, but in different settings, we shouldn't pay differently for it. And that means some hospitals might experience lower revenue, but it also means that the patients will pay lower costs. So, I think it's important to do this type of research to illuminate where these payment-related distortions lie, and how we can come up with a system that works better for patients and for providers.

A related project is looking at the way that the government pays health plans to provide insurance coverage for Medicare beneficiaries. We

know that the way the government pays creates incentives to game the system. For a program that the taxpayers are contributing over half a trillion dollars a year to, we need to look carefully at how these payments and incentives are aligned so that beneficiaries and taxpayers get the best value out of that system.

How can healthcare payment policies better account for additional challenges faced by providers serving communities with greater social needs?

We have lots of ways to funnel extra money to so-called "safety-net providers" who may have patients who are uninsured, or have a higher burden of disease, or face adverse social risks that affect their health—but we do it in such a piecemeal fashion. Anytime you try to change things in healthcare, you worry about whether it will have particularly damaging effects for safety-net providers. Our research pays special attention to this group.

But we also try to take a step back and say, "Does the way that we're funding these safety-net providers make sense? Does it actually cover the extra costs they have for serving the patient populations they do? And what would be a better way to do it?"

Why is it important for health policymakers to have economists and business leaders at the table for policy discussions?

In my experience working on Medicare Advantage, there are policymakers who ask for input from economists who understand incentive design, and from businesspeople who understand how to look for loopholes in the regulations—so that we can design a policy that would achieve, in this case, the best quality care at the lowest cost to the taxpayer.

It's an appeal to businesspeople: "Come tell us how this policy could be abused so that we can stop it from happening before we put it into effect, and we can develop a better policy for everyone."

What we're doing at Hopkins is solutions-oriented. So, we don't stop there. We all use different tools, such as the microsimulation models my center is using. If you want to look at policy options, a simulation model is a great way to do it.



"I think it's important to do this type of research to illuminate where these payment-related distortions lie, and how we can come up with a system that works better for patients and for providers."

MELINDA BUNTIN

DANIEL POLSKY

What's broken in primary care today, and could alternative models point us to solutions?

The current model of primary care doesn't seem to be working for the vast majority of Americans. Recently, I've been looking at outcomes in direct primary care and concierge medicine—these models where patients pay doctors a flat monthly or annual fee in exchange for unlimited access to primary care services. Concierge medicine is a symptom of the larger problem of a primary care system that is not meeting the needs of both patients and providers. With necessity being the mother of invention, there is much to learn from these new models in addressing the primary care crisis. Yet it is important to keep in mind that while a concierge doctor might be worth the expense for you or me to improve our access to primary care services, there are not enough primary care providers to scale this model, nor is there sufficient funding.

When people talk about the healthcare affordability crisis, are they focusing on the right problem?

Affordability in healthcare is defined by how much you take out of your pocket as a consumer. That is the definition of affordability most salient to voters. But it is just a symptom of a larger disease of high health spending that includes what is paid by private insurance and government-sponsored insurance programs—the total spend.

As healthcare spending grows, it affects everybody, but the people who are most shut out of healthcare are those with low incomes.

Why is it important to include more than health policy experts when conducting health policy research?

What's most salient in my mind is this experience I had, which Melinda was part of, too—an event at the Hopkins Bloomberg Center in Washington, D.C., on the future of Medicare Advantage, the private program for seniors to get Medicare. It combined the research community with the policy community in Washington, with providers and payers—and it was just so eye-opening for everyone. I can't tell you how

many people came up to me and said, "I just heard so many perspectives that really changed how I view this problem." This conference made clear that, while serious disagreements on approaches persist, there is common ground for innovative, inclusive approaches as the wide assortment of stakeholders are all working hard to improve the healthcare system.

What about once a policy is enacted? How important is follow-up analysis?

That's the bread and butter of the economist's work—post-policy evaluation for policies that have been adopted. And I'd say if there's a ding on the work that happens around me, it's that there's too much evaluating and commenting and criticizing policies that people have created, rather than: What is the solution? If this one isn't working, then what should be done?

Follow-up analysis is critical for ongoing improvement. We want to make an impact, and so we're investing our time and energy to build a collaborative, evolving ecosystem of continuous learning. This is at the heart of what we do at the Hopkins Business of Health Initiative.

Business schools and medical schools speak different languages. How is the Hopkins connection more than just proximity?

First of all, being near Washington, D.C., where healthcare policy is enacted, is crucial. Just as important is having access to, and collaborations with, experts in medicine, nursing, and public health, who are best in class.

Whenever possible, I connect students in my courses with Johns Hopkins clinicians. Recently, for example, I introduced a student who was working on the economics of orthopedic surgery to a surgeon in the field. The student reported back that their conversation was "incredible," and that he wouldn't want to undertake the project he was working on without actually talking to a doctor. As health economists, we can gain so much by collaborating with clinicians who live and breathe this stuff. Without those collaborations, it would be very easy to go off in the wrong direction. ■



DANIEL POLSKY

Bloomberg
Distinguished
Professor of Health
Economics

Joint appointment:
Health Policy and
Management,
Bloomberg School
of Public Health

Director: Hopkins
Business of
Health Initiative

National leader
dedicated to exploring
how healthcare
is organized,
managed, financed,
and delivered,
especially for low
income individuals



"I can't tell you how many people came up to me and said, 'I just heard so many perspectives that really changed how I view this problem.'"

DANIEL POLSKY

**Business of health:
No one offers
more, and no one
does it better.**

25%

More than **25%** of Carey full-time faculty cite health as a primary research or teaching interest

41%

41% of Carey Full-time MBA students are pursuing the Health, Technology, and Innovation specialization

17

Carey offers **17** business-of-health-related degree programs, specializations, certificates, and academies

54%

In 2025, **54%** of Carey's Full-time MBA students accepted a summer internship in the healthcare field—the highest rate for any business sector

150

Carey's Hopkins Business of Health Initiative includes more than **150** core faculty from across multiple Hopkins schools

SOURCE: CAREY BUSINESS SCHOOL OFFICE OF INSTITUTIONAL DATA AND ANALYTICS

Disruption & discovery

How can we learn to manage AI if it won't stop disrupting everything?

For many, it's not a choice between AI and a human; it's between AI and no doctor at all."

Johns Hopkins Carey Business School Bernard T. Ferrari Professor Tinglong Dai put succinctly what is so urgent about AI in healthcare. But as clear as that point is, the innovation behind it is constantly unfolding. While entrepreneurs and clinicians learn to navigate the gap between idea and implementation, they're pondering moral, logistical, and financial questions about the role of AI in an already complicated healthcare landscape. How can AI fill gaps in healthcare access and accelerate the pace of therapeutic discoveries? How can we protect the human relationships and oversight that will still matter?

To discuss insights and share perspectives on those questions, more than 300 experts, researchers, students, and business leaders gathered in person and remotely for Johns Hopkins Carey Business School's Healthcare Business Conference, "From Disruption to Discovery: Innovation in the Business of Health," a unique two-day event for which students had a significant planning role in collaboration with faculty and staff.

The conference featured presenters from Carey and the Johns Hopkins University School of Medicine, as well as leading experts from industries and academic medical centers,

"For many, it's not a choice between AI and a human; it's between AI and no doctor at all."

TINGLONG DAI



A Hopkins School of Nursing student networks at the Healthcare Business Conference hosted by Carey Business School.

“Innovation really sticks when you have buy-in from the beginning, when you include broad representation and explain the ‘why.’”

NEELIMA DENDULURI,
ASTRAZENECA

including the Sylvester Comprehensive Cancer Center at the University of Miami, AstraZeneca, and Harvard Medical School.

Perhaps one statement conveyed the general pace of learning about AI, its potential, and its perils. It came from Craig Eagle, chief medical officer at Guardant Health, during a panel on AI’s role in propelling drug discovery: “Every day I wake up and hear about something I didn’t realize it could do.”

Whatever one makes of the concerns about AI, there is no escaping its role in healthcare from here forward, and that means needing to learn how to work with it, and how to help everyone, from researchers to assistants to clinicians to patients, feel comfortable with it.

One example of AI and clinicians working together is diabetic retinopathy screening. Risa Wolf, associate professor of pediatrics and director of the Pediatric Diabetes Program at the School of Medicine, said she brought the screening system to Johns Hopkins in 2018, shortly after it won Food and Drug Administration approval, and didn’t skimp on rigorous testing or clinician education.

“You have to know the diagnostic accuracy, you have to understand the data set that built

the system,” she said. “And you have to be willing to educate about how it will work.”

Experts in a separate panel agreed that human relationships are crucial to every stage of AI-driven healthcare innovation, from bringing new funders aboard to earning the trust of patients and practitioners.

“Innovation really sticks when you have buy-in from the beginning, when you include broad representation and explain the ‘why,’ and you’re not thrusting it on people after it’s fully baked,” said Neelima Denduluri, vice president of medical affairs at AstraZeneca.

Another panel focused on the implications of using artificial intelligence for mental healthcare. Top of mind for the expert panelists and audience were tragic stories of people harmed by the AI algorithms they turned to for support and companionship. Josh Otero, CEO of Elanah.AI, said his product, tailored to military veterans, provides mental health support without being a substitute for therapy.

“We’re not trying to fill the role of a clinician, but we are trying to provide someone to talk to in the night,” he said.

Joining him on the panel were Gail Daumit, vice dean for clinical investigation at Johns Hopkins University, and Ananya Joshi, assistant professor in the Departments of Psychiatry and Computer Science and leader of the PALS Research Lab at Hopkins. PALS stands for psychiatry-assistive learning systems. Otero, Daumit, and Joshi all said AI tools can fill an important gap in mental health treatment, particularly when they are used to amplify the work of human therapists.

“We should use AI to augment our human capabilities,” said Joshi. “That is really what we want to work toward.”

But blending AI and human capabilities isn’t just important once the care starts. It’s also important in expanding access to care, particularly in underserved areas.

Guardant Health was the event’s key sponsor, with additional funding provided by Abbott, Gilead Sciences, Kaiser Permanente, and the Hopkins Business of Health Initiative. ■

Abbott, Adventist
HealthCare, American
Red Cross, Amgen,
AstraZeneca, Avalere,
AWS Health, Axle
Informatics, Bristol
Myers Squibb, CareFirst
BlueCross BlueShield,
Cigna Group, Guidehouse,
IQVIA, Johns Hopkins
Medicine, Johnson &
Johnson, Lilly, Mayo
Clinic, Medtronic, Pfizer

Hired in the business of health

Healthcare is the fastest-growing industry in the United States, and the business of health is even broader. The demand for talent is creating a new kind of competitive environment for graduate business schools. But what determines their success?

The answer is usually employment. More than half of Johns Hopkins Carey Business School’s Full-time MBA students in the Class of 2025 interned in the healthcare field with Abbott, Amgen, AstraZeneca, Lilly, Johns Hopkins Medicine, Johnson & Johnson, Mayo Clinic, Pfizer, and others. Come graduation day, 54% took jobs in the business of health, with companies such as AstraZeneca, Avalere, Bristol Myers Squibb, Cigna Group, Guidehouse, Lilly, and Medtronic.

“This is the only MBA school I saw myself going to,” said Ira Sharma, MBA ’26. “Carey is the undisputed leader in the business of health and has the Health, Technology, and Innovation specialization. Where else can you find that?”

When students see the school through a lens of interdisciplinary potential, employers see an advantage. Carey’s Career & Life Design and Employer Relations teams foster relationships with potential employers and build collaborative alumni partnerships to help students find employment and valuable career experience through internships. Each year, they connect with regional, national, and international companies to provide access to Carey’s students. For example, Carey’s Business of Health Week last year drew representatives from Adventist HealthCare, American Red Cross, AstraZeneca, AWS Health, Axle Informatics, CareFirst BlueCross BlueShield, IQVIA, and others.



Generation Next

A Hopkins alumna thought she knew healthcare. Then she got her Carey MBA.

Elizabeth Cherot, MD, MBA '16, was an accomplished physician running a successful OB/GYN practice that brought in more than \$13 million in revenue annually when a meeting changed her life.

"I was a physician who really never thought she was leaving the bedside," Cherot said. "I was sitting in a payers' meeting having a conversation about a value-based program, which was really kind of novel at the time, and they were having a conversation with my office manager. [I thought,] 'Why wasn't I being asked those questions, and what did I not bring to the table?'"

This moment of realization spurred Cherot to make a change and pursue an MBA at Johns Hopkins Carey Business School. As a Johns

Elizabeth Cherot

"I really wanted to be able to get that business knowledge but have the bridge over to healthcare."

ELIZABETH CHEROT,
MD, MBA '16

Hopkins undergraduate alumna, she knew Carey Business School would offer a unique experience for studying the business of health.

"And I remember telling my husband, 'Going to business school is cheaper than a midlife crisis and purchasing a Porsche,'" she said. "I really wanted to be able to get that business knowledge but have the bridge over to healthcare."

Cherot credits her MBA experience at Carey Business School for helping her make the transition from medical provider to healthcare executive. Today, she is chief medical officer of Unified Women's Healthcare, one of the largest networks of affiliated women's healthcare specialists in the U.S. and an industry leader in addressing women's healthcare needs. As CMO, she oversees more than 3,000 clinicians across 23 markets.

Cherot is also president of Lucina, a Unified subsidiary that pairs AI-driven intelligence with personalized care management to support healthier pregnancies at lower costs. Lucina estimates its predictive modeling reduces preterm births by 7% and saves up to \$33,000 for every avoided preterm birth.

"What I learned at Carey wasn't just how to look at a spreadsheet; it was everything from how to work with a team to how to bring in the talent that I don't have," Cherot said. "How do I learn to be a leader within a really different set of people?"

The MBA experience at Carey Business School, which included a field trip to Ecuador to review the operations of a rural hospital, helped shape her perspectives on leadership and the direction her career would take. She also valued working alongside classmates from industries outside of the medical field.

"The experiential learning program was fantastic," she said. "You immerse yourself in a whole other country, you learn about their healthcare, you work with a small team, and you get to work on a project that you take from ideation to fruition and really watch it become something real."

Changing the business of health

When you're the education leader in the business of health, your graduates are bound to lead some of the most significant health organizations in the world. Here are just a few examples of extraordinary individuals we're proud to call Carey Business School alumni.



Nicholas Holmes, Business of Medicine Certificate '03
President, UCSF Benioff Children's Hospitals



David N. Maine, MD, MBA '23
President and CEO, Mercy Health Services



Redonda Miller, MD, MBA '04
President, Johns Hopkins Hospital

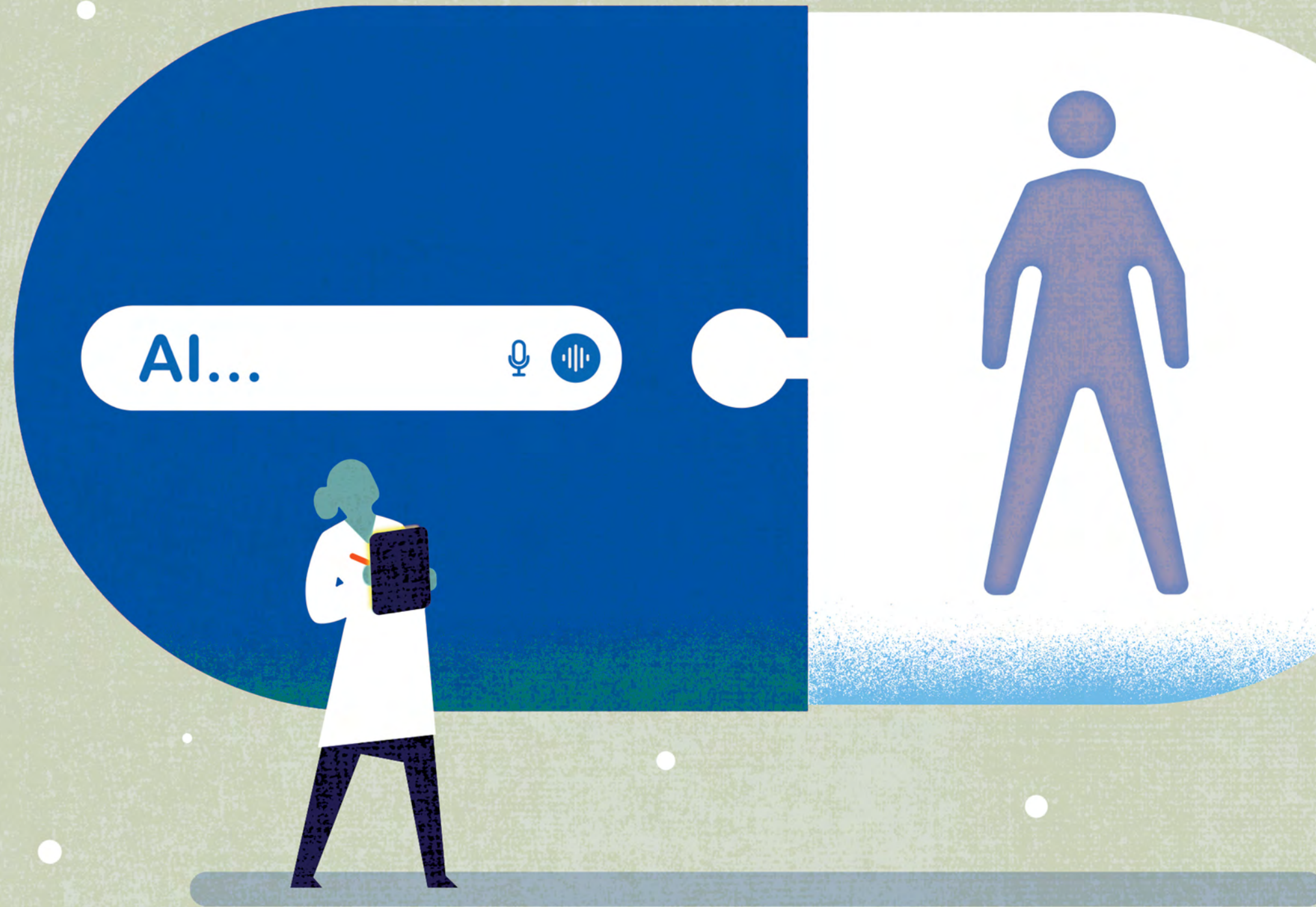


Myechia Minter-Jordan, MD, MBA '07
CEO, AARP



Tom Polen, MBA '03
Chair, CEO, and President, BD

In a career that led her from Brunswick Hill Obstetrics and Gynecology to chief medical officer at Axia Women's Health and president and CEO of March of Dimes, Cherot is very excited about Lucina's potential for improving the health of mothers and babies. Using a SaaS program platform, Lucina analyzes data from a multitude of sources, including payer information, electronic medical records, and monitoring from wearable devices. The synthesized information helps shape a blueprint for coordinated medical care and wraparound support services. ■



Is AI a backhanded complement to physicians' expertise?

As the saying goes, you are often judged by the company you keep. If you're a doctor keeping company with a large language model, it might apply to you, too.

Carey Business School researchers found clinicians face belittlement from their peers for using AI, despite pressure to be early adopters of AI in healthcare settings.

"AI is already an unmistakable part of medicine," said Tinglong Dai, Bernard T. Ferrari Professor of Business at the Johns Hopkins Carey Business School and co-corresponding author of the study, which was published in *npj Digital Medicine*. "What surprised us is that doctors who use it in making medical decisions can be perceived by their peers as less capable. That kind of stigma, not the technology itself, may be an obstacle to better care."

The study reveals that generative AI's use in medical decision-making impacts how physicians' colleagues perceive them. The research



"In the age of AI, human psychology remains the ultimate variable."

HAIYANG YANG

Left to right:
Bernard T. Ferrari
Professor Tinglong
Dai and Associate
Professor
Haiyang Yang

shows that fellow clinicians deem doctors who rely on generative AI for decision-making to lack clinical skill and overall competence. Colleagues also downgrade their perceived quality of the AI users' patient care. Such findings may indicate a social barrier to AI adoption in healthcare settings, which could slow advances that might improve patient care.

The Johns Hopkins University study involved a randomized experiment in which 276 practicing clinicians evaluated different scenarios: one physician using no AI, one using AI as a primary decision-making tool, and one using it for verification. The research finds that as physicians were more dependent on AI, they faced an increasing "competence penalty," meaning that peers more frequently questioned their counterparts who were more reliant on AI than they questioned counterparts who were less reliant.

"In the age of AI, human psychology remains the ultimate variable," said Haiyang Yang, first author of the study, associate professor, and academic program director of the Master's in Management program at Carey. "The way people perceive AI use can matter just as much as, or even more than, the performance of the technology itself."

Framing generative AI as a "second opinion" or a verification tool partially mitigated negative perceptions from peers, but it did not fully eliminate them. The most favorable peer perceptions were reserved for the physician using no generative AI.

The findings align with theories that suggest clinicians consider it a weakness to depend on an external source like AI.

Ironically, the study also found that clinicians still recognize AI as a beneficial tool for enhancing precision in clinical assessment. Clinicians broadly acknowledge that generative AI can help improve the accuracy of clinical assessments, and they find institutionally customized generative AI even more useful.

"Physicians place a high value on clinical expertise," added Risa Wolf, co-corresponding author of the research and associate professor of pediatric endocrinology at Johns Hopkins School of Medicine with a joint appointment at Carey. "And as AI becomes part of the future of medicine, it's important to recognize its potential to complement—not replace—clinical judgment, ultimately strengthening decision-making and improving patient care." ■



Left to right:
Peetz Family
Professor of
Leadership
Christopher Myers
and Professor
Tinglong Dai

The new care team member

What will it take to reliably implement AI in healthcare delivery? The trust isn't just in the physicians and nurses. According to Carey Business School Professors Tinglong Dai and Christopher Myers, it must also be in the person who integrates the tech into the culture and systems that already exist. There are important procurement, implementation, and calibration factors to consider. Who will decide how sensitive AI-based detection systems should be, or where they should be implemented? Should they

risk implementing AI with highly sensitive thresholds and create stress on the system, or skew toward less sensitivity and risk missing something?

Dai and Myers shared their research and perspectives with thousands of industry leaders at a Washington Post "Post Next" event that also featured experts like Healthier Capital Founder and CEO Amir Dan Rubin and Abridge Senior Physician Executive Reid Conant, MD, as well as policy expert Congressman Ami Bera of California.

Cuban and Conway: Are PBMs a bitter pill?

In a lively discussion hosted by Johns Hopkins Carey Business School and Accounting Professor of Practice Ge Bai, renowned billionaire entrepreneur Mark Cuban faced off with Optum CEO Patrick Conway, MD, over how the U.S. pharmaceutical industry does business.

Cuban's venture, Cost Plus Drugs, cuts consumer cost by eliminating pharmacy benefit managers, or PBMs—third-party companies that negotiate the drug prices paid by insurers and consumers. Optum includes Optum Rx, a PBM and pharmacy services company.

"They say they protect patients by negotiating better prices," Cuban said. "I say, look at your deductible. Why are patients who need the medication paying retail price while working down their deductible?"

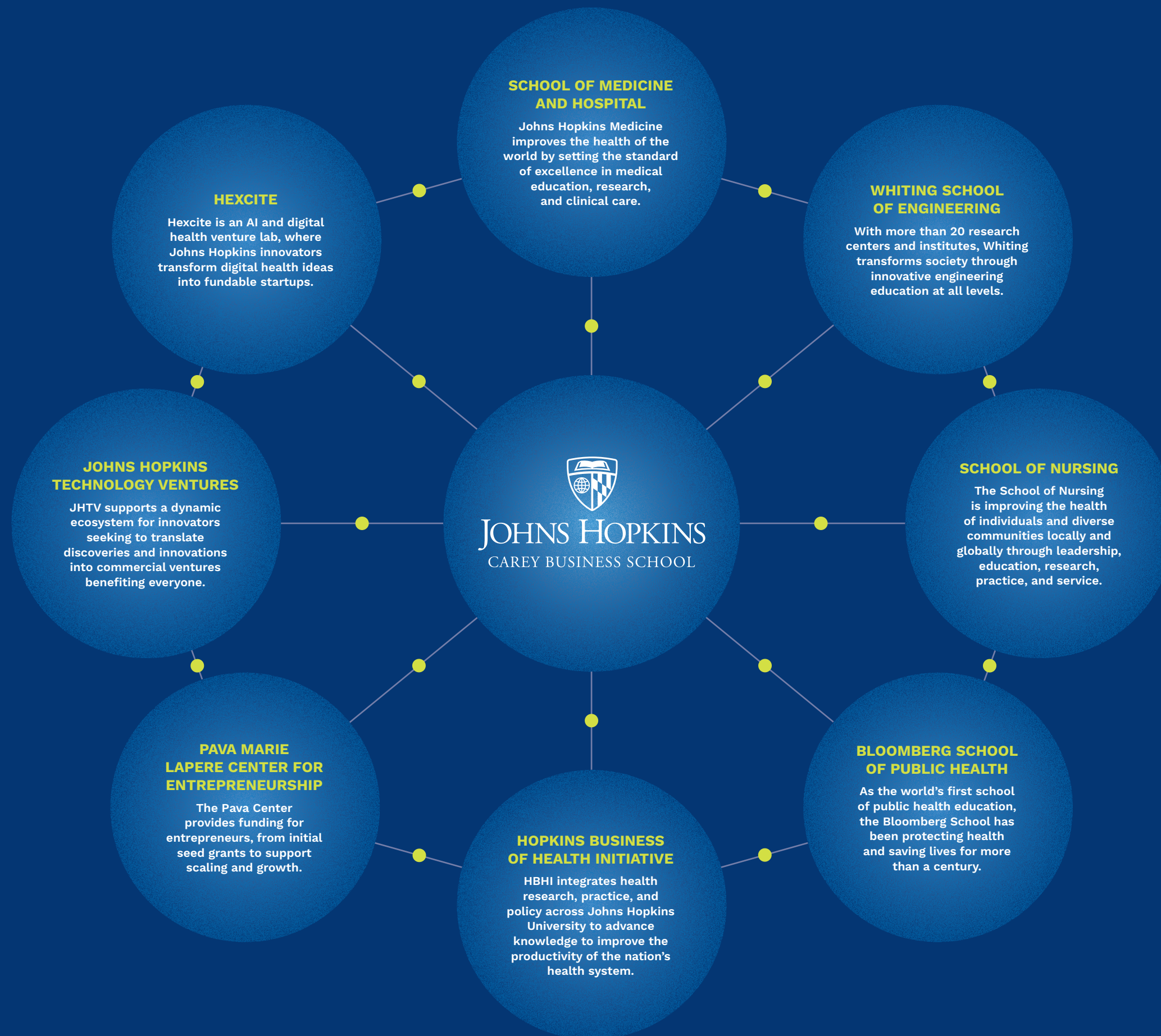
"The primary issue in the U.S. is hospital and health system costs and pharmacy costs," said Conway.

The discussion was part of a seminar at Johns Hopkins University Bloomberg Center that also featured venture capitalist Bill Gurley.



At the center of the business of health

Johns Hopkins University is America's first academic research institution, leading the way for 150 years. Carey Business School is at the center of an unmatched ecosystem for innovation and discovery around the business of health.



Our experts on harnessing the AI revolution across the business landscape

CONTENTS:

- 32 All part of the game
- 36 Smashing the button
- 40 Can we talk?
- 44 Lost in translation
- 46 Bot or not, what matters to workers?



ALL PART

OF THE GAME

AI-VR uses gamification to make cybersecurity lessons more engaging

Bad actors are using increasingly sophisticated methods to hack into healthcare systems, putting patient care and their personal information at risk. Learning how to prevent those attacks—and what to do when they occur—isn't easy, as Assistant Professor of Practice Javad Abed knows very well. He has been studying and teaching cybersecurity protocols at the Carey Business School since 2020.

Many of his students are healthcare professionals who need to know how to respond to such breaches in real time. But engaging them can be challenging. They're a new generation of learners, after all. Tabletop exercises don't mimic the heart-pounding reality of decision-making that can be literally life or death.

Abed has helped create and launch an elegant system that uses AI to solve some of the very problems created by AI—namely, student distractedness and the ability to easily cheat.

"We decided to make it a game," he said. "We want to make it more fun for students, with some of the concepts of gaming, like getting to different levels."

NOT PLAYING AROUND

His innovation, called HealthGuard AI-VR, began with a \$75,000 Digital Education and Learning Technology Acceleration, or DELTA, grant awarded by the Hopkins Provost's Office in 2024. Each year, DELTA grants support five projects that cross Johns Hopkins disciplines and use digital technology to enhance teaching and learning.



Assistant Professor
of Practice Javad Abed

Tabletop exercises don't mimic the heart-pounding reality of decision-making that can be literally life or death.

Abed developed HealthGuard AI-VR in collaboration with two other Hopkins experts. Anton “Tony” Dahbura is an associate research professor at the Johns Hopkins Whiting School of Engineering and executive director of the Johns Hopkins University Information Security Institute, a Johns Hopkins University hub for cybersecurity research, education, and policy. Shih-Chun “David” Lin is a neurosurgeon and assistant professor in the Johns Hopkins University School of Medicine.

The system generates different starting scenarios and then uses generative artificial intelligence to respond in real time to participant actions and to match complexity to student abilities.

When participants don the VR headset, they feel as though they're moving around a hospital, albeit one that looks a bit like a cartoon. The view shifts as they turn their head, and the computer keyboard responds as they move their hands to type.

Each room has a different cyber-problem that students must solve to progress to the next one: an interrupted surgery, altered medical records, or a device that has gained unauthorized access. As the student works to quell the emergency, alarms blare, phones ring, passwords fail, and software updates take several stressful minutes to install.

All of this helps students learn the underlying principles of cybersecurity and practice how they should respond.

HIGH SCORE

In early tests, student participants, who were not graded on their performances, recorded a 38% improvement in applied decision-making related to cybersecurity incidents, and a 45% increase in confidence that they could correctly identify and counter such attacks.

“I feel much more prepared to identify a phishing attempt on a medical device now,” said one.

“The gamified elements made me want to beat my previous score,” said another.

Several participants said the experience prompted them to change their passwords and device-sharing habits.

Abed expects it to be used in several classes soon, such as Cybersecurity Risk Management, Managing Cybersecurity in the Age of AI, and Digital Transformation of Business. He said the technology can be deployed in a wide variety of educational settings, not limited to cybersecurity. It's akin to a lab: an important part of the course work, but only part of it. It still requires human teachers.

LEVELING UP

Like AI itself, HealthGuard AI-VR is generative, and Abed expects improvements over time. Currently, the system's VR headset is a bit heavy and uncomfortable, he said. But there's a plan to improve that.

“Right now, we have a very good technology, but in terms of usability, it's not perfect. New versions will use glasses, which will be a game changer.”

Abed, an occasional gamer himself, understands the immersive appeal of video games. In fact, he has stopped playing, he said, because he was devoting too much time to them. He also understands that education must continually innovate to stay relevant, particularly these days, when AI-driven disruptions are the norm instead of the exception.

“We have to adapt and change and do it quickly to keep pace with the changes all around us,” he said. ■

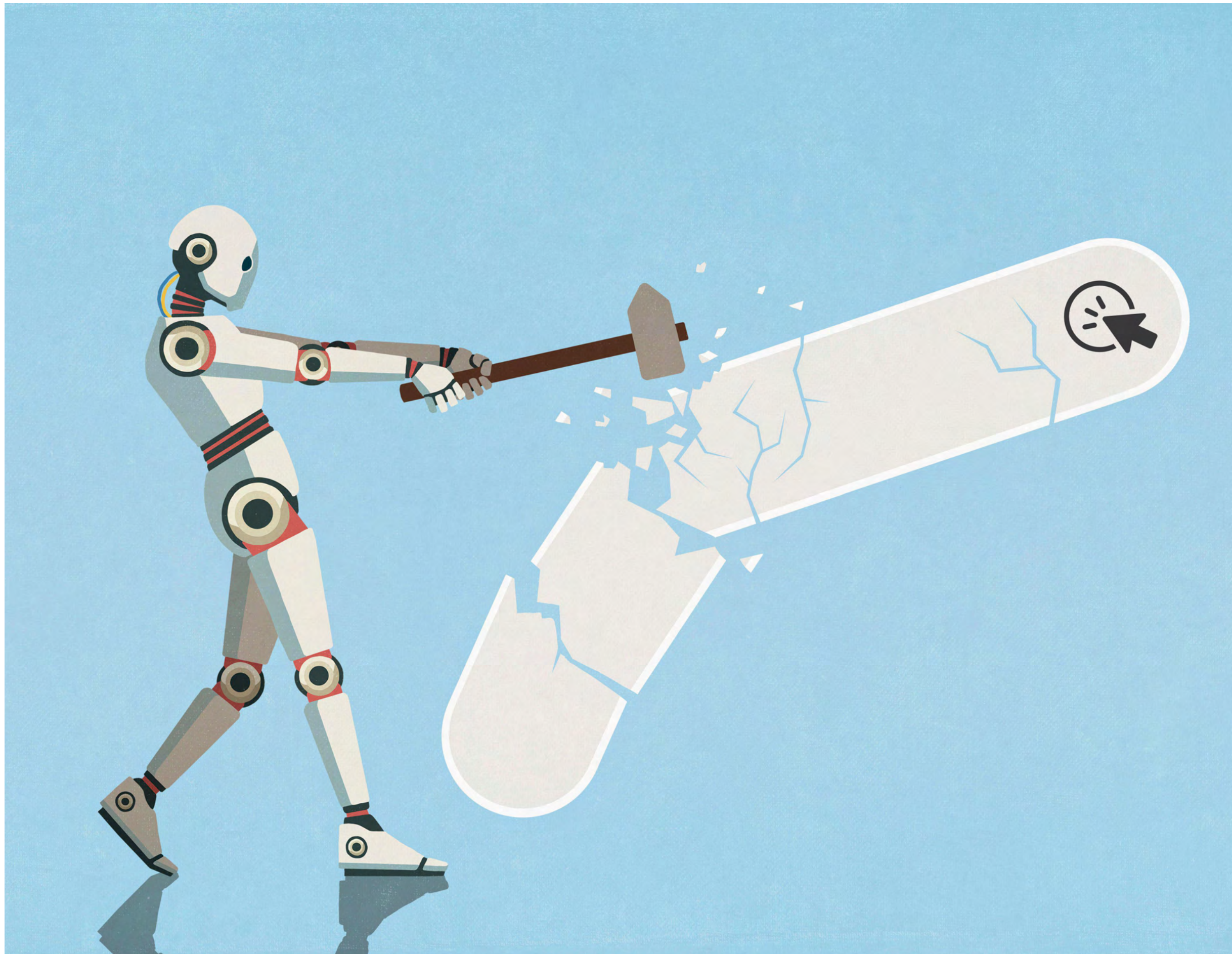


Dean Alex Triantis

**AACSB recognizes
Carey Business
School for innovation
and service**

HealthGuard AI-VR earned a prestigious 2026 Global Impact Award from the Association to Advance Collegiate Schools of Business. The awards recognize excellence in leadership, teaching, research, and societal impact. AACSB said HealthGuard AI-VR “enhances engagement, decision-making, and applied cybersecurity competencies, transforming how students learn to manage real-world digital risks in business and healthcare contexts.”

Carey Dean Alex Triantis also earned a Global Impact Award for excellence in service and community leadership. Triantis previously served as chair of the AACSB board. AACSB noted that Dean Triantis “provided decisive strategic leadership during a period of transition, strengthening AACSB’s governance and organizational effectiveness while reinforcing its focus on innovation, societal impact, and the evolving future of business education.”



Smashing the button

Is the click of a button a thing of the past? How AI agents will change work

At the push of a button.” It’s a common phrase used for more than a century to imply how easily, conveniently, or immediately something can be accomplished through the wonders of technology or automation. So, what happens when you don’t need buttons?

The future is coming fast, and Assistant Professor Harang Ju, co-director of the AI Agent Lab at Carey Business School’s Center for Digital Health and Artificial Intelligence, is thinking a lot about AI and those disappearing buttons. Ju, who studies human and machine interaction, explains that because AI agents use language to make things happen, they don’t use digital buttons like those in a PDF file or a web browser. That means the way humans and machines interact needs to change.

“Our current organizations and information systems are designed for our eyes and for our typing,” said Ju. He explained that today’s users move a cursor to click digital buttons or type text into boxes to perform operations and execute functions. Agents can skip all of that.

“Agents use language. We’re redesigning our systems to be used better by the AI agents.”

Many people are talking to AI agents, and the agents are talking with one another. In a 2026

“We’ll be at the cutting edge of all institutions on AI adoption, especially the big ones.”

HARANG JU



Left to right:
Associate Professor
of Practice Minghong
Xu and Assistant
Professor Harang Ju

Harvard Business Review article, Ju likened the AI transition to the modernization of factories during the Industrial Revolution. He explains that factories used to be multi-storied buildings, designed to take advantage of centralized steam engines to power machinery. When electricity came along, the first inclination was to layer the technology onto the old factory layout. It took time for people to realize its potential and redesign the factory to take full advantage of the new technology.

To truly benefit from AI agents, Ju said, organizations will need to rethink their structures, data systems, and workflows so that new autonomous systems can operate across silos and support humans in higher-level judgment and coordination. He notes that the key to integrating artificial intelligence into the workplace will

come from changing the nature of work to use AI for existing work.

LINKING HUMANS AND MACHINES

Ju’s interest in connections between people and computers stems from his early studies of human neural pathways. He studied computer science, cognitive science, and biology before coming back to business. That gives him a framework for thinking of the relationship with AI.

“Instead of looking at neurons and organizations of neurons, we’re actually looking at organizations of people and AI,” he said.

Right now, the AI Agent Lab is developing chatbots to help with Carey’s basic business operations as well as agents for research and classroom instruction.

“We are working on several agents for the entire Carey community,” said Associate Professor of Practice Minghong Xu, who also co-directs the AI Agent Lab. “We want to develop these by ourselves and deploy Johns Hopkins’ own kind of infrastructure service.”

For example, the AI Agent Lab is developing a negotiation bot for the classroom. Xu explained that the chatbot would argue different points of view to help students improve their negotiation skills. Xu noted agents, chatbots, and AI tools could be tailored to other projects that need greater efficiency.

“We’re starting small, but I think we’ll be at the cutting edge of all institutions on AI adoption, especially the big ones,” Ju said. “We’re at the very, very cutting edge of AI implementation. There are a lot of tools out there but implementing them is super hard.” ■



AI judge makes the cut

Carey Business School student Tong Zeng was looking for a challenge. With a little encouragement from his advisor, Associate Professor of Practice Changmi Jung, he built Carey’s first case competition-judging AI agent.

Programmed with the same rubric and presentation materials as the human judges received, VERA, or Venture Evaluation and Reasoning Agent, judged the annual Ward Infinity Case Competition, a contest in Washington, D.C., for early-stage businesses using technology to improve public health.

What was the verdict? Zeng says VERA arrived at the same conclusions as the human judges in all but one presentation. VERA also decided in 30 seconds, while the human judges took more than 10 minutes.

Not bad for a first try.

“This was my first AI application, and it actually worked in real competition,” Zeng said. “That’s an amazing experience, because I learned a lot of AI knowledge in this process.”

The winner of the AI-judged pitch competition is a startup that uses AI to develop personalized kidney wellness assessments.

Can we talk?

The hangups about AI chatbots, and how companies can get through to customers

We all know the feeling. That little box pops up in the bottom right corner of a website, a smiling, suitably attractive face in a circle next to it: “Hi! I’m Tina and I’m here to help!”

The decision we make in that moment, and why, is what Johns Hopkins Carey Business School Associate Professor Evgeny Kagan and Professor Maqbool Dada wanted to understand. In collaboration with a third co-author, their research into the intersection of human behavior and operations management focused on what happens for both businesses and consumers if we decide to “talk” to “Tina.”

“Most research to date has focused on questions related to chatbot design, such as whether anthropomorphism helps or hurts adoption,” Kagan said. “We wanted to study chatbot adoption from a broader service design perspective: What drives customer willingness to engage with a chatbot? And what are some simple remedies businesses can take to increase chatbot uptake?”





DO YOU HAVE A MINUTE?

Through an exploratory survey of online customer service chatbot users, followed by three experiments, the researchers arrived at some valuable conclusions.

The trio found one common hangup: algorithm aversion. It's the term for consumers' innate preference to interact with other humans rather than an algorithm. But Kagan and team found it could be fairly easy for businesses to overcome.

"Some people are distrustful of robots in general and of the fragmented 'conversations' that occur during AI encounters," said Kagan. "They prefer the more continuous interaction that comes with a human conversation. We found that to get around algorithm aversion, chatbot operators can point to the time-saving advantages of using the chatbot."

Companies can easily pull chatbot performance information from their data, Kagan said. If the performance data look favorable,

Left to right:
Associate Professor
Evgeny Kagan
and Professor
Maqbool Dada



companies can use it as a "nudge"—communicating a clear time-saving advantage to customers, who can then make informed decisions about whether to use chatbots or not.

Tina: You can always call our helpline. Right now, the wait time there is 25 minutes. But there's a 60% chance I can help you resolve your question right now. Want to try?

It's almost earnest. Tina seems so nice. How could we resist? With such a nudge in place, the researchers found in their experimental models that the impact of algorithm aversion almost disappears.

OPERATORS ARE STANDING BY

More difficult to overcome, the team found, is what's known as "gatekeeper aversion." Gatekeepers, who are the least expensive first-line responders to customer queries, protect higher-paid employees' time. Gatekeepers are crucial to the customer service industry—and they can be the source of endless frustration for consumers, who get caught in a seemingly continual loop of time-consuming phone transfers that don't address or resolve their issue.

"People react very negatively to that," said Kagan. "We hate being transferred, whether we're dealing with a human or a robot."

In their chatbot experiments, Kagan and his colleagues found that gatekeeper aversion is very persistent and hard to overcome. Even if Tina's charming 6-in-10 chance of success is true, we think, it probably won't be true for us.

"From the outset, users perceive the risk of chatbot failure to be high, and they don't want to engage," Kagan said.

While this hurdle is more difficult to handle, the team did find one promising solution: priority queues. The idea here is that Tina tells us at the outset that if the chatbot fails to resolve our issue, we will be expedited to a live agent.

Tina: I can most likely save you a lot of time. But if I can't get you the answer you need as quickly as you need it, I'm happy to connect you with a live agent who can. Sound good?

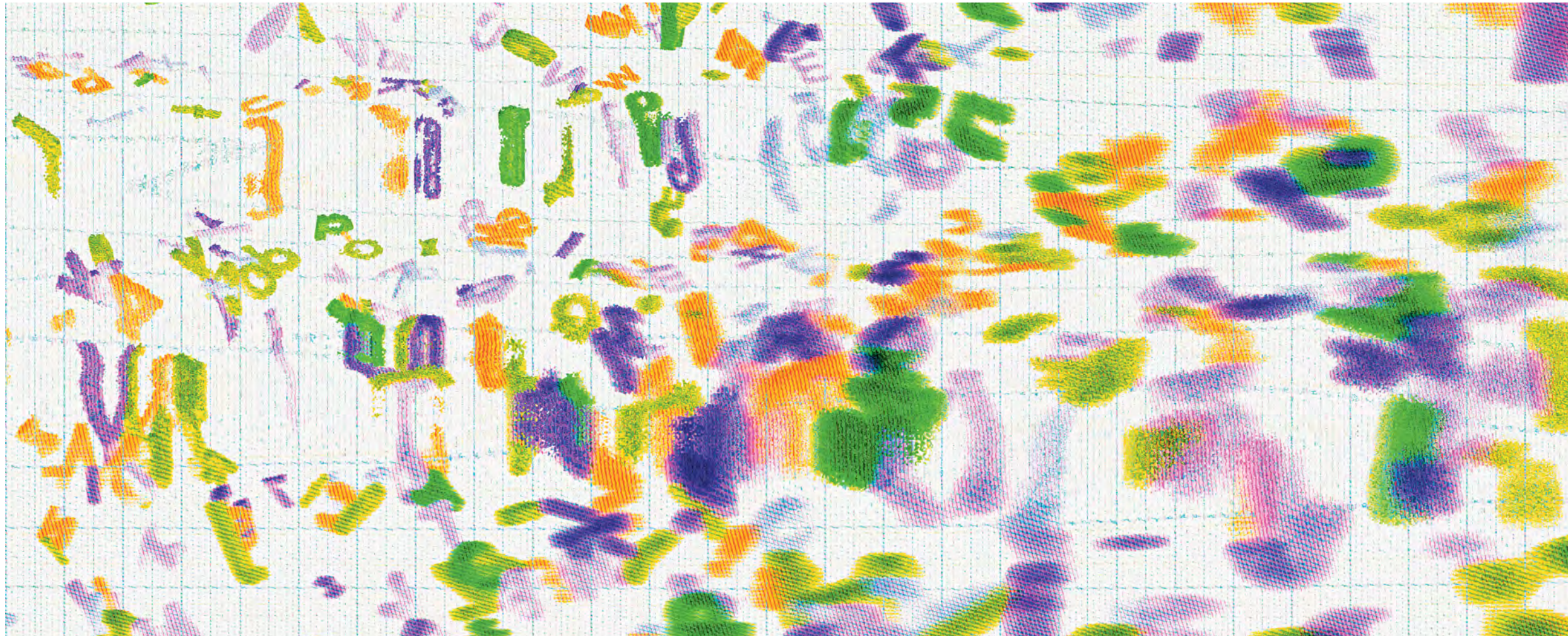
So now we know it would take 25 minutes to talk to a human if we call the helpline, but if we talk to Tina, she could find the answer fast or get us to an agent in a fraction of the time. Who would turn their back on Tina now?

Using experimental data, Kagan and his colleagues found that by implementing both an expected waiting time nudge and queue priority rules, companies using chatbot technology could compel consumers to use the bot, reducing staffing costs by up to 22 percent.

As technology advances and consumers become ever more comfortable using AI chatbots, "customer service companies will experience a major transition in their business model," Kagan predicted, making insights like those gained by his team even more valuable.

And that would make Tina—and possibly consumers—very happy. ■

Companies using chatbot technology could compel consumers to use the bot, reducing staffing costs by up to 22 percent.



Lost in translation

Above:
Assistant Professor
Wesley W. Koo

Less actionable and less creative.” That’s what AI-generated content is when it’s not in English. And in the global AI revolution, that could leave millions of workers behind.

Carey Business School Assistant Professor Wesley W. Koo wanted to know whether non-English speakers are at a disadvantage when it comes to AI in business. His two-part study, published in *Nature’s Scientific Reports*, says yes.

“What I found was a difference in the amount of content and the usefulness of the content that was being spit out,” he said. “For example, if I asked the LLM to summarize a paper, the English version came back with 10 to 12 points highlighted, while the Chinese version offered seven to eight points.”

Koo compared the two outputs using email, a common business-related type of communication. When the results were in Arabic or Chinese, they were less helpful, and particularly so for non-English-speaking participants who had more technical tasks, like product design or scientific discovery.

In the first part of his study, aimed at evaluating content, Koo focused on the quality of AI-generated responses to common business questions in all three languages. He used ChatGPT to supply 200 prompts about common business-related issues, which were translated into English, Chinese, and Arabic, resulting in 600 AI-generated responses. A team of six native speakers, two for each language, evaluated the responses, following a rigorous two-week training program aimed at providing consistency in the evaluation criteria.

Compared to English responses, responses in Arabic scored notably lower in the four areas under study: completeness, relevance, actionability, and creativity. Chinese responses scored slightly better, but still lower than English responses in all four areas.

“If something doesn’t change, we run the risk of widening the productivity gap between English and non-English speakers, particularly in more technical domains.”

WESLEY W. KOO

In the second part of Koo’s study, evaluators examined the quality of the emails that participants wrote in response to AI output, as well as their productivity and perceptions. Here, Koo found that the use of AI led to longer, more content-filled emails written in English than in Arabic or Chinese.

“My research shows that we need more language-inclusive LLMs to support workers worldwide. If something doesn’t change, we run the risk of widening the productivity gap between English and non-English speakers, particularly in more technical domains,” Koo said.

English-speaking users predominantly trained the most popular LLMs—think ChatGPT, Google Gemini, and Claude, and even the Chinese LLM DeepSeek. But Koo’s study demonstrated that, even if people who don’t speak English learn how to work with LLMs, it won’t help them as much as it will help an English speaker.

In other words, AI could leave some kinds of workers in a double bind; even if they keep their jobs, it may be harder to do their jobs.

Koo notes that Chinese individuals were more likely to embrace and feel confident about AI, which he says aligns with recent studies showing that people in Eastern countries are more optimistic about AI usage. But that’s not the same thing as a solution. More confidence with AI, he pointed out, doesn’t necessarily mean better work with AI-generated content. In fact, Koo said, it could mean more, but worse, output.

Koo tested the LLM results against work tasks in marketing, customer service, human resources, and research and development. Cross-lingual variation was most pronounced in R&D, where participants had to resolve issues related to new technologies and products. These topics, he noted, are less familiar and could require more AI assistance.

“Current evaluation of LLMs and AI tools depends heavily on benchmarks that measure the model’s ability to produce the right answers to pre-determined questions or complete pre-determined tasks,” said Koo. “Human application is rarely taken into account. How people use AI and variations in languages across population segments aren’t being considered.” ■

Bot or not, what matters to workers?

Carey Business School Professor of Practice Richard R. Smith is optimistic about the AI future, but he is concerned about how AI and many other factors may affect workers. Smith leads Carey's Human Capital Development Lab and has been looking at worker trends for many years, measuring well-being in the corporate world, including employee mental health, emotional support, sense of purpose, and financial health.

"What we're seeing is a growing gap between how leaders and their teams experience the workplace," said Smith. Following the pandemic, he explained, managers may feel a return to normalcy, but that doesn't mean their employees do.

"Leaders must be cautious not to assume their own well-being reflects the broader workforce at their organization," he said. "The data shows a potential disconnect, and that's a signal for action."

According to Smith's research, U.S. employee well-being hit a new low point in 2024 despite some improvement in well-being scores of managers and senior leaders. The studies show less engagement, sense of purpose, and sense of belonging. The lower scores might be due to less flexibility for hours or remote work, challenges with the greater economy, inflation, or other productivity needs. Women and African



Americans, Hispanics, and younger employees all scored lower in well-being, compared to their older white and Asian male colleagues.

On top of that, well-being scores went down in the Bureau of Labor Statistics' fastest-growing industries: healthcare, professional services, and information technology. Education sectors also declined.

So how can leaders foster a positive organizational climate?

Smith says it takes trust-building, recognition, and supportive relationships among employees. Such interventions not only benefit employee health and well-being but also contribute to improved work-related outcomes, aligning with the principles of humanistic management and ethical care in the workplace.

It's too early to say how much AI is impacting the well-being of current workers, but more research will tell. Smith's Lab has developed a Well-Being at Work Index that will help highlight key areas that may require employer attention. With ongoing research around the world on employee well-being, Smith and his team will continue to put the needs of humans front and center in the age of AI. ■

"The data shows a potential disconnect, and that's a signal for action."

RICHARD R. SMITH



Professor
of Practice
Richard R. Smith

The Human Capital Development Lab

People are at the heart of any successful organization. They are also susceptible to systemic shocks and changes in socioeconomic expectations, and they've had more than their share of those in the last few years. Disruption is constant. Leaders need a deep understanding of nuanced challenges. And a seamless exchange between researchers and practitioners is vital.

That's why the Human Capital Development Lab emerged amid increasing needs in business, organizations, and nations as they work to address the human capital challenges of today and the planning for new solutions tomorrow. The HCD Lab takes on this responsibility and strives to be the conduit for solutions.

Led by Rick Smith, the lab bears testament to Johns Hopkins' commitment to address deep-rooted societal and structural issues and foster interdisciplinary research. In collaboration with the Johns Hopkins Schools of Medicine, Education, and Advanced International Studies, the Human Capital Development Lab assembles experts on talent management, organizational behavior and leadership, well-being, and health and international policy to unpack the multifaceted and often interlaced complexities of building a thriving and equitable workforce.

To date, the lab has also partnered with the Dr. Lorna Breen Heroes' Foundation, Great Place To Work®, the Society for Human Resource Management, Carey's Gender and Work Initiative and Center for Innovative Leadership, and other organizations on research and convenings to foster a sustainable model of human capital development through structure, talent, culture, and leadership.

Our researchers on **impacts** that make business better for all

CONTENTS:

48 **Prove it**

52 **Keeping the lights on**

54 **Who's got the kids?**

59 **Is it time to wake up from the American Dream?**

60 **Instant gratification**



PROVE IT

Bloomberg Distinguished Professor Paul Ferraro says without proving whether green solutions succeed or fail, efforts to mitigate climate change go right down the drain.

We have a new water-efficient toilet. Please flush twice.

The sign posted in the bathroom of a bed-and-breakfast was ironic enough to make Bloomberg Distinguished Professor Paul Ferraro take a photo of it for his students.

The subject was fitting for Ferraro. The Carey Business School professor's work focuses on acquiring and deploying better methods and data to assess green strategies. He believes that shaping future strategies demands not only assessments of past efficacy but a deeper knowledge of how projects succeed or fail—that true effectiveness for green solutions requires impartial, informed research to not only plan, but also verify, the solutions' effectiveness.

"I don't have a horse in the race," said Ferraro, who also holds an appointment in Johns Hopkins' Department of Environmental Health & Engineering, a joint venture between the university's Bloomberg School of Public Health and Whiting School of Engineering. "Sometimes, a finding might be positive. Something works in the way we hoped it would. And in other cases, it'll be the opposite. I want to show how

Bloomberg Distinguished Professor Paul Ferraro

something works or how something doesn't work. I just go with what the answers are."

SUSTAINING CHANGE

Even when green adaptation projects have low costs and minimal demands, they can be challenging to sustain. Sustained change often requires more: significant alterations to existing behaviors and acquisition of new habits. Ferraro and his collaborators are exploring what it takes to make and sustain change. One of Ferraro's recent studies offers a window into his approach.

In 2015, almost 900 residents in an arid, rural area of Costa Rica were randomly selected to have technicians install in their homes free water-efficient technologies that save water by mixing air with water from showers and faucets. Nearly 400 homes that were not selected for free installations served as a control group, allowing researchers to quantify the impact of the technologies on water use.

A paper published in *Proceedings of the National Academy of Sciences* by Ferraro and a co-author found that promising initial results did not continue in the long run.

In the first year, household water use dropped significantly: about 10%. But just three years later, the projects' benefits disappeared, mainly because about 70% of participating households reported uninstalling the new technologies and not replacing them. They uninstalled them because they did not like the water flow, the technology became clogged with sediment and minerals, or the technology broke.

"Just because people start to use a new technology or a new practice," observed Ferraro, "doesn't mean they're going to use it the way you think they are, or that they're going to continue using it."

But the challenge isn't limited to remote areas and residential subjects. Ferraro and his team published a paper last year in *PNAS* examining how well Indiana farmers who were incentivized to adopt cover cropping persisted in that practice.

The answer was: not well.

Cover cropping shields earth exposed in bare fields to preserve and enhance soil quality and reduce herbicide use. Yet when Ferraro's team examined Indiana farmers' practices from 2014 to 2019, they discovered that only 36% of fields that were cover-cropped in 2014 were covered again in 2015. And only 4% of them had cover crops in all five years.

Broad and verified data from thousands of parcels spurred these new findings. Although policymakers are very focused on encouraging environmentally friendly agricultural practices like cover cropping, they have paid little attention to the persistence of those practices.

Understanding this "persistence blind spot," as Ferraro terms it, requires national-level assessments of key conservation and climate-smart practices.

BLIND SPOTS

Another new study by Ferraro and his collaborators tackled a similar blind spot in energy conservation. Although residential energy conservation initiatives by utilities have been shown to produce short-term reductions in energy use, little attention has been paid to whether they produce long-term reductions. Understanding how to achieve long-term reductions requires understanding how energy conservation interventions work.

"The challenge," said Ferraro, "is that everyone wants to understand the mechanisms by which these interventions work, but we can't see what people are doing inside their homes. We need creative methods to illuminate what we can't see directly."

In tasks as important as mitigating and adapting to climate change, it's important to know what works and how long it works.

"I appreciate the concerns that people have about studies that report findings that are contrary to prevailing sentiments about the most effective strategies for mitigating and adapting to climate change," said Ferraro. "But I hope that, in the long run, such findings will lead to better strategies and thus better outcomes for everyone." ■

The projects' benefits disappeared, mainly because about 70% of participating households reported uninstalling the new technologies.

How do nudges work?

Research often assesses the effectiveness of nudges—low-cost, subtle alterations to decision environments—on the adoption or continuation of desirable behaviors. The emerging consensus is that nudges have beneficial impacts in many settings, but do not always produce long-term results.

A paper co-authored by Paul Ferraro, Carey Assistant Professor Alec Brandon, and other researchers examined if the nudges deployed by power companies via a home energy report produced only short-term reductions in energy use or if they produced persistent energy conservation. Using a large data set of over 140,000 households from 38 field trials, they concluded that nudges yielded persistent energy conservation.

Ferraro said the study helps answer how nudges lead to persistent behavioral changes.

"We often want to know: 'What are the mechanisms through which something works?'" he said. "But the challenge for many of these studies is that we can't observe mechanisms."

The authors came up with a clever idea to detect what they could not observe: if residents reduced their energy use via technologies, like efficient heating, rather than via changes in habits, like adjusting the thermostat, their homes should use less energy, even when they move away and the next occupants don't receive a nudge. This is because technologies stay behind, whereas the behaviors leave.

The evidence was consistent with the technology mechanism, which helps explain why the effects were so persistent: once a person adopts technologies, they don't have to think any more about energy use.



One could apply this technique of using an external shock, like moving, to reveal hidden mechanisms for policy interventions in other contexts. Brandon says identifying successful mechanisms "can inspire subsequent policies that can replicate that success." He and Ferraro hope to use this new technique to examine other promising nudges whose mechanisms and long-term durability are widely debated.

Assistant Professor
Alec Brandon

Keeping the lights on



From rising temperatures to renewable energy and geopolitical disruptions, the challenge of keeping the world's lights on has never been more complicated. But one Carey faculty member thinks his team may have discovered the key to huge savings.

Associate Professor Ali Fattahi and his colleagues think that the key is a dynamic

mathematical model that makes direct load control contracts, or DLCCs, more efficient. DLCCs are the current way of limiting short-term electricity interruptions and keeping up with customer demand.

“By improving methods of estimating power demand and better allocating electricity consumption reductions among customers, our model would result in a 3% to 5% savings for utilities,” said Fattahi, whose work on flattening energy consumption curves appears in *Operations Research*.

For power companies, the rise of wind and solar power makes managing electricity demand more complicated, because output varies widely and there isn't enough battery capacity to store renewable energy at scale, Fattahi explained.

Utilities attempt to “smooth out” consumption by offering discounts to households or businesses in return for limiting their energy usage during peak hours. But, Fattahi said, companies build in too much of a cushion. And that gets tricky. Utility companies can only reduce customer power use for a limited number of hours and days, and for a limited duration, each year. To develop a more efficient model, Fattahi and colleagues had to factor in a variety of constraints.

Using historical data from the California utility firms, the researchers analyzed historical energy consumption profiles from 2009 to 2018 and then grouped the profiles into day types. Their resulting model, Fattahi noted, is more flexible than existing models, allocating interruption events based on the forecasted demand on a daily or even an hourly level. With that information in hand, the team assigned energy reductions to individual customers.

They found that it was most efficient and customer-friendly for power companies to less frequently institute energy reductions lasting at least two hours. But they were also sensitive to ensuring customer satisfaction on extreme-condition days.

With the dynamic model, Fattahi and colleagues ran tests on data from the California



“Our model would result in a 3% to 5% savings for utilities.”

ALI FATTABI

Left: Associate Professor Ali Fattahi

utilities from 2016 through 2018. The earlier years analyzed were used for learning historical demand patterns, while 2016 through 2018 served as unseen testing years to assess the practical performance of the proposed approach. Their improved forecasting of demand, coupled with better management of interruption events, resulted in decreased energy production costs for utilities.

“We found this method is more cost-effective, reducing peak energy demand and saving money for power companies,” said Fattahi.

The next challenge, Fattahi said, will be integrating another consumer interest that gobbles significant energy at highly variable times: electric vehicles. ■

A marathon, not a sprint

Why easing in might be better than going all-out in corporate green disclosure rules



Assistant Professor Deeksha Gupta

When it comes to green disclosure rules, starting with looser requirements and tightening them over time might work better than requiring full transparency right away.

Green disclosure rules require firms to report their environmental performance, helping investors steer capital to greener firms. The conventional view is that more transparency is better.

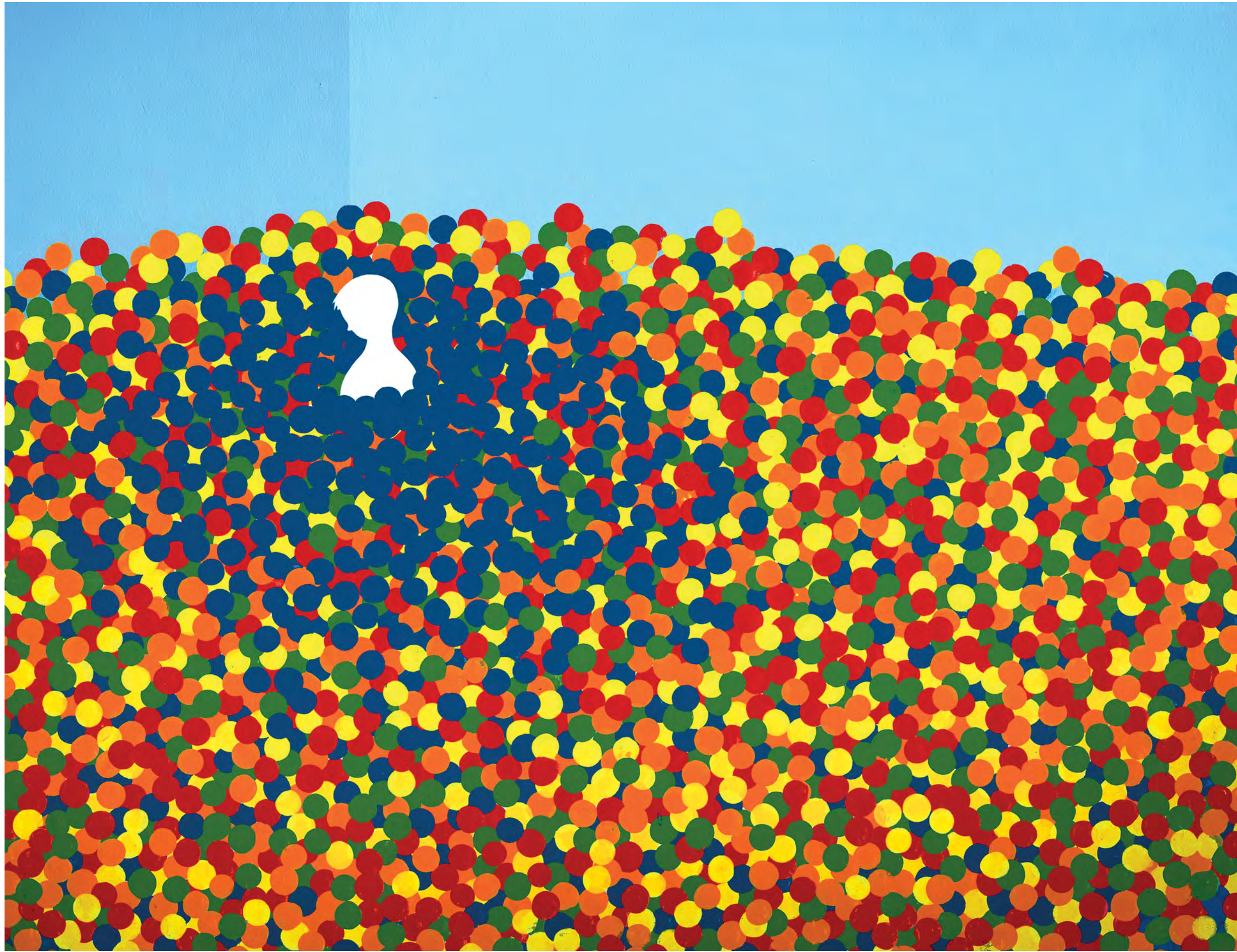
But research by Johns Hopkins Carey Business School Assistant Professor Deeksha Gupta and her co-author finds that how disclosure rules are phased in matters as much as how strict they are.

The early stages of going green—investing in new technologies, retiring polluting assets, building expertise—often involve high upfront costs. Pooling green firms in a disclosure category gives those just starting their transition a temporary valuation boost from investors, enough to clear that hurdle. As more firms clear it, stricter rules push them further.

“Strict requirements early on may not be effective if ‘roadblocks’ exist in the green transition,” Gupta said. “Regulators might benefit by implementing laxer requirements temporarily before making them stricter.”

The result is a trade-off. Phased rules slow the transition for some firms, but more firms complete it in the end.

“Given the climate crisis,” Gupta said, “it is crucial to understand how best to incentivize firms to transition toward greener technology.”



Who's got the kids?

What will it cost us *not* to solve the childcare crisis?

According to 2026 data from the Center for American Progress, 70% of children in the U.S. have “all parents employed.” Nearly half live in what the research calls a licensed childcare desert, meaning there were three or more children under age 6 in need of care for every one slot with a licensed childcare provider. And the deserts are broader in rural areas and communities of color than in white communities. In 2024, waiting lists for a licensed provider in some states stood at around 18 months.

Understanding the complexities of how issues like affordable care and gender equality impact the workplace and economy is a priority of Carey Business School's Gender and Work Initiative.

“Without universal childcare or childcare of any kind that is accessible, available, and affordable, parents—usually mothers—are forced to make difficult employment decisions,” said Gender and Work Initiative Co-director and Carey Associate Professor Colleen Stuart. “These decisions create several workplace inequities.”

MORE THAN PERSONAL COST

When a parent needs to stay home, it damages their long-term earning potential, creates an inclination to accept lower-paying roles with predictable schedules rather than positions that match their actual skills, and even leads to declining promotions, travel, or high-visibility projects.

But apart from the immediate wants, needs, and goals of any given parent, the Bipartisan Policy Center reported in October 2025 that a lack of childcare would cost \$329 billion over the next decade in lost household income, reduced business productivity, and forgone tax revenue.

“While some employers see childcare benefits as a money pit, the reality is that employers offering childcare benefits, or those operating in regions with universal childcare, report better recruitment, higher retention, and higher productivity than those who do not,” said David G. Smith, co-director of the Gender and Work Initiative and professor of practice at Carey. “The cost of inaction is staggering.”

RELIABLE CHILDCARE TRANSLATES TO HIGHER PRODUCTIVITY

Universal childcare affects not just whether parents work, but how they work, which directly impacts a company's bottom line.

“Parents with secure childcare are more willing to accept promotions that require longer hours, take on high-visibility projects with tight deadlines, pursue leadership roles with travel requirements, or relocate for career opportunities,” Stuart said. “With universal childcare, career decisions shift from ‘what can I manage given my childcare constraints?’ to ‘what do I want to achieve professionally?’” ■



Left to right: Benefactor Jenny Morgan '86, Professor of Practice David G. Smith, and Associate Professor Colleen Stuart

Shifting shares

How do outdated work norms undermine careers, caregiving, and gender equity? Johns Hopkins Carey Business School Professor of Practice David G. Smith and his co-author offer solutions for how leaders can fix a broken workplace system in their latest book, *Fair Share*.

“If companies want to reach their full potential and achieve true fairness at work, the workplace must change—and it starts at the top,” said Smith. “Leaders can break down systemic barriers across the organization so that men can do more outside of paid work and women can take their rightful place in the ranks of corporate leadership.”

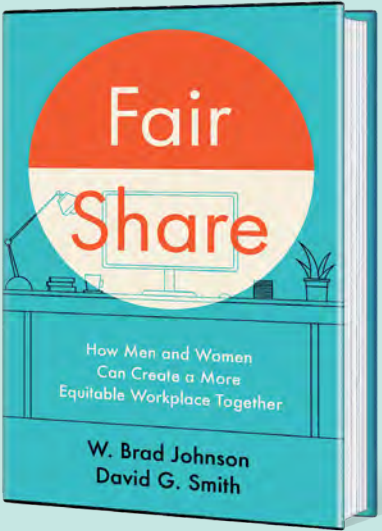
Fair Share spells out how organizations can eliminate ingrained inequities by rethinking corporate culture and work structure, going all-in on caregiving options and employee benefits, and making gender fairness a policy priority.

“Whether you’re a C-suite executive, middle manager, or emerging leader, give people their fair share of opportunity, credit, stretch assignments, and sponsorship,” said Smith. “Men need to do our fair share of the load—the invisible work, the care work, the culture work—and take our fair share of responsibility for changing systems that aren’t yet gender-fair.”

Fair Share is available from Harvard Business Review Press.



Professor of Practice David G. Smith and his book, *Fair Share*.



Long-term gains

Carey's annual finance conference enters its 10th year

Every year for the past decade, dozens of academics and industry leaders have gathered at the Johns Hopkins Carey Business School to talk about the latest developments in the world of finance. The Carey Finance Conference is where the experts go to discuss issues and share the latest research. It's also Carey Business School's first and longest-running academic conference. At the 2025 conference, the school recognized eminent finance expert and Carey professor Frank Fabozzi for 50 years of scholarship.

Professor Nicola Fusari said the Carey Finance Conference reflects the school's commitment to the highest standards of research and scholarship.

"What makes it especially valuable is that it combines academic excellence with practical relevance, bringing together leading scholars and industry participants," he said. "The conference attracts world-renowned researchers while also providing visibility and a platform for some of the most promising junior scholars in the field. Over the years, it has become an important forum for intellectual exchange and has earned a place on the regular conference calendar of leading academics in finance."

Baltimore-based fund Campbell & Company and T. Rowe Price Investment Services, Inc. have been multi-year sponsors of the conference.



"It has become an important forum for intellectual exchange and has earned a place on the regular conference calendar of leading academics in finance."

NICOLA FUSARI, PROFESSOR

Above: Professor of Practice Frank Fabozzi



Replacing current mortgage interest tax deductions with a refundable mortgage interest credit would increase homeownership rates by 5.9%.

Wm. Polk Carey
Distinguished
Professor
Michael Keane

Is it time to wake up from the American Dream?

Few things, come Tax Day, are as nice for homeowners as seeing that mortgage interest deduction kick in. But Wm. Polk Carey Distinguished Professor Michael Keane's research suggests Americans as a whole might be better off if we got rid of it.

Keane's research showed the overall economy might benefit if the U.S. swapped the current mortgage interest deduction for a flat, refundable mortgage interest credit, in which the buyer gets a percentage of mortgage interest back regardless of the overall tax bill.

To be fair, "the housing market is very difficult to model, as the supply-and-demand dynamics are much more complex than for other commodities," Keane said. Still, he and his co-author developed a dynamic lifecycle model

to analyze housing demand under various tax schemes. They found that replacing current mortgage interest tax deductions with a refundable mortgage interest credit would increase homeownership rates by 5.9%. And these gains were concentrated among low- and middle-income households and young homebuyers.

Keane simulated a flat 24% credit to a homebuyer's mortgage interest. In this model, wealthy households in the 37% bracket get the same tax benefit as a lower-income household. This would limit the outsized benefit to higher-income households.

"According to our model, everyone in the economy would actually be better off, but homeownership would drop slightly," Keane explained. ■

Instant gratification

What does the explosion of ODTE trades say about investors' tolerance for risk?

It sounds like the name of a Star Wars droid, and it's just as popular. ODTE, or zero-days-to-expiration trades, have skyrocketed in daily trade volume—up more than 43% over daily option volume in the S&P 500 between 2025 and 2026.

According to derivatives and exchange network Cboe, ODTE options accounted for nearly a quarter of all daily trade volume in early 2026.

Two Carey professors are paying as much attention to ODTE as investors are. James Carey Endowed Professor Federico Bandi and Nicola Fusari, along with a third researcher, provided a new framework for valuing ODTEs.

"It's important to understand that very short-term options like ODTEs are very sensitive to small changes in the price of underlying assets," said Fusari, a professor of finance. "ODTEs offer new opportunities to traders who can now capitalize on very short-term directional bets but also raise concerns about market volatility and the potential for sharp price swings."

Two decades ago, Bandi noted, most option trading was conducted within monthly maturity periods. By 2021, the timeframe had shifted to weekly expirations. And then ODTEs emerged.

"Since 2022, every trading day, investors may trade in options that expire that very same day," he said. "The result is a liquid market of financial instruments that permits short-term bets on the direction of the underlying price process."





Left to right:
Professor Nicola Fusari
and James Carey
Endowed Professor
Federico Bandi

But, of course, there are risks. Since ODTEs, like all derivatives, are based on the pricing of an underlying asset, perhaps the biggest risk revolves around the potential for an event—for instance, an unexpected Federal Reserve announcement of a change in market rate—to trigger large price swings within a single day.

“If you are not hedged properly, these swings could have an enormous negative impact,” said Bandi.

Some economists worry that an initial price swing could create a “feedback effect” as option sellers rush to hedge their positions after a large intra-daily market move. In 2023, then-J.P. Morgan Chief Global Markets Strategist Marko Kolanovic warned that the growing size of the ODTE segment may lead to sharp market swings as large as \$30 billion, particularly in the current low-liquidity environment. By 2025, it climbed from 23% to 24.1%.

In their paper, the researchers offered insights on valuing ODTEs.

“The process is important for the buy side looking to understand fair values and directional bets,” they wrote. “It is important for the sell side and market-makers attempting to quantify risks

and hedge them. It is also important for regulators wishing to assess the systemic implications of a new and extremely fast-growing market.”

To formalize a new valuation framework, they developed a model that leveraged earlier work from Bandi and a co-author and tested it on intra-daily option data from January 2, 2014, to May 11, 2023. The framework, they showed, yields “superior pricing” of ODTEs.

Moreover, said Fusari, “Our framework offers two concrete applications. For one, it provides a way for hedging ODTEs more effectively than existing strategies, leading to better performance in terms of profits and losses.”

Secondly, he noted, the research sheds new light on the investors’ attitudes about risk. Previous research has focused on longer-term risk-reward trade-offs, Fusari said.

“We shifted the lens to a much shorter horizon that is almost instantaneous between the beginning of the day and the closing bell—to learn more about the instantaneous compensation investors require to be in market.”

In the new order of the markets, these investors don’t just have a high tolerance for risk. They have a hunger for it. ■

“These swings could have an enormous negative impact.”

FEDERICO BANDI

India’s retail trade explosion

Zero-days-to-expiration trades are one of India’s retail investor success stories. Over the last 20 years, the country’s markets have expanded retail trade participation from 11 million to more than 200 million thanks to market inclusion. And immediate-action digital trade options are booming.

Using an Indian trade data set spanning from 2007 to 2021, Francis J. Carey, Jr. Endowed Professor Nagpurnanand Prabhala and three co-authors found that retail options entered, rode, and drove the surge in index options, particularly in very short maturities. They studied three market and regulatory changes that facilitated or tried to curb retail speculation. Introducing short-maturity options led to a surge in short-options trading and increased tastes for short-horizon trading. Attempts to curb these habits by increasing lot sizes or settlement costs did not eliminate trading but shifted it to cheaper, even shorter-dated options.

Losses mounted. Fintech brokers drove much of the incremental volume.

Prabhala and co-authors proposed that, when expanding market access, regulators should consider guardrails to protect retail traders from trading habits and losses, particularly with complex products and delivery through easy-to-trade technologies such as fintech apps with pushes. The guardrails should, of course, guard against onerous restrictions on participation, which curb choices and impose welfare losses.

Their research is in a working paper, “Animal spirits on steroids: Evidence from retail options trading in India,” which appears in the Centre for Financial Research’s *CFR Working Papers*.



Francis J. Carey, Jr.
Endowed Professor
Nagpurnanand Prabhala

Our faculty, alumni, students, and supporters are leading us all toward **tomorrow**

CONTENTS:

64 Bridging a gap for neurodiverse families

68 System reboot

72 Wired for exploration



BRIDGING A GAP FOR NEURODIVERSE FAMILIES

A young entrepreneur is pushing past the limits of typical care

When Anika Mistry, MBA '26, first began building what would become DevMinds, she wasn't thinking about venture capital, pilot studies, or scalable platforms. She was 14 years old, and COVID-19 was shutting down the world around her. She was worried about the neurodiverse students she cared for as a learning center volunteer. These children were now suddenly cut off from the support systems they relied on.

This deeply personal response to a moment of crisis has since evolved into an AI-powered social-emotional learning startup—one shaped by empathy, research, and a keen understanding of how technology can serve people.

“What started as a small project created with no funding, no team, and no formal training eventually became the blueprint for DevMinds,” Mistry said.

Today, DevMinds is designed to help neurodiverse children practice core skills such as emotional recognition, communication, self-regulation, and empathetic responding. Using generative AI, the platform creates short, adaptive animations and interactive social scenarios that model behaviors in ways children actually enjoy and respond to.

The platform doesn’t just serve kids. For caregivers, educators, and clinicians, DevMinds provides automated scoring, progress dashboards, and actionable insights that can complement individualized education program goals, known as IEPs, and reduce workload in overstretched school and therapy environments.

Already, DevMinds is serving hundreds of children and dozens of therapists. Mistry is conducting pilot studies with Maryland therapy centers and schools and has collaborated with behavioral specialists, educators, and parents to ensure clinical relevance and usability. Through work with Johns Hopkins Technology Ventures and the Pava Marie LaPere Center for Entrepreneurship, she has scaled the product to meet local needs and used skills learned from the MBA program to secure nearly \$100,000 in funding, which will help her team expand pilots, strengthen research partnerships, and move toward broader implementation and formal usability testing.

As one of only eight Technology Advancement Award recipients in the region, she’s positioning DevMinds as a standout venture in Maryland’s innovation ecosystem.

SPARK AND FUEL

The California native’s entrepreneurial journey got a boost when she enrolled in the engineering and MBA dual-degree program at Johns Hopkins Carey Business School and the Johns Hopkins Whiting School of Engineering. She gained the technical foundation in AI, data, and coding, as well as the skills to scale DevMinds, identify consumer needs, and develop a sustainable company.

“I really wanted a university that had a research-first approach,” Mistry said. “Johns Hopkins being the first research university in the country really stood out to me because having the research to back up what you’re building is so important, especially in today’s world where AI is such a big deal, but if you misuse it and don’t design it responsibly, there can be huge implications, especially with me developing for a vulnerable population.”

Carey’s resources have played a critical role in DevMinds’ growth. Through Johns Hopkins’ Pava Marie LaPere Center for Entrepreneurship, Mistry participated in the Spark and Fuel accelerators, where DevMinds earned the Hustler Award. These programs helped her stress-test the business model, refine the go-to-market strategy, and clearly communicate impact to investors and partners.

Case competitions added another layer. Competing in the Venture Capital Investment Competition, Mistry’s team won the Carey Invitational and advanced to regionals in Boston, earning the Entrepreneurial Choice Award. DevMinds also finished as one of the top ventures at new venture challenge HopStart, and Poets & Quants named her one of its Best and Brightest MBA graduates for 2026.



Already, DevMinds is serving hundreds of children and dozens of therapists.



Anika Mistry

“It helped me grow from a builder to a CEO and founder.”

ANIKA MISTRY, MBA ’26

“Carey helped me evolve from simply building technology to leading innovation with strategy, empathy, and scalability in mind,” she said. “It helped me grow from a builder to a CEO and founder.”

ADAPTED FOR MARKET NEED

While DevMinds was built to serve families everywhere, Baltimore holds particular significance.

Many local families face long waitlists, limited school-based support, and the high cost of private services. Too often, Baltimore-area parents are faced with choosing between financial strain and going without care.

By offering an accessible, affordable, and personalized platform, DevMinds aims to support overextended educators, empower parents, and help more children across Baltimore feel confident, capable, and understood.

“Families often only have a certain number of sessions that they’re allotted by insurance,” said Mistry, “and even if they have that allotted number of sessions, that’s a task for the parents. They have to take the child to therapy and so on. So my tool then evolved into how to create a personalized experience to complement therapy as well as bridge the gap between diagnosis and this consistent care.”

Mistry is clear-eyed about the challenges ahead. The intersection of AI, healthcare, and education demands careful navigation, especially around data privacy, clinical validation, and ensuring technology enhances rather than replaces human care. At the same time, emerging technologies make it possible to personalize learning at scale and reach beyond traditional settings. For Mistry, the future is not about replacing professionals but amplifying their impact. ■



System reboot

Carey Business School Professor Bhaven Sampat studies what's next for the innovation system

Bhaven Sampat's research interest is both simple and incredibly complicated. He studies science policy with the goal of solving public problems and improving social outcomes.

"New knowledge and technologies have the potential to drive tremendous improvements in human well-being," he said. "That's my North Star."

As the new Bloomberg Distinguished Professor of Science and Innovation Policy at the Carey Business School and the Johns Hopkins School of Government and Policy, he's studying everything from patent policy to science funding, and the links between scientific research and innovation.

Sampat's work brings historical perspective and data together with modern empirical approaches to better understand how policy decisions shape science and innovation. His recent co-written work in *Science* explores how research and development during World War II shaped



“We’re in the middle of a revolution in our ability to measure, track, and understand the innovation system.”

BHAVEN SAMPAT

Above: Bloomberg Distinguished Professor Bhaven Sampat

science and established the U.S. as an innovation leader. Looking to the future, his work examines how various stakeholders, including taxpayers, scientific interest groups, universities, Congress, and industry, interact to influence science policy.

“We’re at an inflection point right now where core aspects of the U.S. innovation system are under pressure,” Sampat said. “In rebuilding science policy, we will need to confront age-old questions: How should we fund science? What are the roles of universities? What are the appropriate roles of science in democracy? What are the appropriate roles of democracy in science? What is the value of science, and to whom? As we think about the future, this is also an important moment to step back and think about the fundamentals of what we’re doing and to draw

on the last 75 years of evidence, together with modern techniques and data, to help inform what comes next.”

Sampat said that, as the nation’s first and historically highest-funded academic research institution, Johns Hopkins offers a unique environment for studying the connections between innovation, research, and policy.

“Johns Hopkins is an old institution, but it has a startup mindset and is building in new directions,” Sampat said. “I’m excited to work on science and innovation policy issues with scientists, technologists, engineers, and social scientists across campus and connect with the amazing faculty across Hopkins working to improve health and healthcare. At the end of the day, I don’t think we’re going to build what comes next from any one discipline. So, the opportunity to bring highly accomplished scholars with different lenses together to tackle a common set of problems is invigorating.”

That kind of interdisciplinary collaboration is ideal as new advances in AI and computational social science transform how researchers can measure and understand the innovation system. New techniques now allow researchers to analyze the text of documents and trace linkages across different parts of the innovation ecosystem with far greater sophistication.

“We’re in the middle of a revolution in our ability to measure, track, and understand the innovation system,” he said. “There have been tremendous advances in how we measure the links between science, innovation, and outcomes. That opens up the opportunity to do much more in a much more nuanced way than we’ve typically done.” ■

Left to right:
Dean Alex
Triantis with
William P.
Carey II



Funding the future

In May 2026, the W. P. Carey Foundation committed \$50 million to support high-impact initiatives for student entrepreneurs, recruitment of top full-time MBA candidates, faculty connections to industry, and opportunities to affirm the school’s leadership in the business of health.

“Our goal at the W. P. Carey Foundation is to prepare generations of professionals with a calling for leadership in business and civic life,” said W. P. Carey Foundation Chair William P. Carey II. “It’s inspiring to see how many of the Johns Hopkins Carey Business School’s students and graduates want to use their energy and intellect as a force for good—not only in business, but in their communities. Baltimore has long been central to

that mission, and we are proud to support educational pathways that foster opportunity, growth, and lasting socioeconomic impact in the city and beyond.”

The W. P. Carey Foundation has given \$125 million to Carey Business School since 2007.

The newest round of support for students began nearly two years ago, following a \$1 billion investment from Bloomberg Philanthropies in need-based financial aid for graduate programs in each of the university’s divisions, which made it possible, in part, for more talented students to earn a full-time MBA at Johns Hopkins. Together, the two philanthropic investments will vastly expand opportunities for future entrepreneurs from many backgrounds.

CENTER FOR
INNOVATIVE LEADERSHIP

Wired for exploration

The one of a kind trek that helps define the next generation of leaders

Carey Business School students are very familiar with the school's values, one of which is boundless curiosity. "Have a hungry mind, wired for exploration, always seeking, discovering, and innovating." Some of them take that curiosity all the way to the mountains of Norway or the jungles of Belize. As part of the Center for Innovative Leadership's work, they are testing their mettle, facing circumstances that make them ask a central question: What does this moment ask of me as a leader?

"The Leadership Development Expedition courses provide a unique opportunity for students to not just learn about leadership but fully immerse themselves in experiences that challenge them to lead others, make decisions, manage conflict, and navigate uncertainty," said Mike Doyle, LDE program leader and executive director of Carey's Center for Innovative Leadership. "They also get to explore wildly remote, beautiful, and unpredictable environments."

Over the course of a week, students take turns leading others through adventure activities, including backpacking and kayaking, all while receiving real time feedback from instructors and peers. Doyle said students appreciate the opportunity to connect with each other on a deeper human level, and they can quickly apply learnings when they return home.



Clockwise from top left:

Snorkeling in Glover's Reef Atoll, Belize

Hiking in the Bocawina Rainforest in the foothills of the Maya Mountains in Belize

Students immerse themselves in nature and disconnect from technology.

Coastal kayaking around the island of Smøla, Norway

Alpine hiking in the Jotunheimen mountains of Norway



100 International Drive
Baltimore, MD 21202-1099



JOHNS HOPKINS
CAREY BUSINESS SCHOOL

**IF YOU WANT TO BUILD FOR WHAT'S NEXT,[®]
YOU NEED TO STAY AHEAD OF THE CURVE.**

Subscribe to the *Changing Business*
e-newsletter for insights and cutting-edge
faculty research that shapes business,
policy, and society.

