

Carle Illinois
COLLEGE OF MEDICINE

F A L L 2 0 2 2

CONNECTIONS

Building a community of future physician
innovators together

LETTER FROM THE DEAN

Dear friends,

Reflecting on my first five months at Carle Illinois College of Medicine, it has truly been an eventful and impactful time for me. I continue to be humbled and impressed with the incredible dedication and passion I see every day from our people — students, faculty, staff, and community. They make our unique college an incredible place to work and create a meaningful impact for our community, our state, and beyond.

We have now graduated our first medical school class and welcomed our fifth and largest cohort of 59 incredible future physician innovators. Additionally, we have brought in incredible new leaders including: Dr. George Mejicano, Associate Dean for Academic Affairs; Kara Johnson, Associate Dean for Finance; Dr. Janet Jokela, Interim Executive Associate Dean; Dr. JoAnn Archey, Interim Chief Diversity and Inclusion Officer; and Dr. Brian Aldridge, Interim Associate Dean for Faculty Affairs.

We also had our first group of faculty approved for tenure in the college of medicine; and we've partnered with you, our supporters, to provide a new level of education for our students. But I'm even more excited for what lies ahead.

We've created a mnemonic using our internal acronym 'CI MED' that reflects the values that inform everything we do at Carle Illinois College of Medicine.



CI MED

Community, Organization, & Global Impact – Encompassing our values of Collaboration and Compassion

Innovation & Research – Expressing our values of Curiosity and Creativity

Medical Education

Excellence – Expanding on our value for Competence to build a culture of excellence in all we do

Diversity, Equity, & Inclusion – Valuing Diversity means we promote an inclusive, welcoming environment for all who wish to contribute to our mission.

Our college continues to grow in size, in excellence, and in influence. Through our new Service-Learning process, our students reach out to underserved communities to contribute their skills, energy, and enthusiasm to advance health and health care as part of their training to be physician innovators. I recently visited the Avicenna Community Health Care Center in Champaign with Chancellor Robert Jones, and we were incredibly impressed with the passion and dedication of our medical students who lead and participate each week in this volunteer free health clinic. Along with many other volunteers, including several of our faculty, local health care workers, and undergraduate students, our students take care of many of the uninsured and underinsured in the county and help them and many immigrants with basic health care needs. With limited funding to date, they have already created a vital resource for our community, and with your generous support they will create new programs and resources that will improve

care and outcomes in this at-risk and underserved population.

Also, through community programs spearheaded by Professor Ruby Mendenhall, we are building a healing infrastructure for families adversely affected by violence and trauma, where CI MED students and faculty are conducting research and creating new innovations that remove barriers to care, enhance quality of life, and improve patient outcomes.

We are incredibly grateful you have chosen to partner with us to accomplish great things. As we look forward, your support for this work and these exciting new initiatives has become even more vital. With your support in the coming months and years, there's no limit to what we can build together!

MARK S. COHEN, MD, FSSO, FACS

Dean, Carle Illinois College of Medicine and Senior Vice President and Chief Academic Officer, Carle Health



CLASS OF 2026: BUILDING PHYSICIAN INNOVATORS

Carle Illinois Welcomes Newest, Largest Class

Carle Illinois College of Medicine at the University of Illinois Urbana-Champaign welcomed 59 new physicians-in-training to its ranks in late June. The Class of 2026 is fifth and largest cohort in the college's young history, and the first since the inaugural class graduated in May of 2022.

Carle Illinois' unique engineering-infused curriculum and competency requirements continue to attract students from a wide range of academic backgrounds. As with preceding classes, most students in the Class of 2026 have degrees in engineering (58%), with bioengineering being the most common engineering discipline. Another

59

STUDENTS



17% come from non-engineering, math-based disciplines. The remaining students arrive at Carle Illinois with degrees in more traditional pre-medicine disciplines, including biology, neuroscience, and biochemistry.

Carle Illinois Dean Mark Cohen said the members of the new class are committing themselves to a new kind of medical education and a new approach to solving medical problems. "This group of incredibly accomplished, diverse, and passionate students chose the Carle Illinois College of Medicine as the best path to build the future of medicine through team-based problem-solving that incorporates

patient-focused engineering design principles. Through our unique curriculum and rich clinical immersion, they will grow into forward-thinking physician-innovators who are equipped to advance medicine, through innovation, research, technology, and a commitment to clinical expertise and compassionate care."

"To the physician-innovator, every challenge in healthcare is an opportunity to think outside the box, collaborate, and elevate their patients' voices in order to improve healthcare for everyone."

Eve Emmanouilidou



11.9%

of the class identify themselves as coming from groups that are underrepresented in medicine.

21

class members have already earned advanced degrees, including **5 doctorate degrees** and **16 master's degrees**.

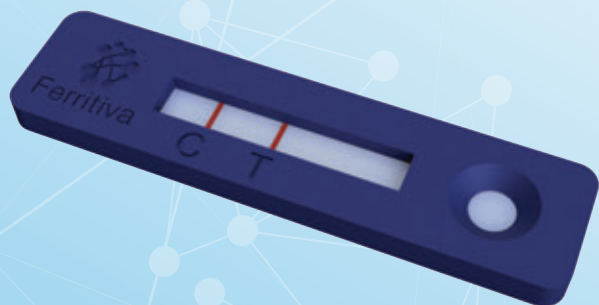
"A physician-innovator is equipped with a unique skillset and patient-focused mindset to drive progress in the medical field. I hope to be able to impact and help the patients I treat and future patients facing similar issues."

Grace Brolly

BUILDING THE FUTURE OF MEDICINE



Carle Illinois student start-up targets anemia testing, wins support from COZAD Challenge, iVenture Accelerator



The start-up called Ferritiva — founded by second-year medical student Jeffrey Lu — won second place and more than \$20,000 in funding in the COZAD New Venture Challenge in the spring and was one of 16 ventures across the U of I campuses admitted to the Gies College of Business iVenture Accelerator program to power student entrepreneurship through funding, support, and mentorship.

Lu's team will use their winnings to develop a new point-of-care immunoassay (LFIA) test that uses saliva rather than a blood test to check for iron deficiency. "Given that saliva is now used to assess many things such as COVID-19 (like the University of Illinois Urbana-Champaign's initiative, 'SHIELD, Target. Test. Tell.')

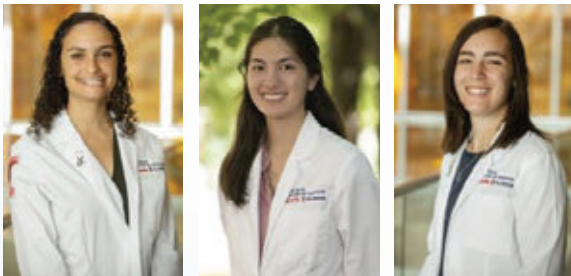
I wondered if saliva could be used for iron deficiency evaluation," Lu said. Lu says a saliva-based test would be a more convenient and cheaper way to monitor for anemia among patient populations that are most affected by iron deficiency anemia, including student athletes.

Next steps include building a prototype, conduct proof-of-concept research studies, and pursuit of protection of their intellectual property. Other Ferritiva members include **Nathan Chung** (COO), **Shreya Ghosh** (CFO), **Swathi Ram** (UX/UI Designer), **Mark Yaroslavsky** (R&D Engineer), and **Erica Joo** (Market Research).



Ultrasonic Scanner for Improved 'Sight' to Aid People with Low Vision

A Carle Illinois College of Medicine student team has designed a new hand-held assistive device that uses sound-wave technology to empower people with sight impairments to move safely and independently in their environment. The EYES device (Enhancing Your Everyday Sight) -- now in its first prototype -- uses ultrasound technology to allow people with low vision to comprehensively scan their environment for obstacles to avoid hazards.



Natalie Ramsy

Emily Smith

Katy Stauffer

The scanner locates objects as far away as seven feet and then pinpoints the obstacle's direction and proximity. "Information about any upcoming obstacles is transmitted back to the user through vibration patterns in the handle of the device," said medical student **Emily Smith**, who spearheaded development, along with fellow medical students **Natalie Ramsy** and **Katy Stauffer**. "There are different patterns to tell the user where the obstacle is, and the vibration intensity increases as the user nears the obstacle," Smith explained.

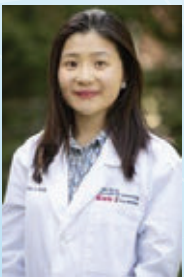
"Unlike a traditional white cane, it's also able to detect obstacles which do not contact the ground, such as signs or branches, which may present a hazard to the user," Ramsy explained.



Read more and see a prototype demonstration by bioengineering student **Benjamin Salzberg**.



New Evidence on Hearing Loss and Alzheimer's



Suzy Kwok



Dr. Dan Llano

A faculty-student research team at Carle Illinois College of Medicine has pinpointed unexpected areas of brain shrinkage in Alzheimer's patients with hearing loss. The work could eventually lead to earlier intervention and new treatment strategies to delay cognitive decline in Alzheimer's Disease patients.

The work is led by **Dr. Dan Llano**, a Carle Illinois associate professor of biomedical and translational science and neurologist at Carle Health in collaboration with third-year medical student **Suzy Kwok** and **Viswanath Devanarayan**, an adjunct professor in the University of Illinois-Chicago's department of mathematics, statistics, and computer science.

The team analyzed MRI images of Alzheimer's patients, revealing surprising differences in the pattern of brain shrinkage among AD patients with hearing loss versus AD patients with normal hearing. "Based on current theories, most researchers would expect MRIs from AD patients with hearing loss to show neuropathology (shrinkage) in the temporal lobe, the brain's auditory and language processing center," said Kwok. Instead, the team's analysis found a higher incidence of shrinkage in the brainstem and the cerebellum, which controls movement and balance, among other functions.

The researchers' article published in the journal *Frontiers in Human Neuroscience*, provides new insight into neuroimaging biomarkers for earlier detection of AD.

BUILDING COMMUNITY

Physician innovators from Carle Illinois College of Medicine are targeting health care disparities affecting people facing barriers to care, including central Illinois' LatinX community.

The student interest group *Campaña de Salud* hosted a community health fair in September as part of Hispanic Heritage Patriotic Month. Carle Illinois medical students **Aashka Shah**, **Kellie Mullany**, **Sabrina Mann**, and **Tarika Patel** are leaders in the group which works to bridge gaps in health care access faced by historically underserved populations.

“Currently in the greater Champaign-Urbana population, 16% of patients report having poor or fair health, with 7% of adults not having health insurance. This is widened in populations of color because having a primary physician is reportedly less likely in minority groups in the CU area,” Shah said.

Dr. Carlos Brown, Jr., an emergency department physician at Carle Hospital, was one of the Spanish-speaking physicians who volunteered at the health fair, providing free physical and eye exams, screenings for diabetes, high blood pressure, and high cholesterol, and advice on good health practices. “For Spanish-speaking patients, the first and most difficult barrier to overcome is being underserved,” Brown said.

The Hispanic Heritage Month Health Fair was the first event organized under Carle Illinois' new Service-Learning program, which encourages medical students to become leaders outside the classroom by understanding and responding to community needs by creating service-based experiences.



Dancers from Ballet Folklórico Mitotiani, an undergraduate student group, performed.



Health fair attendees had access to free physical and eye exams and other health screenings.



Campaña de Salud's Health Fair included an *Área de Niños*.

BUILDING OPPORTUNITY



“I was talking to one of the students yesterday. She’s 17 and she said that she’s really glad that she’s participating in this project, because it had helped her to find her passion, and her passion is to help others. That really touched me.”

Professor Ruby Mendenhall

Ruby Mendenhall has a vision for the future. She envisions a day when health care and healing, security, and overall well-being are equally afforded to all people as a human right. She foresees young people who have seen far too much gun violence in their own back yards leading the way to healing their own communities. She imagines an open pathway for any student with a passion for the healing arts to make their dreams come true, regardless of their race, social status, gender, or location.

“Addressing social determinants of health will save lives,” Mendenhall said. “I’m trying to create an ecosystem where students can come in, and if they’ve got 50 other things going on at home, here’s place where you can flourish, first individually, but also collectively.”

With the support of a \$500,000 grant from the MacArthur Foundation, Carle Illinois College of Medicine’s Associate Dean for Diversity and Democratization of Health Innovation and sociology professor is working to give that vision form. Starting in violence-traumatized neighborhoods in Chicago and communities affected by structural racism, Mendenhall and her team are crowd-sourcing innovative solutions that they hope will expand throughout the country.

They are training primarily Black and LatinX young people (high school age to young adults) to partner with community organizations to serve as Community Health Workers and Citizen Scientists. Students are being equipped for specific tasks, like taking blood pressure and measuring blood oxygen levels, but they're also encouraged to take a more holistic approach to healing in their communities. Employing innovative tools from a 'Wellness Store' designed under the direction of **Rachel Switzky** at UIUC's Siebel Center for Design, the students co-created and are distributing health and wellness resources within their own communities.

"We're working on things like nutrition, and specifically within that, healthy eating resources for people with cancer. We have a partner organization called the All Healers Mental Health Alliance that created a disaster plan and to train our students how to help in the event of a disaster," Mendenhall said. So far, 25 students have completed the initial training and are preparing for their required internships with community and governmental organizations. A second, larger group will begin training soon.

This program is intended to pave the way for early hands-on experience that leads to increased opportunities. The hope is that some will attend go on to attend UIUC, and the Carle Illinois College of Medicine in particular. "The first step is to start with what they're passionate about, and then give them unprecedented access as high school students and young adults, so they don't have to graduate from high school to have exposure or experience. They don't have to get a degree, they don't have to be admitted to the University of Illinois. They can get that experience **now**," Mendenhall said.

Mendenhall says she's excited to see her vision come to life for others. "I was talking to one of the students yesterday. She's 17 and she said that she's really glad that she's participating in this project, because it had helped her to find her passion, and her passion is to help others. That really touched me."

Other aspects of Mendenhall's project include:

- A clinic sponsored by the University of Illinois System Institute of Government and Public Affairs (IGPA), providing instruction on development and implementation on public policy and trains the next generation of Black and Latino policymakers.
- The Citizen Scientist Journaling Project headed by IGPA Director **Robin Wilson**, allowing student to share their lived experiences through social media, words, and images, possibly leading to a broader, deeper understanding of social determinants of health.

Professor Mendenhall's work is funded by a grant from the MacArthur Foundation, with additional support from Dr. Melissa Hoepfner and the Cancer Center at Illinois.

"Addressing social determinants of health will save lives,"

Professor Ruby Mendenhall

BUILDING EQUITY

Black Physicians Launch, Thrive and Significance Scholarship

Inspired by their own experiences and those of their colleagues, a group of Black physicians at Carle Health is launching an initiative to attract a diverse student population and support Carle Illinois College of Medicine's students who come from groups that are underrepresented in medicine (URiM).

Black Physicians of Carle group leaders have established the Black Physicians Launch, Thrive, and Significance Fund to provide scholarships to students at Carle Illinois who are from underrepresented groups.

"Given the historical and ongoing lack of URiM students going into medicine, we thought it would be good to establish a scholarship fund to make it easier," said **Dr. Napoleon Knight**. "Taking away some of the financial burden of going through medical school goes a long way to make the journey a little bit easier and will hopefully encourage more qualified students to apply."

Preference will be given to students who have shown evidence of addressing health inequities that persist in Black/African American communities or who are committed to advancing the state of diversity in the medical sciences.

"Most of us (physicians) end up owing a house in student loans due to the high cost of medical school," **Dr. Henry Moore** explained. "We wanted to take away or at least help with that particular concern."

Dr. Moore said he and others wanted to make a difference starting in their own back yard, but

they hope to see a broader impact. "Some of these students will go back their home communities to practice. This allows us to directly affect the health care of these communities," Moore said.

Donations to the new fund will be used to create an annual scholarship at Carle Illinois College of Medicine, administered through the University of Illinois Foundation. Gifts made to the fund can be credited through both the University of Illinois Foundation and the Carle Center for Philanthropy.

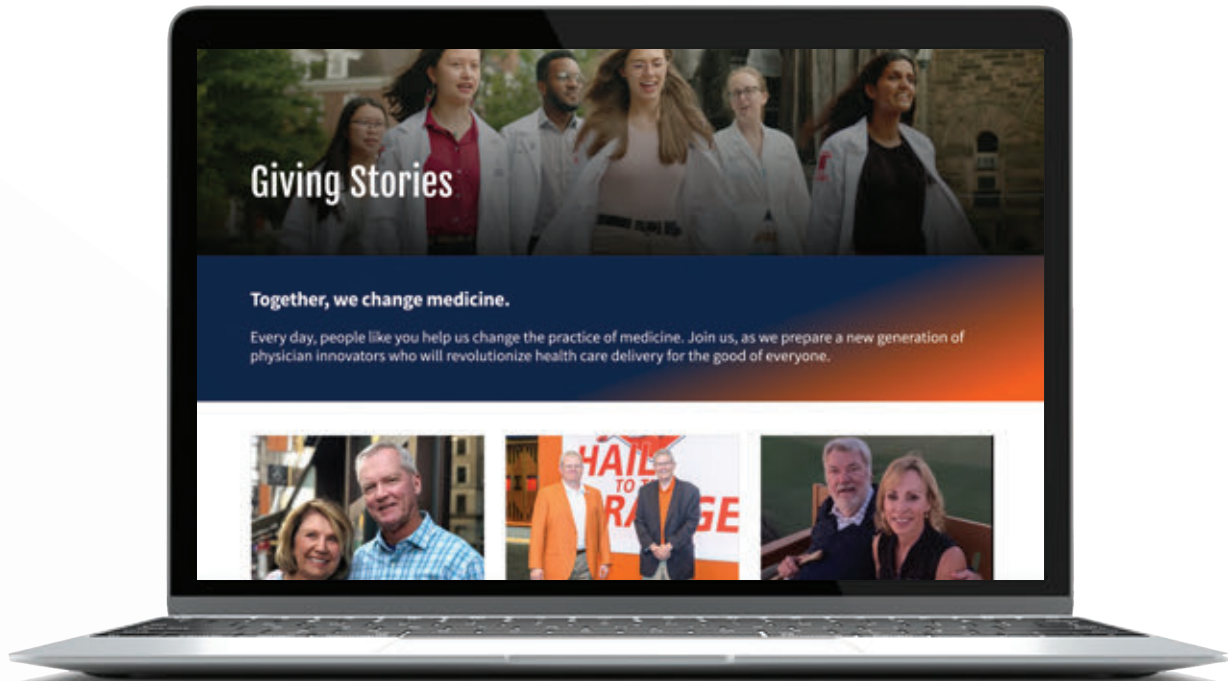


Dr. Napoleon Knight



Dr. Henry Moore

BUILDING OUR VOICE



Carle Illinois College of Medicine opened its new 'front door' in late August, with the launch of a fresh new and expanded website. The clear navigational path and attractive design welcome prospective students, researchers, donors, and collaborators to partner with Carle Illinois to revolutionize health care and medical education.

"While the Medical Sciences Building and other amazing facilities like the JUMP Simulation Center serve as our physical home, the college website presents our students, our faculty, and our staff to the world," Marketing & Communications Director **Ryann Monahan** said. "With new tools to highlight our advanced health care research and our unique

curriculum, this redesign allows us to build new channels for showcasing the work going on at Carle Illinois."

In the coming months, the site will build out several specialty areas, including tools to make it easier to support the college and stories spotlighting people whose generous gifts have made Carle Illinois College of Medicine thrive and grow. Visit us at medicine.illinois.edu/giving to see more!



BUILDING OUR VOICE



I-L-L I-N-I



Carle Illinois students discussed LG B T Q + Affirming Healthcare at the 2022 Champaign-Urbana Pride festival.



Dr. Chris Nelson and family wore the colors at the Carle Illinois tailgate on September 10.



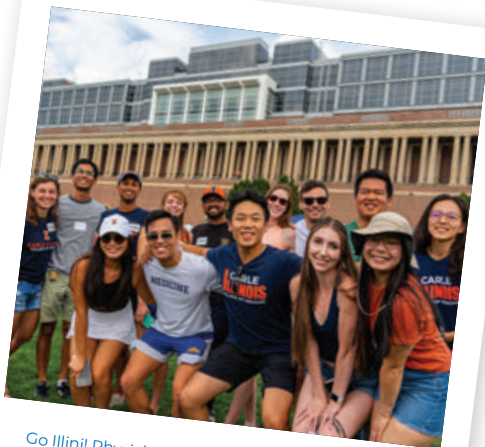
Carle Illinois MED students like Richie Li provide care at the student-run continuity clinic at Carle Health's Curtis Road location.



Lauterbur Innovation Pod members were victorious for the second year in a row during the Pod Olympics at Carle Illinois' Wellness Retreat.



Physician innovator Andrew Hyde examines pre-cancerous tissue in the Women's Health course.



Go Illini! Physician innovators showed their spirit at the Illinois vs Virginia football game.



Volunteers at the Carle Pride vitals station provided free health screenings and measured vital signs for participants at the 2022 Champaign-Urbana Pride Festival.

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