



alumni

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Letter from the president

The three shields of the Mayo Clinic logo represent clinical care, education and research. This issue of Mayo Clinic Alumni magazine focuses on the education shield. I am so grateful for my education at Mayo medical school. The fundamental base of medical knowledge and how to practice clinical care has been a cornerstone of my professional career. I am certain that all other alumni have the same gratitude for their amazing education at Mayo. In the last couple of years, we have been overwhelmed with patient care and research activities related to the global pandemic. We cannot lose sight of education.

This issue explores several remarkable education-related stories. Each story relates how the Mayo Clinic values support medical education in unique and important ways.

I'm so impressed by the things medical students are doing at Mayo Clinic — initiating ways to help the homeless populations in Rochester and Phoenix, and forming relationships to learn how to provide high-quality care to older people. I'm also inspired by ways Mayo Clinic is engaging with learners from underrepresented groups to increase diversity in the medical workforce and facilitating resident and fellow rotations to allow them to learn from experts at other Mayo locations.

I hope you find these articles as interesting and inspiring as I do.



Carl Backer

Carl Backer, M.D. (MED '80)
President, Mayo Clinic Alumni Association
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Yves Poumay, Ph.D., Namur, Belgium

Page 14 illustration by Joey Guidone; page 32 illustration by Peter Grundy.

Retraction: In issue 3 last year, pages 22–23 included an article “Putting a Ring on It,” written by Alumni Center staff. This article is retracted by the editor due to information not shared with the writer during the editorial process. Additional information was provided to the editor by William Tatum, D.O. (N ’09), clarifying that the initial conceptualization, design and prototyping of the sensor should have been credited to the Department of Neurology at Mayo Clinic in Florida and co-developed with Alfredo Quinones-Hinojosa, M.D. (NS ’16), and the Department of Neurosurgery at Mayo Clinic in Florida.

Correction: In a profile of Francisco Puga, M.D. (S ’73, TS ’75), in issue 4 2021, Robert Wallace, M.D. (CS ’64), was mentioned as deceased. Dr. Wallace is not deceased. We apologize for the error.

COVID-19 PHOTOGRAPHY DISCLAIMER: Some photos were taken before the pandemic. In others, individuals were alone in nonpatient care, nonpublic settings and were, therefore, in compliance with Mayo Clinic’s COVID-19 safety guidelines while unmasked.

A person is sitting in a black folding chair outdoors. They are wearing a dark, quilted jacket and dark cargo pants. Their right hand is resting on the chair's armrest, and they are wearing a ring. A tattoo is visible on their left forearm, and they are wearing a silver chain bracelet. The background consists of a white corrugated metal wall and a blue tarp. A thick metal chain hangs across the top of the frame.

STREET MEDICINE

Medical students feel called to serve



Christopher Poyorena helps an unsheltered person on a street medicine run with Street Medicine Phoenix.



VOLUNTEER OPPORTUNITY IN ARIZONA

When **Julianna Smith** (MED '24) moved from Kingman, Arizona, to Phoenix for college at Arizona State University (ASU), she immediately noticed the homeless population. She wasn't used to seeing encampments in her hometown of 30,000 people. Rather than look away, Smith pondered how she could help.

"My family is service-oriented. My mom's a teacher and my dad's a lawyer," says Smith. "When I worked as a nursing assistant at a hospital, I had conversations with patients who were in pain or bad situations and became comfortable talking to strangers about their life experiences."

Smith got involved with Street Medicine Phoenix at ASU and wanted to continue that volunteer work at Mayo Clinic Alix School of Medicine. She found a kindred soul in fellow medical student **Christopher Poyorena** (MED '24). The pair facilitated the school offering student volunteer opportunities with Street Medicine Phoenix. With a mission to ensure quality health care for the city's homeless population, Street Medicine Phoenix organizes students and faculty from the University of Arizona, ASU and Northern Arizona University to take services to the people. Student volunteers walk side by side with a physician on street runs, doing blood pressure checks, blood



Julianna Smith and Christopher Poyorena facilitated street medicine volunteer opportunities for medical students on Mayo Clinic Alix School of Medicine's Arizona campus.

glucose screenings, wound care and general health checks, and dispensing supplies, including hygiene kits.

Smith and Poyorena didn't start from scratch. They built on the contacts fellow medical student **Terence Meyerhoefer** (MED '22) made when he tried to start street medicine volunteerism at the medical school a few years prior.

Since the volunteer opportunity was introduced to medical students on the Arizona campus in fall 2021, more than 25 students have participated in street runs, and twice as many have signed up to participate in training.

"Our medical school class started during the pandemic and has had largely virtual education, so being

able to interact with and help people in the community has been especially fulfilling for many of us," says Smith. "The homeless population has been hurt badly by the pandemic and is too often overlooked. They can benefit from the knowledge and skills we're learning as medical students. This is why I went to medical school — to serve people."

Smith says many of the people experiencing homelessness that she serves appreciate being cared for — something they may not get in other areas of their life. She describes an individual who needed a bandage and asked her to put it on them instead of putting it on themselves. "Even though it was a small act of service, it

"We can show empathy and demonstrate to people who lack shelter that **they** have value and matter."

— Christopher Poyorena



*“They can benefit from the **knowledge and skills** we’re learning as medical students. This is why I went to medical school — **to serve people.**”*

– Julianna Smith (above)

felt like the most important medical thing I did that day. When volunteers debrief and share experiences, we don’t talk about how many wounds we bandaged. Rather, we talk about the nice person we met from Pennsylvania who moved here, had a traumatic experience and their support system fell through. Or the person who served in a war. You can relate to almost anyone’s story and see how we’re all just a few steps away from ending up in a bad situation.”

Poyorena, a native of Los Angeles, California, can relate. He was a college student one semester shy of graduating when his life took unexpected turns. When he heard a man speak about his similar experiences, turning his life around and becoming a trauma surgeon, Poyorena felt encouraged to find his passion, engage in service and turn his life around. Poyorena returned to school, became an EMT and had a series of jobs in the emergency department at Keck Hospital at the University of Southern California (USC). He got involved in a friend’s nonprofit organization to distribute Narcan to homeless people, among others. He volunteered to help USC physicians at outreach free clinics.

“About a third of the patients in the emergency department were homeless. Many people pretended



not to see them, but I love them,” says Poyorena. “You can’t solve many of their problems, but you can listen to them. They just want to share their stories. I now have an opportunity to be a force to help them.”

As a force behind the street medicine volunteer opportunity at Mayo Clinic Alix School of Medicine – Arizona campus, Poyorena says he would like the program to evolve into an official selective — something that will continue after he and Smith have completed medical school.

“We’re at a privileged institution. It’s good to get exposure to people who aren’t the standard Mayo Clinic patients,” he says. “We can show empathy and demonstrate to people who lack shelter that they have value and matter. Every student who has



Christopher Poyorena (center) and Julianna Smith (right) prepare to distribute supplies on a street medicine run in Phoenix.

participated has said it's the best experience they've had in medical school so far."

Smith says the experience requires adaptability and constant learning. "I've been involved in these efforts for six years and still don't know how best to serve the homeless population. It would be arrogant to think you know them or what they need. We ask them how we can best serve them. Sometimes they want fly paper or twine. Other times they want backpacks or shoes. We deal with a lot of colds, flu and congestion, high blood sugar, and wounds from walking in bad shoes. We triage — referring some to a nearby free clinic and calling EMS when necessary.

"There's no continuity of care in street medicine. You do everything



Medical students Jeffrey Woods, Tatsumi Yanaba and Yonghun Kim received the Outstanding Young Leaders Award from the Zumbro Valley Medical Society for their role in starting the Street Medicine Selective at Mayo Clinic in Rochester.



you can in that moment and hope it helps. There's no way to track them after that moment. We walk away from them knowing they need much more help than we can give."

Smith is considering a focus on critical care or cardiology for her career. Poyorena is set on emergency medicine and possibly an addiction medicine or critical care fellowship.

"My experiences have given me perspective and transformed me, no matter where or how I practice," says Poyorena. "I hope that by sharing these parts of myself and advocating for street medicine service, I'm helping my classmates and future medical students experience that same gift."

SELECTIVE IN ROCHESTER

On the Rochester campus of Mayo Clinic Alix School of Medicine, street medicine is a new longitudinal selective, in conjunction with the Zumbro Valley Medical Society (ZVMS) — a nonprofit professional membership organization serving 3,000 physicians and physicians-in-training in southern Minnesota.

In the inaugural selective group, 28 first- and second-year medical students are getting firsthand supervised experience working with homeless people on their own turf over nine months. The students participate in classroom training at the Rochester Community Warming Center, which provides

emergency shelter for adults who are experiencing homelessness.

ZVMS provides the training, which includes gaining trust, building rapport, hearing personal stories of individuals who have experienced homelessness, practicing how to work with individuals experiencing chemical dependency or mental illness, learning about housing policies and programs, discussing homelessness among youth and providing support. Before students interact with homeless individuals in a medical capacity, they spend time volunteering in related nonmedical environments, including preparing and delivering meals to clients at The Landing MN, a nonprofit organization



in Rochester that helps people experiencing homelessness with housing assistance, medical needs and other services.

The clinical service students provide includes working in the clinic at The Landing. **Walter Franz III, M.D.** (FM '82), Mayo Clinic Department of Family Medicine, along with a faculty mentor team, provided the students with hands-on practical training in first-responder critical skills.

The selective was student-initiated. **Jeffrey Woods** (MED '24) heard a ZVMS-sponsored talk by Jim Withers, M.D., founder of the Street Medicine Institute, and wanted to get involved on a local level. He joined forces with classmates, including

Yonghun Kim (MED '24) and **Tatsumi Yanaba** (MED '24), to start the movement to develop the selective.

Woods had volunteer experience with a needle exchange program in San Francisco. Kim volunteered in a free clinic in the Bay Area.

In Rochester, they and other medical students participated with county and community representatives to collect data for a census — going to areas where unsheltered people live. “We went under bridges and into the woods, and I leaned into my discomfort,” says Kim. “I think it’s important for us to experience the unconventional environments where people who don’t have reliable shelter live. The advocates we accompanied

*“I think it’s important for us to experience the **unconventional environments** where people who **don’t have reliable shelter** live.”*

— Yonghun Kim



*“They were always there —
I just hadn’t noticed them.
Now I see them.”*

– Jeffrey Woods (with classmates
Tatsumi Yanaba and Yonghun Kim)

already had relationships with many of these individuals, which made me realize the importance of relationship-building with our community partners—our most valuable allies in this work.”

Doing the census work, Woods noticed people living under a bridge by a drugstore he frequents. “They were always there — I just hadn’t noticed them,” he says. “Now I see them.

“I’ve always felt moved by helping people who need it or may be part of a vulnerable population. Through

my experiences, including living in rural China for a year, I’ve built skills to feel comfortable with people in difficult circumstances. I went into medicine because I want to treat people in a way that makes them feel safe, understood and whole when they experience illness, trauma or loss, or are socially marginalized. Nothing feels more purposeful than that. When I heard Dr. Withers speak about street medicine, it was the most inspired and moved I’d been since starting medical

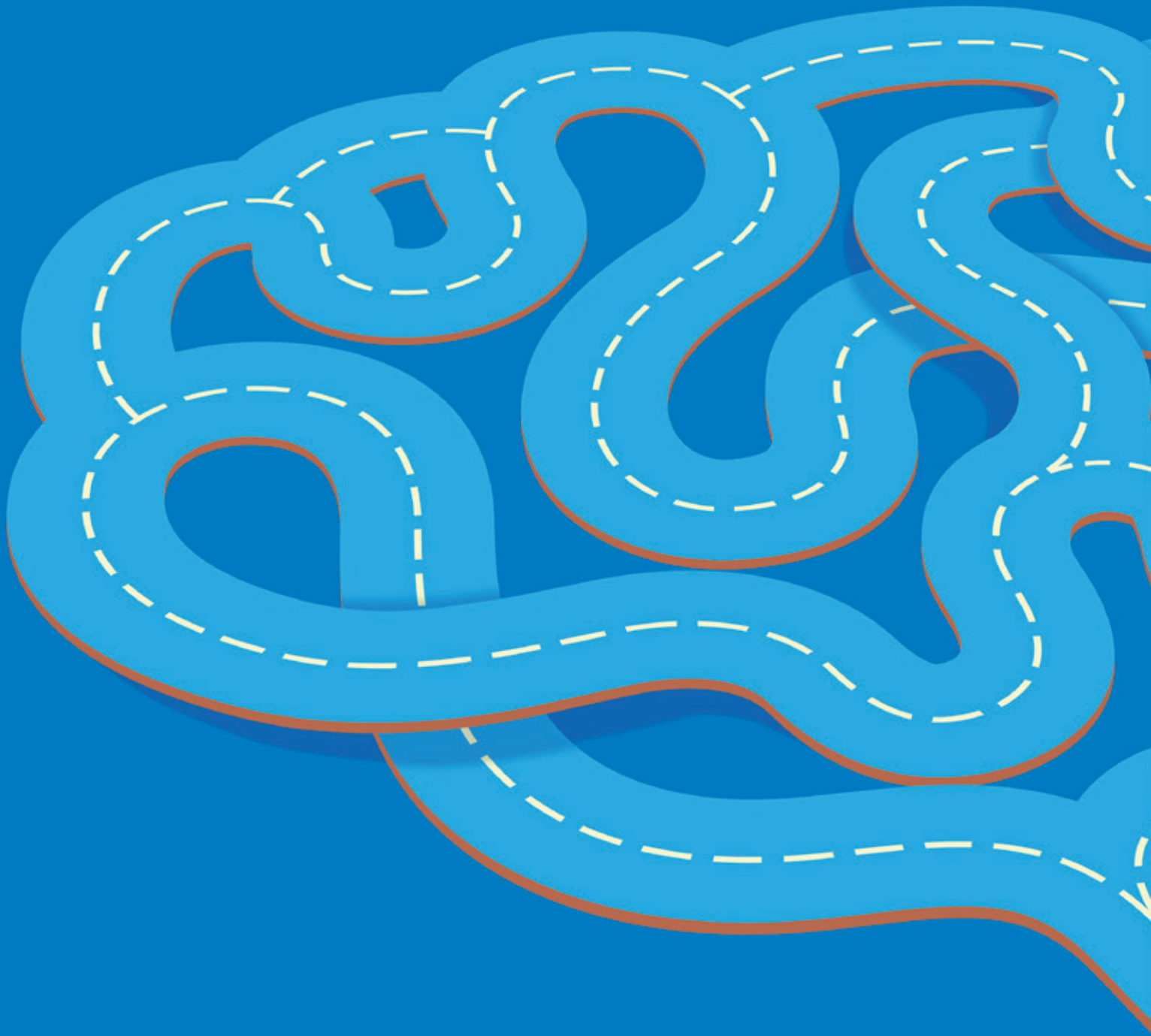
school. Building relationships with the community to help, heal and comfort those shunned by society is, for me, the pure spirit of medicine and a pure act of service. Getting Mayo Clinic medical students and leadership on board was one of the easiest things I’ve ever done — a testament to the kind of people who work and learn here. I hope we’ll all see the homelessness in our communities and feel inspired to be of service in whatever capacity we feel drawn to.” •



100
winter care kits
distributed to individuals
in Rochester



Medical student Jeffrey Woods received a Friedman-Bowen Primary Care Scholarship Fund Grant offered by the Minnesota Medical Association Foundation. The grant funded 100 winter care kits of hats, gloves, hand warmers and other necessities. Medical students distributed the kits to individuals in camps, on street corners and under bridges, working with Olmsted County personnel. "Through repeated visits, we'll gradually become known and recognized among people experiencing homelessness," says Woods. "In time, we'll likely be able to learn about their unmet health and social service needs and possible solutions. We can then find appropriate ways to partner with Mayo Clinic physicians to deliver health care to unhoused individuals where they live."



Pathway programs

Neurosurgery? Yes, please



*“The Uihlein program gave me the feeling that
a career in neurosurgery is possible.”*

– Nehemiah Wilson

When Nehemiah Wilson was growing up with his Hispanic grandparents in California, his uncles brought home crates of peaches and cherries they picked in the fields as agricultural workers. “We ate lots of whatever they were picking to fill us up,” says Wilson. To make money for Christmas gifts, the family made and sold thousands of tamales. Wilson helped make tamales until the pre-dawn hours and then went to school.

He had good grades but didn’t have family members who could guide him toward higher education and career options. “If I’d had direction earlier, I probably wouldn’t have taken such a convoluted route to medicine,” says Wilson, a second-year student at Howard University College of Medicine in Washington, D.C. After getting an undergraduate degree in political science from Penn State, he took a game-changing step — joining the military.

“On the African American side of my family, most of the men have served in the military, so I followed suit, joining the Navy,” he says. “I intended to become a pilot, but the Navy had a surplus in that area. I was directed to an area of greater need — medical care.”

Wilson worked at VA hospitals as a certified nursing assistant, then became a medical laboratory technician and clinical laboratory scientist, using the GI bill to take classes along the way, earning undergraduate degrees in biochemistry and medical laboratory sciences. “I’d never taken a chemistry or physics class but tackled them in community college, courtesy of the U.S. military. My experiences in the military built my confidence and exposed me to career opportunities. The more I learned about medicine, the more I wanted to learn. I progressed from being a lab tech to medical student.”

Wilson is at least a decade older than most of his fellow medical students. He and his wife have

daughters ages 6, 4 and 2. “I’m grateful for the experiences I’ve had along the way, but I could have shaved off 10 years or so if I’d had appropriate direction,” he says.

Wilson wants to pursue neurosurgery and has found new direction. The Mayo Clinic Alfred Uihlein Family Professor of Neurologic Surgery Program matches medical students with Mayo neurosurgery physicians and scientists for an eight-week fellowship in neurosurgery research. The program was the brainchild of the Mayo Clinic Juanita Kious Waugh Executive Dean of Education **Fredric Meyer, M.D.** (NS ’88), a neurosurgeon and the Alfred Uihlein Family Professor of Neurologic Surgery. Wilson became aware of the program from a dean at his medical school and was one of the first participants in the program, spending two months in Rochester, Minnesota, last summer.

“The Uihlein program gave me the feeling that a career in neurosurgery is possible,” says Wilson. “Neurosurgery residency is extremely competitive. This opportunity gave me connections,

Second-year Howard University medical student Nehemiah Wilson took a circuitous route to medicine because he lacked direction and mentors. He says Mayo's Uihlein program has given him some of that so the next steps in his journey are more clear.



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Number of neurosurgeons in the U.S. who identify as African American and female. A Mayo Clinic pathway program is trying to change that.

expanded my network and pointed me toward resources. Dr. Meyer told me to make sure I have strong research experience, which I'm working on. I'm inspired to be the most competitive applicant I can be when it's time to apply for residency."

Wilson's experiences prior to medical school highlight the importance of nurturing students from underresourced and under-represented backgrounds with direction and resources.

"When I finally became comfortable with the time investment medical education and training requires and embarked on applying to medical school, I was unaware of rolling admissions and the importance of getting applications in by June," he says. "I come from a family that picked crops for a living. Hardly anyone in my family has been to college, much less medical school. I didn't know any physicians. My experience involved trial and error. You know what's a great equalizer? The internet. Much of what I learned about applying to medical school was after the fact and from podcasts. I feel so much richer to now have resources and contacts at the No. 1 hospital in the U.S. I feel confident that if I put in the hard work required, I can accomplish my goals."

Deja Rush also is a second-year medical student at Howard University and relied solely on the internet when applying to medical school. "Google became my best friend," says the graduate of The Ohio State University. "I learned to never submit an application after July and to take the MCAT early from YouTube, podcasts, blogs, Twitter and Instagram. I didn't have any medical mentors."

She does now. She learned about the Uihlein program from the only neurosurgeon at Howard, Damirez Fossett, M.D. Rush emailed every surgeon at Howard to ask if they'd meet with her to talk about their path to surgery and let her shadow them.

Mayo Clinic's commitment to diversify the health care workforce

In 2020, Mayo Clinic ceremonially closed the doors to the Plummer Building and announced a \$100 million commitment over 10 years to eliminate racism, advance equity and inclusion at Mayo, and improve health equity in the communities it serves. Education at Mayo was allotted \$12 million of that total as an endowment, giving it significant annual resources to develop pathway programs (formerly pipeline programs) — expanding existing programs and creating new ones — to diversify the health care workforce by mitigating disparities in medical education and patient care for historically marginalized communities.



Barbara Jordan

That was music to Barbara Jordan's ears. Jordan is operations administrator in the Mayo Clinic Office for Education Diversity, Equity and Inclusion. "I enjoy helping students maximize and take advantage of the resources Mayo Clinic offers to achieve at their highest level," she says. "We believe the learning experience is enriched by including students and trainees from a broad mix of backgrounds and experiences. We plan to develop K-12 programs to create enthusiasm for science and medicine, and collaborate with HBCUs (Historically Black Colleges and Universities), tribal colleges and institutions serving Latinx learners. Increasing the racial and ethnic diversity of Mayo Clinic's health care workforce is an imperative for the provision of optimal patient care, and pathway programs are investments in that future."

Pathway programs guide learners who are historically underrepresented in medicine to pursue careers in medicine, research and STEM. These programs can play a vital role in the success of learners from underresourced school districts and rural communities and learners who lack professional role models and mentors.

Mayo Clinic has 24 pathway programs that span the education life cycle of learners from primary and secondary school through college, residency and beyond, and includes all five schools in the Mayo Clinic College of Medicine and Science. (Some of the pathway programs were described in Mayo Clinic Alumni magazine, issue 3 2019.) The programs, which served 300 learners in the 2020-2021 academic year, provide unique opportunities for students from diverse backgrounds to explore and prepare for clinical and nonclinical careers in health care.

Among the new programs are:

MAYO CLINIC NATIVE AMERICAN PATHWAY PROGRAMS

For high school seniors and incoming first-year college students

- Two-week summer experience with opportunities to develop skills and strategies for college preparation and success through presentations by subject matter experts and American Indian/Alaska Native professionals
- Interweaves culturally tailored resilience and cohort-building activities in the curriculum
- 10 students from across the U.S. participated in the inaugural virtual cohort in 2021

For undergraduate students

- Four-week summer program offering learners conversations with American Indian/Alaska Native near-peer mentors and faculty role models
- Provides MCAT preparation, clinical simulation and case studies illustrating health disparities
- 15 students from across the U.S. participated in the inaugural virtual cohort in 2020; 18 students participated in 2021

For medical students

- Four-hour workshop to assist medical students in the transition to residency, including visiting medical student clerkships and best practices for competitive applications
- Includes panel discussion with Mayo Clinic physicians and American Indian/Alaska Native residents and fellows

ALFRED UIHLEIN FAMILY PROFESSOR IN NEUROLOGIC SURGERY PROGRAM

- Eight-week fellowship in neurosurgery research that matches medical students with neurosurgery physicians and researchers with a full range of clinical research methods
- Offers opportunities to interact through shadowing

WILSON SCHOLARS PROGRAM

- Mentors assigned to medical students for career advisement and guidance on residency preparation
- 40 students participated in 2021

*“Many Black students don’t see a career in neurosurgery as obtainable due to the **lack of representation.**”*

– Deja Rush

Dr. Fossett replied, asking if she was free that day. Rush started shadowing him soon thereafter and participating in daily rounds. He also let her scrub in on cases.

“It wasn’t love at first sight with neurosurgery, but Dr. Fossett was one of the first mentors I had who looked out for me and let me know about opportunities,” says Rush, who was raised by a single teen mother. “Dr. Fossett sent me information about the program at Mayo Clinic.”

Rush relished the chance to experience neurosurgery in a completely different environment with a radically different patient population. She told Dr. Fossett the 2021 summer experience at Mayo Clinic would determine whether or not she would commit to neurosurgery. “During my fourth week at Mayo, I felt it — neurosurgery was it.”

Rush says the greatest value in the Uihlein program was networking and contacts. “Howard doesn’t have a neurosurgery residency program, so I’ll have to match into a program outside of my home institution. I made solid connections with Dr. Meyer and

the attending physicians at Mayo. I got involved with research, which will be important on my CV. I’m still involved with research in **Dr. (Mohamad) Bydon’s** (NS ’15, the Charles B. and Ann L. Johnson Professor of Neurosurgery) lab and will be a first author on a resulting publication. I scrubbed in on cases with **Dr. (Maria) Peris Celda** (NSSB ’18) and Dr. Meyer.


“At residency application time, I can call on my Mayo Clinic contacts to request letters of recommendation. I can’t express how encouraging that is for me. I hope they’ll say I’m hard-working, ready to get in the trenches and coachable.”

When Dr. Meyer visited Washington, D.C., last fall, Rush helped arrange a dinner for him and students interested in neurosurgery. She also arranged for **Shannon Laughlin-Tommaso, M.D.** (OBG ’09), Department of Obstetrics and Gynecology at Mayo Clinic in Rochester, to meet with the OB/GYN interest group at Howard. Dr. Meyer wrote a letter of recommendation for Rush for another medical student fellowship she applied for.

If she gets that fellowship, Rush plans to use it to start a mentorship program targeting minority students from Historically Black Colleges and Universities (HBCUs) who are interested in neurosurgery.

“Many Black students don’t see a career in neurosurgery as obtainable due to the lack of representation,” says Rush. “Less than 4% of U.S. neurosurgeons are Black/African American. And there are only 33 who identify as African American and female — 0.6% of neurosurgeons. That means you could fit all the Black women neurosurgeons in one room. That needs to change.”

Mayo Clinic’s pathway programs, including the Uihlein program, hope to do just that — change the status quo. The pathway programs aim to reach learners early in their academic trajectory to create awareness, give opportunities and exposure, provide role models and mentors, and build relationships. So students like Wilson and Rush don’t have to rely only on the internet to find their way. ●

A young woman with voluminous, curly dark hair and black-rimmed glasses is smiling warmly. She is wearing a black blazer over a maroon top and black pants. Her hands are clasped in front of her. The background is a large, multi-paned window with a grid pattern, showing a blurred view of a building exterior.

Deja Rush, a second-year medical student at Howard University, learned everything she knew about applying to medical school from the internet. Now equipped with mentors and resources, in part from the Uihlein program, she hopes to help others who lack connections.

Senior sages

Medical students meet the golden years



“Who better to teach our students about the aging process than those who experience it firsthand?”

– Ericka Tung, M.D.

In 2008, **Ericka Tung, M.D.** (I ’04, GERI ’06), Division of Community Internal Medicine at Mayo Clinic in Rochester, was part of a group assessing the curriculum at Mayo Clinic Alix School of Medicine. The group noted a need for enhanced geriatric curriculum, given that the U.S. was on the cusp of a demographic shift and dramatic increase in the older adult population. The school’s leadership supported new curriculum development.

“There are only about 7,000 board-certified geriatricians in the U.S. — not nearly enough to care for the growing number of older adults,” says Dr. Tung. “Therefore, we need to make sure that all physicians-in-training have the skills needed to take great care of older adults and recognize what happens with normal aging so they can recognize what’s

abnormal. With this in mind, we designed curriculum to bridge the training gap.”

Pairing trainees with senior mentors, or sages, wasn’t a new concept; it had been published in geriatrics literature. Pairing them over several years in a longitudinal relationship was new as was connecting the sage experiences with teaching modules in the curriculum.

“I realized that some of my very best teachers during training were my own patients,” says Dr. Tung. “Who better to teach our students about the aging process than those who experience it firsthand? Not only did the resulting curriculum — including pairing students longitudinally with older adults in the local area — fill a gap, but it also was a way to connect students to the community. This was the birth of our Senior Sages program.”



Mayo Clinic in Rochester

1. Larisa Hill, M.D. (MED '15, I'19), Division of Community Internal Medicine, Senior Sages course director
2. Maria Mendoza De La Garza, M.D. (GERI '18), Division of Community Internal Medicine, Senior Sages course director
3. Ericka Tung, M.D. (I'04, GERI '06), Division of Community Internal Medicine
4. Ying Ying (Christina) Chen, M.D. (GERI '13), Division of Community Internal Medicine, Senior Sages course director

Senior Sages is a four-year geriatrics curriculum for medical students that seeks to instruct them in competent, compassionate care of older patients. It follows the senior mentor program model, where a volunteer from the community acts as patient-teacher to a student. The program is closely integrated with the medical school's curriculum — with topics synced with preclinical didactic blocks, geriatrics topics and concepts in clerkship rotations. Modules of the program focus on life history, aging myths, functional status, geriatric assessment, medications, advance care planning, nutritional and exercise assessment, costs of aging, and dementia and delirium. At the heart of the program is a relationship with an older adult mentor as a way to dispel stereotypes and negative attitudes about caring for older patients.

The medical school partners with Charter House, Shorewood Senior Campus and 125 LIVE center for active adults in Rochester; Sagewood retirement community in Phoenix; and Vi at Grayhawk senior living in Scottsdale to find sages, many who are Mayo Clinic alumni. Students are required to meet with their sages at several prescribed intervals each year and write about and share their experiences with course directors and student peers.

Dr. Tung says the program helps to break down generational barriers, opens students' eyes to how satisfying taking care of older adults and a career in geriatrics can be, and changes the way health care is delivered tomorrow. Importantly, the medical students have demonstrated improved scores on tests of clinical geriatric knowledge early in their training.

"Our senior sages are willing to be vulnerable with students and generous in volunteering their time," says Dr. Tung. "This program is one of the most fun and rewarding parts of my career, and I'm so happy it's grown."

BETTY'S GRACE — KEEPS ON GIVING

Megan Chock, M.D. (MED '15), arrived in Rochester, Minnesota, for medical school in 2010 as a blank slate. The Honolulu, Hawaii, native didn't have a preconceived idea of what area of medicine she'd pursue.

Dr. Chock was excited to get her Senior Sages match — Elizabeth "Betty" Ferguson, 91, who lived at Shorewood senior living facility in Rochester. The two became fast friends, and the legacy of their relationship continues today.

"I was immediately impressed by Betty's honesty, openness, friendliness and wisdom," says Dr. Chock. "I wasn't familiar with senior living facilities because in my culture in Hawaii, many grandparents live with their adult children's families. I thought Betty might be sad to live away from her grown children, but she was very happy. I think we were drawn to each other because neither of us had family in the area. She invited me to Shorewood for Thanksgiving. We went to restaurants together, and I took her grocery shopping once. When she mentioned that her late husband's

Zim's vim — helps to teach others

Larisa Hill, M.D. (MED '15, I '19), Division of Community Internal Medicine at Mayo Clinic in Rochester, was in the first medical school class involved in the Senior Sages program in 2009. Dr. Hill was paired with Warren "Zim" Zimmerman, then 86. They found an immediate connection in their Iowa roots.

"Zim was a lifelong educator who spent most of his career as an elementary school principal in Rochester," says Dr. Hill. "He saw his Senior Sages role as an extension of his career as an educator — an opportunity to mentor future generations of physicians. He wanted to know the topic of focus, was always prepared, and helped guide me through the modules and discussions. We met at his apartment or the Corner Cupboard Café at Charter House."

In addition to their assigned time together, the pair shared meals with Zimmerman's wife, Helen, and Dr. Hill's family. "Zim met my children and invited us to Halloween celebrations at Charter House. He came to my medical school graduation and met my parents."

And Dr. Hill attended Zim's funeral visitation in 2019. "He led a full life and was a great example of what aging well can look like," says Dr. Hill. "He and his wife planned for how and where they could age gracefully and successfully. I benefited by learning how fulfilling it can be to develop a relationship with older people, which solidified my interest in primary care. How could I help more people age and thrive like Zim did?"

One of Zimmerman's health problems during their time together, according to Dr. Hill, was macular degeneration. The condition led to him giving up driving at age 90. Dr. Hill wrote her Senior Sages capstone paper about the public policy role and clinical assessment of older drivers. This led to a publication co-authored with Dr. Tung and Robert Pignolo, M.D. (HIM '16), the Robert and Arlene Kogod Professor of Geriatric Medicine at Mayo Clinic, about the clinical assessment of older drivers and subsequent presentations on this topic at CME programs.

"I think Zim would be pleased to know that his experience helped to teach others," says Dr. Hill, who is now a course director for the Senior Sages program. About becoming a director for the program, she says it felt like a natural choice. "I hope Zim is proud of me. Every one of our sages helps us overcome stereotypes and misperceptions about aging, and we're grateful for their generous service and wisdom."

*“The Senior Sages program changed my life ... it changed my perspective on aging and is a **big reason I chose to pursue geriatrics.**”*

— Megan Chock, M.D.



last remaining sibling was ill, I took her to visit him an hour or so away. I met some of her relatives there. Betty taught me about her houseplants and gave me clippings from them. She loved to read and always remembered my birthday. She was a gracious person who helped fulfill me in ways I can't fully explain.”

Ferguson was raised in Caledonia, Minnesota. She had a twin brother, got engaged to her husband after meeting on a blind date and raised her four children in Benson, Minnesota. Ferguson told Dr. Chock that the hardest thing she'd ever gone through was the death of her son in a workplace shooting.

“Betty talked about how hard it was to forgive the person who killed her son,” says Dr. Chock. “She said it took her two years, but she told the man that she forgave him at a court hearing. That's an incredible illustration of who Betty was — compassionate and forgiving.”

Dr. Chock says her relationship with Ferguson changed her perspective on aging. “I'd felt sad when I saw older people. Betty viewed aging as a journey, and I learned so much from her. She wasn't just an older person — she was a friend. And my family in Rochester. She had a whole life of experiences and shared her stories with me. Betty was cognitively intact. When I did a physical exam of her at our first visit, I listened to her heart and thought about how it had been beating for 91 years.”

In 2015, Dr. Chock drove to San Diego, California, for family medicine residency at Kaiser Permanente — clippings from Ferguson's houseplants in tow. The two continued to stay in touch. But in 2018, a birthday card Dr. Chock sent to Betty was returned.

“I called Betty but didn't reach her,” says Dr. Chock, who completed a geriatrics fellowship at the University of Hawaii and then joined the Hawaii Permanente Medical Group at Kaiser Permanente in Honolulu. “For three years, I didn't know what had happened to Betty. Then I found an old thank you card with a return address from Betty's niece and used that to track her down. Her niece let me know that Betty left Rochester in 2018 after two serious falls followed by hospital stays. Her family moved her to a facility in Illinois to be near one of her daughters. Betty died with COVID in 2020 before the availability of vaccines. The family said they tried but couldn't find my contact information when they moved Betty. While it was hard to hear of Betty's death, it sounded like her last years were peaceful. I was grateful for the closure.

“Betty told me once that if something ever happened to her, I'd know. In recent years, I wondered if I would. But Betty was right — I did find out.”

In addition to having had a friendship with Ferguson, Dr. Chock has developed a friendship with her niece and daughters. Two of them visited Hawaii in December 2021

and made a special trip to Oahu to meet Dr. Chock. Not only did Dr. Chock meet Ferguson’s daughters, but they got to meet her baby, Elle.

“The Senior Sages program changed my life,” says Dr. Chock. “It changed my perspective on aging and is a big reason I chose to pursue geriatrics. And it created a wonderful friendship that keeps on giving — first Betty and now her niece and daughters. We’ll always be connected, and now my daughter is connected with them. You never know what you’ll get out of an experience.”

BEING SAGE

When **Amit Shah, M.D.** (I ’14), Division of Community Internal Medicine at Mayo Clinic in Arizona, former Senior Sages course director on that campus and the George M. and Kristen L. Lund Associate Dean for Student Affairs at Mayo Clinic Alix School of Medicine, visited the Sagewood retirement community in 2017 in search of senior sages, **Roy “Nick” Rogers III, M.D.** (DERM ’73), Mayo Clinic Emeriti Staff, and his wife, Sue, were quick to volunteer. They’ve been sages to six medical students since then.



Megan Chock, M.D., as a Mayo Clinic Alix School of Medicine student, with her senior sage Betty Ferguson.



Mayo Clinic in Arizona

Amit Shah, M.D. (I ’14), Division of Community Internal Medicine

Helene Labonte, D.O. (I ’04, CMR ’05), chair, Division of Community Internal Medicine, Senior Sages course director

Senior Sages stats

338

sages since 2009

447

student graduates of the program

431

current students in the program

78.64

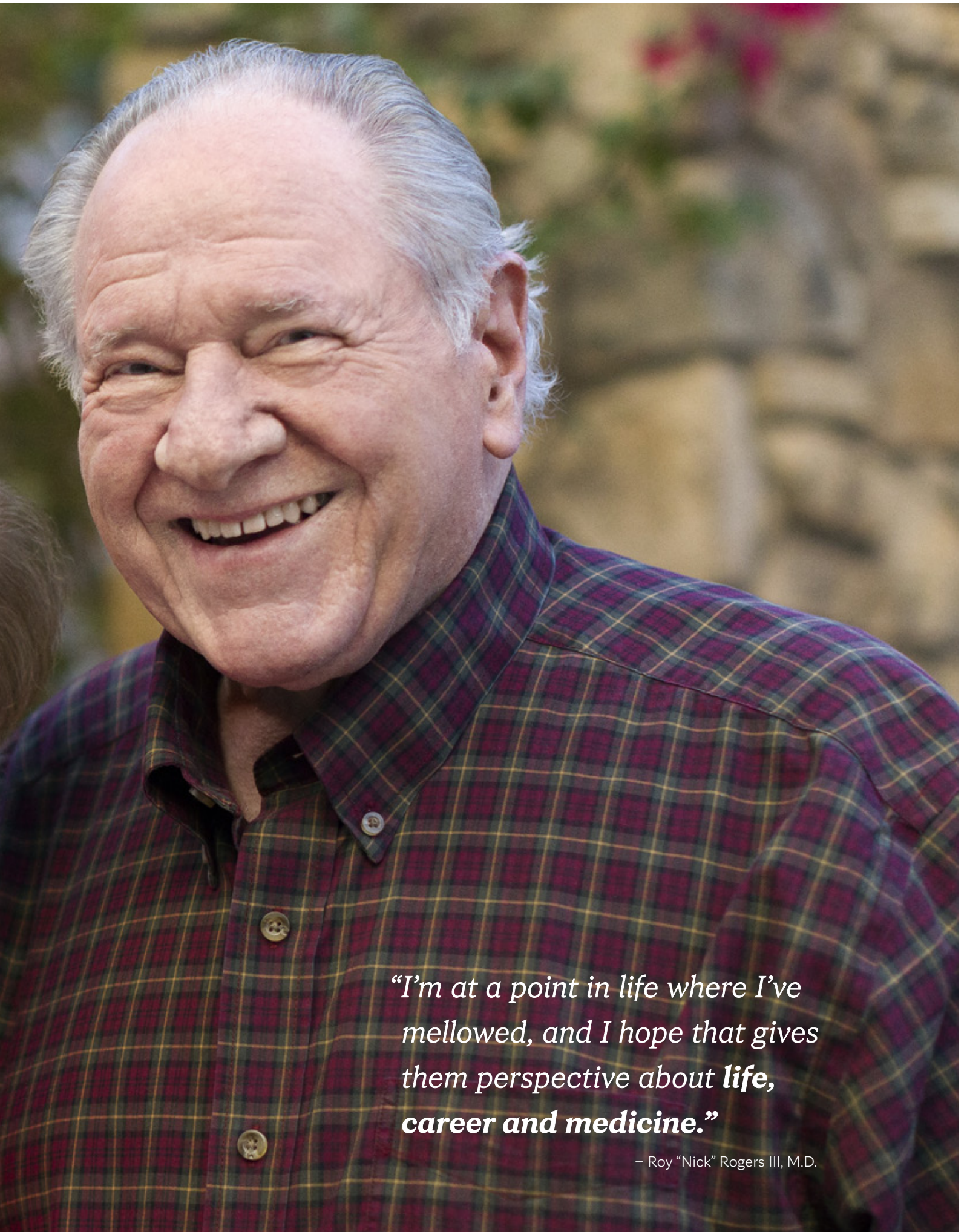
average age of sages in Rochester

84.75

average age of sages in Arizona



Roy "Nick" Rogers III, M.D., and his wife, Sue, have been sages to medical students Michelle Higgins (MED '22), Sherif El-Gayar (MED '23), Melissa Pelkey (MED '24), Andres Somoza (MED '24), Desiree "Brionne" Dillard (MED '25) and Daniel Sykora, M.D. (MED '21, I '24).



*“I’m at a point in life where I’ve mellowed, and I hope that gives them perspective about **life, career and medicine.**”*

– Roy “Nick” Rogers III, M.D.

Dr. Rogers, who served as academic dean of Mayo Clinic Alix School of Medicine from 1982 to 1989 and dean of Mayo Clinic School of Health Sciences for a decade, says sages can share wisdom gained from living a long time. “Sue was a high school counselor, and I still teach dermatology residents. Teaching and being sages helps keep us young. We love being around these bright, energetic, compassionate students.”

Dr. Rogers’ students benefit from his experience as a Mayo Clinic physician — not a requirement of being a sage. “They ask about what life is like in different specialties and what a career in medicine looks like at various stages,” he says. “We even talk about how to manage patients in situations they’ve encountered. I’m at a point in life where I’ve mellowed, and I hope that gives them perspective about life, career and medicine.”

He says students are surprised by how much medical care and medications cost for older people — even those who are healthy and active. Dr. Rogers and his wife invite students to accompany them to exams. Sue Rogers had an umbilical hernia repaired, and medical student **Michelle Higgins** (MED ’22) met her at the hospital, stayed with her preoperatively and scrubbed in for the procedure. Higgins was with Sue Rogers postoperatively, holding her hand.

Daniel Sykora, M.D. (MED ’21, I ’24), was Dr. Rogers’ first assigned medical student in the Senior Sages program. He’s now an internal medicine resident at Mayo Clinic in Rochester. “My family is in Canada, and it’s been difficult to see them during the pandemic,” says Dr. Sykora. “Nick and Sue became like family to me and invited me over often. They made Phoenix seem like home away from home. And hearing them talk about how much they loved Rochester

Roy “Nick” Rogers III, M.D., gathers with Mayo Clinic Alix School of Medicine Students from the Arizona campus: Melissa Pelkey, Desiree “Brionne” Dillard and Sherif El-Gayar.





*“I’ve been blessed with the fruits of this special friendship and the **caring network the Rogers have cultivated.**”*

– Daniel Sykora, M.D.

played a big part in my deciding to continue my training there. They were excited and pulled out their contacts for rental housing and connected me with their friends.”

Dr. Sykora says he learned from them that aging isn’t necessarily a scary process. “Over four years, I saw them embrace aging, accept new limitations, remain active, maintain strong spirits and be joyful. They are open about topics we sometimes tiptoe around. As my knowledge base evolved, I had more in-depth, informed discussions with Dr. Rogers. I not only gained medical knowledge but also empathy and emotional intelligence.”

The Rogers invite their students to meals at Sagewood and hosted a pandemic Thanksgiving tailgate gathering in a parking lot. They attended Dr. Sykora’s Match Day and medical school graduation virtually and were at the top of the list when Dr. Sykora sent invitations to his wedding ceremony.

“If you’re lucky, your Senior Sages relationship may turn into something more than the required part of the curriculum,” says Dr. Sykora. “I’ve been blessed with the fruits of this special friendship and the caring network the Rogers have cultivated.” •

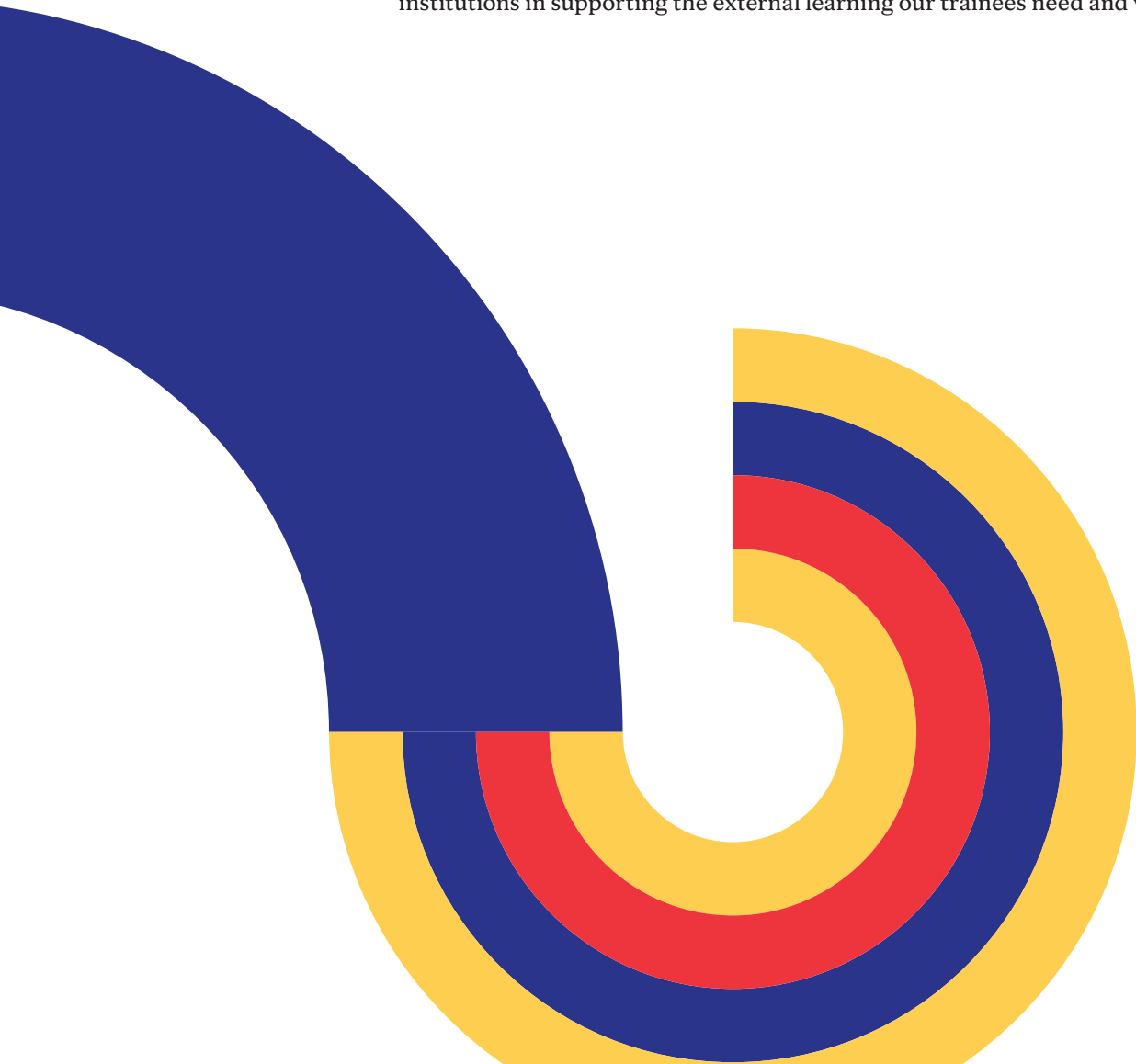


ROTATE!

Residents & fellows take a turn at other Mayo Clinic campuses

Mayo Clinic School of Graduate Medical Education has a robust rotation policy that allows residents and fellows to go to different Mayo Clinic campuses, including Mayo Clinic Health System locations, for four to six weeks. Travel expenses and housing are covered for some approved rotations.

“We’re able to do this because our graduate medical education is organized as a single school with multiple campuses rather than governed through individual clinical departments,” says Cheryll Albold, Ph.D., Designated Institutional Administrator, Mayo Clinic School of Graduate Medical Education. “MCSGME offers these rotations so learners can gain experience with different patient populations, unique cases, community-based hospitals, rural settings, and specialties and techniques not represented at their primary site. We’re among the more generous institutions in supporting the external learning our trainees need and want.”



ARIZONA TO FLORIDA FOR NEUROCRITICAL CARE

Amir Mbonde, M.B., Ch.B. (TY '19, N '22), Department of Neurology at Mayo Clinic in Arizona, rotated to Mayo Clinic in Florida in neurocritical care during his second year of residency. He was considering a neurocritical care fellowship and wanted exposure to the field to help him decide.

“It’s great to get experience practicing in a different setting and get to know the physicians at another Mayo Clinic location,” says Dr. Mbonde. “Ultimately, I decided not to pursue neurocritical care. Instead, I’ll do a stroke fellowship at Massachusetts General Hospital–Harvard Medical School beginning this summer and will then return to Mayo Clinic in Arizona for an EEG fellowship. I could see myself returning to the Florida campus to work one day. I really liked it there.”

ARIZONA TO ROCHESTER FOR NEURO-ONCOLOGY

Shannon Fortin Ensign, M.D., Ph.D. (HEMO '22), a fellow in the Division of Hematology and Medical Oncology at Mayo Clinic in Arizona, rotated to the Rochester campus last summer to spend time in a different neuro-oncology environment. “Neuro-oncology on the Arizona campus is a smaller practice with two physicians who have a neurology training background. On the Rochester campus, there are seven or eight physicians in neuro-oncology, and two of them share my path — medical oncology training with an additional focus in translational research or early-phase clinical trials.”

Dr. Fortin Ensign experienced the shared clinic approach in Rochester, where all of the physicians in the practice share the patients, compared to Arizona, where patients are assigned to a specific physician. She also joined the didactics of the hematology-oncology fellows, including a timely session on grant writing for the American Society of Clinical Oncology’s (ASCO) Young Investigator Award program.

“I did not know anyone who had recently been awarded this ASCO early-career grant and I intended to apply, so it was a valuable learning opportunity,” she says. “I was subsequently

offered a Mayo Clinic Rochester faculty panel review of my grant proposal prior to submission, which helped me strengthen it and led to a new research collaboration.”

Because Dr. Fortin Ensign is interested in a robust research aspect to her career, she spent time with **Sani Kizilbash, M.D.** (HEMO '14), Division of Medical Oncology, who specializes in early-phase clinical trials and rotates in a phase I clinical trial clinic. “We don’t yet have a similar clinic in Arizona,” says Dr. Fortin Ensign. “I’m interested in early-phase clinical trials and got to be in the clinic and see how it’s run.”

She also spent time with **Evanthia Galanis, M.D.** (I '94, HEMO '98), Division of Medical Oncology and the Sandra J. Schulze Professor. “Dr. Galanis is more senior in her career and a leader in the Alliance Clinical Trials group, and I learned from her about what my career path could look like,” says Dr. Fortin Ensign. “She’s a physician-scientist who writes grants and has a translational lab and protected research time, which is the career path I hope to have.”

Dr. Fortin Ensign is on the right path. She recently accepted an offer to remain at Mayo Clinic in Arizona at the conclusion of her fellowship this summer. She’ll be the third neuro-oncologist there.

ROCHESTER TO FLORIDA FOR ORTHOPEDIC SURGERY

Sarah Townsley, M.D. (OR '25), Department of Orthopedic Surgery at Mayo Clinic in Rochester, rotated to Mayo Clinic in Florida last summer to focus on learning the direct anterior approach to the hip.

“The surgeons at Mayo Clinic in Florida most commonly use the direct anterior approach to total hip arthroplasty, and I spent the summer learning from multiple surgeons who use this approach,” says Dr. Townsley. “Doing the rotation early in my training helped me understand joint arthroplasty, which has benefited me during my subsequent trauma training. I also really enjoyed working closely with **Courtney Sherman, M.D.** (OR '11, ORON '12). There aren’t many women joint arthroplasty surgeons nationally, so she was inspirational to me.”



Sarah Townsley, M.D.



Shannon Fortin Ensign, M.D., Ph.D.



Amir Mbonde, M.B., Ch.B.

Rotations by the numbers

From July 2020 to June 2021, 72 Mayo Clinic medical trainees rotated to other Mayo Clinic campuses.

ARIZONA TO FLORIDA

2 programs, 2 trainees, 56 days

ARIZONA TO ROCHESTER

2 programs, 3 trainees, 85 days

FLORIDA TO ROCHESTER

1 program, 4 trainees, 103 days

ROCHESTER TO ARIZONA

4 programs, 13 trainees, 332 days

ROCHESTER TO FLORIDA

5 programs, 13 trainees, 851 days

ROCHESTER TO MAYO CLINIC HEALTH SYSTEM

9 programs, 37 trainees, 945 days



FLORIDA TO ROCHESTER FOR COLORECTAL SURGERY

Sacha Broccard, M.D. (S '23), grew up in the Twin Cities with a father (**Alain Broccard, M.D.** [CCMI '98], professor of medicine, University of Minnesota) who completed a critical care fellowship at Mayo Clinic in Rochester. The son wanted to experience residency in a smaller program. He's a fourth-year surgical resident at Mayo Clinic in Florida. "The Florida campus has three new surgical residents each year compared to 10 on the Rochester campus, and I wanted the opportunity to become more familiar to my attendings," says Dr. Broccard.

When Dr. Broccard's interest focused on colon and rectal surgery, his sights turned to Rochester. "Three of the four colorectal surgeons at Mayo Clinic in Florida completed residency and fellowship at Mayo Clinic in Rochester," he says. "They helped get me set up in a monthlong rotation with **Dr. Scott Kelley** (CRS '12, Division of Colon and Rectal Surgery). Learning from the longstanding experts on the Rochester campus — where my mentors trained — on complex cases has been invaluable. In that division with 11 colorectal surgeons, I trained on a high volume of recurrent rectal cancer and locally advanced rectal cancer."

Dr. Broccard says he's grateful for the ease of getting the rotation and the hospitality of his host division in Rochester. "Your home program loses a resident for a rotation, and the visiting program has to be flexible enough to accommodate your rotation. It was a very collegial exchange. The rotation was a valuable experience as I look toward fellowship. I'd be fortunate to be able to do more training in Rochester."

ROCHESTER TO MANKATO FOR OB/GYN

Claire Dorcent, D.O. (OBG '25), a first-year resident in obstetrics and gynecology based on the Rochester campus, rotated to Mayo Clinic Health System in Mankato, Minnesota. "I plan to be a general obstetrician/gynecologist and wanted experience in a smaller community setting, doing it all," she says. "Mayo Clinic Health System campuses have great support from Mayo Clinic in Rochester but don't have all of the same resources or manpower. I learned early on in residency how to adapt, work with what's available and look at health care through a different lens, outside of my comfort zone."

Dr. Dorcent will return to Mankato during her second year of residency. "I felt welcomed and supported and thoroughly enjoyed the rotation and working with different providers," she says. "Working in this environment helped to confirm my intention to practice general obstetrics and gynecology." •



Sacha Broccard, M.D.



Claire Dorcent, D.O.

(Left) Claire Dorcent, D.O.,
and Sarah Townsley, M.D.,
at Mayo Clinic in Rochester

*“I am **humbled and honored** to return to Mayo Clinic, where the culture of patient-centered care and a **relentless pursuit of excellence** is second to none.”*

– Prathibha Varkey, M.B.B.S.

Welcome back

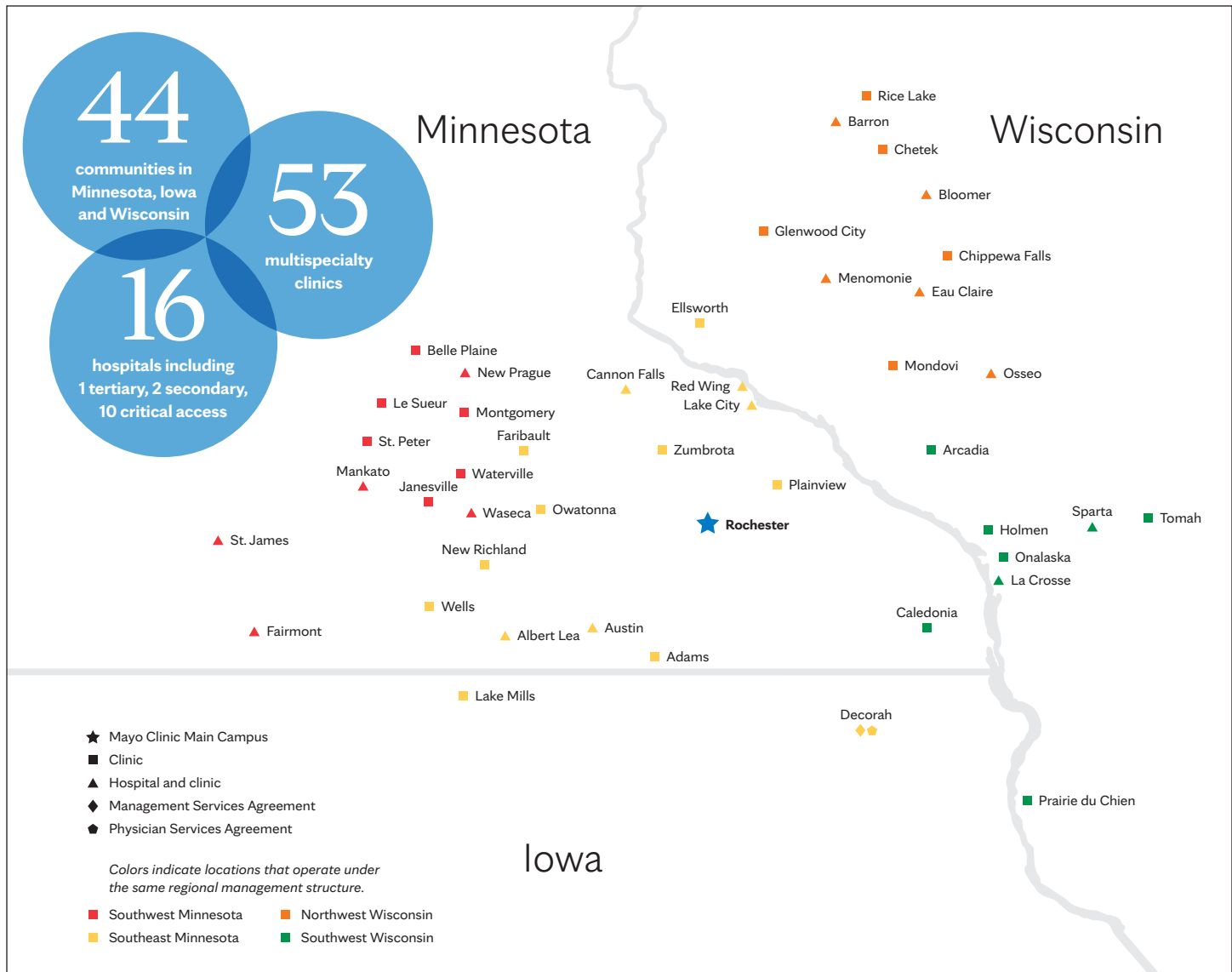
Returning ‘home’ to helm Mayo Clinic Health System

Prathibha Varkey, M.B.B.S. (PREV ’02), grew up in a family of physicians and physician leaders — both parents, a sister and many cousins. She says she has wanted to be a physician since she was in early elementary school. “In our family, creating positive change was a huge part of growing up. We’ve focused on health care as our calling versus a career. Because of the number of physicians in the family when we all get together, it’s a veritable grand rounds!”



Mayo Clinic Health System at a glance

Mayo Clinic Health System's 15,000 employees include 1,000 physicians, 700 advance practice providers and 4,000 nurses at locations in three states.



Dr. Varkey says experience working outside of Mayo Clinic gave her **broader perspective about health care** across the U.S.

After completing internal medicine residency at Yale New Haven Health's Hospital of St. Raphael and a master's degree in public health at the Harvard T.H. Chan School of Public Health, Dr. Varkey came to Mayo Clinic in Rochester in 2001 for a fellowship in preventive medicine.

"I came to Mayo Clinic for my fellowship and the opportunity to learn from amazing faculty at a world-renowned institution," she says, noting that she stayed on as a faculty member in the Division of Preventive Medicine, Occupational and Aerospace Medicine for 11 years.

In 2013, Dr. Varkey transitioned from Mayo Clinic to be CEO of Seton Clinical Enterprise in Austin, Texas, where she had family. From there, she

went to New Haven, Connecticut, in 2016 to serve as president and CEO of Northeast Medical Group at Yale New Haven Health, where she'd trained. She also served as president of the American College of Medical Quality. Dr. Varkey says experience working outside of Mayo Clinic gave her broader perspective about health care across the U.S.

"I learned a lot about how nimble health systems need to be and how to provide excellent care with limited resources," she says. "I learned a lot about turnaround operations, the importance of an organization's culture, personal and team resiliency, and the impact of leadership decisions on everyone in the organization and its future. I'm definitely a better

leader for having gotten leadership experience in other organizations.”

Dr. Varkey returned to Rochester and Mayo Clinic last year, along with her husband and young daughter, to serve as president of Mayo Clinic Health System. Alongside her administrative partner Mary Jo Williamson, Dr. Varkey oversees this system of clinics, hospitals and other health care facilities across dozens of communities in southern Minnesota, western Wisconsin and northeastern Iowa. Mayo Clinic Health System has 15,000 employees, almost 1,000 physicians and 600,000 unique patients every year.

She’s not shy about stating her goal for Mayo Clinic Health System — to become a category of one in rural health, population health and next-generation community care.

“Health care is often fragmented, inconvenient and expensive, with inconsistent outcomes, especially across health systems that serve rural communities,” says Dr. Varkey. “We will innovate and redesign the landscape of community health systems. Scalable solutions that leverage digital health, home care and artificial intelligence (AI), novel partnerships with employers and payers, and community-based education and research will be key elements of our strategy. This transformative work will address health disparities, value-based care and population health, and bring next-generation care to our communities.

“Because 1 in 5 Americans lives in a rural area and 60% of our clinics are in rural areas, we have a huge opportunity to make a difference in how cutting-edge rural health care is designed and delivered across the country.”

Dr. Varkey points out that Mayo Clinic Health System plays an important role in education, with medical students, residents and allied health professionals, including physician assistant students who do 80% of their clinical rotations at Mayo Clinic Health System locations.

In the true three-shield fashion, Mayo Clinic Health System is a hub for collaborative research and innovation. To address a shortage of anesthesia resources, Mayo Clinic Health System created and implemented an AI-enabled anesthesia versus sedation algorithm that led to an additional 150 colonoscopies scheduled per month. This innovation is being disseminated across Mayo Clinic locations. An Advanced Care at Home pilot in northwest Wisconsin admitted 10% of patients for care at home versus at the hospital.

“Much of the work I’ve done in my career has focused on population health, and I now have the opportunity to learn even more from icons in advancing health care and making a difference,” says Dr. Varkey. “I’m a big advocate for trumpeting the contributions of community health systems in improving health in the communities we serve.

“I am humbled and honored to return to Mayo Clinic, where the culture of patient-centered care and a relentless pursuit of excellence is second to none. I’m excited to come back to what feels like home to work with colleagues I truly admire and respect. After all, I always thought I’d retire at Charter House.” •

2.2m
visits per year

29k
surgical procedures performed per year

100+
medical and surgical services and specialties

15k
employees

2021 milestones

- Largest number of monoclonal antibody infusions for COVID-19 across Mayo
- Northwest Wisconsin pilot site for Advanced Care at Home along with Mayo Clinic in Florida
- Mayo Clinic Health System in Eau Claire, Wisconsin — hospital ranked No. 4 best hospital in Wisconsin
- Hospitals in Eau Claire and La Crosse, Wisconsin, recognized by American College of Surgeons’ National Surgical Quality Improvement Program for achieving meritorious outcomes for surgical patient care
- Family medicine residencies in La Crosse and Eau Claire ranked No. 1 and No. 2 in the Midwest and No. 6 and No. 8 nationally



Mayo Clinic's Phoenix, Arizona, campus is undergoing a major transformation.

Mayo Clinic Alumni Association

72nd Biennial Meeting

Connecting our alumni and bringing
Mayo Clinic values to the world



“Health care is *poised for disruption*, and now is the *time to change*.”

– Craig Daniels, M.D.

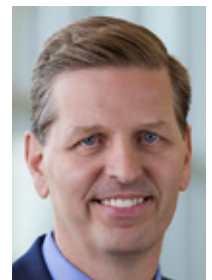
Mayo Clinic Alumni Association President **Carl Backer, M.D.**, kicked off the 72nd Biennial Meeting of the Mayo Clinic Alumni Association at the Royal Palms Resort and Spa in Phoenix, Arizona, and acknowledged the challenges of in-person meetings during a pandemic. In accordance with Mayo Clinic guidelines, participants practiced social distancing, wore masks, provided proof of vaccination and negative COVID-19 test results, and engaged in outdoor social time as much as possible. The CME program also was available via livestream for the first time, enabling alumni around the world to participate. *[Editorial note: Photography of the event was limited due to Mayo Clinic guidelines.]*

Local host and Mayo Clinic in Arizona CEO **Richard Gray, M.D.** (S '00), gave an overview of activity on the Arizona campuses, including the largest capital expansion in Mayo Clinic history. The project began in 2018, will be completed by 2024 and will transform the campus in Phoenix — the fifth-largest city in the U.S.

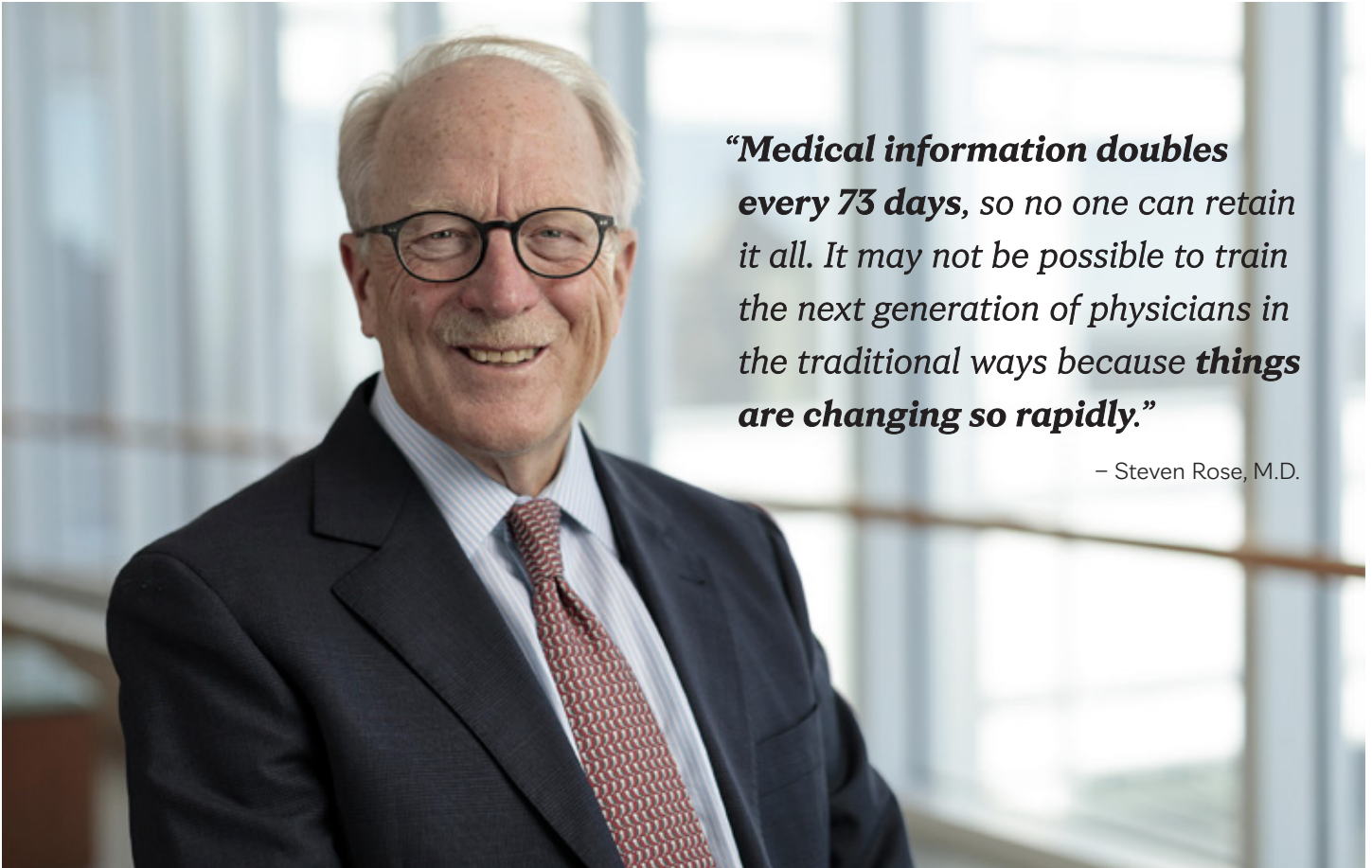
According to Dr. Gray, Mayo Clinic in Arizona’s patient volume is 70% from the Phoenix metropolitan area, 10%

from elsewhere in the state, and 20% from national and international patients. Other Mayo Clinic in Arizona highlights he shared:

- Largest solid organ transplant center in U.S. by volume
- Ranked No. 1 in Arizona by U.S. News & World Report for nine consecutive years
- Hospital ranked No. 15 on 2021 U.S. News & World Report Honor Roll, the fifth consecutive year ranked among top 20 hospitals
- Expanding by 1.6 million square feet
- Adding 200 physicians and 1,800 allied health staff
- Adding two new floors of outpatient space in 2022
- Adding 99 inpatient rooms and doubling the emergency department and lab in 2023
- Adding Integrated Education and Research Building in 2024
- Adding another 96 beds by 2025
- Planning to use land around Phoenix campus for partnerships in biotechnology corridor — Discovery Oasis



Richard Gray, M.D.



“Medical information doubles every 73 days, so no one can retain it all. It may not be possible to train the next generation of physicians in the traditional ways because **things are changing so rapidly.**”

– Steven Rose, M.D.

“We’re looking farther into the future so we can be confident that the decisions we make for today lead to the right destination,” says Dr. Gray. “The capabilities and mix of talents it took for Mayo Clinic to be No. 1 won’t be the same that will keep us No. 1 through 2030 and beyond. We believe we have the people and culture to lead health care to the right kind of patient-centered transformation. In Arizona in particular, we will provide more cures by doubling the number of complex and highly complex patients we serve, almost tripling our extramural research funding, and maintaining our top decile quality and outcomes.

“Given all the change happening, I want to recognize our incredible staff for persevering during this challenging time. Teams have been stretched and discouraged by the race against COVID, which has gone from a marathon to an ultramarathon. Through it all, the Mayo Clinic values have shone through, patients have gotten the hope and healing they expect from us, and we’ve pulled together. We know things will get better and we’ll have a less burdensome future.”

PROGRAM HIGHLIGHTS

The CME program on the first day included 11 speakers. Several are highlighted here.

DR. ROSE ON MEDICAL EDUCATION

Steven Rose, M.D. (MED ’81, I ’82, ANES ’84), Department of Anesthesiology and Perioperative Medicine at Mayo Clinic in Rochester and the Raymond D. Pruitt Lecturer, discussed medical education. Dr. Rose, chair of the Accreditation

Council for Graduate Medical Education (ACGME) Institutional Review Committee and former Mayo Clinic ACGME Designated Institutional Official, noted the Flexner Report of 1910 was a turning point, establishing the scientific basis for medical education and standards for medical schools. Dr. Rose described progress since then as incremental.

“The medical education curriculum is inefficient, rigid and limiting in terms of who can choose to pursue medical education,” he says. “In graduate medical education, we’re not that far from the apprenticeship model of trade guilds. Medical education isn’t new, it isn’t bold, it isn’t forward and it isn’t transformational.” Dr. Rose blames the lack of transformation in medical education on a tightly regulated, bureaucratic system of accreditation, influenced by special interests such as medical associations, government, insurance companies and the pharmaceutical industry.

He proposes that medical education gain efficiencies from technology without disrupting the teacher-learner experience. “Education technology, including virtual reality (VR), is a big disrupter. Learners don’t have to wait around for a patient with a particular condition to learn on. VR offers the potential for learners to examine and treat the patient virtually, no matter where the learners are.”

Dr. Rose says knowledge is no longer the commodity it was when concentrated in medical libraries, giving some people a decided edge over others. “Medical information doubles every 73 days, so no one can retain it all. It may not be possible to train the next generation of physicians in the traditional ways because things are changing so rapidly.”

Dr. Rose envisions a future state of medical education that is more efficient and flexible; that emphasizes diversity, equity and inclusion; that places a priority on wellness; and that advantages the entire workforce, including parents, in a way that doesn’t make them feel as if they have to sacrifice some of the most important parts of their lives.

DR. DANIELS ON DISRUPTING HOSPITAL CARE

Craig Daniels, M.D. (I ’01, CI ’03, THDC ’04), Division of Pulmonary and Critical Care Medicine at Mayo Clinic in Rochester, talked about how hospitals are poised for disruption and the role Mayo Clinic is playing in care disruption.

“The current model of high-acuity care is episodic care with gaps between care episodes,” he says. “As patient acuity increases, these gaps make it difficult for patients to stay healthy. Our current model of care for serious and complex illness relies on high frequency face-to-face clinic visits and hospitalization when patients decompensate. Episodic care is the way we’ve always cared for patients, but continuous models of care are the solution to rising patient acuity. Health care is poised for disruption, and now is the time to change.”

For inpatients, Dr. Daniels advocates for bringing care to the patient and tools to the bedside rather than moving patients when their care need changes. He encourages

Mayo Clinic Alumni Association Women Physicians and Scientists Group

PROGRAM HIGHLIGHTS

The Mayo Clinic Alumni Association Women Physicians and Scientists affinity group met for the second time, having kicked off at the 2019 Biennial Meeting in Rochester. The group’s chair, S. Ann Colbourne, M.D. (I ’93, ADGM ’94), emeritus professor, University of Alberta, Canada, led the virtual gathering, which featured 28 panelists and moderators.



S. Ann Colbourne, M.D.

The program included four moderated panels:

- “Talking Taboo — Our Own Health Matters” was moderated by Adebisi (Bisi) Alli, D.O. (CIM ’18), with topics ranging from fertility and reproductive health and the importance of having a reproduction life plan to female sexual health, menopause and hormone therapy.
- “Shining Through the Lens of Diversity” was moderated by Jessica Silva-Fisher, Ph.D. (BMB ’11), Division of Oncology, Washington University School of Medicine, St. Louis, Missouri, with a focus on panelists’ experiences in diversity, equity and inclusion and a discussion of how to improve the gaps.
- “Professional Pathways — Planning, Progress and Pivoting” was moderated by Olayemi (Yemi) Sokumbi, M.D. (MED ’09, I1 ’10, DERM ’13), Department of Dermatology at Mayo Clinic in Florida, and included panelists sharing their paths, where they diverged from their paths and how they adjusted.
- “The Fourth Shield — Our Journey in Work-Life Harmony” was moderated by Dr. Colbourne. Panelists in this session discussed the convergence of work and home and the importance of making decisions that are right at the moment, independent of what others think is best.

Priestley Society

PROGRAM HIGHLIGHTS

Following its tradition, the Mayo Clinic Surgical Society in Honor of James T. Priestley held an annual program in conjunction with the Biennial Meeting. Brian Kim, M.D. (S '06), Division of Trauma Critical Care and General Surgery at Mayo Clinic in Rochester and secretary/treasurer of the Priestley Society, welcomed attendees and led a program of 13 speakers.



Brian Kim, M.D.

They included:

- Inlow Award recipient Shengliang He, M.D. (S '22), "Management of Acute Diverticulitis in Immunocompromised Patients — the Mayo Clinic Experience"
- Inlow Award recipient Jennifer Yonkus, M.D. (CI '21, S '24), Department of Surgery, Mayo Clinic in Rochester, "Answers in Hours — Prospective Clinical Trial Using Microbiome Metagenomics for Bile Duct Cultures"
- The ReMine Lecturer, Dennis Wigle, M.D., Ph.D. (TS '06), Division of Thoracic Surgery, Mayo Clinic in Rochester, "Organ Preservation in Esophageal Surgery"
- The Legacy Professor, Peter Gloviczki, M.D. (VASS '83, S '87), Emeriti Staff, Mayo Clinic in Rochester, "The Art of Venous Surgery"
- The Presidential Address, Scott Zietlow, M.D. (S '89), Division of Trauma Critical Care and General Surgery, Mayo Clinic in Rochester, "Prehospital Hemostatic Resuscitation"

remote monitoring of patients who don't need inpatient treatment and would benefit from going home with monitoring and virtual connection to their care teams rather than spending more days in the hospital.

Mayo Clinic's REMODi (Remote Monitoring for Early Discharge) Program is one example of a model of care being developed as an alternative to keeping patients in hospital to monitor health conditions. REMODi uses physiologic monitoring and artificial intelligence to remedy challenges with hospital census by creating solutions to remotely care for patients who need monitoring but don't benefit from being in the hospital. The usual course of treatment in the program is a few days, but the duration of monitoring can vary based on the patient's need. Hospital and outpatient teams care for patients in the program with the help of special equipment provided to the patient.

"To provide care for our patients' needs, we need to replace episodic care with continuous care and deliver safe transitional care models. The three key infrastructure components of continuous, transitional care are wearable home physiologic monitoring devices, data platforms that power artificial intelligence alerts and management tools, all connected to virtual care teams so our patients always have Mayo Clinic there when they need us."

Mayo Clinic plans to grow a continuous monitoring environment, virtually connected to providers, to shorten hospital stays, prevent readmissions, and help patients stay healthy with serious and complex diseases.

DR. PORTER ON ELEVATING STUDENTS FROM DIVERSE BACKGROUNDS

Alyx Porter, M.D. (I1 '04, N '07, NONC '08), Department of Neurology at Mayo Clinic in Arizona, discussed the need to remove barriers to diversity, equity and inclusion in medicine to give people equal experiences. "Efforts must be strategically interwoven in the organization's mission at all levels, not in the margins for diverse people to uphold," she says.

Dr. Porter is one of only three Black women practicing neuro-oncology in the U.S. "This lack of representation affects our understanding of the spectrum of disease, research, and the clinical questions that are asked and investigated," she says. "When there's a lack of representation, which labs are underfunded? What research questions have we missed? Who has left academic medicine?"

"Additionally, physicians and trainees from underrepresented groups have higher rates of indebtedness and are more likely to have family responsibilities that extend beyond their immediate households. Cost is the No. 1 reason diverse undergraduate students don't go into medicine. A career in medicine shouldn't be the privilege of the wealthy. Diverse patients want to see themselves represented in the workforce."

Dr. Porter also talked about the diversity tax, where a person of color is assumed to be the expert on all things related to diversity, equity and inclusion. "They get taxed



*“To provide care for our patients’ needs, we need to **replace episodic care** with **continuous care** and deliver safe transitional care models.”*

– Craig Daniels, M.D.



*“We need to be **aware of what we’re asking** for from persons of color on our teams to make sure we’re not adding a **diversity tax.**”*

– Alyx Porter, M.D.

*“This **lack of representation** affects our understanding of the spectrum of disease, research, and the clinical questions that are asked and investigated.”*

– Alyx Porter, M.D.

with being asked to give talks, lead initiatives and represent diversity on search committees,” she says. “Based on their own values, these are often the same colleagues who choose to mentor learners within and outside of the institution and staff the clinic for underserved patients. While critically important to our organizations, historically none of those activities lead to academic promotion or an increase in salary or come with protected time. They can, however, contribute to burnout and attrition. We need to be aware of what we’re asking for from persons of color on our teams to make sure we’re not adding a diversity tax.”

Dr. Porter mentioned Mayo Clinic’s pathway programs (page 14) to support learners from underrepresented groups, and said she is the product of such programs. “Many of us don’t have opportunities to have mentors who look like us doing exactly what we want to do,” she says. “We don’t have a professional network or relationships to help us find opportunities, which can lead to social and professional isolation.

“It’s important to reach residency program directors, department chairs and medical school admissions teams to make sure students from diverse backgrounds have the opportunities to succeed and to create a more level playing field so we can help elevate the best and the brightest who may need a helping hand.” •



Zonghui Ding, a research associate at Mayo Clinic in Arizona, explains his winning poster to Michael Pham, M.D. (I '16, RHEU '19), co-course director for the scientific sessions of the Biennial Meeting.



Young Investigators Research Symposium

The Young Investigators Research Symposium, typically held every other year on the Rochester campus, expanded to Arizona for the first time as part of the Biennial Meeting. Michael Pham, M.D. (I '16, RHEU '19), Division of Rheumatology at Mayo Clinic in Arizona, managed the research symposium, and Charles Gaulin, M.B.B.S. (HEMO '23), Division of Hematology and Medical Oncology at Mayo Clinic in Arizona, moderated the oral presentations. Alumni Association board members and meeting attendees judged the presentations.

ABSTRACTS SUBMITTED

- 19 poster presentations
- 14 oral presentations

AWARD RECIPIENTS

- Best research fellow poster (highest rated of all posters), Zonghui Ding, "Development of Therapeutic Nanobodies for Treatment of Alzheimer's Disease"
- Best medical student poster, Christian Rosenow (MED '22), "Resident Productivity in the Emergency Department After Implementation of an Automated Patient Assignment System"
- Best medical student oral presentation, Cody Cunningham (MED '22), "Hydroxocobalamin in Refractory Septic Shock: A Retrospective Case Series"

The Young Investigators Research Symposium will be part of future Biennial Meetings as they rotate among campuses, allowing learners in each location to interact with alumni and practice presenting their work.

“I’m truly grateful to have been a Dr. Mayo at Mayo Clinic.” – Joseph Graham Mayo III, M.D.

Judd-Plummer Lecturer

Fourth-generation physician descendant of Mayo brothers



Joseph Graham Mayo III, M.D. (MED '83, I '85, OR '89), is the great-grandson of Charles H. Mayo, M.D. (Dr. Charlie), and great-nephew of William J. Mayo, M.D. (Dr. Will). Dr. Mayo, his late brother, Chester Wilson Mayo, M.D. (OR '91), and cousins Andrew Graham Mayo, M.D., and Charles William Mayo II, M.D., are the fourth generation of physicians descending from the Mayo brothers. Dr. Mayo was the first member of the Mayo family to attend and graduate from the medical school that bears the family name.

Dr. Mayo was born at Saint Marys Hospital and spent his childhood in Rochester, playing at Mayowood and visiting his grandparents, **Charles H. (Chuck) Mayo II, M.D.** (S '64), and Alice Mayo. Dr. Mayo recalls attending parties at Mayowood in formal clothes and mingling with physicians, professors of medicine, preeminent surgeons, specialists from other countries and international dignitaries. “I recall famous people and dignitaries saying they looked forward to my following in the footsteps of my elders,” says Dr. Mayo.

His family moved away from Rochester when he was 8, which gave him time to find his own path, Dr. Mayo says. “I left college after two years and traveled alone to Hawaii, Japan, the Pacific Islands, Southeast Asia, the Middle East and Europe. I saw the universality of the human condition, poverty, man’s inhumanity to man, war, infectious disease and malnutrition. The legacy of service to others followed me wherever I went. I had seen the passion for medicine and surgery in the extraordinary physicians I’d met at Mayowood and

realized there was no better purpose than to serve others. I began to consider medicine — as my choice, not an expectation.”

After graduating from the University of Minnesota, Dr. Mayo began his medical education at Mayo Clinic Alix School of Medicine in Rochester, Minnesota — the first Mayo at Mayo Clinic since 1964.

“Applying to medical school at Mayo Clinic was a catch-22 for me,” he says. “Carrying the Mayo name would test my strength and ability. It would be humiliating if I wasn’t admitted. I knew I’d be looked at with scrutiny. What if I failed or embarrassed those who had put their trust in me? I wanted to prove myself and bolster my self-respect. And I had to live up to the name.”

A Mayo Clinic publication at the time (upper right) quoted Dr. Mayo as saying, “I don’t want to be treated any differently than anyone else. I just want to be considered part of the Mayo family — no pun intended. My hope has always been that people would regard my name as an interesting thing, but that they wouldn’t treat me any differently than any other student and that I would be able to pursue my education with 100 percent effort.

“This institution is steeped in tradition, and I represent a small portion of that tradition. But I just want to keep that an interesting sidelight, not have it be a preoccupation with people. I’ve learned how to live with my name. It’s not a problem for me. I just don’t want other people to be put off by it. I need to struggle and work just like every other student. And I want to do it on my own. That’s always been my strongest desire. I just want to be the best that I can possibly be. It’s a matter of what my talents are and where they are most needed.”

Dr. Mayo completed internal medicine and orthopedic surgery residency at Mayo Clinic School of Graduate Medical Education.

“During residency, my nametag drew cringe-worthy attention, with



patients asking if I owned the clinic," he says. "I wanted to redirect attention back to the patient, so I put a sticky note over part of my nametag and went by the nickname Dr. Joe. Residency is about what you can do, not who you are."

After completing training, Dr. Mayo left Minnesota for the West Coast. He joined a private practice in Placentia, California, before establishing his own. He specialized in total joint replacement and was instrumental in making Placentia-Linda Hospital a recognized center of excellence in orthopedic surgery. Dr. Mayo served as chair of the Department of Surgery and Board of Governors of Placentia-Linda Hospital.

In 2015, he joined the St. Jude Heritage Medical Group in Fullerton, California, focusing on total hip and knee replacement. Dr. Mayo also played a key role in establishing St. Jude Medical Center in Fullerton, California, as a nationally recognized center of excellence in orthopedic surgery.

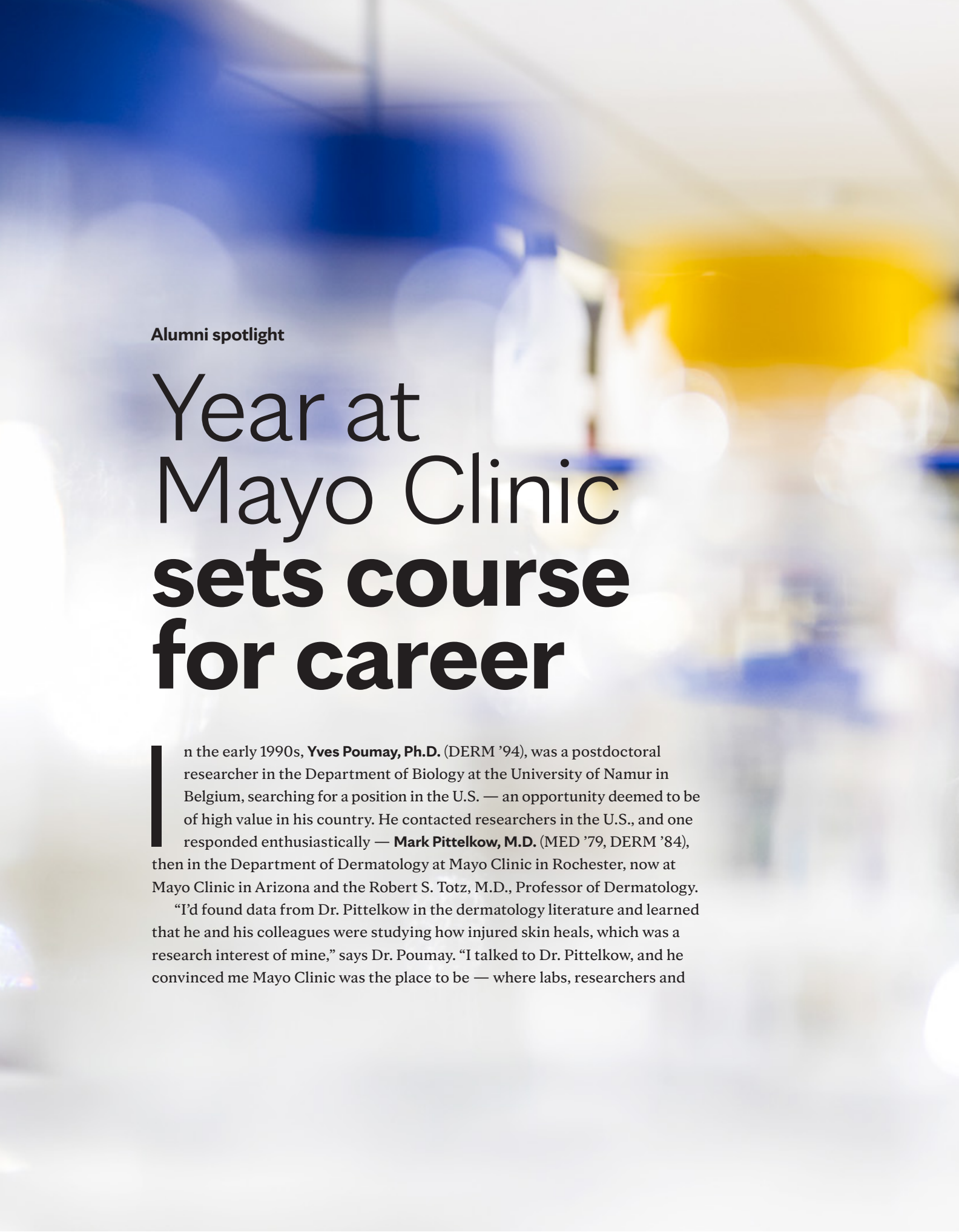
"I am grateful for exceptional training and for having earned the trust and confidence of patients, but I preferred anonymity and wanted to practice away from Mayo Clinic," he says. "As a Mayo, I'm obliged to honor my ancestors by working for the greater good but not capitalize on the name or think it makes me special. I'm truly grateful to have been a Dr. Mayo at Mayo Clinic. You've all been entrusted with Mayo Clinic — to honor and uphold the Mayo Clinic name. You've all made the Mayo

brothers proud. You've given of yourselves for the greater good. You're all members of the greater Mayo family. Because of you, the Mayo Clinic name and reputation have continued."

Dr. Mayo retired from regular practice in 2020 but travels from his home in Hawaii to St. Jude in Fullerton every month for a four-day rotation. ●

The Judd-Plummer Lectureship was established to honor two early, distinguished members of the Mayo Clinic medical staff — E. Starr Judd, M.D. (S '04), chief of the surgical staff, and Henry Plummer, M.D. (I '01), chief of the Division of Medicine. This recognition is presented to an outstanding physician, surgeon, scientist or educator.

The Judd-Plummer Lecturer award was presented to Dr. Mayo in October 2021 at the 72nd Mayo Clinic Alumni Association Biennial Meeting, where he gave his lecture.

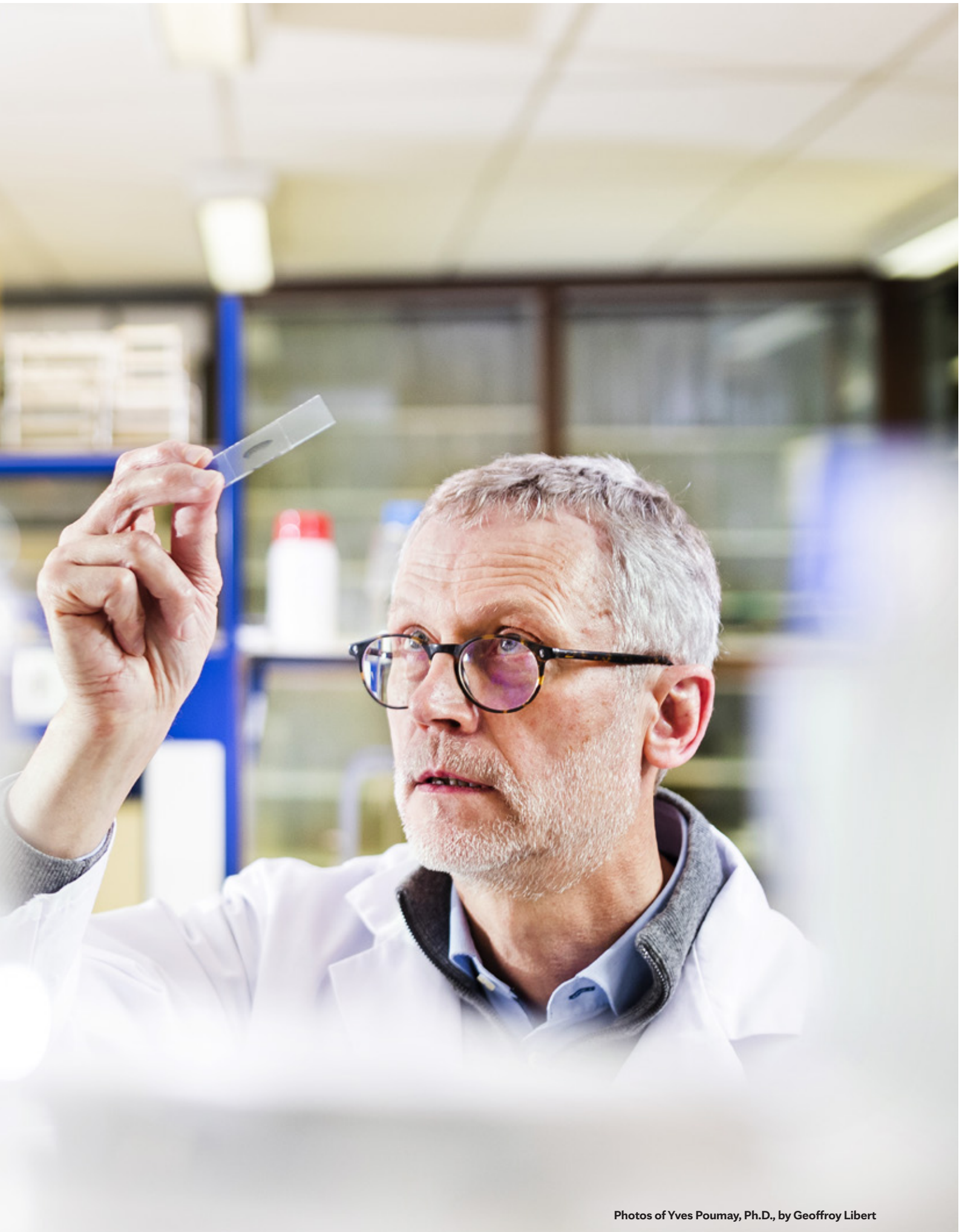


Alumni spotlight

Year at Mayo Clinic sets course for career

In the early 1990s, **Yves Poumay, Ph.D.** (DERM '94), was a postdoctoral researcher in the Department of Biology at the University of Namur in Belgium, searching for a position in the U.S. — an opportunity deemed to be of high value in his country. He contacted researchers in the U.S., and one responded enthusiastically — **Mark Pittelkow, M.D.** (MED '79, DERM '84), then in the Department of Dermatology at Mayo Clinic in Rochester, now at Mayo Clinic in Arizona and the Robert S. Totz, M.D., Professor of Dermatology.

“I’d found data from Dr. Pittelkow in the dermatology literature and learned that he and his colleagues were studying how injured skin heals, which was a research interest of mine,” says Dr. Poumay. “I talked to Dr. Pittelkow, and he convinced me Mayo Clinic was the place to be — where labs, researchers and



Photos of Yves Poumay, Ph.D., by Geoffroy Libert

clinicians from various facilities collaborate and learn from each other. His lab was investigating cell culture procedures that I could learn a lot from.”

Dr. Poumay, his wife and two young daughters traveled to Minnesota from Belgium, and he completed a postdoctoral research fellowship in dermatology research. He says the year at Mayo Clinic defined his career.

“I discovered the true culture and spirit of Mayo Clinic — the needs of the patient come first,” says Dr. Poumay. “In research, that value is personified in collaboration and sharing knowledge. I learned about the tools I needed to modernize the research in my lab at home. At Mayo Clinic, each time I had questions, I found nice people willing to share their knowledge. That, in turn, inspired me to help other researchers with their projects — a practice that holds true to this day.

“I’m now on the Board of Trustees at Namur CHU (university hospital), and I impress upon others the need to transfer the spirit I observed at Mayo Clinic — putting the patient’s needs first — in the training and ongoing state of mind of our medical staff, nurses and others.”

In the years after his fellowship, Dr. Poumay has kept in touch with Mayo Clinic and current on research through annual Society of Investigative Dermatology meetings, and ongoing communication and occasional collaboration with Dr. Pittelkow. “He was one of the most significant people in my career,” says Dr. Poumay. “His kindness, proficiency, caring and example inspired me for life.”

Dr. Poumay says his year at Mayo Clinic and recommendation from Dr. Pittelkow played a key role in securing his faculty position at the University of Namur as well as in his 2020 election to the Belgian Royal Academy of Medicine.

The research side of Dr. Poumay’s career became less of a priority from 2015 to 2019 when he served as dean of the Faculty of Medicine at the University of Namur. When he completed that stint, he was ready to jump back into research. He arranged for a six-month visiting scientist sabbatical at Mayo Clinic in Arizona, working with **Aleksandar Sekulic, M.D., Ph.D.** (IMM ’99, DERM ’00, I1 ’01, CI ’03, DERM ’06), Department of Dermatology, to study early stages of melanoma development.

Two months into the sabbatical, the pandemic hit, and Dr. Poumay and his wife returned to Belgium. “We hurriedly left our rental apartment, thinking we could perhaps return in a month,” says Dr. Poumay. “That was two years ago.” However short a time he was at Mayo Clinic in Arizona, Dr. Poumay established an active and ongoing collaboration with Dr. Sekulic, with the two laboratories working jointly to understand melanoma development.

Dr. Poumay hopes to return to Mayo Clinic at some point to further his research. In the meantime, he continues to teach histology and cell biology to medical students and pursue investigative dermatology at the university. His research focuses on *in vitro* tissue reconstruction. He has created 3D models to understand how receptors are activated in eczema and how inhibitors can be useful in stopping the abnormal development of the pathology. He’s also developing models to study fungal infection *in vitro* and tools to analyze fungal infection.

“When I went to Mayo Clinic the first time, I was aware of its reputation, but I didn’t understand the reason for it,” he says. “I not only came to understand it but also adopted it as my own professional guide. Life has never been the same, and I’m grateful for that.” ●

*“At Mayo Clinic, each time I had questions, I found nice people willing to share their knowledge. **That, in turn, inspired me to help other researchers with their projects — a practice that holds true to this day.**”*

— Yves Poumay, Ph.D.





Identifying inherited gene mutations in pancreatic cancer can target therapy & improve survival

Almost 1 in 6 people diagnosed with pancreatic cancer have an inherited cancer-related gene mutation that likely predisposed them to the disease. According to research from the Mayo Clinic Center for Individualized Medicine, identifying these hereditary gene mutations in pancreatic cancer can help determine individualized treatments and potentially prolong survival.

“We found that patients who had one of these genetic mutations, especially if they were mutations in homologous recombination repair genes including BRCA2 — the ‘breast cancer gene’ — had a 50% chance of better survival than people without that genetic mutation,” says **Niloy Jewel Samadder, M.D.** (GIAE '11), Division of Gastroenterology and Hepatology at Mayo Clinic in Arizona and senior author of the study. “If we know there’s a genetic predisposition to pancreatic cancer, we could screen those patients and their family members more closely, using imaging or blood markers to identify early and potentially curable pancreatic cancer.”

For the study, 250 patients who were diagnosed with pancreatic cancer were tested with a sequencing panel that included more than 80 cancer-causing or predisposing genes. Standard panels for pancreatic cancer include only 20 or fewer genes. Dr. Samadder says that almost 30% of the genetic mutations in the patients with pancreatic cancer wouldn’t have been detected on a standard guideline-based approach to genetic evaluation.

He says data from this study and others, showing the high rate of genetic mutations in pancreatic cancer, have led to recent changes in guidelines that advocate for genetic testing for all pancreatic cancer patients, regardless of their cancer stage or family history of cancer. “Uncovering hidden inherited genetic mutations with a universal testing approach can save lives.”

New research center to address effects of racism on heart health

A new research center led by Mayo Clinic and the University of Minnesota — the Center for Chronic Disease Reduction and Equity Promotion Across Minnesota (C2DREAM) — aims to reduce health disparities in collaboration with community leaders and community health organizations.



People of color in Minnesota have some of the worst health disparities in the U.S. Research points to the profound effects of structural and interpersonal racism on health equity, particularly cardiovascular disease and related conditions such as high blood pressure and obesity.

According to **Christi Patten, Ph.D.** (CIM '98), Department of Psychiatry and Psychology at Mayo Clinic in Rochester and co-principal investigator for C2DREAM, the C2DREAM

research center will evaluate novel interventions to address structural and interpersonal racism as a fundamental cause of cardiovascular health disparities among people of color in rural and urban communities in Minnesota.

C2DREAM is funded by a P50 grant from the National Institute on Minority Health and Health Disparities. The grant will fund research for five years, including clinical studies on community and primary care approaches to diet, physical activity, smoking cessation and other factors. The program also will focus on understanding the root causes of health inequities and the best ways to turn research results into action. Community leaders will guide research strategy and the process of developing and sharing best practices.

C2DREAM is a regional effort that brings together researchers and community stakeholders from various disciplines and draws on evidence-based medical expertise and local and cultural knowledge.

International team to study biomarkers for REM sleep behavior disorder

An international team led by researchers at Mayo Clinic, The Neuro (Montreal Neurological Institute-Hospital) of McGill University, and Washington University School of Medicine in St. Louis has received a five-year grant expected to total \$35.1 million to develop biomarkers for rapid eye movement (REM) sleep behavior disorder.

The grant — from the National Institute on Aging (NIA) and the National Institute of Neurological Disorders and Stroke (NINDS) — will help lay the groundwork for clinical trials focused on stopping the troublesome condition from progressing into a debilitating disease.

People with REM sleep behavior disorder have a 50% to 80% chance of developing a serious neurodegenerative disease within a decade of diagnosis. Those affected by the disorder act out their dreams. While sleeping safely in bed, for example, they

might throw up their arms to catch an imaginary ball or try to run from an illusory assailant. Acting out dreams is an early sign that something in the brain is not functioning as it should.

No treatment is available to decrease the risk of developing a neurodegenerative disease for people with the disorder, which is linked to Parkinson's disease, dementia with Lewy bodies and multiple system atrophy.

REM sleep behavior disorder is connected to diseases caused by an accumulation of abnormal clumps of the protein alpha-synuclein in the brain. Such clumps often coalesce early in the course of the diseases in a part of the brain that paralyzes the body during REM sleep. As that area becomes damaged, people start thrashing around as they dream.

Several drugs and immunotherapies targeting alpha-synuclein are being developed and may become available

for clinical trials. But first scientists need to identify biomarkers of impending neurological disease in people with REM sleep behavior disorder.

“Information that predicts the timing and type of synucleinopathy disorder is almost certainly hidden in one or more of the biomarkers that will be assessed as part of this study,” says **Bradley Boeve, M.D.** (I1 '92, N '95, NACF '96), Department of Neurology at Mayo Clinic in Rochester, The Little Family Foundation Professor of Lewy Body Dementia and the grant's co-principal investigator. “If we can identify biomarkers that predict the future, we can then focus on these biomarkers for upcoming clinical trials designed to delay the onset of or prevent dementia or parkinsonism.”



Sex & race disparities found in management of patients with hypertrophic cardiomyopathy

A Mayo Clinic study found that implantable cardioverter-defibrillators (ICDs) aren't used as often for female patients and patients of color despite increasing use of the devices overall for patients with hypertrophic cardiomyopathy. The study examined data from the National Inpatient Sample, an all-payer administrative database of inpatient hospitalizations.

“Racial disparities exist in hypertrophic cardiomyopathy with regard to disease expression and worse outcomes,” says **Sri Harsha Patlolla, M.B.B.S.** (CTSA '22), a postdoctoral fellow in the Department of Cardiovascular Surgery at Mayo Clinic in Rochester and first author of the study. “As with sex-specific differences, this could be the results of systemic bias with inequity of clinical care. The fact that ICD use is more common in large and teaching hospitals suggests that patients in smaller hospitals may not have access to specialists in hypertrophic cardiomyopathy management. Improving access to centers offering the highest level of specialized care may help reduce these disparities. How our findings relate to care access, socioeconomic status and patient-shared decision-making warrants further study.”

The study identified 23,535 adult hospitalizations for hypertrophic cardiomyopathy during a 12-year time span. The proportion of patients who got an ICD increased from 11.6% in 2003 to 17% in 2014. Regional differences reflected overuse in some areas of the country and underuse in others. Women had a lower proportion of ICD use compared to

men — 12.8% versus 22.7%, respectively. Women had higher rates of ventricular arrhythmias and were more likely to get an ICD after having heart electrical issues. Other studies have revealed that women with hypertrophic cardiomyopathy are diagnosed later and show more symptoms as compared to men.

“With those findings in mind, several different explanations could support our results,” says **Jeffrey Geske, M.D.** (MED '07, I '10, CV '14), Department of Cardiovascular Medicine at Mayo Clinic in Rochester. “It's possible that focusing on symptom management shifts focus away from sudden death risk assessment in women more than men, and shared decision-making may result in different choices between sexes. In combination with current findings, these suggest a need for providers to recognize sex-specific differences in outcomes and management trends in women with hypertrophic cardiomyopathy.”

ICD use was similar across races, but differences became apparent when considering patient demographics by race. Compared to white patients admitted to the hospital for hypertrophic cardiomyopathy, patients of color were younger, less affluent and more likely to get care at a teaching hospital. Patients of color also showed higher incidence of hypertension, kidney disease and atrial fibrillation.

These trends raise questions including why patient outcomes are different based on sex and race, whether inherent bias plays a role and how to eliminate potential bias in ICD decision-making.

“Sudden cardiac death risk stratification and ICD decision-making are pillars of clinical care of patients with hypertrophic cardiomyopathy. Despite growing recognition of this disease, the degree of inequity across patient populations was quite surprising,” says **Hartzell Schaff, M.D.** (TS '80), Department of Cardiovascular Surgery at Mayo Clinic in Rochester, the Stuart W. Harrington Professor of Surgery and senior author of the study. “Regardless of whether this inequity reflects access to care, provider bias, disease expression, shared decision-making or another explanation, I believe that greater access to multidisciplinary hypertrophic cardiomyopathy centers with graduated levels of expertise remains important for the best possible care of patients with this condition.”



Sri Harsha Patlolla, M.B.B.S.



Jeffrey Geske, M.D.



Hartzell Schaff, M.D.

Patient blood management program can reduce use of transfusions & improve patient outcomes

A Mayo Clinic study shows that a patient blood management program can substantially reduce transfusions, length of hospital stays and in-hospital adverse outcomes. Reducing or eliminating allogenic transfusions is increasingly important when donor blood is in short supply.

A patient blood management program is a multifaceted approach to educational and clinical practices to improve the blood health of hospital patients. A patient blood management program at Mayo Clinic was initiated in the cardiac surgery area more than 15 years ago, and a broader clinical approach was initiated at Mayo Clinic in Rochester in 2012.

The observational study reviewed 400,998 hospital admissions from 2010 to 2018 at two Mayo Clinic hospital campuses. During the study time frame, allogenic transfusions decreased from 607 to 405 per 1,000 admissions. Transfusions were reduced across medical and surgical admissions and for all major surgery types except liver transplantation, which was unchanged.

“These efforts to better manage blood were associated with substantial reductions in transfusion use, including



an absolute risk reduction of 6% for getting any transfusion during hospitalization and an approximate 25% reduction in the number of blood products transfused beyond projections,” says **Matthew Warner, M.D.** (MED '12, ANES '16, CCMA '17), Department of Anesthesiology and Perioperative

Medicine at Mayo Clinic in Rochester and first author of the study. “We also observed a modest decrease in adverse events during hospitalization, including myocardial infarction, stroke, venous thromboembolism, acute respiratory failure and transfusion reactions.”

Among the factors that likely drove the reductions are widespread education efforts about evidence-based transfusion use, direct engagement with medical and surgical service lines, use of computerized order entry processes that improve decision-making, and analytics that provide direct feedback to the ordering provider about their practices in relation to peers.



New Hilton planned at Mayo Clinic in Florida

Construction of a Hilton Hotel & Resort with 252 guest rooms is scheduled to begin this summer at Mayo Clinic in Florida, with completion in 2024. The 179,000-square-foot, eight-story hotel will feature a fitness center, restaurant, outdoor pool and meeting space.

“We are excited to offer this type of high-end hotel accommodation to enhance our patients’ experience when traveling to our campus for care,” says **Kent Thielen, M.D.** (RD '94, RNEU '97), CEO of Mayo Clinic in Florida. “As a premier destination medical center, we make exceeding the needs of our patients our top priority.”

The hotel project is a collaboration among Concord Hospitality Enterprises, Whitman Peterson and Mayo Clinic.

Obituaries

Frederick Araas, M.D. (FM '78), died Jan. 7, 2022.

Doraiswami “Ram” Ayyar, M.B.B.S., M.D. (N '72), died Oct. 11, 2020.

Sylvester Chiu, M.D. (I '69), died Aug. 10, 2020.

Bennie Clayburgh, M.D. (OR '56), died Jan. 21, 2013.

William Daniel, M.D. (S '87), died Aug. 13, 2020.

Jean Davignon, M.D. (I '63, PHYS '63), died Aug. 15, 2021.

Tore Farsund, M.D. (U '67), died Oct. 11, 2016.

John Hermon-Taylor, M.D. (GI '69), died Oct. 16, 2021.

Ian Jackson, M.D. (PLS '81, NS '87), died Aug. 2, 2020.

Gabriel Jeremias, M.D. (OR '63), died Aug. 26, 2021.

Gary Kissel, M.D. (I '73), died June 8, 2019.

Everett Lensink, M.D. (OPH '63), died Dec. 16, 2021.

Sheldon Miller, M.D. (PATH '81), died Oct. 4, 2021.

Declan Nolan, M.D. (OR '74), died Aug. 19, 2021.

Masood Rehmani, M.B.B.S., M.D. (CAP '82), died Aug. 21, 2014.

Angelo Scotti, M.D. (I '71), died Sept. 18, 2021.

Paul Spray, M.D. (OR '50), died May 26, 2020.

James Thompson, M.D. (OPH '66), died Aug. 16, 2021.

Gerald Tuohy, M.D. (ANES '62), died July 16, 2021.

Edwin Updike, M.D. (S '57), died Oct. 3, 2020.

Robert Wisco, M.D. (RHEU '90), died Sept. 5, 2021.

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FEELING OUT OF TOUCH WITH THE ALUMNI ASSOCIATION?

Make sure we have your email address.

If you've registered your profile on the Alumni Association website, you can check and update your contact information: alumniassociation.mayo.edu

If you don't yet have an online profile, email mayoalumni@mayo.edu or call 507-284-2317 to update your contact information.

ABOUT THE MAGAZINE

Mayo Clinic Alumni magazine is published quarterly and mailed free of charge to physicians, scientists and medical educators who studied and/or trained at Mayo Clinic, and to Mayo consulting staff. The magazine reports on Mayo Clinic alumni, staff and students and informs readers about newsworthy activities at Mayo Clinic.

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FIND MAYO CLINIC



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On Sept. 11, 1964, the U.S. Postal Service introduced a Doctors Mayo commemorative stamp, the result of a seven-year effort from stamp enthusiasts in Rochester, Minnesota. The stamp was a focal point of the Mayo centennial year and was celebrated in Rochester with first day of issuance ceremonies.

The Alumni Association store sells a pen featuring sheets of the stamps embedded in polished acrylic in a wooden box adorned with one of the 1964 stamps.

store.alumniassociation.mayo.edu/products/mayo-brothers-commemorative-stamp-pen



Sept. 15–17

Save the date

2022 Mayo Clinic Alumni Association International Meeting

Following the Mayo brothers' tradition, this meeting combines focused learning on current topics in medicine and science with leisure time among colleagues in settings that foster innovative thinking.

Lisbon, Portugal, a city that has seamlessly blended heritage, modernism and progressive thinking, is considered one of the most vibrant and exciting destinations in Europe. Join us and connect with alumni from all over the world while enjoying a wide-ranging program that leaves plenty of free time to explore all that Lisbon offers.

Conference headquarters | Grande Real Villa Italia Hotel & Spa
Rua Frei Nicolau de Oliveira, 100 | 2750-319 Cascais-Portugal
alumniassociation.mayo.edu/2022-international-program-in-lisbon