



MCW *magazine*



P 16

Emergency Response

How MCW Physicians and Scientists are Setting the Standard for Emergency Care

MCW

magazine

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alumni@mcw.edu / (414) 955-4781

MCW MAGAZINE STAFF

Sara L. Wilkins, MA, MPA – *Executive Editor*
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 Cheri Saathoff – *Graphics and Production Specialist*

Contributing Writers:

Holly Botsford, Anthony Braza, John Burlingham,
 Greg Calhoun, Alex Krouse, Maureen Rimmel,
 Sai-Suma K. Samudrala, Michelle Schaefer,
 Karri Stock, Sara L. Wilkins, Samantha Zimmerman

Chief Development Officer/Vice President of Development:

Alice G. Archabal

Vice President of Communications, Experience and

Brand Strategy: Mara Lord, MBA

Director of Communications and Brand Strategy:

Mary Reinke, MBA, MS

Chief Historian: Richard Katschke, MA

CONTACT US

Phone (414) 955-4725
 Fax (414) 955-6699
 E-mail: MCWmagazine@mcw.edu

Medical College of Wisconsin
 8701 Watertown Plank Rd.
 Milwaukee, WI 53226

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LEADERSHIP MESSAGE

Knowledge Changing Life: Telling Our Stories

I am very honored to be part of such an incredible organization, where our faculty, staff, students and alumni are generating the knowledge that changes life as a whole, as well as individual lives every day.

Recently, MCW launched a new brand to help tell our stories in a new way. As part of the launch we introduced a new tagline, *knowledge changing life*, to reflect the breadth and depth of our impact on everyday lives. New knowledge can change everything: a single life, an entire community and the future as we know it. That knowledge starts right here at the Medical College of Wisconsin – and we hope you will be ambassadors to share these stories.

MCW scientists, in collaboration with local, national and global thought leaders and innovators, lead biomedical and population health advancements through laboratory research, clinical trials and community-engaged research. Research drives the kinds of new knowledge that can change everything, including the ways we define, diagnose, treat and prevent disease, as well as how we train the next generation to push forward at the boundaries of what is possible.

Our physicians work with teams of leading scientists to pioneer new treatments. They inspire and educate the next generation of doctors and contribute to groundbreaking research to advance the health of entire communities.

Our faculty members teach and mentor to help advance students' careers and pass on the latest knowledge. Our physicians, pharmacists and other providers care for patients while teaching the next generation of healthcare providers. And our scientists conduct research while working side by side with graduate students.

You can see how the knowledge we are creating at MCW is changing life – and lives – and rewriting people's stories, by visiting knowledgechanginglife.com. Our alumni and donors, as well as our faculty, staff and students, are our most important ambassadors for sharing our stories with friends, neighbors and colleagues. An impactful way to do this is through social media, including Twitter (use the hashtag #MCWknowledge), Facebook, YouTube and LinkedIn. We are building awareness and shifting the perception of MCW – and we need you to help us. We believe the only way to build a healthier world is to build it together!

As always, I encourage you to share your input online or by contacting our editor at MCWmagazine@mcw.edu.

John R. Raymond, Sr., MD
 President and CEO

“New knowledge can change everything: a single life, an entire community and the future as we know it.”



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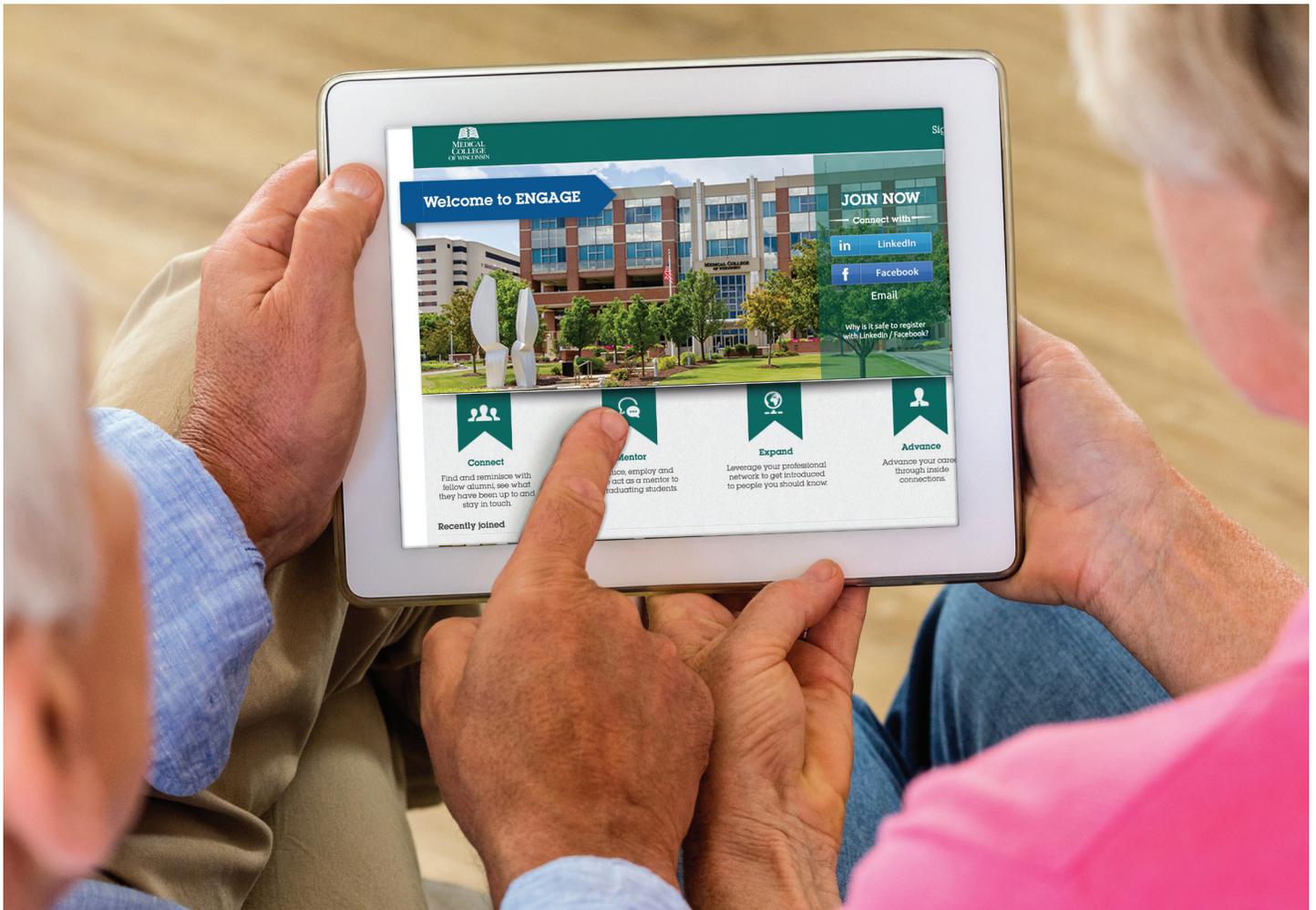
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ON THE COVER: E. Brooke Lerner, PhD (left), M. Riccardo Colella, DO, MPH (2nd from right), and Tom Aufderheide, MD, GME '86, MS '13 (far right), meet with members of the West Allis Fire Department, which collaborates with emergency medicine faculty. **PHOTO CREDIT:** Jay Westhauser.



Introducing a New Way to ENGAGE with MCW

The connections you make during your time at MCW as a student last a lifetime. But once you receive your diploma, and more often than not, move from one place to the next, connecting with your fellow students is increasing difficult. Until now...

On November 1, the MCW/Marquette Medical Alumni Association officially launched its first online alumni community, ENGAGE. While social networks – such as Facebook and LinkedIn – aren’t anything new, ENGAGE offers a safe, secure and effortless way to connect with alumni. The password-protected site is a closed network, which means

the Alumni Association must grant access to users. Alumni of the Medical College of Wisconsin (Medical School, Graduate School and Graduate Medical Education Programs), as well as its predecessor institution, Marquette University School of Medicine, are encouraged to utilize ENGAGE to connect with our alumni community.

Current MCW students, as well as a limited number of faculty and staff, also are members of the online community. This will allow alumni an opportunity to mentor students – something the Alumni Association has longed to offer but lacked an adequate platform to do

this in a successful manner.

Most users need five minutes – or less – to register.

You control what information other members of the community are at liberty to view. You decide how you are willing to help students and other alumni. You can share as much or as little as you wish. Updates to your profile can be made at any time.

Why Join ENGAGE?

Connect. Explore the directory to find classmates and reconnect. Message students, as well as MCW



ALUMNI ASSOCIATION PRESIDENT'S MESSAGE

Five Simple Steps to ENGAGE:

- 1 Visit www.mcw.edu/engage. Click "Register Now" button.
- 2 Register utilizing your Link-edIn or Facebook accounts (highly recommended), or your preferred email address.
- 3 Confirm or enter your basic information, agree to ENGAGE Terms of Service and Privacy Policy, and upload your profile picture.
- 4 Select the ways you wish to assist and volunteer students and alumni.
- 5 Explore ENGAGE and connect with alumni and students!

leadership and staff. Simply click on the envelope icon (located in the upper right-hand corner), search for the person you'd like to message, and hit send. Don't worry: your email address isn't public. Similar to LinkedIn, messages are routed to your inbox without users being able to see your email address. It's a safe and secure way to communicate.

Nurture. During your time as a student, do you remember interviewing for jobs and residency programs? There's a lot of uncertainty as you transition into your career. Is this city right for me? What things do I need to know about this program or organization? As an alumnus/alumna, your experiences and knowledge can be shared with those who will follow a similar path.

As you register, you'll be asked questions about how you are willing to help others. When students search for alumni who are willing to offer guidance, your name will be associated with the level of assistance you are willing to share.

Advance. There are many ways to give back to your alma mater. Beyond mentorship, you may support our academic community on campus: speak at an event or serve on our volunteer faculty. The possibilities are endless!

Learn. Stay informed of what's happening at MCW. Videos, news and announcements are regularly posted to ENGAGE. Take a minute – or an hour – to learn about what's going on at MCW. Since ENGAGE is limited to just MCW news, we encourage alumni to get in on the act by sharing their own news and accomplishments!

The Alumni Association takes the privacy of its members very seriously. Information provided during registration and any time thereafter is NEVER shared with anyone outside of our organization. If you feel, at any time, as though a user has violated ENGAGE's privacy policy and/or terms of use, we strongly encourage you to report it to us immediately. This can be done by emailing us directly (alumni@mcw.edu) or by utilizing the "Report inappropriate content!" button located at the bottom/footer of the online community.

All users who register by the end of the calendar year will be entered to win an array of great prizes, including MCW swag items, gift certificates and other "surprise" prizes. The sooner you register, the better your chances of winning.

Visit www.mcw.edu/alumni and click the ENGAGE button to learn more, register and connect. ■

NEIL GUENTHER, MD '83, GME '88

Social media has changed how people connect with one another – for better or worse. No longer is distance, nor even time, a factor. In the world of alumni engagement, what formerly had to wait until a reunion – every five years! – or magazine is now instantly available. Posted on Facebook. Tweeted on Twitter. Connected through LinkedIn. Shared via Instagram.

While many people talk about how online communities have changed relationships and even "disrupted" the way we communicate with one another, there must be advantages. Right?



The MCW/Marquette Medical Alumni Association Board of Directors has long discussed a need to enter the digital realm and offer an online community. It's been a challenge: how do we offer such a platform but maintain the privacy of our members?

On behalf of the Alumni Association Board of Directors, I am proud to introduce you to ENGAGE.

The article beginning on the facing page is an overview of a few reasons why an online alumni community can help the Alumni Association support alumni, our alma mater and the people of MCW – especially its learner community. The truth is that the possibilities are endless.

In order to maximize the value of our online alumni community, I encourage every alumnus/alumna to register for ENGAGE. Whether you use it daily or monthly, I assure you there are current, as well as future uses for ENGAGE that you will find beneficial. It's loaded with excellent features – but over the next year, more and more will be invested into the site. Once you've registered, take a moment and think of how you can encourage your classmates to participate. You can easily do this through the platform – just click the "Invite alumni!" button. ■

STAT REPORT



Advancing Research into Precision Medicine

The Medical College of Wisconsin and two state partners collectively have been awarded \$5.4 million by the National Institutes of Health (NIH) to implement in Wisconsin the *All of Us Research Program* to benefit communities across the US.

MCW, the Marshfield Clinic Research Institute and the University of Wisconsin School of Medicine and Public Health will partner with the BloodCenter of Wisconsin and regional Federally Qualified Health Centers (FQHCs) to aid in engagement and

recruitment of research participants. These collaborative efforts will form a virtual statewide integrated delivery network.

The *All of Us Research Program* is an ambitious nationwide effort to advance research into precision medicine – an approach for disease treatment and prevention that takes into account individual variability in biological makeup, environment and lifestyle for each person. The Wisconsin awardees will use their collective resources to enroll interested individuals and gather health infor-

mation to help researchers understand how these factors can help determine how to best prevent or treat disease. The partners will cover 173 clinics, 13 hospitals and five FQHCs, and the BloodCenter will educate and engage its thousands of blood donors for potential involvement in the program.

The goal of the NIH *All of Us Research Program* is to gather health data from more than 1 million people living in the US. ■

Learn more at www.joinallofus.org



In 4 Years,
Ana will start her residency.
~~give up on~~
~~her dream.~~

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A Summer of Growth in the Research Lab and the Clinic

This past summer – apart from enjoying the sun on a run or out on the tennis court with friends – I spent most of my time in a research lab and clinic, focusing on my growth as an MCW medical student.

Many medical students use the summer between their first and second years of study to pursue basic science, clinical or translational research. I was fortunate to receive a summer fellowship funded by the National Institutes of Health as part of MCW’s Medical Student Summer Research Program (MSSRP), and had the opportunity to work in the lab of Michael Mitchell, MD, and Aoy Tomita-Mitchell, PhD, studying congenital heart disease.



At the Mitchell lab, we are able to take advantage of the work of Jennifer Strande, MD, PhD, GME ’06, FEL ’10, whose lab at MCW has optimized a procedure wherein a patient’s cells in a urine culture can be turned into the cells’ pluripotent stage – known as patient-specific induced pluripotent stem cells (iPSCs). These iPSCs have the ability to transform into any other cell type in the body, which has enabled me to grow them into cardiomyocytes – or heart cells. It was fascinating for me to see these maturing heart cells beating on a dish, as heart cells are tightly bound to each other – and when one cell is excited, the action spreads to all other connected cells.

The overarching goal of my project in the Mitchell lab is to model “Ebstein’s anomaly,” a heart disease that affects the tricuspid valve, which separates the heart’s two chambers on the right. I seek to differentiate patient-specific iPSC lines into cardiomyocytes, and to document any characteristics that are different from an unaffected patient or from wild type lines. Specifically, this summer I attempted to direct wild type heart cells into atrial or ventricular cells corresponding to the two types of chambers of the heart. Through MCW’s generous fellowship and the guidance of the people in the Mitchell lab, I presented my research at the 2017 Midwest Pediatric Cardiology Society Conference in September.

I also have been involved with the Saturday Clinic for the Uninsured (SCU) as its policy and finance chair. SCU is a collaborative program between MCW and Columbia St. Mary’s Family Health Center in Milwaukee that is run by medical students and offers free medical care in the community. Each Saturday, trained medical students volunteer to see patients, perform the duties of a phlebotomist, dispense medications, and more – all under the supervision of volunteer physicians.



Photo courtesy of Jay Westhauser

Sai-Suma Samudrala (left) received a summer fellowship from the National Institutes of Health to study congenital heart disease in the lab of Dr. Aoy Tomita-Mitchell (right) and Dr. Michael Mitchell.

As one of 12 student-managers on the board of the SCU, I have learned about resources that uninsured patients seek, how clinic administration works and how to be involved with expanding the clinic’s services. Recently I assisted with applying for the “Smile Program,” one of two dental grants offered by the Wisconsin Dental Association Foundation to expand SCU’s oral healthcare services. I am pleased to report that the grant was approved, and the Clinic now receives dental supplies such as toothbrushes and tubes of toothpaste to distribute to our patients.

These experiences in the lab and the clinic are helping me to see future approaches to investigating disease and striving for patient-centered care. ■ – SAI-SUMA K. SAMUDRALA



For more, visit mcw.edu/magazine

An Affair of the Heart

MCW's Cardiovascular Center Celebrates 25-Year Anniversary

The “human heart” sits under glass on a white draped table. It does not beat. It cannot support life. Instead, it serves to represent the progress made in basic science and clinical research over the past 25 years at the Medical College of Wisconsin Cardiovascular Center (CVC).

This three-dimensional heart is surrounded by 25 distinct “voices” that represent the many scientists, physicians, students, donors, alumni, board members and patients who have contributed to the CVC’s mission to improve cardiovascular health in southeast Wisconsin, the state and beyond.

One such voice belongs to Sue Northey, who was diagnosed with constrictive pericarditis, a rare form of heart disease resulting in chronic inflammation of the covering of the organ. “The disease wasn’t going to get better; it was going to get worse,” says Northey. “Eventually it would take my life.”

Her story is just one of thousands among patients who have benefitted from the CVC’s research and its resulting evidence-based clinical care.

On August 21, 2017, the CVC – in partnership with Froedtert Hospital – celebrated 25 years of research focusing on the prevention, detection, treatment and cure of the large family of cardiovascular diseases that impact individuals in Wisconsin and across the country. More than 200 people gathered to honor the CVC, its historical and ongoing impact, and the contributions of many donors, alumni, faculty, staff and founding and current members – includ-

ing founding CVC director, David Harder, PhD; former director, Allen Cowley, Jr., PhD (both of whom are MCW *Distinguished Service Award* winners); and current director, Ivor Benjamin, MD.

Dr. Benjamin also serves as president-elect of the American Heart Association, and in June 2018 will become its president.

“Our research programs attract some of the nation’s most well-respected scientists and physicians who are dedicated to saving lives and transforming MCW into a hub for cardiovascular research and care in the US,” Dr. Benjamin remarked at the event. “Our mission is to improve cardiovascular health in southeast Wisconsin and beyond by pursuing cutting-edge research to drive improved treatments, translating new discoveries into high-quality patient care, training the next generation of cardiovascular scientists, and listening to and working with our community partners to eliminate disparities in cardiovascular health outcomes.”

During the past 25 years, research at the CVC has transformed how scientists study cardiovascular disease and how physicians treat heart disease, stroke and other devastating conditions. Because of the outcomes generated by CVC scientists, patients today live longer and experience a higher quality of life.

“I didn’t have a lot of time left, so the fact that I’m sitting here 10 years later, living a healthy normal life, is nothing short of a miracle,” Northey shares with a broad smile. ■ – MAUREEN REMMEL



Daisy Sahoo, PhD (l), MCW vice chair for research (medicine) and associate professor, confers with graduate student Darcy Knaack regarding how HDL interacts with its receptor to deliver cholesterol to the liver and lower plasma cholesterol levels.



MCW's Physiology Hypertension Research Team in 1988. Dr. Allen Cowley, Jr., is at left center and Dr. David Harder is in the back row at the far right.



In 2015, MCW assistant professor of medicine Jennifer Strande, MD, PhD, GME '06, FEL '10 (right), worked in the CVC with then third-year medical student Roseanne Raphael (MD '16).



For more, visit mcw.edu/magazine



Finding an Alternative to Antibiotics

MCW Research Helping to Prevent Drug-Resistant Infection

Sir Alexander Fleming delivered an early salvo in the scientific skirmish between humankind and our perceived microscopic enemies. He observed that a species of *Penicillium* mold secreted a substance that killed bacteria, which led to the discovery and later mass production of the antibiotic penicillin. While this wonder drug heralded the current era of antibiotics and saved many lives, Fleming himself saw the danger of bacteria acquiring resistance to antibiotics, and, likely, the futility of any declaration of war between humans and microbes.

Not surprisingly, then, the pronouncement of Nita Salzman, PhD, MCW professor of pediatrics (gastroenterology): “We grew up with the concept that all microbes were harmful.”



Adds Christopher Kristich, PhD, MCW associate professor of microbiology and immunology, “The reality is that we can’t eliminate microbes in our environment – they outnumber us profoundly – and we should not want to. There is so much context that goes into determining whether or not microbes are helpful or harmful to human health.”

Research during the past 10-20 years – including that conducted by Drs. Salzman and Kristich – has begun to shed light on many types of interactions between microorganisms living within the human body and their human hosts. As it turns out, many of these relationships are symbiotic and promote the health and survival of all parties. Much of this research revolves around various microbiomes, which are the totality of microorganisms – such as bacteria, viruses and fungi – living within a specific environment. The human gastrointestinal tract, while not the only microbiome in the body, is among the most extensively studied of the habitats.

Comments Dr. Salzman, “Bacteria play a significant role in the maturation of the gut. They also ferment substances, such as dietary fiber, that we can’t otherwise digest and use it for their own nutritional needs. In doing so, bacteria extract nutrients and metabolites that send signals to regulate the body in ways we are just beginning to understand.” Studies suggest this signaling is connected to many biological systems, with scientists finding roles in energy metabolism, the immune system and the nervous system, among others.

The bacteria responsible for these effects are known as commensal bacteria. These bacteria have co-evolved in symbiosis with their human hosts over the centuries. Unlike pathogenic bacteria, which seek to spread quickly to cause infection and considerable collateral damage to the host, commensal bacteria instead establish complex ecosystems. Within the gut, different species settle in spaces that suit them, often in pursuit of access to nutrients

they can best scavenge as food. While this may sound like a microscopic utopia, the gut microbiome is, in actuality, an arena where microbes face intense competition over real estate. “The high level of competition means that it is very difficult for new microbes to acquire a foothold,” says Dr. Kristich.

“Many bacteria are trying to access limited space and nutrients, and it turns out that bacteria are more effective at killing other bacteria than we are,” notes Dr. Salzman.

The many-sided rivalry helps keep the overall environment in equilibrium so that no single microbe runs amok. Trouble can come, however, when a shock to the system disrupts the balance – which can trigger commensal bacteria to act like pathogens and cause harmful infections.

Drs. Salzman and Kristich have focused their research on a species of bacteria – enterococci – that normally acts as commensal bacteria within the guts of many mammals, including humans. Enterococci can become harmful in individuals whose immune systems have been damaged and can cause infections that are difficult to treat because this family of bacteria is often resistant to antibiotics. Dr. Salzman, interested in finding an unconventional solution to this problem, contributed her knowledge of the gut microbiome to Dr. Kristich’s understanding of antibiotic resistance. The scientists first sought to understand characteristics that help commensal bacteria better compete within the gut microbiome.

After creating a rodent model system with an established commensal of antibiotic-resistant *Enterococcus faecalis*, the scientists exploited Dr. Salzman’s experience with antimicrobial peptides (short chains of amino acids smaller than proteins that are harmful to microbes). The scientists conducted a series of experiments introducing vari-

ous strains of *E. faecalis*, some of which possessed the ability to secrete antimicrobial peptides. Most notably, the experiments showed that production of an antimicrobial peptide called bacteriocin 21 provides a competitive advantage in the gut. Using an *E. faecalis* strain whose antimicrobial peptide-making powers were genetically modified to prevent transfer among bacteria, Drs. Kristich and Salzman demonstrated that the original, antibiotic-resistant commensal of *E. faecalis* could be eliminated. These results were shared in the prestigious journal *Nature* in October 2015 and in *Gut Microbes* in August 2016. Contributors included Sushma Kommineni, PhD; Daniel Bretl, PhD ’14; Vy Lam, PhD; Rajrupa Chakraborty; Michael Hayward; Pippa Simpson, PhD; Yumei Cao, PhD; and Pavlos Bousounis.

The scientists hypothesize that there is considerable potential for this strategy to someday be used to treat multidrug-resistant *E. faecalis* before it can harm patients. “I envision that our approach would be delivered like a probiotic to patients most at risk, such as those preparing for surgery or who have been prescribed certain antibiotics,” Dr. Salzman shares. By replacing the multidrug-resistant strain with a non-resistant strain, the potential infection with a superbug may be prevented before it can occur.

“One also could imagine expanding the concept by tailoring it for testing with other drug-resistant bacteria,” adds Dr. Kristich. If successful, this would significantly expand the types of infections that may be prevented in the future using this approach.

And it would provide another alternative to antibiotics – and an additional tool to help humans better co-exist with the vast microbial world in and all around us. ■

– GREG CALHOUN

“...our approach would be delivered like a probiotic to patients most at risk, such as those preparing for surgery or who have been prescribed certain antibiotics.”

– Dr. Nita Salzman



School of Pharmacy's Inaugural Class Asks, "Why Not?"

The nervous laughter of students filled the Wilson Theatre in downtown Milwaukee on August 11 as keynote speaker Donald Letendre, PharmD, dean of the College of Pharmacy at the University of Iowa, addressed the inaugural class at the Medical College of Wisconsin School of Pharmacy White Coat Ceremony. "My message is really steeped in one question. Why? Why are you here? I want to know what's in your heart," he said.

Jennifer Polenska, an inaugural student from Waupun, Wis., replied, "My answer would be 'Why not?' You could make a difference in someone's life, whether it be today, tomorrow or five years from now. We're here to help people."

"Why not?" responded Sandy Her-Gilley of Milwaukee, with a tear in her eye. "Because of my dad, who had ALS – for which there is no cure. For cancer, MS and so many other diseases. So 'Why not?'"

Proud family, friends, MCW faculty, staff, administrators and fellow healthcare professionals looked on as students shared their reasons for joining the Class of 2020 of the MCW School of Pharmacy. The White Coat Ceremony is a symbolic tradition marking the start of students' professional training and entrance into the profession of pharmacy.

At the Ceremony, the students (two-thirds of whom hail from Wisconsin) received the traditional short white lab coat worn by pharmacy students-in-training and were "coated" by their MCW School of Pharmacy faculty mentors. This meaningful event, together

with the administration of the "Oath of a Pharmacist," makes students aware that they are part of the time-honored pharmacy profession that consistently ranks among the most trusted. Theirs is a role with responsibilities and obligations to the patients they serve, other health professionals with whom they interact and our communities at large.

The program included remarks from John R. Raymond, Sr., MD, president and CEO of MCW; Joseph E. Kerschner, MD '90, FEL '98, provost and executive vice president of MCW, and dean of the School of Medicine; and Steven Bergin, MD '74, GME '78, a physician at Aspirus Health Care System and former MCW trustee – all of whom welcomed the new students.

"The White Coat Ceremony links our students to the 124-year legacy of thousands of MCW alumni whose contributions to the medical and health sciences have resulted in advances that have expanded the boundaries of medical and scientific knowledge, have alleviated untold suffering and saved the lives of countless individuals," Dr. Raymond said.

Robert O. Balza, Jr., PhD '05, associate professor of biology at Wisconsin Lutheran College, delivered greetings on behalf of the alumni and shared some words of wisdom. "As a pharmacist, you'll collaborate daily with physicians, nurses, anesthesiology assistants, bioethicists, biomedical scientists and far too many others to mention here this morning. The effectiveness of your practice and largely

the impact you'll make on your community will depend on your ability to communicate with these other important players in the healthcare community," he said.

The MCW School of Pharmacy curriculum incorporates longitudinal interprofessional education (IPE), where pharmacy students interact and learn with other healthcare students and professionals. MCW pharmacy, medical and master of science in anesthesia students already participated in their initial interprofes-



"You could make a difference in someone's life... We're here to help people."

– Jennifer Polenska, inaugural class student

MCW's SCHOOL OF PHARMACY QUICK STATS

76%
HAVE UNDERGRADUATE AND/OR GRADUATE DEGREES

71%
ARE FROM WISCONSIN

46
TOTAL STUDENTS*

53%
ARE MALE

47%
ARE FEMALE

TOP PREVIOUSLY ATTENDED SCHOOLS:

- Alverno
- Concordia
- Marquette
- N. Michigan
- UW – Madison
- UW – Parkside
- UW – Stout

*at October 17, 2017



Members of MCW's inaugural School of Pharmacy class are pictured with founding dean, Dr. George MacKinnon III (front row center), at a celebratory reception on August 11. (l-r) Sandy Her-Cilley; Khalil Ouellette; Lauren Farnsworth; Natali Jankovic; Lei An; Dr. MacKinnon; Michael Hohenwarter; Claire Solofra; Zak Agherrabi; Tyler Jones and Margaret Pertzborn.

sional team-building activity on the first day of orientation on August 7. The School of Pharmacy's IPE curriculum includes education in the classroom, exposures in laboratory and experiences in clinical settings.

George E. MacKinnon III, PhD, MS, RPh, founding dean and professor of the MCW School of Pharmacy, echoed the students' sentiment in his closing reflection, quoting George Bernard Shaw, "Some men [and women] see things as they are and ask 'Why?' Others dream things that never were and ask 'Why not?'"

Dr. MacKinnon shared his aspirations for the immediate future of pharmacy: "Why not have pharmacists provide point-of-care testing in pharmacies for cholesterol, strep throat, influenza and other biomarkers yet to be named? Why not have pharmacists trained in physical assessment and diagnosis and triaging of patients in an interprofessional team-based approach to care? And lastly, why not have pharmacists trained in pharmacogenomics and precision medicine resulting in individualized treatment plans for all patients?"

These concepts have been incorporated into the three-year doctor of pharmacy curriculum at the MCW School of Pharmacy to educate students to fulfill the expanded role of the pharmacist. The aim of the School is not only to educate the pharmacists of the future, but also to create new and innovative practice models and interprofessional health-care teams that will leverage the role of the pharmacist to deliver patient-centered care with improved health outcomes. These sentiments were echoed in a Commendation from Wisconsin Governor Scott Walker, presented to the School of Pharmacy after the White Coat Ceremony.

"The curriculum is very hands-on. We are able to go out into the field and show directly to patients what we're learning in the classroom," remarks Arslan Aslam, inaugural student from Canton, Mich. "I'm very excited. This is the beginning. I really want to make sure I'm able to take in everything and then apply that and improve the quality of life for patients." ■

—MICHELLE SCHAEFER

Sharing New Individualized Approaches to Patient Care

The dawn of precision medicine is upon us, providing new individualized treatments to advance patient care. The Medical College of Wisconsin School of Pharmacy hosted its second annual Pharmacy Symposium in August – during which George MacKinnon III, PhD, MS, RPh, founding dean and professor of the MCW School of Pharmacy, challenged providers and researchers to take an interprofessional approach to bridging the science with clinical approaches to patient care. The Symposium was attended by more than 150 health-care professionals and students, including the inaugural MCW School of Pharmacy class.

"Precision medicine is a revolution which is seeking to diagnose, treat and prevent with precision. We are impacting the life of patients almost every day," Raul Urrutia, MD, shared at the event. Dr. Urrutia is the new director of the Genomic Sciences and Precision Medicine Center at MCW.



For more, visit mcw.edu/pharmacyschool



500 Stars Initiative

Summer Internships and Academic Year Events Connect Students and Families to the Community and Translational Science

The Kerrigan Auditorium at the Medical College of Wisconsin’s Milwaukee campus was buzzing with excitement and anticipation as a long line of young men and women in short white lab coats waited anxiously in the back to begin the brief trek down the steps to file into the first three rows of seats. Differing in age, height, hair color, skin tone, facial hair and choice of footwear, they all had one thing in common: graduating that early August afternoon from the Clinical & Translational Science Institute’s (CTSI) 500 Stars Summer Internship Program.

A standing-room-only crowd of proud family members, friends and MCW faculty, staff and students was present to cheer them on and to provide hugs, kisses, high-fives and handshakes after they walked across the stage to receive their graduation certificates. Victor and James Ejiwale, ages 9 and 11, respectively, strained in their seats to get a glimpse of their mother, Mary, a graduate student at the University of Wisconsin-Milwaukee who had just finished her summer project on building a graph database to promote team science among MCW faculty.

“We’re so proud of our mom,” they shared.

The 500 Stars Summer Internship Program is part of the overall CTSI 500 Stars Initiative, a 10-year strategic, comprehensive and community-focused effort that seeks to replenish and increase diversity in the translational science workforce. The Summer Internship Program offers high school, undergraduate and graduate students direct, hands-on professional experiences in clinical and translational science settings.

“The 500 Stars Initiative is the brain child of Reza Shaker, MD, FEL ’88, senior associate dean for clinical and translational research and director of the CTSI,” says Doriel Ward, PhD, MPH, executive director of the CTSI administration.

More specifically, it is a community-based/focused component of CTSI and MCW’s efforts to address the goals of the NIH’s National Center for Advancing Translational Science’s Clinical and Translational Science Awards (CTSA) Program, including training and cultivating the translational science workforce; engaging patients and communities in every phase of the translational process; and promoting the integration of special and

underserved populations in translational research across the human lifespan.

The 500 Stars Initiative works directly with well-established regional partners to move the translational workforce along existing regional diversity pipelines and takes both direct and supportive roles in the educational and workforce diversity pipeline. This past summer, the Summer Internship Program was awarded a \$410,000 grant from the Al Hurvis/ADAMM Educational Foundation, as well as new grant funding from the office of the Mayor of the City of Milwaukee’s Summer Jobs Initiative.

The graduating summer interns were unanimous in their

praise of the Program. “The 500 Stars is a life-impacting Program,” says Carl Greer, a senior at the University of Wisconsin-Milwaukee who worked in the lab of Emily Patterson, PhD, and Joseph Carroll, PhD ’02, the Richard O. Schultz, MD/Ruth Works Professor in Ophthalmology and co-director of the Advanced Ocular Imaging Program. “I’m a psychology major, so it was great to be able to get out of my comfort zone, which definitely pushed me and made me think about things from a different point of view. The Program motivated me in pursuing a career in the public health field, where I could use my psychology background. Opportunities like this can change someone’s entire

POPULARITY OF THE 500 STARS INITIATIVE IS SKYROCKETING

2016

28

STUDENTS/TRAINEE APPLIED FOR THE SUMMER INTERNSHIP PROGRAM

19

URM* APPLICANTS

19

PARTICIPANTS

2017

192

STUDENTS/TRAINEE APPLIED FOR THE SUMMER INTERNSHIP PROGRAM

133

URM* APPLICANTS

109

PARTICIPANTS

*Underrepresented Minorities



Photos courtesy of Sara L. Wilkins

Graduates of the 500 Stars 2017 Summer Internship Program include (l-r) Milwaukee School of Engineering senior Haily Kazik; Nicolet High School senior Ayman Isahaku (shown here in front of his research poster on ovarian cancer); and University of Wisconsin-Milwaukee senior Carl Greer (shown here receiving his graduation certificate from Dr. Doriel Ward and former MCW Trustee Chas Mulcahy).

path in life. It allowed me see myself working in a medical setting 10 years from now," Greer remarks.

High school senior Ayman Isahaku researched cell proliferation in ovarian cancer under the tutelage of Erin Bishop, MD, and Ramani Ramchandran, PhD, the Patrick J. and Margaret G. McMahon Professor of Obstetrics and Gynecology. "The Program is an invaluable experience that promotes and inspires people of many ages to implement things they may learn in a classroom setting in a real-world scenario," Isahaku shares. "Initially I was set on medical school, but this Program really opened my eyes to the research field, and now I'm eying MCW's MD/PhD program. I really would like to see my work in practice and how it benefits others, but I also like the behind-the-scenes work where I can be on the verge of discovery."

Haily Kazik learned about

the 500 Stars Summer Internship from a friend who had participated in 2016. A senior biomolecular engineering major at the Milwaukee School of Engineering, Kazik was excited about the opportunity to do research and learn more about MCW, where he plans to apply for medical school. "The Program is designed to give an equal opportunity to all students and to give you a chance to contribute to science and healthcare," he notes. "It was exciting to meet a group of new people and grow closer as the summer went on, as well as to interact with professors and medical students who were doing research in my field. And I was able to mentor a high school student and shadow other doctors." For his summer project, Kazik did research on bile duct cancer with preceptor Muthusamy Kunnimalaiyaan, PhD, a surgical oncologist.

According to Dr. Shaker, community involvement in the

500 Stars Initiative is critical – and reflects the team science model of the CTSA. "There is a summer component and an academic year component to 500 Stars," he says. "Each has a student-centered activity and a family-centered activity. The summer offers internships and externships. In the academic year, students enroll in smart teams, and next summer they come back for internships. Throughout the year, the families and students are engaged in events, such as the CTSI Science Café, that help create a sense of community and identity."

"Our goal is to enroll a minimum of 50 URM students in this Program per year," Dr. Shaker shares. "Each could be connected to 11 people minimum, which allows you to invite at least 550 individuals to each Science Café. Those 109 students from this summer's Program, reaching out to 11 people each to talk about what

53
WISCONSIN
HIGH SCHOOLS
AND
19
COLLEGES AND
UNIVERSITIES
PARTICIPATED
THIS YEAR

they are doing, translates to the opportunity to connect to 1,199 individuals. This is practical community engagement in action...this is team science. And if you get to 500 stars, you can reach 6,000 people. This is truly education and training through community engagement."

Dr. Ward notes that CTSI would like to expand the Program to younger age groups in middle schools. No doubt that Victor and James Ejiwale will be the first in line to sign up! ■

– SARA L. WILKINS

 For more, visit mcw.edu/magazine



Emergency Response

By Anthony Braza • Karri Stock

It's been an unusually busy Wednesday night for John Ray, MD, assistant professor of emergency medicine at the Medical College of Wisconsin. As someone who takes night shifts almost exclusively, he's familiar with the normal circadian rhythms of emergency departments (EDs). He also knows that afternoons involve the highest concentration of the average 200 patients he and his colleagues see daily.

But tonight, the maze of hallways that comprise the Froedtert & the Medical College of Wisconsin Froedtert Hospital ED (Froedtert) are alive with activity; the waiting room has had most of its seats filled since 10:30 pm – a constant rotation of new patients seeking care. So many people are talking, it's difficult to hear oneself think, let alone discuss a patient with a new physician in her/his first year of residency or keep track of all the different types of cases seen during the shift. "It's about finding organization in chaos," Dr. Ray reflects days later.

Such chaos can cause those he treats to blur together. But that doesn't mean they don't have an impact. "I have this note from a few years ago; it's written on an ambulance card," Dr. Ray shares. It's a brief message from a man thanking Dr. Ray for his care after suffering a gunshot wound. "I honestly don't remember him. But it's things like this that remind you why you do your job, even though sometimes you have to disassociate a name and a face in the acute nature of a trauma situation. We make an impact on them despite us being in the middle of the fray."

Life in the ED

MCW's department of emergency medicine has invested heavily in research, patient care and educational efforts to improve the emergency care

people around the community, state and even in other parts of the world receive from the point of incident through – if needed – arrival in the ED.

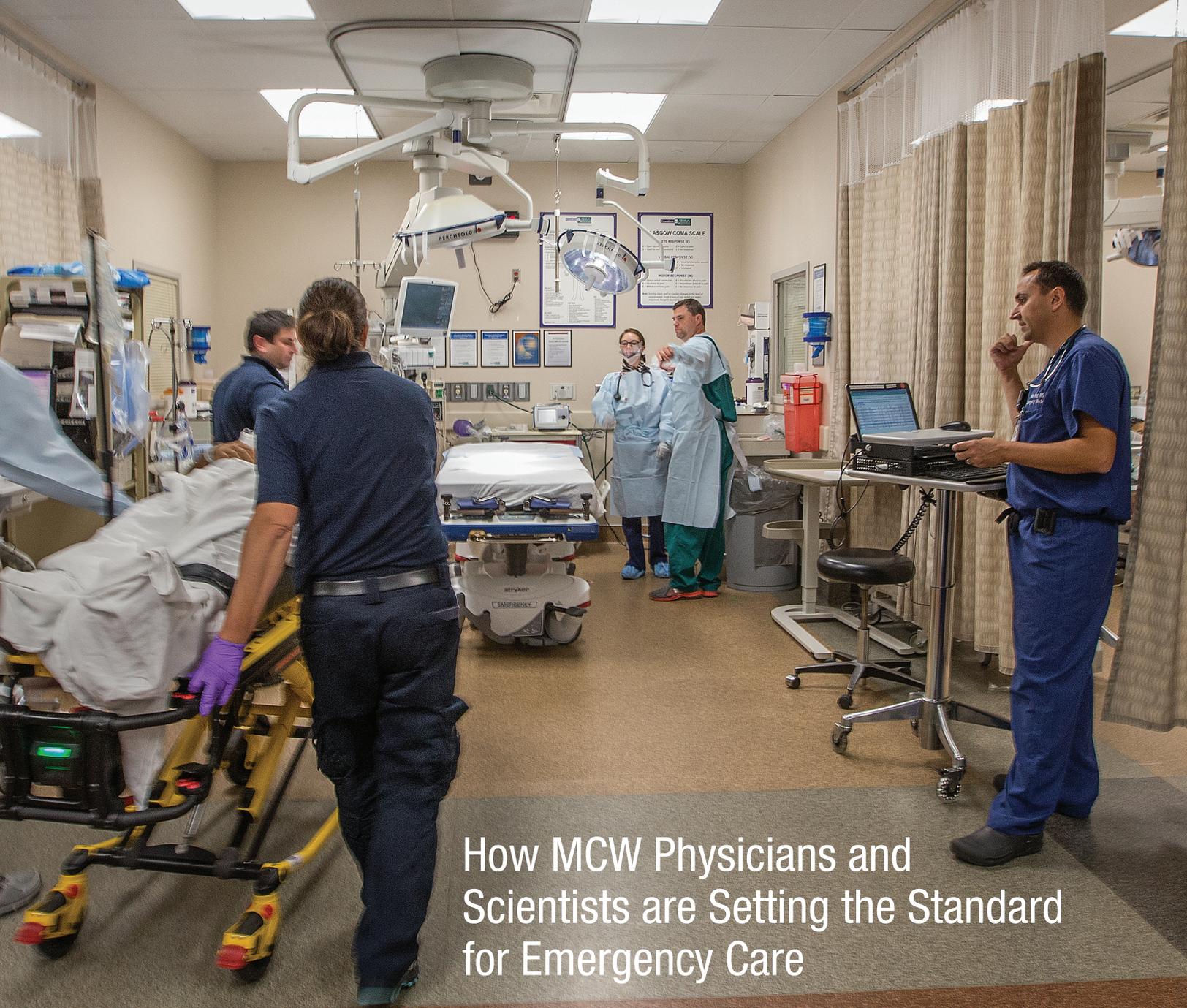
Dr. Ray is one of more than 40 board-certified physicians, 14 advanced practice providers (APPs) and 30 residents and fellows who treat patients as part of the department. They are responsible for the emergency care at Froedtert, the Clement J. Zablocki VA Medical Center and F&MCW Moorland Reserve Health Center (home to one of the only free-standing EDs in Wisconsin). Faculty in the pediatric emergency medicine section of MCW's department of pediatrics provide emergency care at Children's Hospital of Wisconsin (Children's).

For the emergency medicine physicians, working in this academic setting in southeastern Wisconsin provides many opportunities, both clinically and otherwise. "At Froedtert, our patient population is a combination of community, academic and urban patients, which is rare to have in one area," Dr. Ray says. On any given shift, he and his colleagues can see the gamut of cases, from lacerations and sprains to psychiatric complaints, from chest pain and abdominal pain to penetrating and blunt-force trauma.

MCW emergency medicine faculty see many of the area's most injured patients, as Froedtert



Dr. John Ray (far right) oversees an early-morning trauma alert at the Froedtert & the Medical College of Wisconsin Froedtert Hospital Emergency Department. He is a member of a team of MCW emergency medicine physicians, trauma surgeons, orthopaedic surgeons, neurosurgeons and many other specialists ready to treat injured patients 24 hours a day, 365 days a year as part of Froedtert's Level 1 Trauma Center.



How MCW Physicians and Scientists are Setting the Standard for Emergency Care

Photo courtesy of Gary Porter

Hospital is the only Level 1 Adult Trauma Center in the region. Such status means the hospital provides the highest level of care, with 24/7 in-house coverage for trauma surgery/emergency care/operating room – and has available all areas of specialty service.

“We are really lucky to have such a good relationship with the division of trauma and acute care surgery,” Dr. Ray remarks. “Trauma care is never an individual sport. It’s the ED...it’s the trauma service...it’s radiology...it’s orthopaedics. It is the true team mentality, and it’s one of the special things about a trauma center. We have this group of specialist resources that doesn’t exist at other hospitals.”

The team mentality doesn’t stop at trauma, however. Each team in the ED consists of a variety of medical providers – from faculty, residents, APPs and medical students to pharmacists, social

workers, nurses and ED technicians.

Together, these teams work diligently to treat patients as effectively and efficiently as possible. “We get to have these short, intense encounters with patients in a variety of situations,” notes Ben Weston, MD, MPH, FEL ’15, assistant professor of emergency medicine. “And at the same time we’re also teaching.”

Third- and fourth-year MCW medical students can take elective rotations in the ED, where they work as a full part of an ED team. Third-year students learn from faculty and residents the basic principles of acute care, while fourth-year students ultimately are expected to develop knowledge of the ways to diagnose and treat emergent conditions as well as bedside manner and appropriate communication. Meanwhile, residents spend more time in the ED as they advance through each of their three years of training – the

Emergency Response

second of which includes eight months in the EDs of both Froedtert and Children's.

Residents also have the important task of manning Online Medical Control, under the direction of Dr. Weston and other Emergency Medical Services (EMS) physicians, where Milwaukee County EMS can call in to seek medical guidance from ED physicians. And as Froedtert faces call volumes as much as 10 percent greater than just a few years ago, prehospital communication and care are becoming more important than ever.

Care in the Field

MCW's department of emergency medicine has invested significantly in improving the care and triaging of patients in the field, which has had a direct impact on medical outcomes, patient costs and systemic efficiencies.

The department's section of emergency medical services (EMS) and disaster medicine is central to this work in large event settings and field triage. As part of its mission, the section is dedicated to helping the community and nation prepare for providing medical care during large-scale incidents.

Jason Liu, MD, MPH '09, associate professor of emergency medicine, leads mass-casualty training efforts for MCW. The two-day courses designed for healthcare professionals in all capacities allow participants to learn the competencies required to manage a mass-casualty situation.

"As recent events have shown, there is an increasing number of natural and intentional catastrophic incidents occurring in our country that require a community-wide response," Dr. Liu shares. "These events have demonstrated the obvious need for a well-trained team to stabilize a situation and provide life-saving treatment. In a large-scale incident, responders must not only know how to care for patients, but be able to efficiently coordinate among and communicate with local, state and federal emergency response agencies, protect themselves and others from further harm, and address the psychological impact and related social chaos that may arise."

While Dr. Liu focuses on coordinating various medical practitioners to prepare for such situations, Dr. Weston manages some of these same people at regularly scheduled occasions as director of mass gathering and event medicine for the department. He also is in charge of the medical care provided at sporting events, marathons and other competitive races. In addition, MCW EMS physicians oversee the paramedic group responsible for care at all events at Milwaukee's Bradley Center.

"One of the most rewarding aspects of these events is their multidisciplinary nature and the opportunity to reach out to the medical community," notes Dr. Weston. "We have a large base of medical professionals and medical learners who work with us at these events, and we bring in a lot of people from the emergency department, including physicians, nurses, physician assistants, nurse practitioners, pharmacists and residents. Additionally, we bring in our medical students as well as nursing students, athletic trainer students and physician assistant students from many area colleges."

As director, Dr. Weston recruits and organizes all personnel and determines the logistics of medical aid, including necessary



Photo courtesy of Gary Porter

supplies based on the number of attendees and what types of injuries are anticipated for each event. "The advantage of having our ED team there is that we can evaluate patients on the scene as appropriate and often avoid ambulance transfers and an emergency department visit," he says.

Meanwhile, E. Brooke Lerner, PhD, professor of emergency medicine and director of the department's research efforts, is leading several research projects aimed at improving outcomes for people who experience cardiac arrest outside a hospital setting.

One aims to improve the cardiac arrest survival rate in Milwaukee County by making dispatcher-assisted CPR instructions available to all 911 callers in the county. Cardiac arrest causes more than 6,500 deaths annually in Wisconsin, and the likelihood of surviving is only 10 percent if the patient is not administered bystander CPR. The survival rate increases if bystander CPR is

Impacting Worldwide Patient Care

Tom P. Aufderheide, MD, GME '86, MS '13, professor of emergency medicine, associate chair of research affairs and director of the National Institutes of Health-funded Resuscitation Research Center (RRC), has had a significant impact on the department's field triage and resuscitation efforts and patient care around the world. Dr. Aufderheide is an internationally recognized researcher in emergency cardiac care and resuscitation, and his research efforts have led to a 38 percent worldwide reduction in mortality from acute heart attacks and a discovery in the CPR process resulting in a 52 percent improvement in functionally favorable survival from heart attack.



His research has influenced guidelines for international CPR education, training and clinical practice, and he has played a key role in creating coursework for the American Heart Association, CPR and AED training. As with all lifelong learners, he is far from done. "I am currently participating in the discovery of several simple techniques that profoundly reduce ischemia reperfusion injury in an animal model of prolonged cardiac arrest, greatly improving neurologically intact survival," Dr. Aufderheide shares. "I hope to translate the application of these potentially life-saving techniques to humans."

The RRC is supported by federal funding to collaborate with researchers, clinicians and EMS at the local and national level on observational and interventional clinical trials in the areas of emergency resuscitation and neurological emergency research. The RRC has dedicated infrastructure to coordinate clinical trial activities 24/7.

In 2009, Dr. Aufderheide was elected to the prestigious National Academy of Science's Institute of Medicine (now the National Academy of Medicine) in recognition of his many accomplishments and contributions.

To contribute to The Tom Aufderheide, MD, MS, Endowed Lecture Fund, contact Angela Nelson, senior director of development and alumni giving, at (414) 955-4708 or annelson@mcw.edu.

LEFT: Dr. Jason Liu (center) evaluates the hospital notification function during Mitchell Airport's 2017 disaster training exercise. **RIGHT:** Dr. M. Riccardo Colella (left) works with the Milwaukee County Office of Emergency Management on training protocols to ensure that EMS care is safe, patient-centered and evidence-based.

involved, but in Milwaukee County, bystander CPR historically has been attempted on only 19 percent of those in cardiac arrest.

To increase the number of patients who are administered bystander CPR and, consequently, the survival rate, Dr. Lerner collaborated with the Milwaukee County Office of Emergency Management (OEM) and 12 Milwaukee County municipalities to implement a system that made dispatcher-assisted CPR instructions available to everyone. Prior to the start of this program, only three municipalities were providing these instructions, but now each municipality has the ability to route cardiac arrest calls to the Milwaukee County EMS Communication Center to provide detailed CPR instructions to the callers.

The project, which was launched with grant funds from MCW's Advancing a Healthier Wisconsin Endowment, has shown immediate benefit. Between April 2016 and December 2016, 169 callers were transferred to the Communication Center for CPR instructions, and of those, 55 callers performed compressions before EMS arrived. This represents a doubling of the bystander CPR rate from before the program was launched. And of the 55 victims who received compressions, 11 survived past discharge, which almost doubles the county-wide cardiac arrest survival rate of 10 percent.

Dr. Lerner also just completed collecting data on a project aimed at improving prehospital trauma triage decision-making for pediatric patients, which can affect patient outcomes. Pediatric patients in this region who have a severe injury are typically directed to Children's, which is staffed by MCW physicians and is the only Level 1 pediatric trauma center in southeastern Wisconsin.

EMS providers are tasked with having to determine the severity of a patient's injuries and whether those injuries require the additional treatment resources only available at a pediatric trauma center. The guidelines used to make these decisions, however, are based on limited best evidence and focused on adults. Incorrect decisions can lead to a severely injured child not having rapid access to the resources that they need or children with minor injuries traveling long distances and bypassing their local community hospitals.

In this study, Dr. Lerner and her team collected triage and outcome data from 5,500 injured children to develop and validate criteria that can better assist EMS providers in identifying severely injured children in the prehospital setting. Results of this study will allow care providers to better identify who needs to be transported to the trauma center, as well as when a trauma team should meet the patient when they arrive at the ED. The information will help ensure that severely injured children receive the most appropriate care while at the same time conserving resources and minimizing costs. "Identifying criteria that improve the accuracy of field triage will improve the quality of care for injured children as well as improve the overall efficiency, cost-effectiveness and safety of community-wide EMS and trauma systems," she remarks.

Dr. Lerner's efforts are just a few examples of how patient care is



Photo courtesy of Gary Porter

strengthened through a 40-year partnership among MCW, Milwaukee County and local fire departments. "There have been phenomenal accomplishments as a result of this decades-long collaboration, remarkable improvements in emergency care that directly translate into increased survival and quality of life – not only for citizens of Milwaukee but for the nation and the world," says Tom Aufderheide, MD, FEL '86, MS '13, MCW professor of emergency medicine and the department's associate chair of research affairs.

Ground and Air

In addition to collaborating with the Milwaukee County OEM on research, the faculty in MCW's department of emergency medicine's section of EMS and disaster medicine serve as medical directors to the Milwaukee County EMS system, which encompasses first responders in 19 municipalities and 13 fire departments. OEM is the county agency responsible for the EMS system.

"Providing medical direction means we establish the standard of care for our community's EMS practice, which impacts a million people every day," shares M. Riccardo Colella, DO, MPH, section chief of emergency medical services and disaster medicine for MCW's departments of emergency medicine and pediatrics, and medical director for Milwaukee County EMS. "We oversee care delivery, medical control, training, and quality assessment and improvement."

As such, Dr. Colella and his colleagues develop protocols and quality improvement measures to ensure that emergency care is safe, patient-centered and evidence-based. "We layer a lot of safety tools into that process so we can make sure that the care that we deliver in the field has the same level of scrutiny that one would get in the hospital," he says.

"MCW is really instrumental in making sure that the clinical aspect of our training is correct; they're the subject matter experts. And the county relies on that," says Christine Westrich, OEM director. "Milwaukee County is proud to call MCW its

Emergency Response

leading partner in EMS services,” adds county executive Chris Abele. “OEM’s steady focus on quality improvement, while partnering with MCW, is allowing our EMS system to adopt new technologies. Quality prehospital care is advancing like never before in Milwaukee County’s EMS system.”

And the medical direction of MCW’s EMS section doesn’t stop with ground transportation. Its faculty also provide training and oversight for Flight For Life (FFL), southeastern Wisconsin’s only provider of emergency medical transport via helicopter.

FFL runs independently from its three regional bases and serves hospitals and patients throughout eastern Wisconsin and northern Illinois. As the director of medical services for FFL, Timothy Lenz, MD, EMT-P, assistant professor of emergency medicine, has an important role in the hiring and training of the medical crews (each of which consists of a paramedic and a nurse). “With FFL, we see the most critically ill patients, so we need have the best of the best flight crews – and they go through extensive testing and training to even get the job,” notes Dr. Lenz.

“The emergency medicine partnership between FFL and MCW keeps both organizations on the cutting-edge of providing critical care response and treatment to the communities of southern Wisconsin and northern Illinois,” adds Dan Burns, executive director of FFL. “Our partnership includes the training of FFL paramedics and nurses at MCW’s STAR Center simulation lab, collaboration on medical research and the invaluable experience MCW emergency medicine residents gain by joining FFL crews in the challenging environment of caring for patients both on-scene and during flights.”

Partners such as Milwaukee County and FFL trust MCW in part because of the excellent training its faculty provides to fellow emergency medicine physicians. While the department of emergency medicine has been informally training providers in prehospital emergency care for decades, the American Board of Emergency Medicine only began recognizing EMS as a formal subspecialty of emergency medicine in 2010. Drs. Colella and Liu were among the nation’s first American Board of Medical Specialties-recognized EMS physicians, and today, the entire section is either board-certified or board-eligible.

“My predecessor as EMS section chief, [Ronald G. Pirrallo, MD], was the former head of the National Association of EMS Physicians and really helped get the designation for the subspecialty,” Dr. Colella says. “My focus has then been on the educational pieces, turning our informal training into an Accreditation Council for Graduate Medical Education-recognized fellowship that offers unparalleled didactic and field experiences for all aspects of EMS.”

In addition to the accredited fellowship, the section of EMS and disaster medicine and MCW’s office of global health have aligned goals of training the next generation of health leaders to address inequities of care – specifically through access to quality EMS and all its components. “We’re responsible for helping physician leaders from across the world also increase their understanding of EMS,”

remarks Dr. Colella. “We have been collaborating and training providers for more than 20 years, in countries around the world.”

The section provides both a short-term intensive training program and a longer unaccredited fellowship for licensed global physicians. The department just received approval for distance-based fellowships, which allow physicians to train even if they can’t get to Milwaukee. Faculty currently are using this service to continue their relationships with medical providers in Belize. In 2010, the department began a partnership with the Belize Ministry of Health to provide continuing medical and nursing education at its flagship hospital. Currently, one international fellow, Dr. Rigo Montejo, medical director of Belize Emergency Response Team, is participating in lectures and other training from Belize.

Poison Control

In addition to its board-certified EMS physicians, MCW’s department of emergency medicine has four board-certified medical toxicologists on faculty – unique compared to other departments in the nation. These physicians provide consultations for pediatric and adult patients who suffer injuries and illnesses caused by intentional and/or accidental poisonings such as drug overdoses, environmental and occupational hazards such as chemical burns, plant and animal toxins including snake bites, and potential bioterrorism. In addition to providing consults for hospitalized patients, they also are available 24/7 to the Wisconsin Poison Center (WPC) for consultation on calls.

The investment the department made in growing its medical toxicology section has enhanced the care MCW faculty provides patients. The toxicologists have in-depth knowledge of how drugs and poisons are absorbed and processed by the body, which allows them

Growing MCW’s Emergency Medicine

MCW’s department of emergency medicine is one of the top-tier National Institutes of Health-funded academic departments in the US. It has the largest group of board-certified EMS physicians and medical toxicologists in Wisconsin, and one of the largest in the Midwest. In the past 20 years, it has seen significant growth of the faculty and residency program, and added clinical sites at two emergency department locations.



A big reason behind the department’s success is Stephen Hargarten, MD ’75, MPH, who has served as chair for 20 years. He will be stepping down from this role when a successor is in place. Dr. Hargarten also serves as associate dean of global health and director of the Comprehensive Injury Center (CIC) – two positions he will continue to hold.

“I was given a great opportunity to build on the vision of the first chair, Joseph Darin, MD ’54, who was a true pioneer in developing emergency medical services and emergency medicine,” says Dr. Hargarten. “I feel fortunate to have been able to build on his vision in partnership with Froedtert and Children’s, as well as our many collaborating partners at the county and state levels, especially with Milwaukee County.”

Dr. Hargarten is one of the world’s leading researchers on injury prevention and control. In 1997, he received a grant to establish at MCW the nation’s first Firearm Injury Center. Collaborating with medical examiners/coroners, law enforcement agencies and crime labs, he led the pilot work that resulted in the establishment of the National Violent Death Reporting System funded by the Centers for Disease Control and Prevention. In 2011, Dr. Hargarten was elected to the prestigious National Academy of Science’s Institute of Medicine (now the National Academy of Medicine) in recognition of his many accomplishments. He also was recognized as a Hopkins Scholar for his contributions to the field of injury prevention and control.



Photo courtesy of Gary Porter

Dr. M. Riccardo Colella evaluates first responders during Mitchell Airport's 2017 disaster training exercise.

to aggressively address these chemical injuries and develop and implement evidence-based decisions on which patients need to be hospitalized and which do not. This expertise can help lower healthcare costs and shorten lengths of stay for patients.

"Froedtert and Children's are the only hospitals in Wisconsin that have four board-certified medical toxicologists on faculty who are available for bedside consultation to provide in-person care to the poisoned patient," says Amy Zosel, MD '03, associate professor of emergency medicine and a medical toxicologist.

The medical toxicologists divide their time between working in the hospital and being available for consultations at the WPC, which provides 24-hour, toll-free poison information for all individuals in Wisconsin. In 2016, the WPC received 36,000 calls from patients and doctors alike, many of which were handled by specially trained nurses and two toxicology-trained pharmacists (one of whom is on the MCW School of Pharmacy faculty). Sometimes, however, the additional expertise of the toxicologists is needed.

Calling the WPC helps patients avoid unnecessary visits to the ED. In addition, a study conducted by MCW faculty demonstrated that patients with a toxicological issue or chemical injury who consulted with the WPC had significantly lower charges and shorter lengths of stay than those that didn't involve the WPC.

The department of emergency medicine's investment in its

toxicology section also is impacting healthcare beyond Wisconsin. As part of Strengthening Emergency Care in Belize, Dr. Zosel is leading a team that is collecting data on the types of toxicological exposures that are common there. MCW's toxicology section also offers residents and students advanced training in how to treat these types of injuries and illnesses. This training has grown in significance as drug overdoses have surpassed vehicle crashes as the number one cause of unintentional death in the US. MCW toxicologists also helped establish and launch the Midwest Toxicology Collaborative to improve understanding of toxicologic mechanisms and methods for assessing toxicity.

The Core and More

All of these opportunities and specialties within MCW's department of emergency medicine means very few faculty have a singular focus – which is just fine with them. "The most satisfying part of my job is the variety of what I get to do: working in the ED and teaching EMS management," says Dr. Weston. "I enjoy each aspect even more because I get to do them all."

Still, patient care in the ED lies at the core of the department's mission, with its unique opportunity to make an impact. "The biggest challenge of a job is often the most satisfying," reflects Dr. Ray. "It's not about the complex cases or intense situations. It's trying to quickly build a rapport with a complete stranger so they trust you to take care of them. It's a privilege and a great responsibility to be with people during some of these emotional and scary moments." ■



For more, visit mcw.edu/magazine



MCW's Pediatric Genetics Team Seeks Answers in the Human Genome and Trains the Next Generation of DNA Detectives

On an evening in June 2017 in Wisconsin's Fox Valley, the Faucher family and friends of baby Atlas Faucher gathered to celebrate his first birthday.

"We probably went bigger than we ever thought we would," says Genevieve Faucher, Atlas's mother. "After the emotional year and the scare that he might not see his first birthday, it felt like a big milestone for us."

In the fall of 2016, when Atlas was three months old, Genevieve grew concerned for his health because he had what seemed to be a cold that would not go away. After Genevieve's grandmother developed bronchitis, Genevieve insisted that Atlas's doctors check him for bronchitis as well. The chest x-ray revealed an enlarged heart, and Atlas was referred to Children's Hospital of Wisconsin-Fox Valley for an echocardiogram. When the test revealed that Atlas was in heart failure, the family immediately was sent to Children's Hospital of Wisconsin (Children's) in Milwaukee, where they met with Gabrielle Geddes, MD, GME '15, assistant professor of pediatrics (genetics) at the Medical College of Wisconsin (MCW). After meeting with Dr. Geddes, the Fauchers felt hopeful that they would get answers and help for their son.

Dr. Geddes had begun seriously thinking about specializing in medical genetics when she was in her medical intern year in Chicago (before arriving at MCW and Children's), where she helped take care of a patient with a genetic neurodegenerative disease.

"It seemed like I could have these difficult conversations about rare conditions and convey the complex information that is part of these families' journeys," says Dr. Geddes. When she completed her pediatrics residency, Dr. Geddes became the first physician to enter – and then complete – MCW's Medical Genetics Residency/Fellowship Program in the department of pediatrics, section of genetics.

"Her enthusiasm was very clear from

day one," notes Donald Basel, MD, associate professor and interim division chief of pediatrics (genetics) and founder of MCW's graduate medical education program in medical genetics. "We were particularly impressed that she brought with her the cardiogenetic research she had begun during her pediatrics residency."

In addition to continuing this research, Dr. Geddes provides a wide variety of clinical services in partnership with her fellow pediatric physicians and a genetics care team that comprises advanced practice providers, nurses, dietitians and genetic counselors – including Julie McCarrier, MS, CGC.

"I see genetic counselors such as us as resources for patients and other providers, as well as partners for enhancing patient care. Nobody is a lone island here – we really are a team, and each of us has a scope of practice to contribute," comments McCarrier.

As a geneticist in an academic medical center, Dr. Geddes's scope of practice includes advancing the knowledge and practice of genetic medicine. She recently published a paper in *Pediatric Cardiology* sharing the results of a quality improvement project to change how genetic testing is conducted in infants with congenital heart disease.

"Dr. Geddes demonstrated that you could raise diagnostic rates by increasing the upfront use of a costlier test. Because this protocol often prevented multiple tests from being ordered in an inefficient manner, the increase in diagnoses also came with a reduction in cost," notes Dr. Basel.

"Even though it is simple, this is probably one of the most significant contributions I will make because it is scalable and can easily be implemented anywhere. That is why we published in a journal of cardiology – to show other specialists that they could do this too," Dr. Geddes adds. This research project demonstrates one example of how both the current and future of diagnostic medicine will be

enhanced – and at times, shaped – by advances in genetic testing.

"Genetics is critical for all providers today and will only be more important as technology improves," says Dr. Geddes. "However, it is truly critical for patients like Atlas with rare diseases. They need a home with geneticists who can communicate effectively with primary care physicians and other specialists in order to tailor a unique plan of care."

Within the first week of the Fauchers' arrival in Milwaukee, Dr. Geddes informed the family that Atlas suffered from Pompe disease, a rare genetic disorder in which the body is unable to prevent sugar from building up in cells to abnormal levels – which is particularly problematic in muscle and heart tissue. Up until about 10 years ago, the infantile version of Pompe disease was not treatable and was considered a fatal diagnosis.

"In that moment, when we found out, it felt very defeating – and we had a very hard couple of days. Talking with Dr. Geddes often during this time helped allay our fears, as did having a game plan for treatment," notes Genevieve. Atlas is treated every week with enzyme replacement therapy to supplement his body with much higher levels of the sugar-clearing enzyme.

"There is definitely lots of improvement. A day or two after the infusions, you see a pickup in his behavior and energy level. He's a completely different kid now," adds Genevieve.

"The passion and enthusiasm of the pediatric care teams at MCW and Children's have been amazing, and Dr. Geddes has been our go-to person throughout everything. It feels like she is just as invested as we are. Lately, we've been discussing with her all of the research that is happening – and it is something that gives our family hope," says Genevieve.

Hope for many more birthday parties to come. ■

– GREG CALHOUN

Photo courtesy of Gary Porter

Diagnosis by DNA



One-year-old Atlas Faucher was diagnosed with Pompe disease, a rare genetic disorder, when he was three months old. His mother, Genevieve, and Dr. Gabrielle Geddes discuss how Atlas is doing during an enzyme infusion treatment at Children's Hospital of Wisconsin.



Where “Time is Brain”

Mark Jagelovicz, 63, felt a bit strange while shopping at his local Sheboygan, Wis., grocery store. He was disoriented and had difficulty holding onto his personal belongings. The last thing he remembers was pulling into his driveway and collapsing while still in the car.

He was rushed to the local emergency room, where the doctor, recognizing symptoms of an acute stroke, called the emergency line at the Medical College of Wisconsin’s department of neurology, division of stroke, neurointervention and critical care. Following a brief consultation, Jagelovicz was transferred to Froedtert Hospital (Froedtert) and rushed to surgery.

After a complex and thorough procedure performed by MCW’s neurointerventional team at Froedtert, Jagelovicz made a quick recovery – due in large part to the team’s quick, but calculated, decisions.

Marc Lazzaro, MD, FEL ’12, knows stories like these all too well – as he encounters them every day. As medical director of MCW’s Neurointervention Program and Comprehensive Stroke Center, the phrase “time is brain” provides the basis of each of his stroke cases. “Every minute counts in stroke care,” he says. “The longer we delay, the more likely the patient will lose essential brain tissue. The faster we get in, the faster we can restore normal blood flow to the brain. It becomes a delicate balance of being both quick and agile while maintaining precision.”

“Time is brain” is quite literal in the clinical sense. During an ischemic stroke, a vessel in the brain is obstructed so that blood is unable to be supplied to this vital organ. Without blood flow, brain neurons quickly die from lack of oxygen. About six million neurons die per minute from a completely blocked blood vessel, and loss of brain neurons during a stroke can lead to permanent neurological damage. Stroke care, then, becomes a race against time in order to save precious neurons.

For many decades, the standard treat-

ment for an ischemic stroke was the utilization of a drug administered through the arm that dissolves the clot to improve blood flow to the affected part of the brain. This procedure is less effective for clots that block larger blood vessels – leaving patients with limited options.

In 2015, a series of randomized trials conclusively established mechanical thrombectomy as an alternative treatment to remove large blood clots in the brain. In this procedure, a catheter is inserted into a blood vessel in the leg and navigated up into the brain. A thrombectomy device is then deployed through the catheter to pull out the clot to unblock the vessel.

MCW faculty, including Dr. Lazzaro, participated in early clinical trials that provided scientific evidence for adoption of mechanical thrombectomy as the standard of care. “This procedure has really changed the way we care for complicated stroke patients. Patients who normally would have been left with debilitating abnormalities, such as paralysis of one side of the body, are instead able to go home and maintain a normal life,” Dr. Lazzaro remarks.

The procedure is extremely complex and requires a specialized and extensively trained team. Froedtert is one of only two hospitals in the Milwaukee area that can provide this critical surgery. MCW health-care professionals, as providers in a designated Comprehensive Stroke Center, have achieved the highest level of recognition for the most advanced care for stroke patients.

Part of MCW’s advanced care includes cerebral vascular procedures, which are undertaken by a critical care team capable of treating the most complex stroke patients. Each year, there are nearly 750 stroke admissions at Froedtert, many of

which are referrals from hospitals throughout Wisconsin. Of those patients, about 80 receive a mechanical thrombectomy.

Ann Helms, MD, MS, FEL ’05, FEL ’08, interim chair of the MCW department of neurology and associate professor, cites the team’s aggressive and efficient care plan as a reason why the division operates at such a high level. “We are able to bring patients into Froedtert very quickly. We can get patients from other hospitals into the air within 10 minutes, and once they arrive, we are able to take them straight from the helicopter to the interventional suite to begin prepping for the operation,” says Dr. Helms. “The

Comprehensive Stroke Center provides community members with access to the best and most effective care that ultimately saves lives.”

The department of neurology’s division of stroke, neurointervention and critical care is a strategically diversified group comprising eight physicians trained in subspecialties of stroke care, vascular neurology and neurocritical care. Along with stroke specialists, the division also has three clinical fellows and a team of advanced practice providers.

Jagelovicz can attest to just how sudden and life-altering a stroke can be. “I never had any warning signs that this was coming,” he recalls. “I’m blessed that I was able to make such a quick recovery.” Patients such as Jagelovicz are what drives MCW physicians to continue to push the standard of stroke care. “A stroke is so catastrophic and out of the blue. It changes your life in a minute,” reflects Dr. Helms. “What we hope to do is to help prevent and reverse this terrible event and explore every option to reverse its effects.” ■

– ALEX KROUSE

“This procedure has really changed the way we care for complicated stroke patients.”

– Dr. Marc Lazzaro



For more, visit mcw.edu/magazine

Photo courtesy of Gary Porter



Dr. Marc Lazzaro and Dr. Ann Helms discuss care of an acute stroke patient by members of MCW's stroke, neurointervention and critical care team in the department of neurology.



Bringing Needed Pediatric Allergy and Immunology Care to the Phoenix Area

Cindy Salm Bauer, MD '07, FEL '13, finished her fellowship only four years ago – but in that short period of time, she has made significant contributions to the field of allergy and immunology in Phoenix, Ariz.

In 2013, Dr. Bauer was hired by Phoenix Children's Hospital, tasked with establishing its Allergy and Immunology Clinic. "With Phoenix being the sixth-largest city in the US, I knew the need for allergy/immunology care would be great and embraced this offer," says Dr. Bauer. "I filled my clinic the first day we were open, and have filled it every day since!"

As with many children's hospitals, Dr. Bauer's clinic attracts patients needing multidisciplinary or coordinated care. This need was so great at Phoenix Children's Hospital that shortly after Dr. Bauer's clinic opened, it began partnering with the hospital's gastroenterology, dermatology, transplant and pulmonary specialties to create multidisciplinary clinics. She has since become the co-director of the Eosinophilic Gastrointestinal Disease Clinic and the Immunohematology Clinic.

"Being the founder of the Allergy and Immunology Clinic was a great opportunity, though I'd be lying if I didn't say it was intimidating," notes Dr. Bauer. "I'm honored that I was the one who was given this amazing chance and have enjoyed every aspect of establishing our allergy/immunology team."

During the time Dr. Bauer has been practicing medicine in Arizona, it has become apparent to her that there is a great need in the region. "There is so much pollen here," Dr. Bauer remarks. "I feel bad that there is no snow to give my patients a little break, like we had in Wisconsin!"

To serve this need, Dr. Bauer helped Phoenix Children's Hospital establish an allergy and immunology fellowship in conjunction with Mayo Clinic in Scottsdale, Ariz. Fellows will spend time treating adults at Mayo Clinic Arizona and treating pediatric patients at Phoenix Children's Hospital. The first fellow recently started, and Dr. Bauer already has been fielding questions about the position for 2018. "The idea for a fellowship had been at Mayo Clinic Arizona for a while," shares Dr. Bauer. "With our growing presence at Phoenix Children's Hospital, it made the perfect partnership. It's truly going to be



During the time Dr. Cindy Salm Bauer has been practicing medicine in Arizona, it has become apparent to her that there is a great need in the region for enhanced pediatric allergy and immunology care as well as graduate medical training in the field.

a great place to train allergists/immunologists!"

Dr. Bauer's own fellowship at the Medical College of Wisconsin provided her with the training and background to promote newborn screening for Severe Combined Immunodeficiency (SCID) in Arizona. "When I was at MCW, Wisconsin had become the first state to screen for SCID under the leadership of Dr. John (Jack) Routes," she adds. "I really felt my career came full circle when I was able to successfully advocate to make Arizona the 48th state to screen. I met with senators and testified in court. I had seen the benefits of the screening firsthand and wanted Arizona to share in this life-saving intervention. It was a very rewarding day when we [Arizona] began screening for SCID this past August!"

Dr. Bauer's list of accomplishments continues to grow. "Further opportunities just keep coming to Phoenix Children's Hospital – from research on asthma with the University of Arizona to research on food oral immunotherapy," she says. "It brings me great satisfaction to participate in studies that will benefit children." ■

– SAMANTHA ZIMMERMAN

Honoring an Oral and Maxillofacial Surgery Leader

With roots planted during the Vietnam War, the specialty practiced and nurtured over the years by Steven R. Sewall, DDS, has been around for a long time. Still, the professor and division chief of oral and maxillofacial surgery (OMS) at the Medical College of Wisconsin notes that the specialty is not well known in many circles.

According to Dr. Sewall, even Douglas Evans, MD, Donald C. Ausman Family Foundation Professor and chair, department of surgery, upon arriving at MCW in 2009, sat down with Dr. Sewall to get more details on the division's work. Since then, the two surgeons have developed a great mutual respect. Even now, there are just 102 accredited OMS programs in the US and only 11 based in a medical school. Originally in the department of surgery, MCW's program is now in the department of otolaryngology and communication sciences.

Highly specialized oral and maxillofacial surgeons treat conditions, defects, injuries and aesthetic aspects of the mouth, teeth, jaws and face, including the need for reconstruction. Training includes a four-year surgical residency program. It is MCW's residency that the newly established Steven R. Sewall, DDS, Endowed Education Fund will support in honor of the soon-to-be-retiring division chief.

John Rhee, MD, MPH '04, chair and John C. Koss Professor in Otolaryngology and Communication Sciences at MCW, proposed an endowment to honor Dr. Sewall. "It's very nice that he did, and I'm very grateful," says Dr. Sewall.

The OMS residency program at MCW is highly competitive. "Most recently we received 100 applications for one residency training spot," notes Dr. Sewall. "We're gaining more and more interest. We've fostered a peer-to-peer type of relationship with our residents. I'm blown away by what the residents give me in new perspectives and ideas."

Patient care in the OMS program also benefits from exceptional collaboration among departments and divisions, as well as Dr. Sewall's expertise in facial trauma surgery and temporomandibular joint (TMJ) surgery. When he arrived at MCW, "it was different than any other place I had worked. The collaboration was fantastic. I really gained respect for MCW. Here's this center in the Midwest that has now become the go-to site for reconstructive TMJ surgery, whether it be for a developmental



Dr. Steven Sewall (middle) has performed more than 300 total jaw replacements since 1990.

problem or traumatic episodes," he says.

The OMS program, launched at MCW in 1979, had its beginnings with two former military men who served in the Vietnam War era: the late Robert Condon, MD, MS, former MCW chief of surgery, and Eugene Messer, DDS, MCW's first chief of oral and maxillofacial surgery. Many oral surgeons were shipped to Vietnam for facial trauma surgery.

"Bob Condon had experience with this, and when he became chief of surgery, one of his demands was that MCW have an OMS program," says Dr. Sewall, who was hired in 1984. "We had four oral surgeons, which was normally seen only in a dental school."

At the time, Dr. Sewall notes, there was too much competition among the areas of OMS, otolaryngology and plastic surgery. After Dr. Messer retired in 1988 and Doran Ryan, DDS, became chief, division and department representatives gathered together and saw the need for a change. "We agreed that the three departments would share facial trauma calls equally," he says. "Each division would take all facial trauma for a week. If you needed help, you gave the call. From that time on, we developed a camaraderie."

The three-division collaboration saw the development of specialties such as reconstructive cancer surgery (where a void existed). Upon Dr. Ryan's retirement, Dr. Sewall succeeded him as OMS division chief and continued to develop TMJ surgical procedures and total jaw joint replacement, working together with colleagues and an outside company to produce custom-designed and fabricated prosthetic devices. "I'm going to miss the surgical practice and the great working relationships that developed," says Dr. Sewall. As a testament to the program, he adds, "If I ever become injured, this is where I want to be." ■ — JOHN BURLINGHAM

PAYING TRIBUTE

For more information on the Steven R. Sewall, DDS, Endowed Education Fund, please contact Angela Nelson, senior director of development and alumni giving, at (414) 955-4708 or annelson@mcw.edu. We already have exceeded our fundraising goal; gifts and commitments to date total \$128,000.



To read more about Dr. Sewall, visit mcw.edu/magazine

HAPPENINGS



Stories of New Hope Inspire at Imagine More Dinner

Dr. Shekar Kurpad (left) and Lucas Lindner (center) share a laugh at the Imagine More Dinner. Dr. Kurpad's successful clinical trial with Linder as his patient was detailed in the Winter 2017 issue of MCW Magazine.

On June 15, 2017, nearly 400 guests gathered for the 5th Annual Imagine More Dinner at Discovery World in Milwaukee to raise funds and awareness for neuroscience research. The program highlighted the advancements of Shekar N. Kurpad, MD, FEL '01, PhD, chair and Sanford J. Larson Professor of Neurosurgery, director of the Spinal Cord Injury Center, and director of the spine surgery fellowship. Lucas Lindner, who benefited from a clinical study under Dr. Kurpad's direction, made a guest appearance. The Bryon Riesch Paralysis Foundation was recognized as the "Neuro Hero" for its impact on neuro health, including more than \$1.2 million in financial support for spinal cord injury research. ■



WBCS
has raised
almost
\$6.2
Million

The 2017 WBCS gala featured an auction with major items such as the bracelet shown here.

WBCS Celebrates 20th Anniversary

WBCS (Wisconsin Breast Cancer Showhouse) kicked off its 20th year of fundraising with a successful Showhouse to a Cure in June 2017, during which some of the area's top designers transformed a local home and opened it up to the public for several weeks. This year's home was a historic Queen Anne mansion on Milwaukee's East Side that was designed in 1903 by Alexander C. Eschweiler. A gala on the first evening of the Showhouse provided a first look at the home, followed by a summer party with live music, small plate dining and an auction. Since 1988, WBCS has raised almost \$6.2 million for breast cancer and prostate cancer research at the Medical College of Wisconsin. For details about the 2018 Showhouse to a Cure, please visit www.breastcancershowhouse.org. ■



Pierce Receives Zeit Award

Douglas Pierce, a fourth-year medical student at MCW, received the annual Walter Zeit Fellowship Leadership Award on October 6, 2017. This prestigious award is presented to the senior student who has consistently displayed superior qualities of leadership, loyalty, selfless service, initiative and compassion toward his or her peers and to MCW. It is the highest student honor bestowed by the Walter Zeit Fellowship, MCW's premier donor recognition society. Pierce's contribution to MCW's Human Anatomy Video Dissector was detailed in the Winter 2016 issue of *MCW Magazine*. ■

Have a Heart Ride

The 9th Annual Have a Heart Motorcycle Ride was held on June 10, 2017. Approximately 120 riders participated to show their support for cardiovascular research and also enjoyed a 70-mile scenic ride through the hilly countryside of southeast Wisconsin. More than \$130,000 in proceeds have been raised during this event's nine-year history. Thanks to our sponsors: Suburban Motors Harley-Davidson, Suburban Milwaukee H.O.G. Chapter and Gruber Law. The 2018 Have a Heart Ride will be held on June 9, 2018. ■

Women in Science Lecture Series

The Women in Science Lecture Series is celebrating its 11th anniversary in 2017. Women in Science is an opportunity to meet outstanding female scientists and physicians and learn more about their cutting-edge research along with new and potential treatments for diseases. For more information about the Women in Science Lecture series, please visit www.mcw.edu/womeninscience. ■

UPCOMING EVENTS

NOVEMBER

2017 HEALTH CARE DINNER
HOSTED BY MCW'S DIGESTIVE
DISEASE CENTER BOARD

DATE: NOVEMBER 14, 2017

LOCATION: MILWAUKEE

ARLENE AND JOEL LEE WILL RECEIVE THE
WARREN P. KNOWLES AWARD.

FEBRUARY

2018 STEVE CULLEN HEALTHY
HEART CLUB RUN/WALK

DATE: FEBRUARY 10, 2018

LOCATION: WAUWATOSA, WIS.

TENTH ANNUAL STRIKES FOR
HOPE BOWLING FUNDRAISER

DATE: FEBRUARY 24, 2018

LOCATION: SUSSEX BOWL, SUSSEX, WIS.

MARCH

DESERT CLASSIC WEEKEND:
GOLF ON FRIDAY AND BREWERS
SPRING TRAINING BASEBALL ON
SATURDAY

DATE: MARCH 2 & 3, 2018

LOCATION: SCOTTSDALE, ARIZONA

SIXTH ANNUAL ELLEN'S
ICEBREAKER POLAR PLUNGE

DATE: MARCH 3, 2018

SPEAKER: NAGAWICKA LAKE, HARTLAND, WIS.

For more information on these events,
contact Peggy LeBrun, director, volunteer
and event fundraising, at (414) 955-4503 or
plebrun@mcw.edu.

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event comments and photos. Or, let us know
what's coming up. Send your materials to
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ALUMNI NOTES

1970s



William M. Valenti, MD '72, recently published a memoir titled *AIDS: A Matter of Urgency – A Doctor's Memoir*. The book recounts his personal reflections and chronicles the HIV/AIDS epidemic from the eyes of someone on the front lines. After graduating from MCW and training in infectious diseases in his hometown of Rochester, N.Y., Dr. Valenti began treating some of the first HIV/AIDS patients in Rochester in 1981 and became an early leader in the fight against HIV/AIDS. Since then, Dr. Valenti has actively advocated for his patients as co-founder of the AIDS Community Health Center in Rochester, a medical facility for HIV care. Dr. Valenti also has raised thousands of dollars for AIDS research and has dedicated his life to finding a cure.

Dr. Valenti has actively advocated for his patients as co-founder of the AIDS Community Health Center in Rochester, a medical facility for HIV care. Dr. Valenti also has raised thousands of dollars for AIDS research and has dedicated his life to finding a cure.

1980s



Robert B. Anderson, MD '83, FEL '89,

joined the Green Bay Packers medical team and is a partner in a new practice at the Bellin

Health Titletown Sports Medicine and Orthopedics clinic that is opening adjacent to Lambeau Field. Dr. Anderson is relocating from Charlotte, N.C., where he ran an orthopaedic practice and served as an assistant team physician for the Carolina Panthers. He will serve in a similar capacity with the Packers

under their head physician, Patrick J. McKenzie, MD '83, GME '88. Dr. Anderson is most recognized for performing foot and ankle surgeries on professional athletes, including Cam Newton, Stephen Curry, Kevin Durant and Derek Jeter.

Thomas Zoch*, MD '83,

was named vice president of care management-clinical for Ascension Wisconsin. He will provide leadership and direction for the care and utilization management teams, working in collaboration with Ascension Wisconsin hospitals, clinics and community care providers. Before joining Ascension Wisconsin, Dr. Zoch was chief medical officer of care navigation, clinical documentation and compliance for Ministry Health Care. He is board-certified in internal medicine, emergency medicine, sports medicine and clinical lipidology. In addition, Dr. Zoch serves as assistant adjunct professor at MCW-Green Bay.

Jeffrey C. Whittle*, MD '84, MPH,

is the MCW principal investigator on a new precision medicine research project that was awarded \$5.3 million by the National Institutes of Health (NIH). MCW physicians and scientists will work with the Marshfield Clinic Research Institute and the University of Wisconsin School of Medicine and Public Health to implement the NIH's *All of Us Research Program* in Wisconsin. In addition, the BloodCenter of Wisconsin and regional federally-qualified health centers will aid in the engagement and recruitment of research participants as part of an ambitious nationwide effort to advance research into

precision medicine by better understanding how to account for the individual variability in biological makeup, environment and lifestyle of every patient to improve care. (See page 6 for more information.)

Robert C. Brickner, MD '86, GME '89, FEL '91, recently was awarded the distinction of Fellow of the American College of Endocrinology at the 26th Annual Meeting of the American Association of Clinical Endocrinologists in Austin, Texas. Dr. Brickner is chief of endocrinology and metabolism at the Orlando VA Medical Center, which is affiliated with the University of Central Florida College of Medicine. Dr. Brickner has been a board-certified endocrinologist for 26 years. The American College of Endocrinology is a scientific, educational and charitable medical organization dedicated to promoting the art and science of clinical endocrinology, diabetes and metabolism for the improvement of patient care and public health.

1990s



Beth B. Krippendorf*, PhD '93,

was awarded the *Harry Beckman Basic Science Teaching Award* from the MCW School of Medicine Class of 2017. Dr.

Krippendorf serves as associate professor of cell biology, neurobiology and anatomy. She teaches extensively in the M1 Clinical Human Anatomy course and the Medical Neuroscience course, and serves as course director for M1 Medical Neuroscience.

* MCW faculty member

2000s

Douglas A. Woo, MD '01, GME '05, joined the medical staff of OhioHealth O'Bleness Hospital in Athens, Ohio. He is a board-certified neurologist specializing in multiple sclerosis. Dr. Woo is a member of the American Academy of Neurology.



Jennifer May, MD, GME '02, joined the Rapid City Medical Center in Rapid City, S.D. She is a board-certified rheumatologist and internist.

Her clinical interests include treatment of osteoarthritis, gout, tendinitis, lupus and rheumatoid arthritis, and she has a special interest in caring for patients with systemic vasculitis. Dr. May is the past president of Black Hills District Medical Society, served as counselor to the South Dakota State Medical Association, and currently is appointed to the South Dakota State Board of Medical Examiners.

Laure DeMattia, DO, MS, FEL '06, has joined Norman (Okla.) Regional Health System's Journey Clinic, a comprehensive clinic that also offers surgical weight loss options. Dr. DeMattia works with patients who have either a Body Mass Index (BMI) of more than 30 or a BMI of 27 with medical problems worsened by excess weight. Dr. DeMattia guides patients on food choices, patterns of eating, menu planning, sleep habits and the usage of medication. Her research fellowship at MCW focused on the prevention of childhood obesity.

Leigh Lurie, MD '07, joined Capital Digestive Care's office in Rockville, Md. She is board-certified in gastroenterology and internal medicine.

2010s

Humera Baig, MD '11, FEL '17, joined the medical staff of Silver Cross Hospital in New Lenox, Ill. Dr. Baig is a board-certified radiologist.



Benjamin Beran*, MD '11, GME '15, was appointed assistant professor of obstetrics and gynecology at MCW.

Dr. Beran's passion is minimally-invasive gynecologic surgery, which encompasses hysteroscopy, laparoscopy and robotic-assisted laparoscopy. He also specializes in the performance of office gynecologic ultrasound. Dr. Beran has performed research in applications of surgical equipment, operating room procedures and uterine transplantation. He has multiple research awards and has shared his research during many local, national and international conferences and through multi-

ple peer-reviewed publications. Dr. Beran is actively involved in the education of residents and medical students and seeks to improve their surgical knowledge and skillset, especially through surgical simulation.

Ronald G. Thomas, MD, MPH '11, was named chief medical officer at Florida Hospital New Smyrna in New Smyrna Beach. He oversees the hospital's functions related to physicians and patient care, including medical staff services, credentialing, compliance with accrediting bodies, patient satisfaction, infection control and other quality-of-care measures. Dr. Thomas is board-certified in internal medicine and emergency medicine. He most recently served as the chief medical officer at Florida Hospital Flagler in Palm Coast and has extensive prior leadership experience in emergency medicine at hospitals in Connecticut, Chicago and New Mexico.

Kevin J. Townshend, MD '14, GME '17, joined Ascension Medical Group in Wausau, Wis., and practices family medicine at an outpatient clinic.

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IN MEMORIAM

1940s

Harold J. Danforth, MD '44,

of Oshkosh, Wis., died on March 13, 2017, at the age of 97. He practiced family medicine in Oshkosh before retiring in 1985. Dr. Danforth was a passionate ham radio operator, photographer, dog trainer and horseback rider.

Paul A. Stahler, MD '47,

of Jordan, Minn., died on June 28, 2013, at the age of 90. He practiced medicine in Jordan for more than 35 years and served as the Scott County Coroner for 16 years. Survivors include his wife, Dr. Elizabeth Rieschl, nine children, 18 grandchildren and three great-grandchildren.

Ernest J. Miller, MD '48, GME '55,

of Edina, Minn., died on May 15, 2017, at the age of 93. Dr. Miller was an orthopaedic surgeon, as well an enthusiastic musician and filmmaker. He is survived by his wife, Rosalie, five children, 11 grandchildren and two great-grandchildren.

Robert W. Bayuk, MD '49,

of Yreka, Calif., died on March 7, 2017, at the age of 97. He practiced medicine and served as a public health director in Yreka and Siskiyou County for more than 55 years. Dr. Bayuk is survived by his wife, Cressa, and three children.

1950s

Wayne J. Boulanger, MD '52,

of Whitefish Bay, Wis., died on July 23, 2017, at the age of 91. He was a general and vascular surgeon at the predecessor institution of Columbia St. Mary's Hospital in Milwaukee and served nationally as governor of the American

College of Surgeons from 1978-1984. Dr. Boulanger is survived by five children and 10 grandchildren.

Jack L. Tromp, MD '52,

of Lake Odessa, Mich., died on June 27, 2016, at the age of 93. He practiced medicine in Lake Odessa for 42 years and loved woodworking and baseball. Survivors include four children, nine grandchildren and eight great-grandchildren.

John A. Walker*, MD '56, FEL '63,

of Elm Grove, Wis., died on May 22, 2017, at the age of 86. He practiced cardiology in Milwaukee for more than 30 years and contributed to the development and refinement of coronary bypass surgery. Dr. Walker enjoyed traveling, skiing, golf and baseball. He is survived by his wife, Jennie, three children and four grandchildren.

Richard C. Murray, MD '57, GME '61,

of Milwaukee, died on December 21, 2016, at the age of 84. He practiced obstetrics and gynecology throughout Wisconsin and enjoyed football, gardening, opera and classical music. Survivors include two children, three grandchildren and a great-granddaughter.

1960s

Cornelius E. Hogan, MD, GME '61,

of St. Louis, died on June 6, 2014, at the age of 83. He practiced internal medicine and cardiology in St. Louis before closing his private practice to assist several clinics in the city.

Catherine J. Condon*, MD '63,

of Des Moines, Iowa, died on February 18, 2017, at the age of 85. As a nephrologist, she opened hemodialysis clinics that made care accessible to communi-

ties in Des Moines; Harlingen, Texas; and Las Cruces, N.M. Dr. Condon also helped develop the University of Iowa-Des Moines Internal Medicine Residency Program based at Iowa Methodist Medical Center.

John J. Foley, MD, GME '63,

of Menomonee Falls, Wis., died on May 29, 2017, at the age of 86. He helped found Medical Associates and practiced as a general surgeon there for more than 35 years. Dr. Foley served in leadership roles for the Waukesha County Medical Society, Wisconsin Medical Society and Milwaukee Academy of Surgery. He is survived by three children and six grandchildren.

Warren C. Unterholzner, MD '63, GME '68,

of Newcastle, Calif., died on October 16, 2016, at the age of 79. He served as a pathologist for many years before his retirement. Dr. Unterholzner is survived by his wife, Dorothy, four children and nine grandchildren.

David S. Trump, MD, GME '64,

of Grants Pass, Ore., died on January 24, 2017, at the age of 83. He practiced pediatric general, urologic and cardiac surgery for 20 years in Phoenix, where he played a significant role in the founding of Phoenix Children's Hospital. He is survived by his wife, Elaine, three children and seven grandchildren.

Don R. Spiegelhoff, MD '66,

of Burlington, Wis., died on July 9, 2017, at the age of 83. He practiced radiology in Milwaukee throughout his career. Dr. Spiegelhoff is survived by his wife, Patricia, a son and three grandchildren.

Philip C. Wagner, MD '67,

of Naples, Fla., died on June 11, 2017,

**MCW is grateful to these alumni for their Legacy Society memberships.*

at the age of 76. He practiced diagnostic radiology in Fargo, N.D., for more than 40 years and nurtured a lifelong love of the sport of boat racing. Dr. Wagner is survived by his wife, Karen, and three children.

1970s

Nicholas F. Geimer, MD, GME '70, of Milwaukee, died on June 8, 2017, at the age of 79. He was an oncologist at the predecessor institution of Columbia St. Mary's Hospital in Milwaukee for more than 40 years. He also was a devoted fan of baseball, classical music, literature, history and travel. Dr. Geimer is survived by his wife, Gretchen, and three children.

William J. Willems, MD '70, MS '70, of New Berlin, Wis., died on July 24, 2017, at the age of 73. He was a neurologist and researcher. Dr. Willems is survived by three children and six grandchildren.

Robert A. Boedecker, MD '72, GME '79, of Wauwatosa, Wis., died on June 6, 2017, at the age of 70. He served as a surgeon in Milwaukee and was a member of the Wisconsin Air National Guard, reaching the rank of lieutenant colonel.

Paul Caviale, MD '78, of Modesto, Calif., died on April 30, 2017, at the age of 67. He was an orthopaedic surgeon for more than 30 years and specialized in the hand and upper extremities. He also was an outdoorsman, sailor and musician. Dr. Caviale is survived by his wife, Mary, and two children.

1980s

Kevin J. Murray, MD '82, GME '86, of Cedar Rapids, Iowa, died on July 20, 2017, at the age of 60. He served on MCW's faculty for more than 30 years. He moved to Cedar Rapids in 2004 and practiced at the Hall-Perrine Cancer Center's Hall Radiation Center. Dr. Murray is survived by his wife, Dr. Janet Merfeld.

Mary E. Cohan, MD, GME '87, of Brookfield, Wis., died on February 23, 2017, at the age of 60. A member of MCW's faculty in the department of medicine's division of geriatrics, Dr. Cohan provided the best and most accessible care possible to seniors and those with memory disorders, and helped create a dedicated inpatient geriatrics service at the Clement J. Zablocki VA Medical Center. The clinical programs she developed are the cornerstone of MCW's educational programs in geriatrics. She is survived by two sons.

Will Fenno, MD '87, of Sharon, N.H., died on November 7, 2016, at the age of 68. He practiced family medicine, served the town of Sharon as selectman and selectman's assistant, and was an excellent woodworker and craftsman.

1990s

Trudy G. Wong, MD '92, of Elk Grove, Calif., died on May 30, 2016, at the age of 53. She practiced internal medicine in Colorado Springs, Colo.

Michelle M. Johnson, MD '96, GME '99, of Oconomowoc, Wis., died on July 6, 2017, at the age of 48. She practiced family medicine in West Allis, Wis. Dr. Johnson is survived by her husband, Curt, and four children.

Special Remembrances

Konrad H. Soergel, MD, of Brookfield, Wis., died on June 29, 2017, at the age of 87. He served for more than 40 years as an MCW faculty member and founded MCW's division of gastroenterology in the department of medicine. He also co-founded MCW's Digestive Disease Center, along with the late Sushil Sarna, PhD, in 1986. In 1988, Dr. Soergel received MCW's *Distinguished Service Award*, the institution's highest honor. Dr. Soergel is survived by his wife, Rosi, four children and three grandchildren.

Memorial donations can be made to The Konrad H. Soergel, MD, and Walter J. Hogan, MD, Endowed Professorship at MCW by contacting Angela Nelson, senior director of development and alumni giving, at (414) 955-4708 or annelson@mcw.edu.

From Our Readers

Dear Editor: I was a medical resident at Milwaukee County General Hospital, having just returned after a stint in the US Army when Dr. Dudley Johnson arrived in 1968. I don't remember the exact circumstances, but somehow, along with some surgical residents, we helped Dr. Johnson and his family move into a house not more than several hundred yards from Milwaukee County General Hospital. Little did I know how much he would accomplish. *Requiescat in pace.*

— Eugene M. Bozymski, MD '60, GME '66

Ann B. Nattinger, MD, MPH



An ardent proponent of research in academic medicine, Dr. Nattinger stepped into the role of senior associate dean for research at MCW in October 2015. She had previously served the organization for 15 years as division chief of general internal medicine and founded the Center for Patient Care and Outcomes Research (PCOR) in 2001.

Nationally recognized for her cancer health services research, Dr. Nattinger pioneered the use of population data in the study of breast cancer care, survivorship and outcomes. Her research has included the study of geographic and demographic variations in treatment of breast cancer, socioeconomic disparities in outcomes and the effect of health policy interventions on quality of care.

Dr. Nattinger's research has been funded by the National Institutes of Health, the Department of Defense and the American Cancer Society, and she has authored or co-authored more than 170 scientific papers, abstracts and book chapters. Among her many accomplishments, Dr. Nattinger received the esteemed designation of "Master" of medicine from the American College of Physicians in 2012, in recognition of her leadership and excellence in the areas of cancer research and women's health. In that same year, MCW awarded Dr. Nattinger its highest honor, the *Distinguished Service Award*. ■

— ELIZABETH SETTERFIELD

Dr. Nattinger is senior associate dean for research at MCW, Lady Riders Professor of Breast Cancer Research and professor of medicine.

What Drives You?

As a physician, I have always been driven by my desire to improve medical care. My research focuses on the science of healthcare delivery – that is, how to deliver healthcare that is equitable, efficient and optimizes the patient's outcomes. As senior associate dean for research, I focus on how MCW can get the most from its investment in research. The end goal is still improving patient outcomes.

What Has Been the Highlight of Your Career?

I have published two first-author articles in the *New England Journal of Medicine*, which have been career highlights. Another has been the privilege of serving my patients as a primary care internist. I also love to mentor, and am thrilled when those I mentor get an NIH grant, write an important paper or make an astute diagnosis.

What Do You Still Hope to Accomplish Over Your Career?

Right now, MCW ranks in the upper one-third of medical schools for NIH funding. I would love to see MCW move into the upper one-fourth. With the help of our Advancing Healthier Wisconsin (AHW) Endowment, I think we can do this. It would be very valuable for southeastern Wisconsin, as every \$1 million in research funding makes scientific findings that ultimately save lives and also, on average, supports jobs for 17.5 people.

What Would You Like Your MCW Legacy to Be?

I hope my clinical contributions endure, both through my patients and through those I have helped to train. I hope to leave MCW a stronger research infrastructure and to have helped MCW be the best we can be – through my leadership of the division of general internal medicine and the PCOR Center, by advancing women's leadership and by helping AHW and MCW make wise research investments.

What One Piece of Advice Would You Like to Share With Your Colleagues?

H. L. Mencken once said, "For every complex problem there is an answer that is clear, simple and wrong." For important problems, we cannot assume that what seems logical will be correct. Healthcare providers often assume we know the best ways to organize healthcare processes to deliver high-quality care, but we need to test our assumptions.

Change Agent highlights a Medical College of Wisconsin faculty or staff member who has had significant impact on the institution's mission to be a leading innovator in transforming healthcare and advancing the health of our communities.



A MOMENT IN HISTORY

MACC Fund and MCW Partner to Change Outlook for Childhood Cancer (1976)

When sweet-shooting guard and former NBA champion Jon McGlocklin announced at his retirement ceremony during halftime at the Milwaukee Bucks game on December 10, 1976, that he was taking his talents into the broadcast booth, his fans were not surprised. But he also revealed that he was turning his attention to a new opponent: childhood cancer.

McGlocklin shared with fans that he and Eddie Doucette, the original radio voice of the Bucks, were teaming up to create a charity called the Milwaukee Athletes Against Childhood Cancer (MACC) Fund. The “M” in MACC Fund was expanded to “Midwest” in 1978.

“Eddie was the first person I met when I arrived in Milwaukee, and we became good friends,” says McGlocklin. “When Eddie’s son, Brett, was diagnosed with leukemia in 1975, Eddie became passionate about finding a way to help local kids suffering like Brett, and he inspired me to do everything I could as well.”

Since its inception, the MACC Fund has been an important partner of the Medical College of Wisconsin to support pediatric cancers and blood disorder research. Beginning in 1977, McGlocklin and Doucette began to raise awareness during radio and television coverage of Bucks games of the need for funding to support research on childhood cancer. Then the team became the MACC Fund’s first major sponsor.

“Without the Milwaukee Bucks, the MACC Fund would not be what it is today,” adds McGlocklin.

The MACC Fund has had remarkable fundraising success, passing the \$60 million mark in July 2017. Of this, nearly \$43 million have been used to support research at MCW.

“We’ve forged a strong team, and MCW has always been a phenomenal partner,” says McGlocklin. “What started more than 40 years ago is now being carried forward in partnership with MCW president Dr. John Raymond, Dr. David Margolis and a talented team of physicians and scientists that has grown by leaps and bounds since day one.”

In January 2016, Jeffrey Medin, PhD, joined MCW as MACC



When Jon McGlocklin (left) and Eddie Doucette (second from left) announced the creation of the MACC Fund in 1976, they never dreamed they would raise more than \$60 million for pediatric cancer and blood disorder research.

Fund Professor and vice chair of research innovation for the department of pediatrics, as well as research director within the section of pediatric hematology/oncology. Dr. Medin has a distinguished record of accomplishment in the field of pediatric cancers, and his laboratory currently focuses on the development and implementation of gene therapy.

“One thing that has always impressed me is

how deep-rooted the MACC Fund is in the community. We are so grateful for that community support, and it inspires us to solve hard problems and help sick children,” Dr. Medin shares.

“The MACC Fund’s story tells you a lot about the people of the Midwest and especially of Wisconsin and southeastern Wisconsin. We’ve raised most of the money here because of the remarkable support and generosity of the community. And because it goes to research, the discoveries and advancements help kids everywhere,” comments McGlocklin. The overall cure rate for childhood cancer has risen from 20 percent to 80 percent during the more than 40-year history of the MACC Fund. In addition to its goal of expanding cures to the remaining 20 percent, the MACC Fund recognizes that even the 80 percent of children cured can relapse and have “late effect” issues which require more research.

John Cary, executive director of the MACC Fund, says, “Research has played a big part in the dramatic improvement to the cure rate, and we’re pleased about the role the MACC Fund has played in this success. However, the donors, scientists, doctors, kids and their families are the greatest heroes in the struggle against childhood cancer.”

MCW undertakes scientific research at the six-story MACC Fund Research Center on the Milwaukee campus. Translational, clinical-based research is conducted by MCW faculty in the MACC Fund Center of Children’s Hospital of Wisconsin. ■

– GREG CALHOUN



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8701 Watertown Plank Road
P.O. Box 26509
Milwaukee, WI 53226-0509
414-955-4725
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