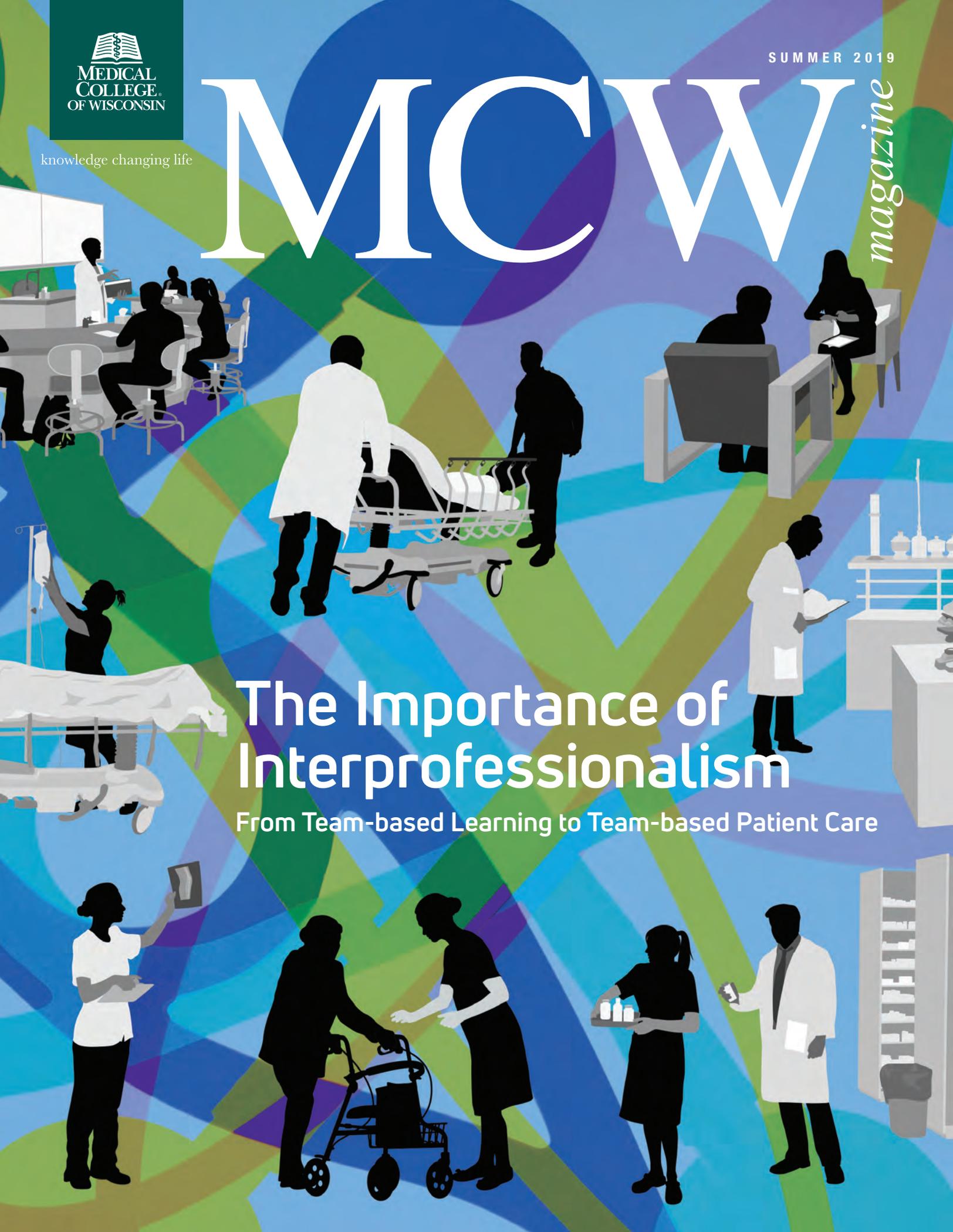


MCW

magazine

The Importance of Interprofessionalism

From Team-based Learning to Team-based Patient Care



MCW

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LEADERSHIP MESSAGE

Advocating for Equity in Medicine and Science

One of my greatest privileges as dean of the School of Medicine and provost and executive vice president of the Medical College of Wisconsin (MCW) is participating in Commencement Week activities.

This year I participated in the graduation of our Milwaukee-based medical, graduate and medical physiology students, the first class of medical students at MCW-Central Wisconsin (see pages 8-9) and the second class of medical students at MCW-Green Bay.

As in past years, I spoke to the students at the Hooding, Senior/Graduate Dinner and Commencement ceremonies. The theme of my remarks this year centered around equity. To the medical students I spoke about equity in medicine, which I believe must be at our core as physicians. There are many significant issues related to equity in medicine today, and fortunately, MCW is a national leader in numerous ways relating to equity.

We have been an early leader in gender equity in our medical school, with roughly equal numbers of women and men matriculating for several years. Nationally, however, 2018 was the first year that the number of women matriculating into medical school exceeded the number of men.

We have a long road to travel in other areas of equity, however. I am proud that the number of female senior leaders who report to me has nearly tripled since I first entered the Dean's Office in 2011. But we must continue this improvement in diversity in MCW's leadership roles.

MCW is a national leader in salary equity based on gender and race. We have both implemented and developed "best practices" in pay equity for medical schools across the country.

Because we need to make strides regarding equity in medicine, I challenged the medical school graduates: "What will you do to ensure that inequities are eliminated during your time as a physician?" I also asked them to think about what they hoped would be different in 25 years around gender equity and to think about how they would lessen disparities in healthcare in their communities.

To those students graduating with degrees to advance science and knowledge, I posed: "What will you do to ensure that your research findings and their applications have direct inclusion and benefit for those who are least advantaged in our society?"

I look forward to a future in which these questions and many other significant questions about equity will be addressed by our alumni and others in medicine and science. And congrats to the Classes of 2019!

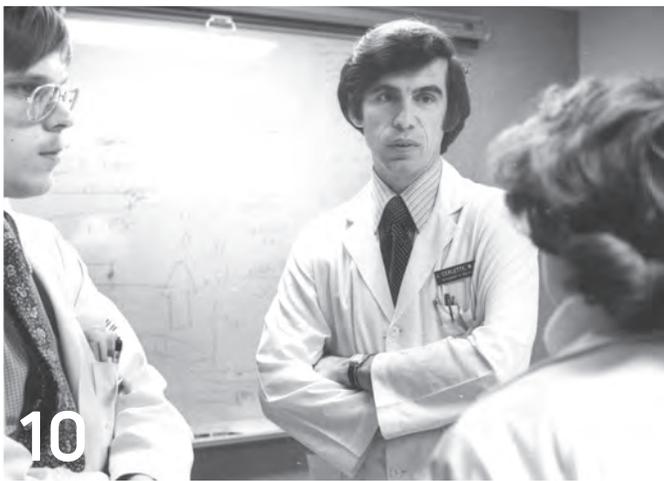
Joseph E. Kerschner, MD '90, FEL '98

Provost and Executive Vice President
Dean, School of Medicine

“Equity in medicine must be at our core as physicians.”



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FEATURED PHOTOGRAPHERS: Gary Porter; Jay Westhauser; Jeff Zmania.

ON THE COVER: Our ever-changing healthcare system requires innovative and efficient models of patient care. These models, in turn, require key competencies – such as effective communication, teamwork and interprofessional collaboration among healthcare professionals. An effective such interprofessional collaboration helps ensure high-quality patient care and is having a positive impact on team members who work together daily.

NEWS

FOR ALUMNI

I want to start by congratulating all of our graduates from this past May on their accomplishment!

We welcomed over 300 new doctors, researchers, teachers and healthcare workers to our alumni community. Of special significance were the 13 MD graduates from MCW—Central Wisconsin, that regional campus's first graduating class. The work that our regional campuses are doing to advance education and health in the far reaches of the state of Wisconsin is incredible, and we look forward to their continued success.



“We have accomplished a great deal during my time as an officer, most notably the identification of strategic goals that will guide our engagement efforts for years to come.”

— Dr. Neil Guenther, Alumni Association President

By now, most of our alumni should have heard of or seen information about ENGAGE, our exclusive online platform. I want to thank those of you who have taken the time to register and be active on it and strongly encourage those that have not yet registered (or haven't been as active) to do so. ENGAGE is more than just a social network like Facebook or LinkedIn. It is a great way for alumni to stay connected with MCW news/announcements, achievements, events, etc. It serves as our only online directory source. It also provides a way to reconnect and stay in touch with former classmates, mentors and more.

And last but not least, it provides a way for us as graduates to connect/interact with students and vice versa,

which is something that our alumni have been asking about for years. This is the primary way in which we can give our time, talent and resources to the next generation of physicians and scientists. Take a few minutes out of your day and visit mcwengage.com to register and explore all it has to offer.

In staffing news, the search for a new Executive Director for our Office of Alumni Relations is ongoing, and we hope to fill this position with a strong candidate by this fall. We are fortunate to have Anthony (Tony) Perez continuing in the role of interim director and are deeply grateful to him and to Angie LaLuzerne for their contributions related to the launch of ENGAGE, the creation of our new monthly e-newsletter and in identifying new members for our board.

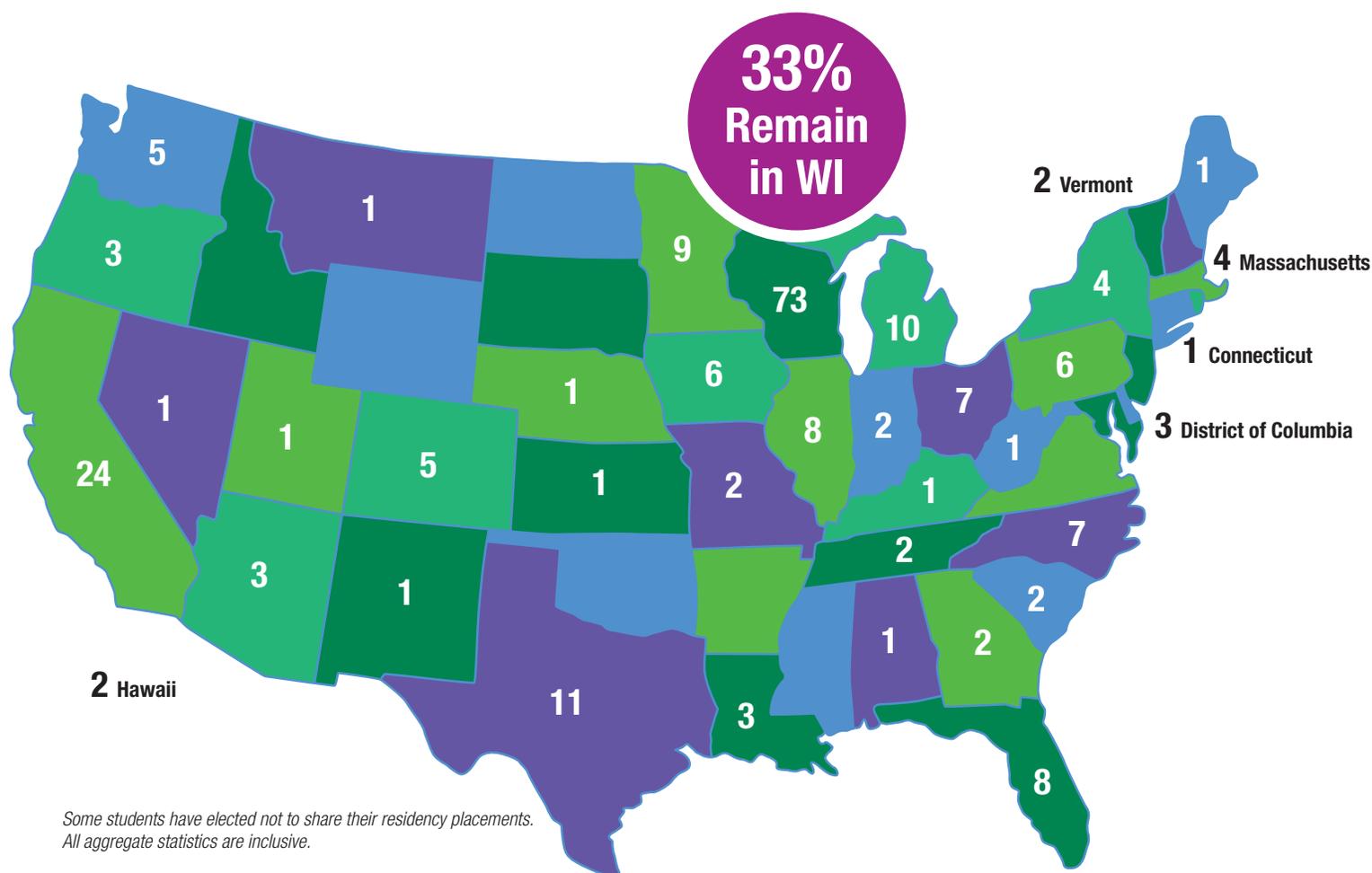
We are gearing up for this year's Alumni Weekend on September 27–28. In addition to celebrating all of our returning alumni in a reunion year, this is also a time of transition for members of our board. I want to thank those members whose tenure will be expiring, specifically

Marie Nakata, MD '89, GME '93, and Philip Regala, MD '91. While their presence and contributions will be missed, we are excited to welcome several new board members, who will be announced at the Friday night Awards Banquet as part of Alumni Weekend. We also will be celebrating the recipients of this year's Alumni Association awards.

Lastly, I want to thank everyone who has supported me in my role as president of the MCW/Marquette Medical Alumni Association board over the past two years. I will be joining my predecessors as a past president this fall, though I anticipate staying involved with alumni relations as much as I can. We have accomplished a great deal during my time as an officer, most notably the identification of strategic goals that will guide our engagement efforts for years to come. I am confident that the incoming officers, especially Barbara Calkins, MD '96, who will assume the role of president, will keep our board moving in a positive direction. ■

Stay Engaged! Share your email address with the Alumni Association at mcw.edu/alumni.

2019 MCW Residency Distribution



Summary of First-year Residency Programs for Milwaukee, Green Bay and Central Wisconsin Campuses:

Anesthesiology	16	IM/Pediatrics	3	Plastic Surgery (Integrated)	1
Child Neurology	1	Interventional Radiology (Integrated)	1	Psychiatry	14
Emergency Medicine	16	Neurology	3	Radiation Oncology	1
Family Medicine	27	Obstetrics & Gynecology	15	Radiology-Diagnostic	3
Family Medicine/Preventative Medicine	1	Orthopaedic Surgery	7	Surgery-General	15
Internal Medicine (IM)	43	Otolaryngology	4	Transitional Year	18
IM/Anesthesiology	1	Pediatrics	29	Urology	5

STAT REPORT



Photo courtesy of Greg Calhoun

Renovations of laboratory and office space on the second floor of the Basic Science Building were completed in June 2019. It is now home to the department of microbiology and immunology.

Renovating the Basic Science Building

The renovation of the 45-year-old Basic Science Building (BSB) is a component of MCW's ongoing commitment to the research enterprise. Construction began in September 2018, and in June 2019 renovations on the second floor were completed. The following month, the department of microbiology and immunology moved into its new home.

"I am thrilled by the investment and commitments from MCW leadership and the Office of Research to dramatically enhance our research capacity by providing nearly 25,000 square feet of state-of-the-art research space," says John R. Kirby, PhD, chair and Walter Schroeder Professor of Microbiology and Immunology. "The renovations enable us to attract top-notch scientists from around the world to perform cutting-edge research here in southeast Wisconsin."



In addition to modernizing the BSB, a major goal of the overall renovations is to develop an open laboratory environment that encourages and facilitates better connectivity among labs to increase collaboration and interdisciplinary discovery. In total, nearly 100,000 square feet of research facilities will be renovated. Construction on the fourth floor is expected to commence by fall 2019. Renovation of the fifth and sixth floors will follow as each preceding floor is completed. ■



MCW Cancer Center Joins Elite Group of Clinical Research Centers

MCW's Cancer Center joined an elite group of the top 30 US cancer centers in spring 2019. This distinction was announced with the award of a National Cancer Institute (NCI) competitive grant that named MCW as a National Clinical Trials Network – Lead Academic Participating Site (NCTN LAPS). It is rare for a cancer center to be chosen before receiving NCI designation. Additionally, there are 40 NCI-designated cancer centers that do not have this distinction.

To earn this exceptional honor, the MCW Cancer Center met objective external measurements, including the strength and innovation of ongoing research and science, and confirmation of robust participation in the National Clinical Trial Network and other cooperative group trials. This new grant enables MCW's cancer clinical research enterprise to move to the next level of scientific engagement, research-driven treatments and excellent clinical care.

For cancer patients treated within the Froedtert & MCW Cancer Network, the LAPS grant adds national recognition and resources to MCW's cancer research, clinical trials programs and disease-specific treatment teams. The LAPS award also includes resources, funding and a network of collaboration, discovery and applications available only to the top cancer centers in the country. The award also is an investment in eastern Wisconsin and the greater Milwaukee metro area as it creates mentorships and training opportunities for the next generation of cancer physician-scientists.

Stuart Wong, MD '90, GME '93, FEL '98, professor of medicine (hematology/ oncology), is the principal investigator for the LAPS grant. ■

Training the Next Generation of Genetic Counselors

MCW soon will be a destination for training the next generation of genetic counselors. MCW will offer a master of science degree in genetic counseling with the first class matriculating in fall 2021.

Over the last decade, genomic sequencing has helped healthcare providers identify elusive diagnoses of rare diseases. As technology improves and sequencing costs decrease, it is quickly becoming ever more routine for providers to use genetic data to tailor healthcare to improve the treatment of individual patients who possess more common ailments. Genetic counselors are a crucial element in the growth of precision medicine as they specialize in discussing with patients the scientific, emotional and ethical implications of genomic testing. Currently, however, there are not sufficient genetic counselors in Wisconsin to meet patients' needs – much less future demand.

Wisconsin has only 80 percent of the genetic counselors it needs, according to the Genetic Counselor Workforce Working Group, which includes representatives from five national professional and accreditation organizations. Looking forward, the US Department of Labor Statistics projects an above-average growth rate of 29 percent in genetic counselor jobs through 2026. As MCW's future genetic counseling students begin completing the 21-month degree program, they will make a significant difference in filling Wisconsin's workforce needs and helping provide patients with individualized care. ■

MCW Receives \$14.9 Million for Genome Editing Hub

MCW recently received a \$14.9 million award from the National Institutes of Health to fund the development of a Dissemination and Coordinating Center (DCC). The project is part of the NIH Common Fund's Somatic Cell Genome Editing (SCGE) Program, which focuses on advancing technologies and disease models to generate breakthroughs in genome editing and new therapeutic strategies.

Melinda Dwinell, PhD, MCW associate professor of physiology, and Mary Shimoyama, PhD, associate professor in the Marquette University and MCW department of biomedical engineering, are the

primary investigators on the project. The new technologies, methods and data developed within the SCGE Consortium will be shared within the consortium and broader scientific community to benefit ongoing research efforts.

By serving as a hub to promote novel technologies and strategies, the SCGE DCC will foster collaboration across the 21 funded projects within numerous research institutions and academic medical centers. It also will gather and distribute project data and provide access to researchers, clinicians and members of the public through the development of a SCGE toolkit. ■



MCW-Central Wisconsin's First Graduates

MCW's newly established Central Wisconsin campus welcomed its first class of matriculating medical students in July 2016. Three years later, in May 2019, these pioneering students graduated – after completing an accelerated curriculum – and have embarked on their journeys into residency training.

“This marks a milestone for our students, their families and the entire campus community,” says Lisa Grill Dodson, MD, founding campus dean for MCW-Central Wisconsin (located in Wausau). “These remarkable young physicians are pioneers. I offer my gratitude to each of them for their fortitude, resilience and team spirit. Their accomplishments in the classroom, the clinical setting and the community are extraordinary.”

Throughout the past three years, the students have been heavily engaged with local central Wisconsin communities. They have worked on many community health projects in partnership with area nonprofits, government agencies, hospitals and schools, and have learned from hundreds of local physicians in hospitals, clinics and classrooms.

One of the hallmarks of an MCW education is participating in a Scholarly Pathway, which enables a student to individualize his or her medical education. For MCW-Central Wisconsin

students, the Physician in the Community Pathway links medical education with the resources and needs of the region's communities and its partners to promote health. In this Pathway, each MCW-Central Wisconsin student is required to complete a community health project with both a local mentor and a partner organization.

Philanthropic support for the regional campus has been vital to maximize the impact on the communities MCW serves. As of June 2019, \$4.25 million had been donated to support the launch of MCW-Central Wisconsin. The student projects described above have been particularly interesting to community donors, including Dr. David and Mary Ann Lillich, the River Valley Bank Foundation and the Dan Storey Foundation. Through donor support, medical students can receive small awards to help bolster their projects.

MCW-Central Wisconsin develops community-focused physicians who will help to meet the healthcare needs of central Wisconsin and surrounding regions. The three-year modified Discovery curriculum offers students a calendar-efficient



program that allows for graduation one year earlier than traditional programs. This is achieved by reducing the number of electives and the length of the traditional medical school breaks – and allows students to graduate and begin working as physicians sooner.

Inaugural class graduate Kyle Olson, MD '19, grew up in Marshfield, Wis., and attended Carleton College in Northfield, Minn., for his undergraduate education. He was drawn to the unique offering of the regional medical school curriculum, along with the campus's location.

"When applying to medical schools, I definitely focused on schools in the Midwest because I was hoping to stay close to home. As I read more about the MCW regional campuses, they sounded

like a good fit for me," says Dr. Olson. "I think the biggest benefit is the accelerated three-year curriculum. If you know the residency you want to pursue and can achieve it in three years, the amount of time and money you save can be extremely significant."

Fellow classmate Alexandra Huml, MD '19, from Medford, Wis., completed her undergraduate degree at the University of Wisconsin-Madison and echoes Dr. Olson's sentiments. "I chose MCW-Central Wisconsin because it allowed me the opportunity to return home to complete my training," she remarks.

"It's hard to know what to expect from medical school, as it's a journey that many simply cannot relate to; however, it has been an absolute pleasure to attend medical school at MCW-Central Wisconsin and to graduate as part of its inaugural class," Dr. Huml continues. "I would recommend MCW-Central Wisconsin to future students who are interested in attending a medical school with a small class size that allows you to develop relationships with your peers, and to attend if you have a strong interest in community medicine."

Dr. Huml was honored as the first recipient of the *Jeremy "Minnow" Fischer Outstanding Graduate Award*, presented through the generosity of MCW-Central Wisconsin staff member Leslie Fischer and her children, Kailyn and Beau, in memory of their late husband and father. Recipients of this award exemplify a well-rounded physician through his/her academic and clinical excellence, as well as demonstrate the ability to see humor in life, humility and supportive relationships to classmates. S/he is considered to be the outstanding candidate for the medical doctorate degree from MCW-Central Wisconsin.

During their time together, classmates formed tight bonds with one another.

Connor Harmann, MD '19, from Hartland, Wis., who graduated from the University of Wisconsin-Madison, confirms this belief. "The small class size leads to strong ties being formed throughout the three years. I had the opportunity to work with many great doctors, and they served as tremendous mentors who helped guide me and answer any questions I had."

"It was awesome having a small class size where I had the opportunity to get to know everyone very well," says Dr. Olson. "We supported each other through difficult and challenging times and celebrated with one another during all our successes. I was so proud of how well my class performed in the Match [for residencies]. We had a 100 percent match rate, and everyone will be attending great programs both here in Wisconsin and some across the country." (See page 5 for more information on *Match Day 2019*.)

All the 2019 graduates from MCW-Central Wisconsin secured placements in residency programs in various specialties, including family medicine, pediatrics, dermatology, radiology, anesthesiology and internal medicine. Eight graduates will remain in Wisconsin for residency training.

Seventy-six students are now enrolled at MCW-Central Wisconsin, including the incoming class of first-year medical students who matriculated in July 2019; nearly 80 percent of all the students hail from Wisconsin. For the 2019-2020 academic year's admissions cycle, 1,703 applications were received for MCW-Central Wisconsin's 20 spots.

Clearly, a small class size, accelerated curriculum and opportunity to make a real difference in a welcoming community are resonating with the newest generation of physicians-to-be. ■

– HOLLY BOTSFORD

Honoring a Beloved Mentor Committed to Clinical Excellence

“When I instruct residents, I tell them, ‘Some patients will become very special to you, and it’s important to nurture those relationships because they will teach you something. By opening yourself up to a patient, you’ll discover what it means to really take care of someone.’”

– Dr. James M. Cerletty

During the nearly 40 years that the late James M. Cerletty, MD ’58, FEL ’64, served as residency program director and vice chair for education in MCW’s department of medicine, the meaningful sentiments expressed by him in the statement above formed the core of his humanistic approach as a teacher and mentor.

Born and raised in Milwaukee, Dr. Cerletty received his Bachelor of Science at Marquette University and graduated from the Marquette University Medical School (MCW’s predecessor institution) in 1958. He completed his medical internship at Walter Reed Hospital in Washington, DC, and served in the NATO Army Medical Corps in Poitiers, France. Dr. Cerletty returned to Wisconsin for his residency in internal medicine and his fellowship in endocrinology at the Milwaukee County General Hospital. He then joined the faculty of the medical school, from which he retired in 2003.

Dr. Cerletty shaped the medicine residency to reflect his commitment to excellence in diagnosis, treatment and patient communication. He took his role seriously, continually making time for clinical and personal issues while offering wisdom and peppering conversations with his humor and quick wit. He believed strongly in the importance of the integration of medical science with the art of medicine – and took seriously the

responsibility to transform the “newly minted physician” into an emotionally capable, empathetic physician.

During his career, Dr. Cerletty wrote nearly 100 articles about his practice. According to his widow, Susan, “Through these writings he refined his own thinking about the importance of his humanism – the personal connection and importance of touch in a fully formed clinical practice. He would talk to his residents about getting to eye level, sitting down next to a patient, using touch. It was a way of letting Jim’s patients know that he was going to listen to them and take his time with them.”

Dr. Cerletty cared deeply about the residents and medical students – and it was this quality that made him an exceptional teacher and mentor. He firmly believed that good teaching requires skills that must be passed on and nurtured by creating a tradition of mentoring practices.

Susan Cerletty shares that during his practice, “Jim was totally committed to the responsibility to transition young medical scientists into capable, empathetic clinicians. It was a purposeful intention on his part. He felt that the medical school was doing an excellent job of preparing medical students in the area of medical science, but he wanted to bring attention to the physicians on the faculty, who day in and day out were

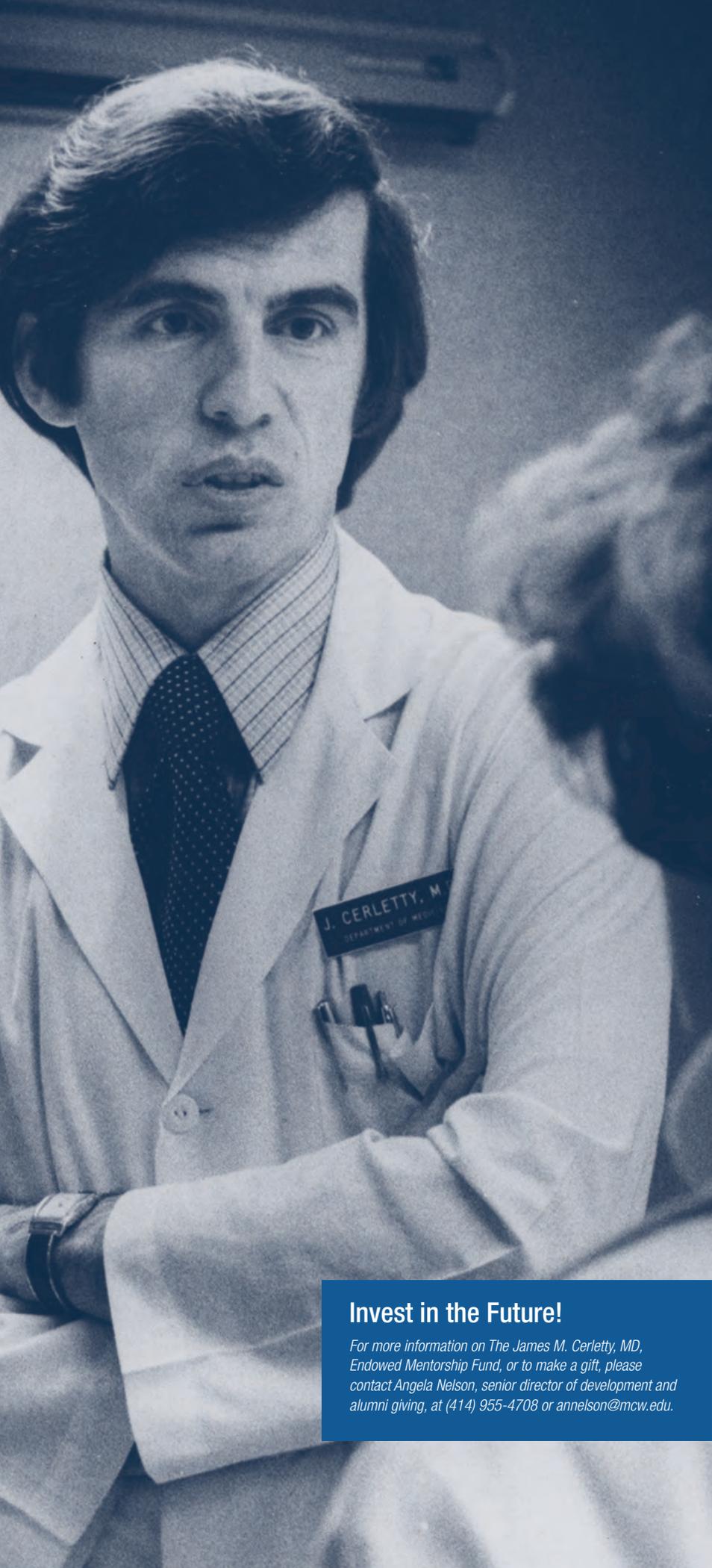
fostering clinical excellence.”

She adds that Dr. Cerletty believed the ability to connect with patients – the ability to take a history that is meaningful and the ability to connect in a human way with patients – is what makes the difference between a medical school that prepares doctors with excellence in medical science and one that transforms well-prepared doctors into physicians.

His former students, residents and colleagues heartily concur.

“Jim Cerletty was born to be a mentor. He had a reputation for being tough, and it is true he had very high standards for effort and performance. But he also had a keen sense of when a person could ‘take it’ and when he or she needed comfort and support,” says Mary M. Horowitz, MD ’80, GME ’84, FEL ’89, MS ’91, chief scientific director for MCW’s Center for International Blood and Marrow Transplant Research and Robert A. Uihlein, Jr. Chair in Hematologic Research. “Even when he was letting you know that you were not living up to what you were capable of, Dr. Cerletty was never unkind – it was just that one never wanted to disappoint him. I was on the receiving end of both his exacting and comforting sides, and I am grateful for both,” she adds.

According to Ann Nattinger, MD, MPH, MCW senior associate dean for research, Lady Riders Professor of Breast Cancer Research and professor of medicine, “Jim Cerletty was one of the most astute diagnosticians I have ever encountered. His powers of observation were legendary – for example, diagnosing acromegaly in someone he met in a shopping mall. Although he was a trained endocrinologist, he had a broad knowledge of many areas of medicine. I remember informally asking his opinion



Invest in the Future!

For more information on The James M. Cerletty, MD, Endowed Mentorship Fund, or to make a gift, please contact Angela Nelson, senior director of development and alumni giving, at (414) 955-4708 or annelson@mcw.edu.

about diagnostic dilemmas on many occasions early in my career. His responses were inevitably factually correct and delivered with a humorous style that made me feel that he enjoyed being asked.”

“Dr. Cerletty’s intellect is legend. But what truly distinguished him was his listening skill,” shares Glenn Ragalie, GME ’80, FEL ’83. “He impressed me with his ability to be present when I interviewed in 1976 for a residency position. That ability was manifest in his relationships with patients, families, colleagues, students and friends. You felt like you were the only one in the room when he was interacting with you.”

After Dr. Cerletty’s death in December 2016 at the age of 83, the Cerletty family created The James M. Cerletty, MD, Endowed Mentorship Fund to benefit residents, fellows and medical students while honoring his commitment to clinical excellence by fostering and strengthening the mentorship and leadership skills of both junior and senior faculty members within the department of medicine. Income from the endowment fund supports the development of junior faculty members – role models who often have the greatest impact on MCW’s learners and trainees.

The fund also established a *Cerletty Award for Excellence* to recognize senior department of medicine faculty who have consistently demonstrated excellence and exceptional creativity in their teaching and mentoring practices. The fund now totals close to \$300,000, including a recent significant contribution from Susan Cerletty – who is committed to supporting the fund’s further development.

“More than 1,000 residents passed through the department of medicine’s residency in Jim’s almost 40 years as residency director, and his legacy runs deep,” she notes. “He was a quick laser-sharp diagnostician and demanded medical excellence. The intent of the endowment is to sustain the continued development of mentors for clinical practice. It is about recognizing residents who are in training as well as faculty who have developed those capabilities and can role-model them effectively for young physicians who are evolving. Jim would be glad to know that his legacy is helping to encourage the openness to, and expression of, human emotions and vulnerabilities – which are qualities essential to a fully realized clinical practice.” ■ – SARA L. WILKINS



MCW Expands Access to Mental Health Care

Wisconsin has significant mental health challenges. The suicide rate is up 27 percent since 1990 and remains the leading cause of death for children in the state. Almost every county has inadequate numbers of psychiatrists to meet population needs, and nearly 70 percent of Wisconsin's 72 counties do not have a child psychiatrist.

MCW is developing partnerships, programs and innovative care models throughout Wisconsin to improve the delivery of and access to mental health care. The long-term goal of these efforts is to improve access to mental health care for everyone in the state, regardless of age, geographic location or need.

Education

Education is a key component of MCW's efforts. To help address the shortage of psychiatrists in the state, and specifically in rural areas, MCW collaborated with the state of Wisconsin and academic and hospital partners in Green Bay and central Wisconsin to launch two new four-year psychiatry residency programs, which will increase the training of psychiatrists by more than 40 percent. The first residents (three from the Wausau area and four from Green Bay) will complete their training in June 2020.

"These new residency programs increase the overall number of psychiatrists trained in Wisconsin, but they also will help alleviate a critical shortage of mental health professionals in rural areas and will have a lasting impact on the health of

citizens of Wisconsin," says Jon A. Lehrmann, MD '90, GME '94, Charles E. Kubly Professor and chair of psychiatry and behavioral medicine at MCW. Since taking leadership of the department in 2010 (as interim chair until 2013 and then as permanent chair), the number of psychiatry faculty increased from 68 to 100, and both Froedtert Hospital and Children's Hospital of Wisconsin (CHW) have developed behavioral health strategic plans for delivering and expanding behavioral healthcare.

Child Psychiatry Consultation Program

Children in Wisconsin can experience wait times of six to 12 months to see a child psychiatrist – and sometimes longer in rural areas. To address this challenge, MCW has worked with

community partners to offer primary care clinician access to the expertise of child and adolescent psychiatrists. The Charles E. Kubly Child Psychiatry Consultation Program (CPCP) – named in memory of the son of donors Michael Kubly, MD '63, and his wife, Billie, who helped fund the initial pilot project – led to the creation of an expanded project that received state funding and was implemented in one rural and one urban area in the state.

The program improves pediatric mental health care by offering pediatricians awareness training and access to a child and adolescent psychiatrist for general case consultation while their patient is still in the exam room. The goal is to train pediatricians to more easily identify the signs of mental illness and depression. To date, nearly 650 pediatricians and family

The Periscope Project hosted an art therapy workshop for medical students and residents. Art therapy enhances clients' mental, emotional and physical well-being.

medicine physicians have enrolled in the program, more than 2,500 consultations have been given and more than 1,000 educational episodes have been provided.

Periscope Project

Of the estimated 120 patients an OB/GYN physician sees weekly, 17 percent will have depression and nearly 50 percent will have significant emotional disturbance. Mental health disorders are the most common complication of pregnancy, and suicide is the second-leading cause of death for postpartum women. But there are only five trained perinatal psychiatric care providers in Wisconsin.

To provide perinatal women who are struggling with mental health or substance abuse disorders access to the care they need, MCW launched the Periscope Project (PERInatal Specialty Consult Psychiatry Extension) in 2017. Modeled after the CPCP and funded through a grant from the United Health Foundation, the free provider-to-provider teleconsultation service provides primary care providers with real-time access to a perinatal psychiatrist while their patients are still in the exam room.

Since its launch, the Periscope Project has fielded 850 service inquiries from 57 cities in 39 counties around Wisconsin.

Care for Veterans

Veterans struggle with many mental health concerns, including post-traumatic stress disorder (PTSD), depression and substance abuse. Every day in the US, 22 veterans die from suicide. About 70 percent of veterans who take their own lives are not regular users of the VA healthcare services. When veterans receive care at the VA, however, their risk factors for a range of behavioral health issues decline.

To provide veterans with more access to mental health care in the region, MCW has partnered with the Clement J. Zablocki VA Medical Center to pilot the Capt. John

D. Mason Peer Outreach Program. Funded by a gift from Joseph P. Tate and Jennifer O. Tate, the program coordinates directly with a diverse range of civic, community and religious organizations to locate veterans in need and engage them in VA health services.

School-based Mental Health Care Efforts

Forty percent of Wisconsin public high school students report high levels of anxiety and 27 percent report significant depression. Fewer than five percent of students referred for mental health services show up for care, however.

To improve mental health care access for this population in Milwaukee, David J. Cipriano, PhD, assistant professor of psychiatry and behavioral medicine at MCW, serves as director of the School Community Partnership for Mental Health, which comprises Children's Hospital of Wisconsin-Community Services, Sixteenth Street Clinic, Aurora Family Services and the Sebastian Family Psychology Practice. These provide free psychotherapy up to three days per week at 28 Milwaukee Public Schools. About 80 percent of students identified as having a mental health need have been seen by a professional.

Philanthropic Partners

Success with these programs is possible with the support of a number of donors, including the Tates and Kublys and Ted and Mary Kellner, who gave \$3 million to MCW and CHW to improve access to

mental health care for children in Milwaukee's most vulnerable neighborhoods.

Billie Kubly recently established the Kubly Fund for Depression Research to support teams of researchers led by Cecilia Hillard, PhD '83, MCW professor of pharmacology and toxicology and director of the Neuroscience Research Center. The Hillard laboratory has identified a novel protein that contributes to the regulation of mood. Studies show that when the function of this protein is reduced, animals show reduced signs of stress and anxiety. Ongoing studies are designed to discover drugs that can bind to this protein with the goal of determining whether harnessing this protein can provide a new way to treat depression. Kubly recently received the *Neuro Hero Award* at MCW's Annual Imagine More Dinner (see page 28).



Billie Kubly

The Kellner Family Community Mental Health Initiative, supported by their gift, funds five positions to staff Integrated Behavioral Health pilot programming, a centralized mental health intake at Children's Hospital and Sanctuary Model®.

An important strategy for expanding mental health care access is getting past the stigma barrier, which is the goal of Integrated Behavioral Health Services in Primary Care. Behavioral health therapists and pediatric psychologists work together with the pediatric primary care team to integrate mental health care into the child's regular medical care. This approach helps patients and their families shift perceptions, "normalize" mental health care and reduce stigma; it also gets them more invested in the child's care. Families have 85 percent fewer no-shows or cancellations and follow up with behavioral health specialists an average of 16 days faster. Also, attendance at behavioral health specialty appointments has nearly doubled at the two pilot program sites serving underrepresented communities. ■

— ANTHONY BRAZA

“The Kellner Initiative hopes that kids and their families have opportunities to access mental health care services in a variety of settings such as hospitals, schools, primary care clinics, churches, homes and communities. Many families face chronic stress, so making quality care available in their everyday environment is critical to improving mental and behavioral health outcomes.”

— Kristin Schultz, PhD, mental health consultant at Children's Hospital of Wisconsin and daughter of Ted and Mary Kellner

The Importance of Interprofessionalism

By Anthony Braza • Greg Calhoun • Brittany Callan • Sara L. Wilkins

Our ever-changing healthcare system is marked by the increasingly complex health needs of patients – and requires innovative and efficient models of patient care. These models, in turn, require key competencies – such as effective communication, teamwork and interprofessional collaboration among healthcare professionals. An effective interprofessional collaboration helps ensure high-quality patient care and is having a positive impact on team members who work together daily.

Individuals with differing perspectives in healthcare offer unique ideas and talents to help improve patient care. By promoting a constant exchange of expertise, interprofessionalism helps to break down barriers among everyone involved in patient care – resulting in better learning and the best possible health outcomes. In both clinical practice and education, interprofessionalism encourages a focus on teamwork – based not on a specialty or hierarchy, but rather on effectiveness and outcomes.

In today's healthcare workplaces, interprofessional patient care isn't the exception – it's the new norm. Whether practicing in a hospital, clinic or primary care office, medical professionals work side by side with a multitude of other healthcare disciplines, including nurses at different levels, certified medical assistants, dietitians, nutritionists, pharmacists, physician assistants, social workers, mental health workers, health navigators, health coaches, community health workers, exercise physiologists and quality improvement and informatics specialists. This means that students must be prepared to work on multidisciplinary teams from day one.

To that end, an important compo-

From Team-based Learning to Team-based Patient Care

nent of interprofessionalism is interprofessional education (IPE) – a model in which individuals from two or more professions in healthcare learn together during all or part of their professional and postgraduate training with the goal of cultivating collaborative practice. This form of education is particularly effective in subspecialties, in which the need for interprofessional collaboration and learning is most acute. IPE helps develop and promote interprofessional thinking and acting; promotes beneficial information and knowledge exchange and mutual understanding; and ensures the acquisition of shared knowledge.

In 2007, the Association of American Medical Colleges (AAMC) released its strategic priorities, clearly stating that IPE and interprofessional practice were key areas of focus. Shortly thereafter, many medical schools began to actively

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IN 2007-2008,
53%
OF NORTH AMERICAN
MEDICAL SCHOOLS
REQUIRED IPE

IN 2017-2018
97%
OF NORTH AMERICAN
MEDICAL SCHOOLS
REQUIRED IPE

*Source for all infographics:
Association of American Medical Colleges*



Continued from page 14

incorporate some form of IPE into their curricula to prepare students for a future of healthcare in a patient-centered, team-oriented system. IPE focuses on values and ethics; roles and responsibilities; interprofessional communication; and teams and teamwork.

Several advantages of IPE have been reported, including increased mutual respect and trust; improved understanding of professional roles and responsibilities; effective communication; increased job satisfaction; and positive impact on patient outcomes. Studies have shown that students trained in an IPE approach have better interprofessional collaborative practice competencies compared to students without IPE training. This can be attributed to students' more positive attitudes toward each other, a better understanding about each other's competencies, the ability to share knowledge and skills and improved team identity.

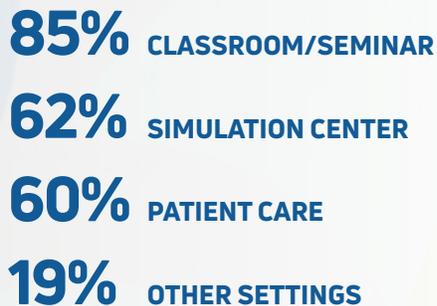
MCW has embraced interprofessionalism and IPE across its missions of education, clinical care, research and community engagement – positioning team-based patient care and team-based learning as hallmarks of its successful approach to 21st-century healthcare.

What follows is a glimpse into MCW's commitment to interprofessionalism and IPE through the lens of students, healthcare providers and scientists – although this merely scratches the surface of the institution's interprofessional endeavors.

Interprofessional Education MCW School of Medicine

The MCW School of Medicine's Milwaukee campus offers IPE sessions for many of its 11 early clinical and basic science courses as well as some elective Pathway courses. IPE sessions offered in 2018–2019 included collaborations with nursing, physical therapy, clinical and medical laboratory science students, dietetic interns from area institutes of higher learning and MCW School of Pharmacy students. The sessions included simulations, interactive activities and case-based discussions focused around the health needs of the patient. "The IPE sessions offer a realistic view of the work experience and allow students to practice using the communication and

IN 2017-2018, IPE WAS EXPERIENCED AS FOLLOWS:



collaboration skills they need to optimize team-based care," says Erica Y. Chou, MD '09, pediatric hospitalist, director of medical school interprofessional education, and curriculum pillar faculty member for MCW's Robert D. and Patricia E. Kern Institute for the Transformation of Medical Education (the Kern Institute).

Third-year medical student Monique Graf participated in six IPE sessions during her first two years, helping organize several. "Each of the professionals approaches the patient and case from a different perspective," Graf says. "We are trained differently, but we all have the same goal of doing what's best for the patient – and that requires we come together when developing a care plan."

David Holzer, also a third-year medical student, says the IPE sessions helped him learn his course materials more effectively. "During our hematology unit, the lab tech students who worked with us did an excellent job teaching me how to analyze a blood smear. We learned from their unique strengths and wisdom, just as we shared ours with them."

MCW-Green Bay and MCW-Central Wisconsin have comparable IPE sessions for their students, but also offer unique sessions that take advantage of their respective regional partnerships. For example, James R. Warpinski, MD, course director of the continuous professional development course in the second year at MCW-Green Bay, coordinates a session that brings together medical students and social work students to diagnose and treat geriatric patients. As part of the session, teams observe and discuss works of art – an exercise that improves their ability to function as a team and teaches them to respect each other's opinions.

The Kern Institute

The Kern Institute, launched in 2017, employs a variety of methods to enhance medical education. In April 2019, leaders conducted a Design Thinking Workshop that was attended by 180 first- through third-year medical students, and first- and second-year School of Pharmacy students. The course introduced students to the five steps of design thinking, which focus on empathy and the needs of the patient. Instructors walked the students through the process of what a "critically ill patient" experiences, and then they participated in a team-based interdisciplinary exercise in which they used this new creative problem-solving method to design a process improvement.

"Participants learned how to ask effective questions, be excellent listeners and draw informed conclusions," notes M. Christopher Decker, MD, GME '98, MCW professor of emergency medicine and director of the culture and systems pillar and the entrepreneurial mindset/design thinking program with the Kern Institute. "The exercise allowed the students to creatively collaborate to find solutions that will benefit the patient."

Another effort of the Kern Institute is its annual Transformational Ideas Initiative. This year, more than 50 ideas were submitted by faculty, staff and students, and 10 projects were selected to receive funding as well as yearlong technical and coaching support.

MCW School of Pharmacy

The School of Pharmacy's curriculum was designed to improve how pharmacists contribute to healthcare through interprofessional, team-based practice experiences. Students in the School of Pharmacy's inaugural class, which matriculated in the summer of 2017, are now entering their Advanced Pharmacy Practice Experience rotations.

Students in the doctor of pharmacy (PharmD) program undertake approximately 200 hours of IPE within their lecture-based, clinical and elective courses.

"The MCW School of Pharmacy has integrated IPE into its curriculum from orientation to graduation in order to prepare the next generation of pharmacists to advance healthcare team collaboration and quality of patient care," says George



E. MacKinnon III, PhD, MS, RPh, founding dean of the MCW School of Pharmacy.

Students attend an average of 15 different IPE sessions in classes such as Human Anatomy and Physiology, Principles of Drug Action and Pharmacogenomics, Renal and Cardiovascular, and Patient Care Lab. The School of Pharmacy collaborates with MCW's doctor of medicine and anesthesiologist assistant programs and has IPE affiliation agreements with five other local academic institutions: Columbia College of Nursing; Marquette University; Milwaukee Area Technical College; Milwaukee School of Engineering School of Nursing; and the University of Wisconsin-Milwaukee. Additional partnerships that could enhance the IPE program are continually being identified.

During IPE sessions, pharmacy students learn about, with and from students from different healthcare professions, including physicians, anesthesiology assistants, nurses, medical interpreters, occupational

therapists and physician assistants. The sessions offer a wide range of experiences, from hands-on activities, role-play, lectures, group and case-based discussions to simulations using high-fidelity mannequins and standardized patients.

One notable IPE experience for second-year pharmacy student McKenzie Yerks involved the MCW anesthesiologist assistant (AA) students. "We used mannequin patients that presented with a kind of toxicity syndrome," he says. Along with his fellow pharmacy students, Yerks worked collaboratively with the AA students to decide how to treat the illness. "It was really neat to see what they were learning in their program and how it applied to what we were learning. The IPE sessions make you more well-rounded."

Scholarly Pathway courses are multi-year courses with interprofessional components that are undertaken by both medical and pharmacy students and led collaboratively by pharmacy and physician clinicians.

Steven Pollack, MCW MSA Class of 2019, and Manpreet Rangi, MCW School of Pharmacy Class of 2020, learn together in the MCW STAR Center, demonstrating IPE at work.

These students have four interprofessional Pathways available to them.

Third-year pharmacy student Becka Anton recently finished her coursework in her Bioethics Scholarly Pathway. In class, a student usually presents on a topic, after which group discussions among the medical and pharmacy students ensue. The Pathway course also covers topics that aren't covered in Anton's pharmacy classes. "It has exposed me to a lot of difficult situations and opened my mind to think about them in many different perspectives," remarks Anton.

Nastassja deBourbon is an MCW medical student in the Health Systems Management and Policy Pathway alongside pharmacy students. "I'm thankful that MCW has these interprofessional sessions. We work together and learn together to form a genuine connection," she notes.

In addition to Pathway electives, pharmacy students can take part in hands-on IPE exposures at Milwaukee-area sites where they experience interprofessional healthcare teams in action, including the Bread of Healing Clinic and the Saturday Clinic for the Uninsured.

MCW is one of the few schools in the country that requires all School of Pharmacy students to complete one 10-week IPE introductory clinical rotation in their second year that is precepted by a non-pharmacist. Student Claire Solofra rotated with the hospice and palliative medicine team at Froedtert Hospital and experienced an interdisciplinary team comprising diverse professions such as physicians, nurse practitioners, chaplains and child services. She had the unique opportunity to shadow a chaplain as he interacted with patients. "Sometimes while obtaining medical histories, people mention their religions. Now I am better prepared to respond in that situation."

During her rotation, Solofra was consulted by other members of the interprofessional team for questions regarding medications – as there wasn't a pharmacist located on-site. "Compared to other rotations, this one felt like the most realistic in-practice setting," she adds.

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Members of the interprofessional team in the cellular therapies program meet weekly to discuss current, upcoming and recently discharged patients. Shown here at a recent meeting are (l-r) Dr. Mehdi Hamadani; Dr. Parameswaran Hari; Deborah Stawicki, RN, OCN; Brenda Milota, RN; Bonnie Matthews, RN; and Kimberly Morris, RN, MNHP.

Interprofessionalism in Clinical Care

Cellular Therapies for Patients with Blood Cancers and Hereditary Blood Disorders

The Froedtert & the Medical College of Wisconsin health network (F&MCW) offers experimental and FDA-approved cellular treatments for cancerous and noncancerous conditions.

“We use cells to treat human disease,” says Parameswaran Hari, MD, FEL ’02, MS ’06, MCW professor of medicine and chief of the division of hematology and oncology. “The main modality is blood and bone marrow transplant – which means that we use bone marrow stem cells, blood stem cells, cord blood cells, immune cells and genetically modified cells to treat patients. Whenever you use cells to treat human disease, the cellular therapy program is involved.” Healthcare professionals at F&MCW treat about 300 cellular therapy patients per year – or about six per week.

Dozens of individuals are involved in interprofessional patient care in the cellular therapies program at F&MCW. “While any specialty can be involved, there are several core groups. The ‘transplanters’ themselves are oncologists, hematologists or hematologist/oncologists,” according to Dr. Hari. “The most important interprofessional groups are our nurses and our advanced practice providers (physician assistants and nurse practitioners). The nurses are highly

trained, highly professional cell therapy nurses who provide day-to-day care of the patients and who know exactly what to look out for in terms of complications. The cell therapy specialists act as the quarterbacks – but we wouldn’t be able to survive without the team. Specialized nurses who work as blood and marrow transplant (BMT) coordinators follow each patient along, from the time he/she makes the first visit through treatment and all the way to discharge.”

In addition to the core interprofessional teams, there are numerous other specialists, including the cell processing laboratory (comprising basic scientists and cell therapy technicians); cell collection specialists (the apheresis teams); pharmacists who have advanced training in cellular therapies; immunologists; pathologists; and intensivists. “Our hospital has one of the best hematopathology teams I’ve ever worked with, and our ICU team is especially geared toward taking care of critically ill patients,” Dr. Hari shares.

A third group within the interprofessional team comprises endocrinologists, infectious disease specialists, physical therapists and rehabilitation services, social workers, discharge specialists, schedulers, medical assistants, dieticians and nutritionists. Other medical specialists are added as needed. “The best thing about F&MCW is that our team members are all very cheerful and collegial. They love what they’re doing and are very focused on the patients. This is a unique team with many moving parts, yet

it still works well. The most effective team is one that is glued together, having worked together for many years,” Dr. Hari adds.

According to Dr. Hari, the benefits to the patients from such a critical interprofessional team is that there is more brain power invested in their care than in a place where no such team exists. “Everyone becomes highly skilled and specialized in their respective areas, and they know how to work well with each other. It’s all about the depth and breadth of care – and all of medicine is increasingly becoming team-based like this,” he says.

The care providers also benefit from working in an interprofessional environment – as it reduces medical error and enhances support by adding layers of safety, decreases anxiety levels and improves team spirit and outcomes.

Students benefit as well. “This is where and how they should learn,” notes Dr. Hari. “They get to see the breadth of care that can be delivered at a high level. They can learn teamwork in medicine, which is very difficult to achieve right away without actually training for it. Students can learn not just medicine, but how care should be harmoniously coordinated.”

The program is under the overall leadership of the program director, currently Mehdi Hamadani, MD, who is responsible for direction, quality and clinical vision.

The doctor in charge of each hospitalized patient meets with her/his team daily to discuss that patient. Once a week, all of the extended teams meet to discuss

current patients, upcoming patients and recently discharged patients. Additionally, a quality manager tracks outcomes, infections and every other measure of quality, and maintains/reviews the quality dashboard. F&MCW's blood and marrow transplantation program has a better-than-expected survival rate as reported by the Stem Cell Transplant Outcomes Database, and is one of the few programs in the country to achieve this for the past five years, according to Dr. Hari. "Fewer than 10 percent of the BMT programs in the US beat the expected survival odds for their patients – and we are one of those programs year after year."

Interprofessionalism is a critical component of the best practices in patient care. "In the end, it's all about communication and the degree to which each team member is willing to respect each person's expertise," says Dr. Hari. "Everyone respects everyone else's roles, regardless of the job title. You respect them for their skill, commitment and role on the team – and there is a considerable amount of consensus-building."

Hip Fracture Program

The incidence of hip fractures in the US among adults ages 65 and older is staggering. More than 300,000 individuals are hospitalized each year for hip fractures – 95 percent of which result from falling. And approximately 30 percent of seniors fall each year, according to United Health Foundation's America's Health Rankings.

The risk of hip fracture increases significantly with age due to decreased bone density and muscle mass. Women are especially at risk, experiencing three-quarters of all hip fractures due to bone density loss following menopause.

Within F&MCW, an average of 30-40 patients per month ages 65+ are treated in the Emergency Department (ED) for hip fractures. But thanks to an innovative new hip fracture program, outcomes for these patients are increasingly more positive.

According to Joseph M. Schwab, MD '06, GME '11, MCW assistant professor of orthopaedic surgery and director of the F&MCW hip fracture program, "About four to five years ago, we started looking at creating a coordinated pathway for patients who arrived at the ED with



Nurse practitioner Erin Zepezauer, NP, a member of MCW's department of orthopaedic surgery, confers with patient Grace Bahrs at the F&MCW Bone Health Clinic about the challenges of osteoporosis.

hip fractures that would take them from presentation at the ED to discharge (and sometimes post-discharge) by providing them with multidisciplinary care provided by interprofessional teams and supported by evidence-based medicine."

"The goal was to reduce all of the bad stuff that can happen to people who have hip fractures," he continues. "Most of our patients are elderly, and they can end up with problems like delirium, lengthy hospital stays and variability of care – so we

wanted to ensure that we were addressing those patients as quickly as possible without duplicating efforts. By creating an interprofessional team with a pathway, we all know what the rules are and how we manage each step."

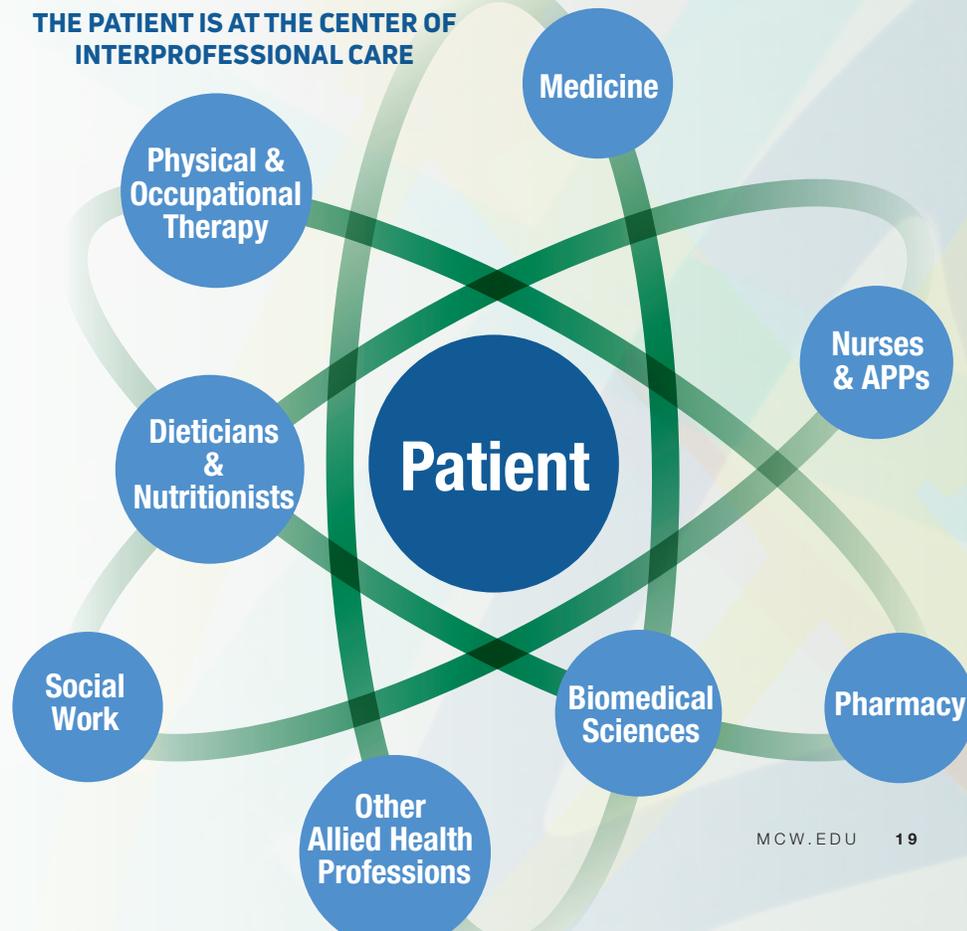
Once the hip fracture has been confirmed, the ED staff activates the hip fracture protocol. A single page goes out to every appropriate team member. The most critical team members include the orthopaedist, who looks at the films and determines the surgical plan; the perioperative medicine specialist, who performs the intake on the patient; the anesthesiologist, who evaluates available time and space in the operating room; and a regional pain specialist, who performs a nerve block to keep the patient comfortable until surgery while minimizing opioids. In addition, nutritionists help provide guidelines for patients' nourishment and hydration before surgery (which is important in treating the elderly).

Post-surgery, interprofessional team members include the floor nursing staff, physical therapists, pharmacists and social workers who determine patients' post-acute care.

These patients also interact with a fragility fracture liaison, according to Dr. Schwab. Because almost all hip fractures are fragility fractures – which is a harbinger of osteopo-

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THE PATIENT IS AT THE CENTER OF INTERPROFESSIONAL CARE



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rosis – advanced practice registered nurses who work on the surgical floor provide education on osteoporosis and arrange for patients to be seen in the Bone Health Clinic as part of their follow-up care. About 70 percent of F&MCW's hip fracture patients follow up at the Bone Health Clinic.

F&MCW's hip fracture program, which launched in early 2017, enables patients to be treated more quickly, in a more coordinated fashion and with an interprofessional team. Prior to launch, the average wait time for a patient to have surgery was about 38 hours; with this new protocol, patients are going into surgery in less than 24 hours. "This is significant because patients over 65 who come into the ED with a hip fracture have a shockingly high mortality rate in the first year. That rate is much higher the longer that surgery is delayed," Dr. Schwab shares.

Dr. Schwab notes that the care providers benefit because "the better you can do for a patient, the better everyone feels. You also gain trust in your fellow teams. When you create an interprofessional team, and you have everybody relinquishing control to the bigger group and following the same protocol, you actually gain trust in one another."

He adds that the unintended consequence of this is educational. "We have such a close interdisciplinary relationship with our team members that now our residents rotate on some of their services, where they didn't previously. For example, our ortho interns now rotate on the perioperative medicine service. And observing the interprofessional team model is what medical students see when they rotate with us."

An interprofessional performance improvement team meets monthly to assess data from the hip fracture program.

Not only patients are taking notice of the new hip fracture program. Recently, Dr. Schwab received a phone call from the chair of orthopaedic surgery at Yale Medical School who wants to establish a consortium of six to eight such programs around the country – including MCW's – that would structure a national program based on best practices.

SpineCare

The four outpatient SpineCare Clinics within the F&MCW health network use an interprofessional and trans-disciplinary approach to diagnosing and treating neck and back pain that emphasizes



Mary Beth Ponzo, PT, DPT, MS, a physical therapist and rehabilitation manager at the SpineCare Clinic, facilitates her patient's quick and safe return to an active lifestyle.

es early intervention and comprehensive, evidence-based spine care.

SpineCare is a program of the department of neurosurgery and is led by Shekar N. Kurpad, MD, FEL '01, PhD, Sanford J. Larson, MD, PhD, Chair and Professor of Neurosurgery; and Marjorie Wang, MD, FEL '06, MPH, professor and vice chair of clinical operations. The team includes neurological and orthopaedic fellowship-trained spine surgeons, physical medicine and rehabilitation specialists, neurologists, chiropractors, pain psychologists, spine-trained nurse practitioners and physician assistants. Angela Jolivet, APNP, MSN, leads SpineCare's team of advanced practice providers.

The team also includes physical and occupational therapists who focus on spine rehabilitation – such as ergonomics, spine health and exercises that develop core muscle groups to support the spine. "The goal is for patients to make a lifestyle change that incorporates exercise into their daily routine and provides them with the education and tools to enable them to take care of themselves so they don't have to constantly come back for tweaking and more treatments," says Mary Jo Widmann, RN, BSN, program manager for MCW's department of neurosurgery and SpineCare.

"Our doctors like to see patients when they are in the acute to sub-acute stage – somewhere in the 12-week range of when

the injury occurred. We like to get people in, get to the source of their problem, treat that problem, and then get some great outcomes for them by giving them the right tools," she continues.

SpineCare patients – of whom about 40 percent are self-referred – are almost always seen at one of four Milwaukee-area clinics within ten days of calling for an appointment. The clinics average about 700-900 new patients per month – which isn't surprising given that back pain is the third most common reason for visits to the doctor's office, according to the American Chiropractic Association. As many as 90 percent of individuals report at least one episode of back pain during their working lives, and back pain is a major cause of disability. In 2018 alone, about 7,330 new patients were treated at SpineCare.

The benefit to the patient of being cared for by an interprofessional team is a seamless experience, Widmann notes. "We can easily see patients within a short window of time because the advance practice providers can do a full workup and order further tests if needed. Sometimes we get patients in to see the chiropractor first. The chiropractor can then make recommendations about where the patient should go next, so the patient doesn't have to delay treatment. A good percentage of patients who see the advanced practice provider don't have a surgical pathology. We tell them, 'Let's get you going in the right direction without having to wait to see a surgeon.' This expedites diagnosis and treatment," she continues.

Widmann adds, “We offer a comprehensive care package the minute patients walk in the door. It’s one-stop shopping. It’s the convenience factor. All our records are in one place. All the providers know one another and can do a curbside consult. We have a terrific robust team that individualizes care to benefit the patient.”

The care providers benefit too. “It’s easy for them,” Widmann explains. “Everything is right there. Everyone knows what their role is. The environment is a pleasant one. There is tremendous respect for one another as colleagues. It’s truly a well-oiled machine, firing on all cylinders.”

The interprofessional environment is meaningful to students as well, according to Widmann. “For the last two semesters, we’ve had chiropractor interns. They are amazed and have never seen anything like what we do at SpineCare. The neurology and PM&R residents who rotate through SpineCare really enjoy it; they love the interaction and the collaborative feel – and they see how the patients are benefitting.”

Widmann continues, “In addition, providers have come in for interviews from other institutions and are impressed about how the interprofessionalism makes a huge difference in patient care. There are few truly integrated programs like ours around the country. Our interprofessional team works seamlessly to get the patient on the right track as quickly as possible.”

Little wonder that 95 percent of SpineCare patients recommend the program to others.

Interprofessionalism in Science Research Centers are a Nexus

At MCW, research centers provide an environment in which experts across specialties and departments connect to advance team science. Some research centers focus on scientific fields such as population health while others are more narrowly focused on biological systems or specific diseases. The MCW Cancer Center (MCWCC) is an example of a large research center, comprising more than 300 physician and scientist members from more than 40 departments, divisions or institutes at three institutions: MCW; Versiti’s Blood Research Institute; and the University of Wisconsin-Milwaukee.

“The MCW Cancer Center is very active in its efforts to bring clinicians and scientists

together across many disciplines,” says Carol Williams, PhD, Joan K. Van Deuren Professor in Breast Cancer Research, professor of pharmacology and toxicology at MCW and co-director of the MCWCC’s Cancer Biology program.

In addition to three overarching research programs – Cancer Biology, Cancer Prevention and Outcomes, and Discovery and Developmental Therapeutics – the MCWCC facilitates interdisciplinary research working groups and disease-oriented research teams that meet regularly to collaborate. Dr. Williams credits these groups and interactions for sparking many new collaborative projects – including two of her own. She works with Jennifer Knight, MD ’04, MCW assistant professor of psychiatry and behavioral medicine, to study how stress may affect certain hormones that, in turn, may promote cancer progression and metastasis.

In addition, Dr. Williams met Mark McNally, PhD, MCW associate professor of microbiology and immunology, at an MCW-CC symposium, and together they are now testing prospective cancer therapies. “Mark and I now have a patent on a potential drug with Ionis Pharmaceuticals, and we are working on a manuscript together,” notes Dr. Williams. She doesn’t believe these productive partnerships would have formed without the MCWCC serving as a nexus and helping her to meet, learn from and work with colleagues across MCW.

Clinical and Translational Science

In addition to MCW’s many research centers, the Clinical and Translational Science Institute of Southeast Wisconsin (CTSI) is a major interprofessional hub at MCW – bringing together basic scientists and healthcare providers across MCW and partner academic institutions in the region.

Alison Kriegel, PhD ’08, MCW associate professor of physiology, knows that partnering with physicians to expand on her basic science background helped sharpen the direction of her experiments.

“There are a million questions that I’d love to explore,” she states. “But there simply isn’t enough time. Working with physicians who understand limitations in current treatments and the challenges faced by their patients helps me address clinically impactful gaps in knowledge.”

Dr. Kriegel accelerated her learning curve in clinical and translational science by par-

IN 2017-2018, OTHER HEALTH PROFESSIONS STUDENTS LEARNING WITH MEDICAL STUDENTS:



ticipating in the Clinical Research Scholars Program, a two-year guided apprenticeship sponsored at MCW by the CTSI. Dr. Kriegel says that this training, along with networking opportunities hosted by MCW’s CTSI, help bring together the worlds of clinical practice and basic science.

“No one can be an expert in everything, so it is really important for physicians and basic scientists to work together,” she says.

Graduate Degree Programs

MCW’s Graduate School partners with the CTSI to offer Master of Science (MS) and Doctor of Philosophy degrees along with a certificate program in clinical and translational science.

“Many master of science degree students are clinicians at early stages of their academic careers. They are interested in forming new collaborations and participating in clinical and translational studies to advance knowledge alongside their treatment of patients,” says Dr. Kriegel.

The MS degree program is designed for healthcare professionals, clinical investigators, research scientists and individuals working in biomedical industries. The certificate program often attracts doctoral students in other Graduate School programs, and the doctoral program caters to students pursuing academic research careers in basic, clinical and translational science. ■



Research technologist Mary Schulz (left) and Dr. Julie Freed discuss their research investigating the human microcirculation – the small blood vessels known as arterioles that feed every organ and tissue in the body.

Julie Freed, MD '11, PhD '08, GME '16, FEL '17, a scientist and cardiac anesthesiologist who primarily takes care of heart surgery patients, sees a number of demographic and health trends colliding like clanging alarm bells, heralding bad omens for health and healthcare.

“As the average age of the population increases alongside obesity rates, so do the number of cancer cases,” says Dr. Freed, assistant professor of anesthesiology at MCW.

An unintended consequence of common cancer treatments can be an increased risk of heart disease. Even as treatments for cancer improve, the insidious patterns of increasing age, obesity and cancer incidence may lead to more heart disease – which already stands as the leading cause of death in the US, according to the Centers for Disease Control and Prevention.

“We’ve made huge progress in the diagnosis and treatment of cancer. This is tremendous, but my concern is that we may be trading one disease for another by accelerating heart disease in

patients,” comments Dr. Freed.

Dr. Freed studies this phenomenon by investigating the human microcirculation, the small blood vessels known as arterioles that feed every organ and tissue in the body. “These tiny vessels are the first to show dysfunction in the early stages of heart disease,” she notes.

The Freed lab focuses on a specific group of lipids known as sphingolipids. One particular sphingolipid, called ceramide, is known to be increased in patients with heart disease. When the scientists exposed a vessel from a healthy patient to ceramide, it started to behave like a diseased vessel. The message was clear. Too much ceramide is bad for your blood vessels. It is now known that chemotherapy and systemic radiation also increase blood ceramide levels.

“I became interested in ceramide in 2012 and learned quickly that it was absolutely terrible for blood vessels. A few years later, I nearly fell out of my chair reading about new cancer drugs that aim to increase ceramide to attack the cancer. By studying this pathway, we can understand how these lipids lead to

vascular dysfunction and disease and hopefully prevent vascular damage due to cancer treatment,” notes Dr. Freed.

She has found that the accumulation of ceramide alters which molecule is used to signal for changes in blood vessel diameter. Vessels naturally respond to oxygen needs and variations in blood flow by dilating and contracting. The process by which a vessel dilates due to increased flow or demand is called flow-induced dilation.

“Our bodies are smart and adaptable – and so are our blood vessels. They have to vasodilate even in a diseased state to meet our needs. Dysfunctional arterioles can maintain flow by switching to hydrogen peroxide as a signaling molecule instead of nitric oxide,” says Dr. Freed.

This switch is only meant to be a short-term change to maintain proper blood flow and oxygenation during a stressful event. In the presence of ceramide – and in individuals suffering from heart disease – the type of signaling molecule does not revert back to normal as it should. “When the change to signaling by hydrogen peroxide

Protecting the Heart

Physician-scientist Seeks to Prevent Cardiovascular Disease

isn't temporary, there is a price to pay. Hydrogen peroxide causes blood vessel inflammation, which promotes the formation of plaque inside the larger blood vessels," explains Dr. Freed.

Dr. Freed and her lab continue to advance this research and are one of a few teams in the world that study the human microcirculation. They can do this by collecting human tissue removed during surgery that would otherwise be thrown away.

"The blood vessels have to be dissected out of the tissue by hand," Dr. Freed notes. The painstakingly precise technique takes four to six months for team members to learn, and even longer to perfect. The tissue itself is a very precious resource that can quickly become useless if not handled properly.

"It is important for the tissue to be fresh, so we try to use it within a day. Given the several hours it takes to dissect out the vessels before you can even start an experiment, it is crucial for us to drop everything else and focus on the tissue when a sample becomes available," says Dr. Freed.

Dr. Freed learned how to study the human microcirculation from David D.

Gutterman, MD, Northwestern Mutual Professor of Cardiology at MCW and senior associate director of MCW's Cardiovascular Center. Dr. Freed conducted research in the Gutterman lab throughout her anesthesiology residency.

"Dr. Gutterman is an exceptional teacher of science, grant writing and all of the skills necessary for running a successful lab," shares Dr. Freed. After completing her residency and a fellowship in adult cardiothoracic anesthesiology at MCW, Dr. Freed joined the faculty in 2017 and began building a lab and recruiting team members and students.

"I became a mom about the same time I became a mentor – let's just say I have a higher level of appreciation for both of these jobs," declares Dr. Freed. "Now that the roles are reversed, and I have trainees as opposed to being one, I realize how much enjoyment I get from seeing those I work with succeed." She credits her medical and graduate education at MCW for enabling her to step up and onto the faculty. "My training and experience as a student were outstanding. Being a faculty member has likewise been wonderful."

She is now focused on leading her lab to take their findings regarding the unintended consequences of cancer treatment on blood vessels to the next stage. "Up to now, most of our major findings have been observational. We know ceramide has implications for blood vessels, but we don't know exactly how it all happens. Now we have to get mechanistic in our focus," says Dr. Freed.

By better understanding how sphingolipids such as ceramide influence the way small blood vessels signal to dilate, the Freed lab then can investigate possibilities for intervening with potential treatments. "By understanding this pathway, we'll have more insight into how these lipids affect our small blood vessels and lead to heart disease. At the same time, we'll gain knowledge of how cancer therapy, through elevation of ceramide, causes microvascular dysfunction," notes Dr. Freed.

"Can we successfully intervene after a cancer patient achieves remission but before the heart and blood vessels get into trouble?" asks Dr. Freed. "We don't know yet – but we will find the answer." ■

– GREG CALHOUN

Faculty Leaders Shine a National Spotlight on MCW

Academic medicine cannot thrive in a vacuum. Success of medical schools and teaching hospitals and the specialties their faculty practice depends on the collective efforts and shared experiences of leaders across institutions nationwide. And the main facilitators of these collaborations are national organizations.

While leadership in these associations is a large responsibility, MCW is fully supportive of its leaders and faculty stepping into the national spotlight to influence the future of medicine and science. Several MCW faculty have taken up this call to national leadership roles, including the dean of the school of medicine and institutional leaders in cardiovascular care and hematology.



Dr. Joseph E. Kerschner

Chair of the AAMC Council of Deans
Chair-elect of the AAMC Board of Directors
Past-president of ISOM

If an institution wants its faculty to take on the rigors and responsibilities of a national leadership position in medicine, what better way to inspire than to lead by example? That is just one reason Joseph E. Kerschner, MD '90, FEL '98, feels his new role as chair-elect of the American Association of Medical Colleges (AAMC) Board of Directors is so important. Dr. Kerschner is provost and executive vice president of MCW and dean of the MCW School of Medicine.

"This new role places MCW at the fore-

front of academic medicine, reflects our growing reputation as thought leaders on the national stage and encourages other MCW leaders to step up and accept the mantle of national leadership," Dr. Kerschner explains.

Dr. Kerschner is no stranger to societal leadership roles. He was the president of the American Society of Pediatric Otolaryngology in 2012-2013, is currently serving a two-year term as chair of the AAMC Council of Deans and recently completed a two-year term as president of the International Society for Otitis Media (ISOM). But his upcoming AAMC role is his most prominent yet as the head of the main association that serves the leaders of North America's medical schools and teaching hospitals.

"The chair, chair-elect and immediate past chair of the AAMC board are integral in helping set the strategic direction of the AAMC – which is, without question, one of the nation's most influential organizations for academic medicine and advocacy," he comments. "In this new leadership role at

More MCW National Leaders

Syed M. Ahmed, MD, MPH, DrPH

Community Engagement Steering Committee, National Academy of Medicine and Robert Wood Johnson Foundation

Stephen W. Hargarten, MD '75, MPH

Forum on Global Violence Prevention, National Academies of Sciences, Engineering, and Medicine; Transportation Research Board, Executive Committee of the National Academies of Sciences, Engineering, and Medicine; Community Preventive Services Task Force of the CDC

Judy E. Kim, MD, FEL '96

Member of the Board of Trustees, American Academy of Ophthalmology

Ian B.K. Martin, MD, MBA

President, Society for Academic Emergency Medicine

Vincent Mathews, MD

President-elect, American Board of Radiology

John S. Rhee, MD, MPH '04

President-elect, American Board of Otolaryngology – Head and Neck Surgery

Kenneth B. Simons, MD

Secretary-treasurer, National Resident Matching Program; Governing Council, Federation of State Medical Boards

Marjorie Wang, MD, MPH, FEL '06

Board of Directors, American Board of Neurological Surgery

the AAMC, I will have a wonderful opportunity to help shape strategies that will increase its effectiveness in areas which are critical for the success of our medical schools and academic health systems."

Some initiatives include understanding and addressing salary equity practices, well-being in academic medicine, a student's transition to residency training and

medical student diversity. An important role of the AAMC board also is to actively listen to the association's broad membership and appropriately consider issues that affect the entire community.

"It is important to set the tone for advocating with leaders for a cultural change throughout academic medicine regarding critical issues such as gender harassment and pay equity – an issue about which MCW is a national thought leader," Dr. Kerschner states. "We must learn from one another, engage in meaningful conversations and be allies in the fight against these issues and the culture and climate that continue to enable them."



Dr. Ivor Benjamin

Past-president of the American Heart Association

When Ivor Benjamin, MD, was invited to serve as president of American Heart Association (AHA), in some ways it was the culmination of a nearly 30-year relationship he had developed with the organization.

Dr. Benjamin is a professor of medicine and director of the MCW Cardiovascular Center.

"I got my first grant from the AHA," he recalls. "And when I really started being involved in the organization, I found in the AHA a group of volunteers – both medical and science as well as lay people – who wanted to come together to support a mission of promoting cardiovascular health in the community. So I was deeply honored and privileged to be asked to serve on the national board all these years later."

In his role as AHA president (2018–2019), Dr. Benjamin served as the chief volunteer science and medical officer and the face of the organization, communicating the AHA's strategic priorities, sharing

new scientific advances and advocating for certain policies that impact heart health.

Many priority areas are in line with efforts Dr. Benjamin and other MCW leaders are pushing forward already at MCW, such as the social determinants of health: how your background and surroundings impact your well-being.

"More recently, we're broadening our interests," he explains. "The mission of the AHA is to be a relentless force for a world with longer, healthier lives, but we recognize health in life should also involve well-being. As a cardiologist, I know that I perhaps contribute 20 percent to a person's cardiovascular care, but the rest is dependent on these social determinants. So, as we are trying to be more holistic in our care for patients, we have to widen our stance."

Another national priority that Dr. Benjamin feels passionately about at MCW is increasing diversity in healthcare providers to better reflect the populations they serve.

"I am committed to increasing diversity in the biomedical pipeline of individuals who can impact cardiovascular care, which will come through mentorship and increased opportunities for women and underrepresented minorities. We need nurses, pharmacists, community workers, health workers and volunteers who are part of all communities that are affected by cardiovascular disease and stroke."



Dr. Roy L. Silverstein

President of the American Society of Hematology

While Roy L. Silverstein, MD, knows active engagement – let alone leadership – within a national organization is a serious commitment to faculty already strapped for time, he finds the connections made

through such an effort to be invaluable. Dr. Silverstein is the Linda and John Mellowes Professor in Medicine and chair of MCW's department of medicine.

"I think it's important for all of us in academic medicine to have a connection to our professional society," he says. "It's broader than our own boundaries, and it opens our eyes to what other organizations and institutions are doing in our field."

The American Society of Hematology (ASH), led by Dr. Silverstein, represents the best interests of its 17,000 members throughout the world in their efforts to conquer blood diseases. It's his job as president to lead the volunteer executive committee in its fiduciary oversight of ASH's mission and strategic plan.

One piece involves helping ASH members become better at practicing precision medicine. He acknowledges that big data is a necessary area of growth for MCW, but he hopes the insight he can gain through his and his colleagues' involvement in ASH can push the institution forward.

"The power of data analytics and informatics will drive the future of not only hematology, but all areas of medicine," he says. "But hematology is almost always out front in medical advances in part because our diseases are easy to see; you just need a few drops of blood. Dr. Mary Horowitz [MD '80, GME '84, FEL '89, MS '91, the Robert A. Uihlein, Jr. Chair in Hematologic Research] is a national leader in clinical data registries, so with her leadership and support from MCW, we can improve and bring in more talent in this area."

Dr. Silverstein also is simply inspired by the people his leadership position has allowed him to interact with, which he thinks is reason enough to get involved.

"I have gotten to meet an astounding number of really talented people, including senior leaders from around the world, which is very humbling – as these are people I've always looked up to. But it's also reassuring to meet talented young people – trainees and early-career faculty – and see how well they are doing and how enthusiastic they are about their field." ■

– KARRI STOCK

Springboard into Academic Science

In 1989, 22-year-old Jeffery Molkentin was at a crossroads. Based on his interest in and aptitude for science, he had successfully completed his first semester in medical school at the University of Wisconsin School of Medicine and Public Health. But he was not feeling fulfilled by the curriculum and its focus on established medical knowledge. He wanted to ask and answer new questions about health and disease as a scientist rather than as a physician.

He changed course and enrolled at what is now the MCW Graduate School of Biomedical Sciences in 1990 in an open-ended graduate program that allowed students to explore multiple disciplines before choosing a primary advisor and laboratory.

“My time at MCW was an amazing experience,” Dr. Molkentin recalls. “Classes were set up in an ideal way that helped us learn traditional disciplines alongside what was then the new wave of molecular biology.”

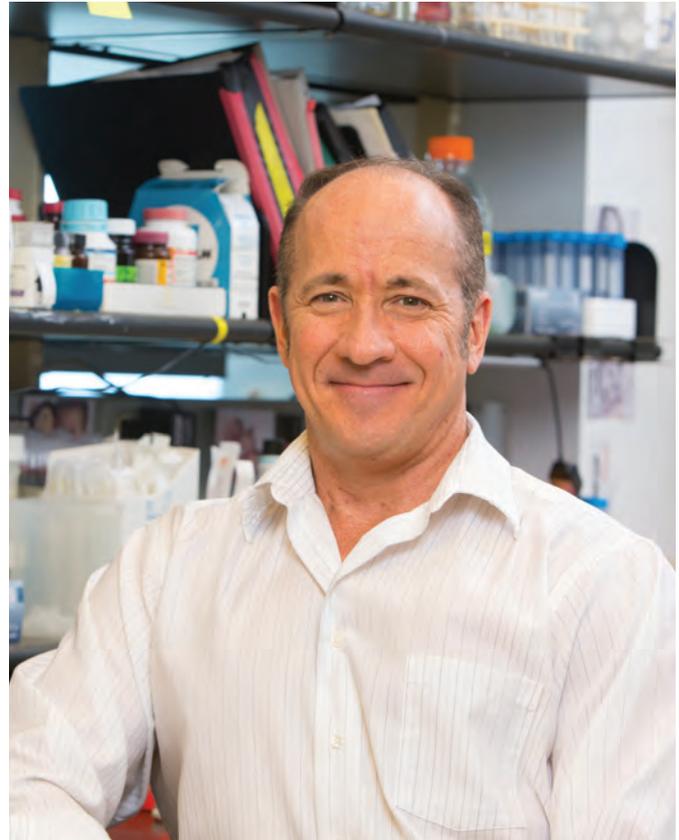
After rotating in three labs across two departments, Dr. Molkentin completed his dissertation in 1994 in the department of physiology, under the guidance of Bruce Markham, PhD.

“I ultimately chose to join the up-and-coming Markham lab due to its focus on molecular biology, as Dr. Markham had been recruited by Dr. Allen Cowley to build a cutting-edge lab based on his track record studying tissue-specific gene expression in the heart. It was a very well-rounded education and an ideal springboard to becoming an academic scientist. Everything was about preparing you to compete scientifically – and MCW really set me up for the successes in my career,” notes Dr. Molkentin.

After earning his PhD, Dr. Molkentin conducted a postdoctoral fellowship with Eric Olson, PhD, at the University of Texas Southwestern Medical Center in Dallas, from 1994-1997. In 1997, Dr. Molkentin joined the faculty of the Cincinnati Children’s Hospital Medical Center (CCHMC) and the University of Cincinnati College of Medicine (UCCM). In 2008, Dr. Molkentin became the fourth Ohio resident ever appointed as an investigator by the Howard Hughes Medical Institute (HHMI), one of the top honors in the US scientific community as well as an ongoing source of funding for his research. Only about 300 scientists throughout the US are HHMI investigators.

Dr. Molkentin currently serves as director of the division of molecular cardiovascular biology, executive director of the Heart Institute and professor of pediatrics at CCHMC and UCCM. His lab has an array of active research projects, yet Dr. Molkentin says each is united by a common thread.

“At the core, each project is about investigating the mo-



“My time at MCW was an amazing experience... it was a very well-rounded education and an ideal springboard to becoming an academic scientist.”

– Dr. Jeffrey Molkentin

lecular mechanisms of muscle disease – with the heart standing out as an incredibly crucial muscle in the body.” An overarching goal is to be able to intervene with new therapies to prevent muscle cell loss and tissue damage in the acute case of a heart attack or the chronic case of heart failure.

From his first days at a lab bench to his current role, Dr. Molkentin continues to love the day-to-day process of discovery. Beyond any specific accolade, he is most proud of the more than 30 trainees he has mentored who have successfully launched scientific careers and built their own laboratories. Dr. Molkentin is grateful for his education and his own mentors for helping him establish such a rewarding scientific career. Although his career journey took him away from his hometown of Milwaukee, he has kept a close eye on his doctoral alma mater.

“I have continued to watch MCW and have been pleased to see its ascent and how the research there continually evolves. It will always be my first home in science.” ■ – GREG CALHOUN

Helping Families Cope with a Child's Chronic Pain

A Milwaukee family's 22-year journey parenting a daughter suffering from chronic pain is leading to hope and a fresh outlook for others experiencing similar challenges.

When Mary Ellen ("Candy") and Bruce Pindyck's daughter, Ashley, began experiencing chronic headaches after reaching puberty – following frequent episodes of migraines beginning at age three – they traveled around the country in search of treatment and support from pediatric pain specialists.

At that time, MCW and its pediatric clinical partner, Children's Hospital of Wisconsin (Children's), lacked these highly specialized physicians. But through the generosity of Jane Bradley Pettit, whose grandson was suffering from chronic pain, the Jane B. Pettit Pain and Headache Center was established in 1998 at Children's to provide individualized care for infants, young children and adolescents through a comprehensive approach to pain management.

The specialists at the Center manage chronic pain for such conditions as headaches, musculoskeletal and abdominal pain, and chronic pain caused by cancer, sickle cell disease and other illnesses. About 1,000 new headache patients and 500 new chronic pain patients are seen per year, in addition to 3,500 follow-up outpatient visits.



Steven J. Weisman, MD, who had established the first pediatric pain program at Yale University School of Medicine, was recruited to launch the Pettit Pain Center. He now serves as professor of anesthesiology and pediatrics at MCW and the Jane B. Pettit Chair in Pain Management at Children's.

"When I walked in the door on my first day, I found a Post-it note that read, 'Please call Candy Pindyck,' and so 17-year-old Ashley became my first patient."

Treating Ashley's pain required skill and expertise, but what really was missing, Candy said, were specific, focused efforts on family members and how they relate to a child with chronic pain. "Bruce and I felt there was a void in terms of programming for parents, caregivers, siblings and spouses that would help them with intrafamily relationships as well as how they could positively impact their child's journey with pain," she shares.

Although Ashley eventually "aged out" of pain management care at Children's, the Pindycks began discussing with Dr. Weisman a philanthropic opportunity to provide more support for parents. "A colleague in Boston had started a program which is now called *The Comfort Ability*. It's a one-day workshop that is run in parallel with kids and parents to develop a set of coping skills and an understanding around chronic pain problems," says Dr.



The specialists at the Jane B. Pettit Pain and Headache Center manage chronic pain for such conditions as headaches, musculoskeletal and abdominal pain, and chronic pain caused by cancer, sickle cell disease and other illnesses.

Weisman. The program provides families with a foundation for understanding the various ways psychological care can improve pain management and provides adolescents and their families the skills necessary for improved emotional and physical functioning.

With the program at its core, the Pindycks made a substantial gift to MCW and Children's to establish the Pindyck Parent Education and Family Support Fund to expand the Pettit Center's patient family services, implement *The Comfort Ability*, sustain the training of faculty and staff, and contribute to the upkeep of a global research data collection registry on chronic pain to help optimize care and advance research. Kimberly Anderson Khan, PsyD, MCW associate professor of anesthesiology and senior psychologist at the Pettit Center, is leading *The Comfort Ability*.

"We want others to have a solid resource that they know they can turn to that will help them handle relationships with the child and other family members," Candy says. "Having *The Comfort Ability* as a foundation is so important. Nothing like this was made available to us during our 22-year journey, and we likely would have done things differently had we known."

Although Ashley's struggles with chronic pain ended when she passed away last year at age 37, according to Candy, "Ashley believed in this kind of programming. She strongly endorsed it and was supportive of it. She was extremely pleased we were doing this because she felt that the role of the family – specifically the parents – in working with chronic pain patients was critical. Helping others facing the same challenging journey would have meant so much to her." ■

– SARA L. WILKINS

HAPPENINGS



Billie Kubly and the late Dr. Michael Kubly were honored as the 2019 *Neuro Hero Award* recipients

Stories of Resiliency Resonate at Imagine More Dinner

The 7th annual Imagine More Dinner was held on June 13 at The Pfister Hotel in Milwaukee. Terri deRoon-Cassini, PhD, MCW associate professor of surgery (trauma and critical care), a health psychologist and national leader in trauma and post-traumatic stress disorder (PTSD) research and treatment, shared powerful stories of resiliency. She also provided insight into her studies on trauma and PTSD. The event honored Billie Kubly and the late Michael Kubly, MD '63, as the 2019 *Neuro Hero Award* recipients for their generous support and commitment to advancing mental health care in Wisconsin. ■

Heart of the Matter Food and Wine Event

The second annual Heart of the Matter Food and Wine event was held on July 25 at Discovery World in Milwaukee. All proceeds benefited cardiovascular research, clinical care, education and community outreach programs at Froedtert & MCW. It featured award-winning wines paired with a heart-healthy menu designed by Bartolotta Chef Felix Rosado. ■



PLEASE JOIN US...



Help Science Crush Cancer

Join us on the MCW-Milwaukee campus on September 28, 2019, for the Cancer Crush Run/Walk. Proceeds fuel lifesaving cancer research at MCW along with the most effective patient care and support throughout the Froedtert & the Medical College of Wisconsin health network. With your participation and generosity, science will crush cancer. See mcwcancercrush.com. ■

In 2018, the
Cancer Crush
Run/Walk
raised more than
\$300,000

On Course for a Cure: LPGA Pro-Am Golf Tournament

The 32nd annual On Course for a Cure LPGA Pro-Am Golf Tournament returns on September 16 at the Milwaukee Country Club. This unique event features LPGA professionals who team up with community leaders to raise funds for Crohn's and colitis research at Froedtert & the Medical College of Wisconsin. Register today at mcw.edu/lpga. ■

Women in Science Lecture Series

The 13th Annual Women in Science Series continues with Abir El-Alfy, PhD, MS, MCW associate professor of biopharmaceutical science, presenting "Addiction: A Brain Disease Where One is Too Many and a Thousand is Not Enough" on September 26. Register at mcw.edu/womeninscience to join us for this lecture.

The Women in Science Awards luncheon will be held on November 4. Two MCW female researchers will be honored for their outstanding research with \$10,000 and \$5,000 awards. In addition, a postdoctoral fellow will receive a \$1,000 scholarship from the Edward J. Lennon, MD Award fund and a medical, graduate and pharmacy student each will receive \$500 awards. ■

UPCOMING EVENTS

AUGUST

WBCS TEE UP FOR A CURE

DATE: AUGUST 12, 2019

LOCATION: OZAUKEE COUNTRY CLUB

SEPTEMBER

ON COURSE FOR A CURE LPGA PRO-AM GOLF TOURNAMENT

DATE: SEPTEMBER 16, 2019

LOCATION: MILWAUKEE COUNTRY CLUB

WOMEN IN SCIENCE:

DR. ABIR EL-ALFY

DATE: SEPTEMBER 26, 2019

LOCATION: WISCONSIN CLUB, MILWAUKEE

CANCER CRUSH

DATE: SEPTEMBER 28, 2019

LOCATION: MCW-MILWAUKEE CAMPUS

OCTOBER

WBCS PINKTACULAR LUNCHEON AND SURVIVORS FASHION SHOW

DATE: OCTOBER 3, 2019

LOCATION: ITALIAN COMMUNITY CENTER,
MILWAUKEE

For more information on these events, contact
Natalie Strade, senior development officer, at
(414) 955-5824 or nstrade@mcw.edu.

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what's coming up. Send your materials to
MCWmagazine@mcw.edu.

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ALUMNI NOTES

1990s



Judy Kim*, MD, FEL '96, was elected by the members of the American Academy of Ophthalmology (AAO) to serve as an at-large member of the AAO Board of Trustees. Her term began in January 2019. With 32,000 members across the globe, the AAO is the world's largest association of eye physicians and surgeons.

2000s



Christina L. Runge*, PhD, PDF '03, was elected an associate member of the American Otological Society (AOS) and inducted on May 4 during the 151st AOS annual meeting. Of the more than 300 AOS members, Dr. Runge is one of only four clinically certified audiologists elected into the Society. Candidates are nominated by two active AOS members and must demonstrate outstanding contributions to the field of otology.

Patrick D. Carroll, MD '04, was named medical director for the Intermountain Dixie Regional Medical Center in St. George, Utah. He led several key initiatives within the Center's neonatology program and previously served as medical director for pediatrics and newborns. Dr. Carroll has conducted and implemented research that is being widely adopted to reduce anemia in premature infants. His accomplishments also include publication of several quality improvement initiatives available to pediatricians in collaboration

with the American Board of Pediatrics and American Academy of Pediatrics. Dr. Carroll has published 15 peer-reviewed manuscripts and book chapters and has shared his expertise and research findings at numerous conferences.



Marjorie Wang*, MD, MPH, FEL '06,

was among 61 senior female faculty members from across the US and Canada to be selected to participate in the 2019–2020 *Hedwig van Ameringen Executive Leadership in Academic Medicine® (ELAM) Program for Women*. This group is ELAM's 25th anniversary class of fellows. ELAM is a core program of the Institute for Women's Health and Leadership at Drexel University College of Medicine in Philadelphia. The one-year program prepares senior women faculty for leadership at academic health centers.



Julie K. Freed*, MD '11, PhD '08, GME '16, FEL '17, and Matthew J. Durand*, PhD '10,

garnered an R21 grant from the National Institutes of Health's National Institute on Aging. Their project will examine the clinical effectiveness of remote ischemic preconditioning as a prehabilitation intervention prior to surgery in patients with colon cancer. Remote ischemic preconditioning is a non-invasive and easy-to-perform procedure known to improve both cardiovascular function and athletic performance in healthy people. The procedure involves brief, repeated bouts of blood pressure cuff inflation on the upper arm and may

reduce frailty in elderly patients with colon cancer. Even small reductions in frailty could greatly improve post-operative prognosis. *See page 22 for a story on Dr. Freed's research into the human microcirculation.*

2010s



Malika Siker*, MD, GME '11,

was appointed associate dean of student diversity and inclusion within the MCW Office of Academic Affairs. The associate dean of student diversity and inclusion oversees efforts in student pipeline development and supports diversity and inclusion issues with students on campus. Dr. Siker also assists the admissions team in identifying and recruiting talented students to MCW.



Emily A. Callan, MD '17,

a third-year resident in the MCW department of pediatrics, has been awarded a *House Officer Research Award* from the Society of Pediatric Research. Dr. Callan studies the abnormal metabolic regulation that occurs in persistent pulmonary hypertension of the newborn. The *House Officer Research Award* is designed to honor residents who are engaged in pediatric research and are looking to pursue a career in academic medicine. The Society of Pediatric Research includes more than 4,000 members focused on advancing multidisciplinary researchers specializing in child health.

* MCW faculty member



MCW Magazine Garner's Prestigious Awards

The 125th Anniversary commemorative issue of *MCW Magazine* recently won two prestigious awards.

The first was the Gold Award from the Healthcare Marketing Report's 36th Annual Healthcare Advertising Awards, in the "Publication – In House" category.

This year more than 4,000 entries were received across numerous categories, making the awards the largest healthcare advertising awards competition and one of the 10 largest of all advertising awards. A national panel of judges were engaged in reviewing all entries based on creativity, quality, message effectiveness, consumer appeal, graphic design and overall impact.

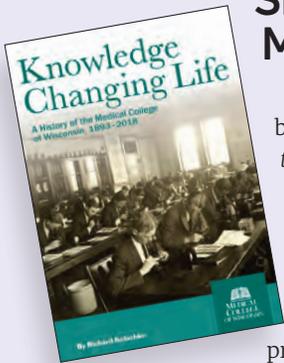
The second was "Best of Division" (Architectural/Art/Travel/Other Magazines) awarded by the Great Lakes Graphics Association's Graphics Excellence Awards competition. The award was given to *MCW Magazine's* printer, Burton & Mayer, in Menomonee Falls, Wis. The Great Lakes Graphics Association's Graphics Excellence Awards competition recognizes companies throughout Illinois, Indiana and Wisconsin for top-notch artistry in the design, creation and production of high-quality printed materials. This very competitive contest is the largest regional affiliate print competition. ■



Special MCW License Plates Available in Wisconsin

Special MCW license plates are available in Wisconsin and can be ordered through the Wisconsin Department of Transportation. The plates feature a white MCW logo and the tagline, *knowledge changing life*, on a green background with white lettering.

Wisconsin drivers choosing to purchase the special plate will have the option to personalize their plate with a six-letter/number combination. Combinations are available on a first-come, first-served basis and must meet state criteria. Drivers also can elect to be issued a license plate number generated by the Department of Motor Vehicles. The MCW license plates are available for purchase at Wisconsin.gov or at local Wisconsin DMV customer service centers. ■



Sharing MCW's History

Richard (Dick) Katschke's upcoming book, *Knowledge Changing Life: A History of the Medical College of Wisconsin, 1893-2018*, provides detailed information on the people and events that shaped MCW's evolution. The book explores MCW's 125 years of accomplishments, challenges and controversies. It serves as a comprehensive history not only of MCW, but of

Marquette University, Milwaukee County and Milwaukee's hospitals and healthcare facilities.

If you would like to receive information on pre-ordering a copy of the book, please contact MCWmagazine@mcw.edu. ■

ALUMNI WEEKEND

mcw.edu/alumni

REGISTER NOW!

September 27–28 Milwaukee, Wis.

MCW MAGAZINE wants news of your accomplishments and activities. We encourage you to send updates through ENGAGE, MCW's new online platform for alumni – see page 4 for more information. You also can send updates by email to alumni@mcw.edu.

IN MEMORIAM

1940s

William C. Miller, MD '43, of Madison, Wis., died on October 25, 2018, at the age of 99. He was a dermatologist who operated a private practice in Wausau, Wis. He was a voracious reader and enjoyed telling stories and singing. Dr. Miller is survived by four children, 13 grandchildren and 19 great-grandchildren.

Kenneth J. Stollenwerk, MD '47, of Greenfield, Wis., died on November 3, 2018, at the age of 95. He practiced family medicine in Milwaukee and was a dedicated fisherman, reader, stamp collector and traveler. Survivors include his wife, Eileen, four children, nine grandchildren and 14 great-grandchildren.

William C. Webb, MD '48, of Hales Corners, Wis., died on September 19, 2018, at the age of 93. He practiced internal medicine in West Allis, Wis., for nearly 30 years. He is survived by eight children, 29 grandchildren and 31 great-grandchildren.

1950s

Alan B. Becker, MS '58, of Keller, Tex., died on January 26, 2019, at the age of 89. He taught anatomy and physiology at Marquette University in Milwaukee. He is survived by his wife, Marie, a daughter and two grandchildren.

Albert J. Bunta, MD '58, of Sarasota, Fla., died on March 9, 2019, at the age of 86. He practiced orthopaedic surgery in Hinsdale, Ill., for nearly 35 years. He enjoyed cycling, cross-country skiing, running and golf. He is survived by his wife, Peggy, six children and 14 grandchildren.

Leslie T.Y. Chen, MD '59, of Donvale, Australia, died on December 3, 2018. He was a psychiatrist. Dr. Chen is survived by his wife, Kit Lui, and a daughter.

Michael S. Garrity, MD '59, GME '60, of Prairie du Chen, Wis., died on December 18, 2018, at the age of 86. He practiced family medicine in Prairie du Chen for almost 60 years and delivered nearly 1,700 babies. He also served as Gundersen Health System's chairman of rural clinics. He is survived by his wife, Mary Ann, four children and seven grandchildren.

Thomas W. Grossman, MD '58, GME '62, of Shorewood, Wis., died on January 26, 2019, at the age of 89. As an otolaryngologist, he operated a private practice for many years and also served as a clinical faculty member at MCW before later joining the faculty full-time. He operated a farm in Kiel, Wis., and was a talented chef, teacher and mechanic. Survivors include his wife, Edith May, three children and four grandchildren.

Robert P. Reik, MD '51, of Atlanta, Ga., died in February 2019, at the age of 91. He was an obstetrician and gynecologist. He frequently traveled throughout the US using his private pilot's license and also enjoyed international travel. Survivors include his wife, Virginia (Ginny), five children and three grandchildren.

Donald P. Schlueter*, MD '59, GME '63, of Gulf Breeze, Fla., died on November 20, 2018, at the age of 91. He was a pulmonologist and specialized in medico legal and workplace allergens. Dr. Schlueter was a past president of the National Lung Association's board of directors and actively supported the Pensacola Opera and the Pensacola

Symphony Orchestra. Survivors include his wife, Mardi Vick McDaniel, a son, grandson and great-granddaughter.

1960s

Robert S. Furman, MD, GME '63, of Camden, Maine, died on April 29, 2018, at the age of 82. He opened Camden's first orthopaedic surgery practice in 1969. Dr. Furman was an avid sailor and carpenter with a passion for classical music. Survivors include his wife, Barbara, four children and eight grandchildren.

Gary R. Loveless, MD '69, of Savannah, Ga., died on September 13, 2018, at the age of 76. As an orthopaedic surgeon, he opened the first orthopaedics specialty practice in Bulloch County, Ga., in 1977. He enjoyed golf and was a guitar enthusiast, cinephile, audiophile and football fan. He is survived by his wife, Linda, five children and nine grandchildren.

Carl F. Moyer, MD '66, of Brookfield, Wis., died on December 26, 2018, at the age of 78. He was a surgeon and loved gardening, birdwatching, history and astronomy. Survivors include his wife, Patricia, four children and five grandchildren.

Thomas E. Simonsen, MD, GME '61, of Sun City Center, Fla., died on July 28, 2018, at the age of 84. He was a radiologist and loved history, genealogy, reading and theater. As a world traveler, he circled the world six times on the *MS Amsterdam*. He is survived by his wife, Ann, children and grandchildren.

Elise Torczynski, MD '69, GME '73, of Chicago, died in December 2018. She worked as a nurse in Chicago, New York City and Kpandu, Ghana, before training

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

to be a physician. Dr. Torczynski practiced ophthalmic pathology in Tampa, Fla., and Chicago before retiring in 2014.

Eric B. Wilson, MD, GME '64, of Oshkosh, Wis., died on November 18, 2018, at the age of 80. He grew up in a medical family and went on house calls with his father. Dr. Wilson practiced radiology in the Fox Valley (Wis.) and was committed to making technological advancements available to patients needing medical imaging throughout the region. He also took a leadership role in establishing mobile radiology services that brought CAT, MRI and mammography services to patients throughout Wisconsin and in several other states. He is survived by his wife, Marilyn, three children and three grandchildren.

1970s

Thomas H. Dee, MD, FEL '74, of Brookfield, Wis., died on December 30, 2018, at the age of 76. He practiced internal medicine and specialized in infectious diseases. In 1969, Dr. Dee began two years of service in Antarctica as a lieutenant commander in the US Navy, earning a Letter of Commendation, National Defense Service Medal and an Antarctic Service Medal. Survivors include his wife, Gail, three children and six grandchildren.

David W. Jaskar, MD '71, of Tucson, Ariz., died on August 6, 2018, at the age of 79. He was a geriatrician who specialized in hospice and palliative care.

Rudolfo S. Lastrilla, MD, GME '75, of Menomonee Falls, Wis., died on February 23, 2019, at the age of 83. He was a primary care physician in Germantown, Wis., and later became an anesthesiolo-

gist, providing care throughout Milwaukee and neighboring communities. He was very involved in Milwaukee's Filipino community and in the Filipino American Medical Association. He is survived by his wife, Judy, three children and five grandchildren.

Anthony G. Montag, MD '79, GME '82, of Chicago, died on November 9, 2018, at the age of 64. He served for more than 30 years on the University of Chicago faculty, including as professor of pathology and associate dean for admissions at the Pritzker School of Medicine. He specialized in bone, soft tissue and gynecologic tumor pathology. Dr. Montag was a committed educator who received local and national teaching awards. Survivors include his wife, Katherine Griem, MD, and three children.

William T. Schmeling, MD '82, PhD '78, GME '85, of Muskego, Wis., died on September 20, 2018, at the age of 68. He served as chief of anesthesiology at what is now the Clement J. Zablocki VA Medical Center in Milwaukee. In addition to providing clinical care and conducting research, he loved the outdoors and playing sports, including wrestling, football, rugby and auto racing. He is survived by his wife, Mary, two children and three grandchildren.

1990s

Laura M. Bubolz, MD '98, GME '99, of Mequon, Wis., died on March 13, 2019, at the age of 47. She was an anesthesiologist in Milwaukee and was passionate about travel. Dr. Bubolz is survived by her husband, Gregg, and three children.

Special Remembrance

Marilyn P. Merker Goldman, PhD, of Wauwatosa, Wis., died on April 8, 2019, at the age of 64. She served on the MCW faculty for 25 years in the departments of anesthesiology and pharmacology and toxicology. She was a dedicated scientist with a profound interest in the natural world and was noted for her warmth, openness and compassion to all who knew her. Dr. Merker Goldman taught both medical and graduate students, and held leadership positions in the American Heart Association and the American Physiological Society. Survivors include her husband, Robert, and two children.

John L. Ulmer, MD, of Brookfield, Wis., died on May 2, 2019, at the age of 58. He served on the MCW faculty for more than 20 years, including as professor of radiology and section chief of neuroradiology. Dr. Ulmer was an avid researcher, nurturing mentor and good friend to countless physicians and staff. His accomplishments include the creation of a world-class functional neuroimaging program for the preoperative evaluation of brain tumor patients and the application of quantitative imaging biomarkers to the evaluation of dementia patients. Dr. Ulmer was a founding member of the American Society of Functional Neuroradiology and was recognized through numerous awards, included the prestigious *Cornelius G. Dyke Memorial Award*, the highest research award given by the American Society of Neuroradiology. He is survived by his wife, Laura, and two children.

A Year of “Firsts” in the PhD Program

As my first year of graduate school ends, I feel like I have done very little. No, let me be clearer. I have done some things, but they do not amount to much yet. I generated my first result, wrote my first grant, had my first thesis committee meeting, penned my first manuscript and presented at my first conference. But these were all firsts – so I am sure you can relate when I say they went as smoothly as getting quilled by a porcupine. You survive the attack but are left with bruises. And that’s where I am, having taken steps in both the right and wrong directions, but navigating my graduate work better. And while there is a longer road ahead, I am continually learning ways to adapt – especially to the vast amount of intellectual freedom graduate students have.



“I generated my first result, wrote my first grant, had my first thesis committee meeting, penned my first manuscript and presented at my first conference.”

– Sai-Suma K. Samudrala, MCW MD/PhD student

A common question I am frequently asked is how exactly one gets awarded a PhD. There are classes, exams and a certain credit requirement for graduation. However, many of the credits come from thesis work completed in the lab. The ultimate accomplishment is creating the doctoral dissertation that consolidates all the academic research the student conducts in the program. The dissertation tells a story around the hypothesis generated for the thesis proposal in the first year. It is, however, more likely that the hypothesis has changed over time and the first-year remnants will have helped structure its backbone. The student also chooses a small committee, including the principal investigator of the lab in which she/he is working. Committee members mentor, question and direct the student throughout the program. The committee also accepts the student’s proposal for PhD candidacy and awards the degree.

Keeping the PhD skeleton in mind, my first year was spent trying to generate the spine. What hypothesis do I answer, and what story should I tell? And while aligning the vertebrae, I realized that I have underestimated the amount of writing I will have to do. I have spent a greater part of my first year learning to write in a manner that can sell “my story” to my audience. But when you are trying to sell your hypothesis in a grant or proposal that has minimal preliminary data, the focus is on using language to highlight the study’s potential and its impact. Writing for a proposal may be more hypothesis-driven than for a publication, which is more likely to be results-driven. And writing for a poster is also different – something that I realized

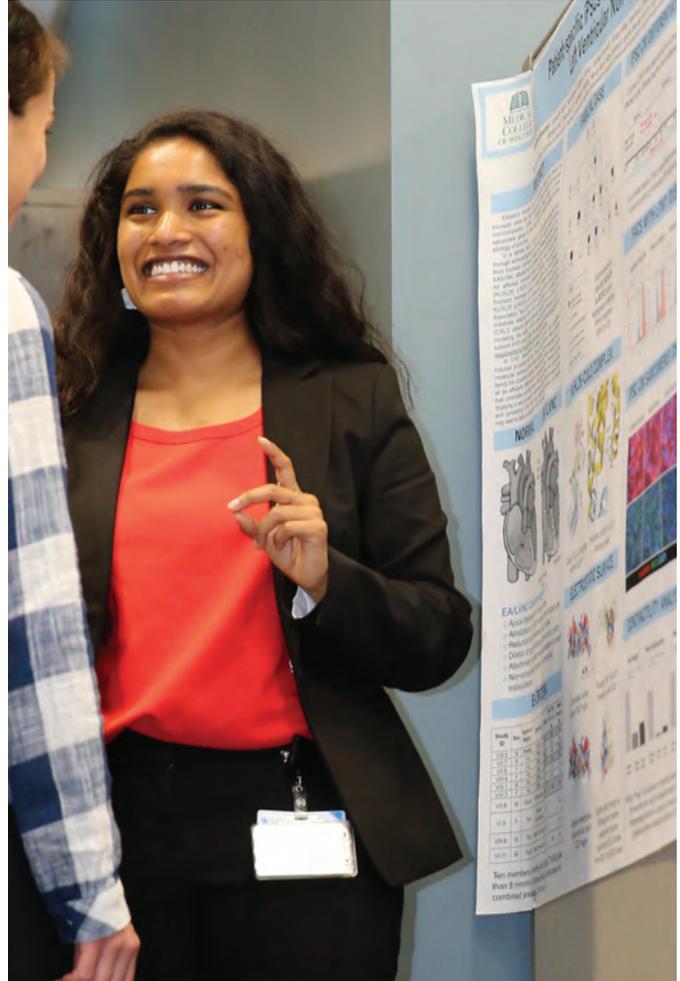


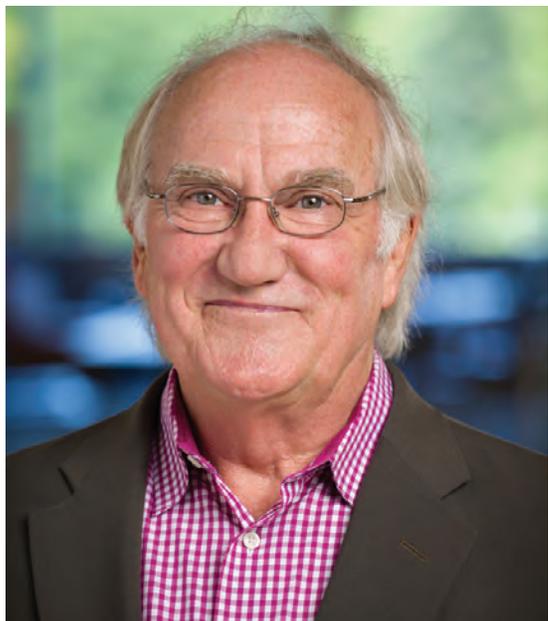
Photo courtesy of Greg Calhoun

in preparing to present my first poster as a graduate student at the Weinstein Cardiovascular Development Conference in Indianapolis this past May.

At the conference, it was as intimidating as well as inspiring to see all those great minds in the field of heart development and congenital heart disease. It was incredible to realize that I was speaking to researchers whom I had cited on my poster. And explaining my project and seeing them excited about the possible implications that more research could have on mechanistic insight was invigorating. Attending a conference as a graduate student enhanced my networking and presentation skills, but also helped me think about how I could improve upon my current research by taking cues from recent discoveries in data and methods. In the words of Isaac Newton, “If I have seen further than others, it is by standing upon the shoulders of giants.” ■

– SAI-SUMA K. SAMUDRALA

Joseph C. Besharse, PhD



Dr. Besharse is the Marjorie & Joseph Heil Professor in Ophthalmology and the research director of the MCW Eye Institute.

What Drives You?

It's actually quite simple. For my whole career, I have been driven by curiosity and the opportunity to interact with other curious and bright people.

What Has Been the Highlight of Your Career?

My own research has been the underpinning of everything in my career. It's what I did that allowed me to become successful, which allowed me to become a faculty leader and a department head. Amazingly, that research success was the simplest discovery of timekeeping in a culture dish in the early 1980s, and it became the foundation of a whole field of research.

What Do You Still Hope to Accomplish Over Your Career?

At this point in my administrative career, I mainly hope to continue to rebuild research at the Eye Institute through faculty and staff recruitment. But my research also continues. With Brian Link, PhD, professor of cell biology, neurobiology and anatomy, I received a new National Institutes of Health grant this past year. Our goal is to understand the growth regulatory mechanism in the eye that underlies nearsightedness and farsightedness and how these refractive errors are significant risk factors for many ocular diseases.

What Would You Like Your MCW Legacy to Be?

I was recruited to MCW in the 1990s as the department chair for cell biology, neurobiology and anatomy after already having a pretty strong career in research. At that time, MCW was at a point where it had great potential, but it needed to realize it, and I am proud to have been part of that push to put us on the national stage as a medical school. So I would like my legacy to be as a researcher, a chair and a research director who used my experience to recruit some of the best faculty, staff and students and help them develop to their fullest potential.

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

Set lofty goals and remember to pace yourself in achieving them, and don't be surprised if things unfold differently than you originally planned.

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.

Throughout his career, Dr. Besharse has provided exemplary research, scientific and institutional leadership and outstanding mentoring at every academic level. He was recruited to MCW in 1997 to chair the department of cell biology, neurobiology and anatomy, where he in turn recruited the majority of the department's current faculty.

Dr. Besharse is nationally recognized for his lifetime of research studying the fundamental organization and assembly of the eye's photoreceptor as well as the molecular mechanisms that underlie neurodegenerative diseases of the retina. His discovery of the circadian clock in the retina that could run itself and adjust to the outside world independent of the brain was the foundation of a whole new field of study around internal clocks in other organs.

Dr. Besharse's research has been continuously funded by the National Institutes of Health since 1975, and he has published more than 125 articles in peer-reviewed journals. His effort to understand the visual system has been recognized by numerous awards, including the Association for Research in Vision and Ophthalmology's *Proctor Medal* in 2016 – one of the organization's most prestigious honors. Dr. Besharse received MCW's *Distinguished Service Award* in 2015. ■

– KARRI STOCK



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