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FOR ALUMNI, FRIENDS, FACULTY AND STUDENTS OF THE
UNIVERSITY OF WISCONSIN SCHOOL OF MEDICINE AND PUBLIC HEALTH

Quarterly

STEM CELL RESEARCH

CELEBRATING 25 YEARS
OF AMAZING DISCOVERIES

School of Medicine and Public Health
UNIVERSITY OF WISCONSIN–MADISON

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QUARTERLY

The Magazine for Alumni, Friends,
Faculty and Students of the University of Wisconsin
School of Medicine and Public Health

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CALENDAR

APRIL 2021

Friday, April 23	Virtual WMAA Awards Banquet Virtual WMAA Board of Directors Meeting

MAY 2021

Friday, May 7	MD Graduate Recognition Ceremony*

SUMMER 2021

Dates pending	Virtual class reunions and opportunities to connect for the Half-Century Society (MD alumni who graduated 50 or more years ago). Details forthcoming. The WMAA will be in touch with classes that move forward with virtual reunions.

OCTOBER 2021

Friday, October 29, and Saturday, October 30	WMAA Board of Directors Meeting, Fall class reunions and Homecoming football game*

** Event details are subject to change based on Centers for Disease Control and Prevention guidelines related to COVID-19 in this region.*

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Please search for ***@uwmedalum*** on Facebook and Instagram. We look forward to your posts!

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Students relax near the Memorial Union as they catch a sunset over Picnic Point in Lake Mendota.

ROBERT N. GOLDEN, MD

"Home is where the heart is." At our University of Wisconsin School of Medicine and Public Health (SMPH) home, an abundance of heartfelt appreciation resides. We are celebrating the 25-year anniversary and worldwide impact of Dr. James Thomson's stem cell breakthrough. We also applaud the tradition of music and collegiality shared over the years by The Arrhythmias, a medical student band. Further, we highlight the teamwork of Wisconsin's first Prevention Research Center—created through a highly competitive grant from the U.S. Centers for Disease Control and Prevention—led by Dr. Deborah Ehrenthal.

In this issue, we feature a distinguished alumna, Dr. Rebecca Hawkins, who puts her heart into helping formerly homeless, newly housed veterans by collecting and sharing important personal items and supplies. We also highlight more examples of the Wisconsin Idea through the heartwarming write-ups by alumni who are assisting in the COVID-19 response locally, nationally and globally. We recognize that the pandemic affects all of you, and we applaud everyone who is making a difference on the front lines.

In the recent past, our hearts were broken by the loss of three dear SMPH colleagues and leaders: Dr. Peter Eichman, former SMPH dean; Dr. David Dibbell, former chief of plastic and reconstructive surgery; and Dr. William Segar, former chair of pediatrics. As icons in their respective fields, they set the stage for much of what the SMPH has become. We will miss them dearly, but we know their legacies will live on.

Another legacy-making group is the Pediatric Dream Team. We are heartened to provide the home base for Dr. Christian Capitini, a passionate player on that national team. In our Faculty Profile, we highlight his outstanding work, which is rapidly gaining prominence far beyond the SMPH.

In the Giving Back section, we share our deepest thanks to the donors who have contributed to need-based scholarships through the Wisconsin Medical Alumni Association's match program. The future of our medical school graduates should be shaped by their dreams and aspirations, rather than by limitations related to financial debt. We are pleased that so many members of our SMPH family have taken advantage of this matching opportunity, and I encourage others to join in this effort.

Even with increased success creating and expanding need-based scholarships, financial management remains a challenge for medical students, residents and junior faculty members. We are delighted that an energetic medical student, Christopher "Rufus" Sweeney, put his heart into teaming up with members of the UW-Madison faculty and staff, obtaining grant funding and creating an SMPH elective course on financial wellness. Like our endowed student scholarship funds, this practical and valuable course is a "gift that will keep on giving" well into the future.

The Perspectives column by Dr. Maureen Smith beats with ideas aimed at improving the future of health promotion. She outlines the critical need to maintain and boost our efforts statewide to improve health and health care access for all groups and individuals, without leaving anyone behind. Nationally, the COVID-19 pandemic has shined a spotlight on health inequities. From her vantage point, Dr. Smith shares a vision for closing this gap, so that everyone in Wisconsin can live a long and healthy life.

As this issue of *Quarterly* goes to press, our community, state and nation are welcoming springtime with renewed hope that vaccines will ease the effects of the pandemic and allow for the careful and safe expansion of activities. We look forward to the day when in-person gatherings can safely occur on our SMPH campus—and we welcome you to join us at that time! Until then, do not lose heart, and please stay well and stay in touch!

Robert N. Golden, MD
Dean, University of Wisconsin School of Medicine and Public Health
Vice Chancellor for Medical Affairs, UW-Madison

KAREN S. PETERSON

Greetings, SMPH alumni and friends! As I reflect on the past year for the Wisconsin Medical Alumni Association (WMAA) and University of Wisconsin School of Medicine and Public Health (SMPH), I realize that many of our successes would not be possible without our generous alumni and friends. I share a sincere thank you to all of you for your donations of time, treasure and talent to support our mission. Your gifts are truly the lifeblood of our organization! You have helped us provide many opportunities to ensure that our students have an excellent experience during their time at the SMPH.

I am extremely proud of the WMAA scholarship matching program described on page 26. In an effort to reduce student debt, our association has earmarked $500,000 to create new or enhance existing need-based scholarships. Since October 2020, nine new, endowed scholarship funds have been created with the WMAA matching dollars, and seven existing funds have reached the $12,500—plus the matching funds—required for endowment. Thank you to the many donors, including several medical school classes, who stepped up to support our students. There's still time to participate in the matching funds by creating or adding to a fund, including named and class scholarships. This matching program will be available throughout 2021 or until the funds are exhausted.

One year ago, our lives changed drastically as the COVID-19 pandemic crept across the nation and reached Wisconsin. While this has been an extremely difficult year for everyone, the WMAA Board of Directors and staff continue to find silver linings as we fulfill our mission. We have embraced virtual programming so we can connect alumni and friends with each other and to our great school—which also continues to propel its missions.

We are thrilled with the number of alumni who have joined us virtually over the past year. Attendance at all events increased by 25 to 60 percent. While we hear that everyone would prefer to get together in person, alumni enjoyed the opportunities to connect in cyberspace, as it allowed them to do so from anywhere without the risks associated with travel during the pandemic.

Keeping SMPH students connected with alumni has been a bit more challenging, but two recent WMAA-hosted events—Unfazed and Operation Education—accomplished that beautifully for the purposes of networking and career exploration.

Unfazed—The Real-Life Survival Guide to Phase 2, held in December 2020, helped second-year medical students as they transitioned to their new phase of the ForWard Curriculum the following month. The event connected students with recent graduates who are participating in residencies at UW Health, so the students could learn what to expect on the clinical units.

The 14th-annual Operation Education, held in January, helped medical students explore career options. For the first time, because the event was conducted virtually, we were able to include alumni from throughout the United States so they could share their expertise.

Thank you to all of our alumni, including members of the WMAA Student Alumni Partnership Program, who devoted time to participate in these events. Students shared extremely positive comments.

What does the future hold for us? I wish I had a crystal ball! I would love to welcome our incoming medical students in August 2021 with a stethoscope, host a cookout and invite Bucky Badger. I would love to gather our reunion classes for Homecoming, enjoy a tailgate party and cheer on the Wisconsin Badgers as they face the Iowa Hawkeyes in October. And I would love to honor our Middleton Society members in person for their support to our school. However, as you are aware, we do not know what fall will entail. When it is safe to do so, we will return to some in-person events. For a while, we may rely on a hybrid model, in which large events would remain virtual, and smaller events may be in person sooner. But rest assured, we want to spend time together as soon as conditions allow. Please watch for e-mails and social media posts for details.

Once again, we deeply appreciate your support of the SMPH, WMAA and our students, especially during this challenging year.

Karen S. Peterson
Executive Director, Wisconsin Medical Alumni Association

James Thomson, VMD, PhD

COURTESY OF THE MORGRIDGE INSTITUTE FOR RESEARCH

BY JORDANA LENON

Stem Cell Research

CELEBRATING 25 YEARS OF AMAZING DISCOVERIES

Twenty-five years ago, James Thomson, VMD, PhD, became the first in the world to successfully isolate and culture primate embryonic stem cells. He accomplished this breakthrough at the University of Wisconsin-Madison, first with nonhuman primates at the Wisconsin National Primate Research Center using rhesus monkey cells and marmoset cells. And just a few years later, he published a world-changing breakthrough on human embryonic stem cell derivation.

When Thomson—now a professor in the Department of Cell and Regenerative Biology at the UW School of Medicine and Public Health (SMPH); director of regenerative biology at the Morgridge Institute for Research; and professor of molecular, cellular and developmental biology at University of California, Santa Barbara—came to UW-Madison in 1991 for his veterinary pathology residency, he shared with colleagues that two important factors influenced his move.

First, UW-Madison has the Primate Research Center, supported by the National Institutes of Health, and he had just completed his postdoctoral training in embryology at the Oregon Regional Primate Research Center. Second, as he already had his eye on stem cell biology and its potential in science and medicine, he was attracted to the renowned Division of Transplantation in the UW School of Medicine and Public Health's Department of Surgery and UW Hospital and Clinics (now UW Health).

Born in Illinois and interested in biology at a young age, Thomson's studies took him to the University of Illinois at Urbana-Champaign to study biophysics and then to the University of Pennsylvania to pursue his veterinary medicine and molecular biology doctorates. There, he became interested in embryonic stem cell research, studying mouse embryos and mouse stem cells. However, as he often shares in his talks, the mouse embryo is organized far differently than the human embryo. A better model was needed if scientists were going to unlock the developmental and functional secrets of these cells to better understand human biology.

Fortunately, when Thomson was hired as the head veterinary pathologist at the Primate Research Center in 1995, he was given the freedom to explore monkey embryo derivation when time allowed. UW-Madison was already famous as a center of embryology and in-vitro fertilization (IVF) research, mainly through the College of Agricultural and Life Sciences (CALS). Also, in 1984, the world's first IVF monkey, "Petri," had been born at the Primate Research Center through research led by Barry Bavister, PhD. Even though the world's first human born through IVF, Louise Brown, had come into the world seven years earlier in England, little was known about the technique overall and how to improve its success, which was not much higher than natural fertilization at the time.

Thomson's work at the Primate Research Center with scientific colleagues and technical experts in reproductive biology led to his first successful isolation and culture of rhesus monkey embryonic stem cells in 1995. This required only one preimplantation embryo, flushed non-invasively from a

rhesus monkey uterus. He then repeated the feat with common marmoset stem cells a year later. Thomson published these breakthroughs in *Proceedings of the National Academy of Sciences* and *Biology of Reproduction*, respectively.

Next, he acquired unused frozen embryos donated with patient consent through the IVF Clinic at UW Hospital. He acquired a private lab and private funding through Geron Corporation. Using the same culture techniques he honed with the monkey embryos, within two years he had grown the world's first successful human embryonic stem cell lines.

Thomson published his findings in *Science* on November 6, 1998. A news media and political whirlwind ensued. Thomson even relocated to University Communications in Bascom Hall for several days, working with research communications director Terry Devitt to accomplish interview after interview with science and mainstream reporters from around the world. Patients hoping for miracle cures, religious leaders, politicians and bioethicists all weighed in on embryonic stem cell research. Among the latter was R. Alta Charo, JD, professor of law and bioethics at UW-Madison, who has served on numerous expert advisory boards of organizations with an interest in stem cell research. Debates focused not only on whether to allow federal funding for embryonic stem cell research, but whether the research should continue at all.

Thomson quickly reached out to SMPH faculty collaborators who had interests spanning the breadth of human diseases. They included Timothy Kamp, MD, PhD, professor, Department of Medicine (heart disease); B. Lynn Allen-Hoffmann, PhD, professor, Department of Pathology and Laboratory Medicine (skin regeneration); Su-Chun Zhang, MD, PhD '91, professor, Departments of Neuroscience and Neurology (spinal cord injury and motor neuron loss); and Jon Odorico, MD (PG '96), Department of Surgery (diabetes).

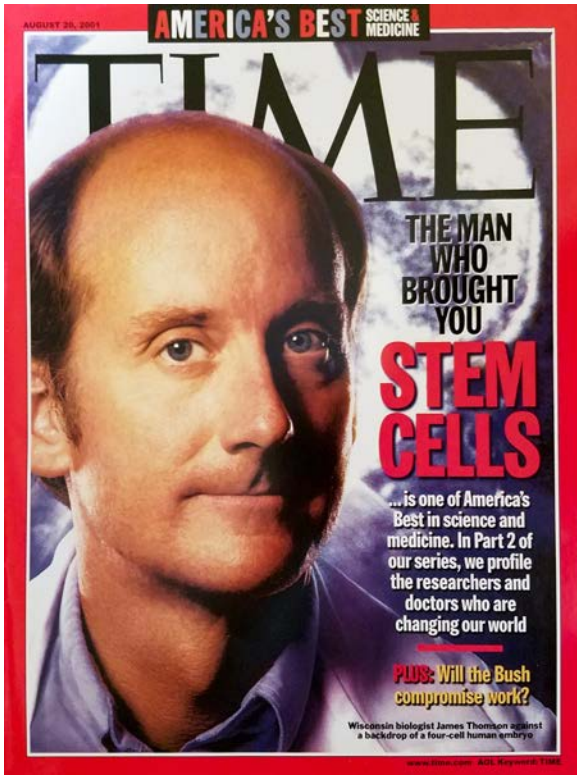
Meanwhile, Thomson continued working in his lab and establishing more collaborations. In August 2001, President George W. Bush allowed limited federal funding for stem cell research, which allowed Thomson to continue working with the cell lines he already had derived and share them with colleagues, many at the SMPH. In 2008, President Barack Obama expanded federal funding for embryonic stem cell research involving IVF clinic patient-donated embryos. Madison also was home to the first National Stem Cell Bank and the nonprofit WiCell Research Institute, which continues to advance stem cell technology through research, education and technical support for the scientific community.

As the need for centralized support for stem cell research, collaboration, student education and public outreach grew, the SMPH and the UW Graduate School together founded the UW-Madison Stem Cell and Regenerative Medicine Center (SCRMC) in 2007.

The center's first co-directors were Kamp, who had grown cardiomyocytes from Thomson's hES cells in 2003, and Clive Svendsen, PhD, a former professor in the SMPH Departments of Anatomy and Neurology, who was interested in growing motor neurons from stem cells to study amyotrophic lateral sclerosis. William Murphy, PhD, a professor in the SMPH Department of Orthopedics and Rehabilitation and the College of Engineering's (COE) Department of Biomedical Engineering, served as a co-director from 2012 to 2018. Kamp remains the director, and Randolph Ashton, PhD, an associate professor in the COE Department of Biomedical Engineering, is the associate director.

An SCRMC faculty executive committee, initially led by Thomson, continues to guide the center. Its charter members included SMPH faculty members Odorico and Linda Hogle, PhD, professor, Department of Medical History and Bioethics. Additional faculty members from the SMPH, COE, CALS and WiCell have rounded out the team that has advised the center over the years.

In addition to the Primate Research Center and the SCRMC, other campus units have been instrumental in supporting UW-Madison scientists and advancing the field of stem cell research. They include the Waisman Center, Morgridge Institute for Research, Wisconsin Institute for Discovery and Biotechnology Center.



COURTESY OF THE MORGRIDGE INSTITUTE FOR RESEARCH

James Thomson, VMD, PhD, August 20, 2001

Spurred by the SMPH's history of pioneering discoveries in stem cell research and the enormous potential for exciting, medically relevant advancements, the school created the Department of Cell and Regenerative Biology in July 2011.

Over the past two decades, stem cell research at UW-Madison has grown from involving a handful of scientists to nearly 100 from more than 30 schools, colleges and departments. Today, the SCRMC continues to grow through its support from the SMPH, the Office of the Vice Chancellor for Research and Graduate Education, and philanthropic donations. The center supports research, academic education, weekly seminars and public outreach. It also co-hosts the annual Wisconsin Stem Cell Symposium, now in its 15th year.

JEFF MILLER/UNIVERSITY COMMUNICATIONS

Timothy Kamp, MD, PhD (left), and graduate student Jabe Best, 2010

Thomson predicted that, just as monkeys were important for early stem cell derivations and basic science research, the field would circle back to them for the large animal transplant studies needed before human clinical trials could take place. Studies underway at the Primate Research Center include those in the Preclinical Parkinson's Research Program led by Marina Emborg, MD, PhD, professor, SMPH Department of Medical Physics, and stem cell-based therapies to prevent immune rejection in solid organ transplants when anti-rejection medicines are eliminated, led by Dixon Kaufman, MD, PhD, professor, SMPH Department of Surgery. Research by Igor Slukvin, MD, PhD, professor, SMPH Department of Pathology and Laboratory Medicine, and Ted Golos, PhD, professor, UW School of Veterinary Medicine, is aimed at exploring genetically edited immune cells grown from stem cells to prevent HIV infection, and developing immunotherapies to treat AIDS.

Peiman Hematti, MD—a professor in the SMPH Departments of Medicine, Pediatrics and Surgery—worked with Kaufman to establish his preclinical studies at the Primate Research Center, among just a few places in the nation capable of performing the type of transplantations required. Expert research technicians, veterinarians and animal care staff supported the research, which is now in human clinical trials.

As the director of UW Health's Clinical Cell Processing Laboratory, Hematti has been involved with most of the clinical cell therapy trials at UW-Madison, including two trials with Kaufman; several heart disease-related trials led by Amish Raval, MD, associate professor, SMPH Department of Medicine; and several CAR T-cell therapy trials, including one to treat leukemia with Christian Capitini, MD, associate professor, SMPH Department of Pediatrics. Other clinical trials around the world involve stem cell-derived cardiomyocytes grown by Kamp and retinal pigment epithelial cells grown by David Gamm, MD, PhD (PG '02, '03), professor, SMPH Department of Ophthalmology and Visual Sciences, and director, McPherson Eye Research Institute. Further, Jacques Galipeau, MD, the SMPH's inaugural associate dean for therapeutics development and a professor in its Department of Medicine, leads the Program for Advanced Cell Therapy.

Ever since monkey and human embryonic stem cells emerged from Thomson's lab, newer discoveries—such as the derivation and culture of human induced pluripotent stem cells, epigenetics and CRISPR-Cas9 gene editing—have furthered the promise of regenerative medicine. Many preclinical and clinical trials now involve these technologies.

The main uses of stem cells today include research to understand the human body, discover the genetic origins of disease, grow new cells and tissues for transplantation, and grow cells and tissues for testing pharmaceuticals in the laboratory before animal and human trials commence. Stem cell research is helping animals, too. For instance, pets get cancer, diabetes, arthritis and other diseases that stem cell therapies may be able to treat.

Researchers and government agencies uphold high standards and strict criteria for advancing patient therapies that are based on well-designed, thorough clinical trials. The SCRMC maintains a public resources page on its web site that offers guidance and facts for patients considering stem cell treatments.

Meanwhile, scientists and students around the world continue to use Thomson's original five human embryonic stem cell lines as the gold standard for studying stem cell biology. Thomson has always maintained that the greatest legacy of pluripotent stem cell research will be its use as a powerful tool to understand the human body. This research has so much to reveal about how cells develop, function, differentiate, communicate, age and die. The field is advancing in ways most people could not have imagined two and a half decades ago.

Rock On!

DECADES OF ENTERTAINMENT BY THE ARRHYTHMIAS

Top: At the 2009 wedding reception of SMPH classmates Sarah Yanke, MD '10 (PG '14), and Eric Yanke, MD '10 (PG '13) (in black tuxedo), the bride, groom and several other Arrhythmias members performed. Bottom: At the 2006 wedding reception of Maren Lee and Michael Puskarich, MD '07, are (left to right) John Vasudevan, MD '07, Patrick Fehling, MD '07, Puskarich, Jeffrey Seybold, MD '07, and Jon Printz, MD '08.

Top: At the Memorial Union in 1994, The Arrhythmias performed an original composition, "Bottom of the Heap," written by Thomas McIlraith, MD '96 (center). Bottom row (left to right): Performing in 2009 are Michael Hartung, MD '11, Angela Appel, MD '11, David R. Eiler, MD '11, Brian W. Hong, MD '11, Ryan Baxter, MD '11, and Adedayo Fashoyin, MD '11. In 2007, Jeffrey Phillips, MD '08, and Joseph J. Weber, MD '09, performed. In 2006, Weber proposed to Dayna Geralts at an end-of-the-year medical school gathering while the rest of The Arrhythmias rocked on.

From its 1992 founding until 2020, The Arrhythmia's medical student rock band had not skipped a beat. Supporters at the University of Wisconsin School of Medicine and Public Health (SMPH) hope its normal rhythm will return when the COVID-19 pandemic eases.

Thomas McIlraith, MD '96—an early driving force for the band, with Bryant Karras, MD '95, and Richard Rho, MD '96—explains that The Arrhythmias evolved from the Medical Students for the Arts group created by Karras for students who wanted to explore several art-related interests.

"The Arrhythmias started playing at Friday Foundation Parties and branched out after that," says McIlraith.

Rho adds, "Our best performance was at the Memorial Union, when we came in second in the Battle of the Bands. Our original song 'Bottom of the Heap' came from Dr. McIlraith turning Frank Sinatra's 'top of the heap' upside down and letting the story evolve from there."

Joseph J. Weber, MD '09, FACS—an Arrhythmias member from 2005 to 2009—says, "It was some of the most fun I've had playing in a band, and it was a great outlet from the rigors of medical school."

Brian W. Hong, MD '11, who joined the band in 2008, fondly recalls playing about 10 shows throughout the school year, including medical school graduation.

The band is known to forge lifelong friendships among the men and women who are recruited by other members.

SHUTTERSTOCK

BY KRIS WHITMAN

Prevention Research Center

IN NATIONAL EFFORT, SMPH FOCUSES ON MOTHER-BABY HEALTH

Woven intricately into the fabric of the University of Wisconsin School of Medicine and Public Health's (SMPH) research mission is a goal to understand how communities and individuals can avoid risks for chronic illnesses. Sharing this mission on a broad scale are the Prevention Research Centers of the U.S. Centers for Disease Control and Prevention (CDC).

Congress established the Prevention Research Centers in 1984 (Public Law 98-551) to undertake research and demonstration projects in health promotion, disease prevention, and improved methods of appraising health hazards and risk factors and to serve as demonstration sites for the use of new and innovative research in public health techniques to prevent chronic disease. Each center must be located in a school of public health or academic health center that has an accredited preventive medicine residency program.

In fall 2019, through a highly competitive process, the CDC invited UW-Madison to join forces with this cause and provided the university with a five-year, $3.7 million grant. The university has since established Wisconsin's first Prevention Research Center (UWPRC) as a partnership among the SMPH, Institute for Research on Poverty, School of Nursing and School of Human Ecology.

National connections made possible through this program boost inspiration among the faculty and staff who have come together to make the UW-Madison center a reality.

Program Goals

"We are very excited to introduce this Prevention Research Center to Wisconsin, and to be part of this national group of universities working toward related, yet unique, causes. We are engaging multidisciplinary campus researchers, public health practitioners, and community-based and government organizations from across the state to develop a prevention research agenda aligned with Wisconsin's priorities," says the center's founding director, Deborah Ehrenthal, MD, MPH, a professor in the SMPH Departments of Obstetrics and Gynecology and Population Health Sciences.

To this new role, Ehrenthal brings decades of experience investigating determinants of health and health disparities, particularly in women's and children's health, and pulling together experts from myriad disciplines.

Deborah Ehrenthal, MD, MPH

The UWPRC aims to improve the health of low-income women, infants and families through health promotion and disease prevention research, with keen attention to health equity. These topics are highly relevant in Wisconsin, where the infant mortality rate for African American babies is nearly three times that of white babies. The effort calls upon the expertise of faculty and staff members to conduct research that will benefit individuals and populations throughout Wisconsin. Critically, the center works to translate and broadly disseminate research findings and strategies to be used in real-world settings. The center's Community Advisory Board and novel Translation Partners Panel help guide decisions about research design and the ways in which it could be translated at the community level. In June 2020, the center

launched its small-grants program. This competitive opportunity yielded many exciting proposals and awarded four grants to faculty members across campus.

Ehrenthal notes, "The UW Prevention Research Center is a prime example of the Wisconsin Idea because our work can impact the entire state. Wisconsin's diverse populations and geography provide an ideal environment for prevention research that can be translated to other states and regions."

She adds that the COVID-19 pandemic hit the United States in the center's formative time, but the faculty and staff quickly adapted processes to keep stakeholders safe. And they soon realized the complexity of the pandemic on the populations they serve.

"How people fare during this pandemic depends so much on their life circumstances," Ehrenthal says. "Our center focuses on the needs of women and families with young children who often live in multigenerational households that include essential workers. These factors may present barriers to being able to follow recommendations aimed at preventing infection."

Further, she shares, "Nationally, we have seen vast disparities in terms of who was most commonly infected with COVID-19, hospitalized and died. And we continue to see disparities with acceptance of and access to vaccines."

Katie Gillespie, DNP, RN

Thus, in January 2021, the UWPRC launched a project called Building a Public Health Reserve with Community Health Workers (CHW). Led by Ehrenthal and UWPRC Deputy Director Katie Gillespie, DNP, RN, the project's goal is to design and pilot test a sophisticated, culturally appropriate strategy to support the rapid scale-up of COVID-19 testing, contact tracing and vaccination. This is being accomplished with an existing infrastructure of community-based programs that support families with young children who face higher rates of poverty. Such programs use a variety of models, including working with home visitors and doulas. At the end of this project, the team expects to have a tested strategy that can be scaled up across Wisconsin and adapted for other populations, to inform public health strategies nationally.

31%

of low-income mothers in Wisconsin suffer from symptoms of postpartum depression.

Gillespie explains that current organizational partners include RISE Wisconsin; African American Breastfeeding Network; Centro Hispano of Dane County; Southwestern Wisconsin Community Action Program; Public Health Madison and Dane County; Wisconsin Departments of Health Services and Children and Families; Wisconsin Community Health Worker Network; UniteWI; and providers working with members of the Plain Community.

3x

The infant mortality rate for African American babies is nearly three times that of white babies.

Core Research Project

The UWPRC's core research project focuses on the effectiveness and dissemination/implementation of a mother-infant therapeutic approach to addressing depression in the postpartum period and supporting the mother-infant and family relationships. In Wisconsin, 12 percent of all mothers, and 31 percent of those who are low income, report experiencing depressive symptoms in the postpartum period. Untreated postpartum depression has been found to be associated with developmental delays and mental health symptoms in children.

Roseanne Clark, PhD (PG '87)

Jane Mahoney, MD (PG '89)

SMPH Professors Roseanne Clark, PhD (PG '87), Department of Psychiatry, and Jane Mahoney, MD (PG '89), Department of Medicine, co-lead the core research project.

"Nationally, we are the only Prevention Research Center to focus on this population for our initial core research project," says Clark, whose research serves as a model.

For more than 35 years, Clark has dedicated her career to the screening, evaluation and treatment of postpartum depression; infant and early-childhood mental health; and at-risk early parent-child relationships. She has published widely and

UW Prevention Research Center Leaders

Deborah Ehrenthal, MD, MPH, director

Katie Gillespie, DNP, RN, deputy director

Roseanne Clark, PhD (PG '87), co-principal investigator, core research project

Jane Mahoney, MD (PG '89), associate director of translation; co-principal investigator, core research project

D. Paul Moberg, PhD, associate director of evaluation

Patrick Remington, MD '81, MPH, associate director of training

Maureen Durkin, PhD, DrPH, steering committee member

Elizabeth Cox, MD (PG '02, '03), PhD '06, steering committee member

Janean Dilworth-Bart, PhD, steering committee member

Katherine Magnuson, PhD, steering committee member

Susan Zahner, DrPH, RN, FAAN, steering committee member

SHUTTERSTOCK

is invited to speak, teach and consult on these topics nationally and internationally.

Previously, Clark translated the results of her federally funded research into community-based interventions for women whose mental health needs often go unserved, as well as their infants and partners. She and Jen Perfetti, LPC, the clinical and professional development coordinator of Parent-Infant Programs in the Department of Psychiatry, pilot-tested the incorporation of a Mother-Infant Therapy Group (M-ITG) into federally funded home-visiting programs in urban, rural and Tribal communities throughout Wisconsin. This approach has been shown to reduce mothers' depressive symptoms while improving the mother-infant relationship and supporting infant developmental functioning.

"We are fortunate to be able to refine a two-generation intervention focused on mother-infant and family relationships, specifically for mothers experiencing depression in the first year," shares Clark.

Working closely with families and UWPRC stakeholders, Clark and Mahoney are adapting the M-ITG model for widespread use within a broad range of home-visiting programs. Due to the pandemic, most of these home-visiting programs are being conducted via live online platforms.

Recognized for her expertise in dissemination and implementation of evidence-based prevention programs to community settings, Mahoney shares her expertise in translational science, federally funded epidemiologic studies and randomized controlled trials.

By the end of this project, Clark, Mahoney and their team will have translated the therapy group model so that it is scalable and can be adopted across the nation; sustainable within the realm of community resources; and effective at reaching a high percentage of women experiencing postpartum depression. The project aims to:

- reduce mothers' depressive symptoms;
- address mothers' relational trauma history;
- support the mother-infant and family relationships; and
- enhance infant psychosocial and developmental outcomes.

In the randomized trial, professionals in home-visiting programs in rural, urban and Tribal locations will screen for depression; some will include an M-ITG co-facilitated by a community-based mental health clinician and home-visiting supervisor, while others will conduct services as usual, including facilitating referrals for mental health care. All will receive scheduled assessments.

Because home-visiting professionals have varying levels of mental health training, Clark has created a manual to guide M-ITG facilitators in treating maternal depression and assessing and supporting mother-infant, father-infant and family relationships. Due to precautions required by COVID-19, the professionals are receiving guidance about how to provide the therapeutic group and parent-infant dyadic therapy online.

Sharing an insight from her team's past investigations, Clark says women with a history of trauma in their own early attachment periods may have difficulty reading and responding to their baby's cues, and this may lead to dynamics that worsen the mother's depressive symptoms. Mindfulness, self-compassion and embodied approaches can help address trauma and depression. Also, opportunities for mothers to explore their feelings with other mothers and learn coping strategies can reduce their sense of social isolation, another common factor faced by mothers with depression.

In group sessions, home visitors help mothers expand ways of relating positively with their babies in the context of depression. For instance, a home visitor may speak on behalf of the baby, saying things like, "Oh, mom, I love it when you look at me." Over time, this helps the mothers become more aware of what their infants may be feeling. Facilitated activities encourage mothers to interact with their babies, such as singing songs, playing baby games, sharing books and learning baby massage. Some sessions include the fathers/partners to assist them in understanding depression, identifying their own needs as well as those of their partners and infants, and learning ways to provide support and enhance communication.

Clark adds that a Department of Psychiatry training program—the Capstone Certificate in Infant, Early Childhood and Family Mental Health—has increased the cadre of professionals who work throughout Wisconsin and beyond. The program, founded by Clark and Linda Tuchman-Ginsberg, PhD, a decade ago, is an interdisciplinary opportunity for professionals who work with families in the prenatal and postpartum periods and with children from birth through age 5. The year-long, monthly training is relevant for mental health and health care professionals in clinical, counseling and school psychology; social work; home visiting; child welfare; early intervention; nursing; and primary care medicine. Many Capstone Certificate Program graduates will be participating in UWPRC Core Research Project activities throughout the state.

PRC Partnerships

Another goal of the UWPRC is to expand prevention research training of practitioners,

—Continued on page 35

SMPH Alumni on the Front Lines of the COVID-19 Pandemic

Compiled by Kris Whitman

As the COVID-19 pandemic has swept the globe, the faculty and staff of the University of Wisconsin School of Medicine and Public Health (SMPH) and Wisconsin Medical Alumni Association realize that many SMPH alumni are on the front lines of patient care, policy development and public health throughout the United States and abroad. *Quarterly* asked a sampling of alumni to share their experiences and insights. For all of you, please know that we deeply appreciate your service and sacrifices in addressing the novel coronavirus and its ramifications on individuals, families and communities.

Michael A. Gelman, MD '05, PhD '03

Staff physician, Infectious Diseases Section, medical director, Infection Control and Antimicrobial Stewardship Programs, James J. Peters Veterans Administration (VA) Medical Center, Bronx, New York

How has the pandemic affected your role?

I oversee infection control at my hospital, advise the network of New York and New Jersey VA hospitals, and have been part of a small leadership group in the VA for COVID-19 preparedness and response since January 2020. I worked on the national strategic plan for COVID-19, helped build an early automated screening system, and led the team that created our outpatient COVID-19 electronic medical record templates, which have been used more than 16 million times. Since October 2020, I have been at the center of an effort to improve COVID-19 testing in the VA. I'm also the local site principal investigator for the National Institutes of Health's ACTIV-2 trial, a co-investigator on several other COVID-19 therapy trials and co-chair of the VA National COVID-19 Testing Guidance Workgroup.

Due to my interest in infectious diseases, I worked in Dr. Dennis Maki's clinic while completing my PhD in the Medical Scientist Training Program at the SMPH, and I completed an infectious diseases fellowship at Stanford University.

Your observations?

We are learning more about the effect of vaccines on asymptomatic spread, reinforcing the need to stay vigilant.

From my perspective, the biggest lesson learned is the need to front-load research and harness knowledge from the early part of the pandemic to learn how the pathogen behaves, how it is diagnosed, and what prevention and treatment measures work. We could have answered important questions sooner if we had been ready to do the science.

What advice do you have for others?

Keep doing what we know works—maximizing telework; using universal eye protection and point-of-care testing; and staying distanced from coworkers during meals because importation from the community leads to transmission among staff.

Heather A. Haq, MD '13

Assistant professor, Department of Pediatrics, Baylor College of Medicine, Houston; chief medical officer, Baylor College of Medicine International Pediatric AIDS Initiative (BIPAI) at Texas Children's Hospital

How has the pandemic affected your role?

In addition to being a front-line physician caring for infants, children, adolescents and young adults hospitalized with COVID-19 and multisystem inflammatory syndrome, I have led the COVID-19 preparedness and response efforts for BIPAI, one of the world's largest pediatric HIV clinical care networks with centers of excellence in sub-Saharan Africa, Eastern Europe and Latin America. In the face of unprecedented challenges, we strengthened and forged partnerships with government officials and local leaders to maintain essential care for more than 350,000 patients across 10 low- and middle-income countries. We rapidly developed strategies to protect front-line clinical workers while delivering life-saving care to vulnerable patients, including those who require daily antiretroviral drugs. Our response has required continual adaptation to challenges presented by the pandemic, including border closures and COVID-19 mitigation measures that have exacerbated inequities.

I am grateful for the public health training that was integrated into my MD education at the SMPH, my graduate degree in public health and my residency, the Dr. Kelly DiScioli Residency Program in Pediatrics and Child Global Health at Baylor College of Medicine. Physicians who have global health experience are adept at responding to volatile, unfamiliar threats, including resource scarcity and health inequities.

Your observations?

In many U.S. health care settings, we are used to operating with ample resources, but the pandemic forced us to address an emergent threat with limited resources. We have much to learn from colleagues in low- and middle-income countries who are skilled at controlling disease outbreaks amid resource limitations.

What advice do you have for others?

The pandemic has highlighted our global interconnectedness and magnified health inequities. Ending the pandemic will require global control of the disease, including fair access to vaccines. We can all help advocate for global equity in the pandemic response and allocation of resources.

Pam Heilman, MD '90 (PG '93)

Urgent care physician, Group Health Cooperative of South Central Wisconsin (GHC-SCW), Madison, Wisconsin

How has the pandemic affected your role?

I have worked at GHC-SCW for 27 years, and I plan to retire in September 2021. Since the beginning of the pandemic, my role has been to evaluate and test patients for COVID-19 and care for those with the condition. I have always had a strong interest in infectious disease. During the H1N1 pandemic, I was the chief of urgent care, and the pandemic planning we did then was helpful as a starting point for this pandemic.

The current situation became real for me in late February, when I saw a patient who had returned to Wisconsin from Wuhan, China, about a month prior and had developed symptoms suspicious for COVID-19. The patient was diagnosed with a different illness, but by mid-March, I had seen my first patient with COVID-19—someone who already had lost family members to the disease. From then through mid-June, all staff other than urgent care personnel moved out of our Capitol Clinic, where we saw only possible COVID-19 patients. It was a disconcerting time given the initial limited knowledge about the illness and shortages of personal protective equipment. Early on, processes sometimes changed by the hour. Over time, our health system ramped up use of video and telephone visits, and we returned to seeing all urgent care patients at the Capitol Clinic.

Your observations?

Even in health care, people can be slow to follow public health advice, such as consistent and appropriate mask wearing and social distancing. Also, our providers continue to be surprised by the wide variation in COVID-19 symptoms and severity.

I wish we had known from the beginning the large role asymptomatic and pre-symptomatic spread plays in COVID-19, and I wish mask wearing had been advocated from the start.

What advice do you have for others?

Leadership matters at all levels and in all settings. Because individual behavior drives this virus and, in the end, will stop it, every one of us can make a difference with our family, friends, co-workers, patients and community members. Wear a mask, get vaccinated and encourage others to do so!

Andrew Pasternak, MD, MS '98 (PG '96, '98)

Founder, Silver Sage Center for Family Medicine and Silver Sage Sports and Fitness Lab, Reno, Nevada

How has the pandemic affected your role?

Since the beginning of the pandemic, our clinic has been busy caring for patients and helping them arrange testing. In addition to my practice, I am the president-elect of the Nevada State Medical Association (NSMA) and work closely with the non-profit Immunize Nevada. My primary goal with these organizations has been to help lead local physicians in a social media campaign to share scientifically accurate COVID-19 vaccine information. By translating scientific information into understandable public health messages, we're hoping people will make informed decisions and get vaccinated as soon as they have the opportunity.

My office also has been a vaccine hub for more than 200 health care workers, and we've helped county personnel learn how to best use local health care providers to get vaccines out to communities. To kick off those efforts, my wife, Dr. JoAnn Ellero—who completed her anesthesiology residency at UW Health—and I spent our 25th wedding anniversary vaccinating 97 people.

As part of the NSMA, I've helped organize communications for physicians regarding state and county vaccination efforts, and I will continue to do so when more vaccine becomes available. It's frustrating because most states are not providing vaccine to smaller offices, and I'm advocating for this to happen because we know our patients well and could effectively get the vaccines administered to the highest risk people, some of whom do not have resources to register online for vaccines.

After my residency in the Department of Family Medicine and Community Health at the SMPH, I did a two-year primary care research fellowship and completed a master's degree in epidemiology, also at the SMPH. These factors and subsequent involvement in primary care research gave me a strong background to help our community.

I've been fortunate to stay in touch with one of my mentors, Dr. Jonathan Temte. He and other UW-Madison faculty members were instrumental in helping me craft my approach to clinical medicine and population health. A lot of my interest in vaccinations stems from continuing to learn from Dr. Temte. (See section about Temte on the next page.)

Your observations?

As many experts have said, the COVID-19 pandemic has illuminated the cracks in our health care system. I've seen these for years. When we get through this, I hope we work equally hard to fix these underlying issues.

I've also been impressed by how emotional my friends and colleagues have become when they got vaccinated. When I first saw the vaccine data, I literally started to cry because I knew we had the tool to

help get us out of this pandemic. COVID-19 has been hard on everyone, but I think health care professionals have been affected the most due to our firsthand view of the suffering. We still have a lot of work to do, but at least we feel like there is a light at the end of the tunnel.

Medicine has gotten corporate in many ways, and red tape and busy work can be overwhelming for physicians. As a silver lining of the pandemic, I have seen incredible work by my friends and colleagues across the country in every care setting.

What advice do you have for others?

I wish I would have thought sooner about technological solutions to help streamline our vaccine administration efforts. We all need to realize that this is a new virus with a new vaccine and a massive vaccine response. While we strive for perfection, we're not going to be perfect. It's critical that we continue to talk to and learn from each other.

Nayeli A. Spahr, MD '16, MPH '15

Family medicine physician and director of reproductive and child health, Project Home, Philadelphia

How has the pandemic affected your role?

I practice family medicine for Project Home, a non-profit that provides community services, including housing, employment, medical care and education with the goal of ending homelessness.

Throughout the twin pandemics of COVID-19 and race/equity, my role shifted. When COVID-19 started, I worked primarily at a homeless clinic in downtown Philadelphia. As the city shut down public gathering spaces, the impact on the homeless population was staggering. We had increasing numbers of individuals gather outside our space to access essential services, such as showers, laundry and health care. We became one of the COVID-19 testing sites for unsheltered individuals while we continued to provide primary care services. My colleagues and I advocated with other city entities to open isolation and quarantine sites for people who were sleeping on the streets and in shelters.

Working in homeless medicine, I witness the consequences of centuries of systemic racism, and I feel the burden of how COVID-19 disproportionately impacts my community of patients. Those with whom I work have been flexing and advocating to meet the essential needs of the city's most vulnerable people.

During and after the June protests, the National Guard blocked the entrance to our clinic, so for about two weeks, we shifted to street medicine, taking wound supplies and medications to our primary care patients. Recently, we started vaccinating homeless patients, which offers a glimmer of hope.

Midway through the year, I became the director of reproductive and child health, so I spend much of my time working with an interdisciplinary team to address maternal and infant morbidity and mortality amongst our patients. We have optimized prenatal care delivery by providing patients with blood pressure kits, digital scales and Doppler units to assist with telehealth visits; meeting virtually with groups; and adapting services to meet patients where they are.

My master of public health degree from the SMPH prepared me for the concepts of pandemic management, although the scope of the COVID-19 pandemic was uncharted territory for everyone. Also, my experience in the SMPH's Training in Urban Medicine and Public Health (TRIUMPH) created an exceptional foundation for understanding the role of institutional racism and disparities of housing, education, employment, health and more. TRIUMPH equipped me to address these issues as a physician and advocate.

What advice do you have for others?

My best advice is to listen more, take care of each other and be kind to yourself.

Jonathan Temte, MD '87, PhD (PG '93)

Associate dean for public health and community engagement, UW School of Medicine and Public Health; professor, SMPH Department of Family Medicine and Community Health; physician, Wingra Family Medical Center, Madison

How has the pandemic affected your role?

I have been involved with respiratory virus surveillance for 27 years, including studying such viruses in communities, schools, primary care practices and long-term care facilities.

Since March 2020, I have seen post-COVID patients in my primary care practice. I also have been helping lead the UW-Madison COVID-19 testing effort and Smart Restart to have faculty, staff and students safely re-enter campus activities.

I am the principal investigator of the UW-Madison SARS-CoV-2 Incidence Surveillance Program for faculty and staff. I also provide ongoing SARS-CoV-2 surveillance through ORCHARDS (ORegon CHild Absenteeism due to Respiratory Disease Study) located in the Oregon, Wisconsin, School District; serve as co-chair of the Wisconsin State Disaster Medical Advisory Committee's Subcommittee on Vaccine Allocation; and am a member of the Oregon School District Medical Advisory Committee. I also serve on the Wisconsin State Disaster Medical Advisory Committee and its Subcommittee on Ethics. On the national front, I am a member of the U.S. Centers for Disease Control and Prevention Advisory Committee on Immunization Practice's COVID-19 Vaccine Work Group.

Your observations?

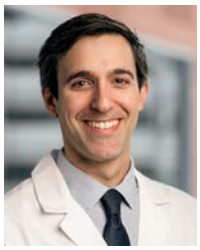
This pandemic offers a reminder of the ever-present danger of respiratory viruses, and it underscores the incredible potential for global spread in a frighteningly short time. We also

have seen the essential need for public health and the detrimental effects that can occur when public health measures are ignored.

I have seen the importance of competent leadership on a national scale, and the high cost of turning rational response into a political activity.

Clear leadership, concise messaging and crafted communication skills are needed to fully respond to a public health emergency.

Benjamin Weston, MD '11, MPH '10, FAEMS



Associate professor, Division of Emergency Medical Services, Department of Emergency Medicine, Medical College of Wisconsin, Milwaukee; director of medical services, Milwaukee County Office of Emergency Management; medical director, Milwaukee County/City/ Municipality COVID-19 Unified Emergency Operations Center

How has the pandemic affected your role?

My normal role consists of overseeing emergency medical services for the 15 fire departments throughout the county. I was asked to become the medical director of the COVID-19 Unified Emergency Operations Center for the city/county/municipalities of Milwaukee County. I have helped oversee the medical aspects of the COVID-19 response in our region, including testing strategy, messaging, and vaccination efforts.

Your observations?

The pandemic has strained all of our public health and health care infrastructure. In Milwaukee County, we were able to overcome many challenges by taking a proactive approach to create a unified structure, including public health, health care, government, business, academia and community partners.

We also learned that transparency and clarity in data sharing was critical to understanding the pandemic and our ability to respond. Data brought to the forefront stark disparities, which we addressed by creating testing and vaccine allocation models.

I realized the power of collaboration and partnership in achieving positive change. Creation of our Unified Emergency Operations Center allowed our 11 health departments and stakeholders to work side by side.

Additionally, clear, concise, calm and honest language was critical to effective messaging and public engagement.

What advice do you have for other health care professionals?

Vaccine distribution is picking up and we remain cautiously optimistic that the worst may be behind us. As health care professionals, we are looked at as an example. By adhering to guidelines and providing honest, measured assessments of our situation, we can help smooth the transition out of this pandemic.

Jasmine Wiley, MD '14 (PG '17)

Family medicine physician, ThedaCare, Shawano, Wisconsin; head coach, Bay Nordic High School Ski Team; U.S. Ski and Snowboard Association level 100 certified nordic ski coach

How has the pandemic affected your role?

I provide outpatient and inpatient care in rural health clinics and a critical access hospital, ThedaCare Medical Center-Shawano. The center has been a key site for the COVID-19 response. Our teams provide inpatient care, coordinate testing and administer vaccines. In fall 2020, our hospitals were up to 95 percent capacity. Throughout the pandemic, we have provided excellent, safe care. I was part of the planning team that determined how we would handle very critically ill patients in the small town of Shawano if the region's intensive care units became overwhelmed. Gratefully, so far, we have not needed to utilize that planning!

Over the past year, I also have served as the medical advisor for local school districts and have helped develop their pandemic plans and school re-opening plans. I work with school nurses and superintendents to support decision making and risk mitigation as schools have re-opened. Further, in April 2020, I became the medical advisor for the Shawano-Menominee Counties Health Department. That role has expanded as I have delved deeper into a partnership with the department's public health nurse and the county board to develop plans for COVID-19 testing, contact tracing and vaccinating community members.

Your observations?

Practicing medicine in rural Wisconsin during a pandemic has been exhausting and rewarding. I have had the privilege to work with hard-working, caring team members, and I am deeply proud of them. An amazing thing about the pandemic is the amount of camaraderie, information sharing and support health care professionals have provided to each other. I am extremely grateful for the speed and amount of research related to COVID-19 and how quickly new information was made available to clinicians as new treatments and strategies were realized.

Lessons have been about having patience with ourselves for not having all the answers, and having the flexibility to rapidly change routines at home and work. Remembering that we all have faced challenges has been key to continuing to provide compassionate care for patients and the community.

For many patients and community members, the evolving information throughout the pandemic has been confusing and created avenues for misinformation. I wish we had been able to anticipate those challenges and realize the speed with which misinformation can travel on social media!

What advice do you have for others?

Vaccines are a turning point, but we will be in this journey for quite a while yet. I hope we will continue to support one another and that everyone remembers to take care of themselves, too!

Know Your Class Representatives

Each University of Wisconsin School of Medicine and Public Health (SMPH) graduating class has one or more class representatives who play an integral role in working with the Wisconsin Medical Alumni Association (WMAA) to keep in touch with their classmates. Those featured here are celebrating milestone years in 2021, and some are planning virtual reunions (details forthcoming). Social connection remains an important part of the SMPH community, so please watch for additional details from the WMAA.

Roger Rathert, MD '66

See *Quarterly*, Volume 22, Number 1, 2020, for answers to the Q&A when Rathert served as the class representative for the Half-Century Society.

Keith Sperling, MD '66

What type of practice are you in now, and where?

Following a rotating internship in Denver and two years in the U.S. Navy, I completed a physical medicine and rehabilitation residency and neurorehabilitation research fellowship. After five years in private practice in Minneapolis, I joined the University of Minnesota faculty to direct its National Spinal Cord Injury Center. Seven years later, I was recruited to the SMPH and UW Health, where I worked for two decades, including serving as the head of the Department of Orthopedics and Rehabilitation's Division of Rehabilitation and, for 11 years, as the director of the Rehabilitation Medicine Residency Program. I retired as a professor emeritus.

What's your fondest memory of medical school?

We were a diverse, cooperative group, and our friendships endure today. I am proud of our classmates' many accomplishments.

What SMPH faculty do you remember the most, and why?

Dr. Otto Mortenson stands out as an indefatigable educator who inspired many medical students. None of us can forget Dr. Leroy Sims, with his baritone voice as he taught physical diagnosis. And bright in my memory are my chats with Dr. William Middleton. I found it awesome that he spent so much time with medical students!

What are your hobbies/interests?

A lifelong outdoorsman, I help establish wetlands and upland habitats. My wife of 59 years, Ellen, and I have had the pleasure of having a beach house on Lake Michigan in Door County and later a cabin on Lake Wisconsin. Our family has had much happiness on those lakes. Our grandchildren are pretty much the center of our interest. Two are studying pre-med fields, and the others have yet to establish their goals.

What are your plans for your reunion?

Dr. Roger Rathert and I will contact all classmates to encourage participation in our virtual reunion. Be there or be square!

Robert Folsom, MD '71 (PG '74)

What type of practice are you in now, and where?

I completed an internal medicine residency at UW Health, then entered three years of service in the U.S. Army in Virginia. Next, I entered private practice in internal medicine on Marco Island, Florida. I retired from that practice in 2015.

What's your fondest memory of medical school?

My fondest memories are attending Badger football games and participating in an externship in Nicaragua.

What SMPH faculty do you remember the most, and why?

I most remember Drs. William Middleton, Helen Dickie and Leroy Sims. They were great clinicians and role models.

What are your hobbies/interests?

I enjoy fishing, traveling, reading and listening to classic rock music.

Message to your classmates?

I plan to attend the virtual class reunion. I look forward to seeing and visiting with classmates. Medicine is a cruel mistress, and father time ages us all. So, please list your name in the online gathering so we will be able to recognize each other!

CLASS REPRESENTATIVES HONORING MILESTONES IN 2021

1966: Roger Rathert, MD '66, and Keith Sperling, MD '66
1971: Robert Folsom, MD '71 (PG '74), and Douglas Kramer, MD '71

Class Notes

Compiled by Andrea Larson

We want to hear from you!
med.wisc.edu/shareyournews

Class of 1965

Michael Davis retired from private pediatrics practice in 2003 in Santa Rosa, California. He practiced for 33 years following an internship in San Jose and residency at Stanford. Davis spent two years as a general doctor in the U.S. Air Force in Guam, where he met his wife, Lynn. Now married for 52 years, they have grown children and five grandchildren who live nearby. Davis still roots for the Badgers and has fond memories of his undergraduate and medical school years in Madison.

Class of 1971

Scott Mubarak is an emeritus director of the Orthopedics and Scoliosis Division, Rady Children's Hospital-San Diego, and a clinical professor at the University of California, San Diego (UCSD) School of Medicine. He and Alan Hargens, director, Orthopaedic Clinical Physiology Lab, UCSD, were honored for their research on pressure measurement using the wick catheter that is capable of important clinical applications in the diagnosis and treatment of acute and chronic compartment syndromes. Their research spawned more than 100 scientific articles and a textbook, and their work over 40 years has helped save many patients' limbs with compartment syndromes. Mubarak and Hargens will present their work at the 2021 annual meeting of the Association of Bone and Joint Surgeons in Chicago. Mubarak donated the prize money to Rady Children's Hospital.

Class of 1987

Cate Collings recently began a two-year term as president of the American College of Lifestyle Medicine, which educates members in the evidence-based practice of lifestyle medicine. This includes a whole-food, plant-predominant diet, regular activity, restorative sleep, stress management, avoidance of risky substances and inclusion of positive social connections. Board certified in cardiology and lifestyle medicine and certified in professional culinary and wellness coaching, she directs lifestyle medicine for Silicon Valley Medical Development and the El Camino Health Medical Network in the San Francisco Bay area.

Class of 2001

Janis Tupesis was selected for induction into the Order for the International Federation for Emergency Medicine, an honor given in recognition of an individual's extensive, continuous contributions to emergency medicine in their country and internationally. Noting that he is honored that his peers and colleagues acknowledged his work, Tupesis says he considers this a nod to the people with whom he has worked in the past several years.

Class of 2003

Matt Stiles, president of HealthEast Medical Staff, helped coordinate a $100,000 donation to Second Harvest Heartland by the medical staff from M Health Fairview's St. John's Hospital, St. Joseph's Campus, Woodwinds Hospital and Bethesda Hospital in the Twin Cities area of Minnesota. Bethesda Hospital recently was converted to a homeless shelter serving the St. Paul community. Stiles, his wife, Dr. Monica Chadha Stiles (MD '03), and their two children reside in Stillwater, Minnesota.

Class of 2019

Max Rusek and **Brittany McAdams** welcomed a son, Nolan Thomas Rusek, on December 10, 2020. They are second-year residents at Oregon Health and Science University, Rusek in internal medicine and McAdams in family medicine. They report that they ended 2020 feeling grateful for good health and holding hope for 2021.

IN MEMORIAM

Margaret A. Harris, MD '46
Westmoreland, New Hampshire
December 9, 2020

Delfin J. Beltran, MD '53
Andover, Kansas
December 5, 2020

Joseph F. Contasti, MD '53
El Cajon, California
February 16, 2020

Lawrence M. Field, MD '55
New Braunfels, Texas
October 2, 2020

Robert M. Feldstein, MD '58
Thousand Oaks, California
January 13, 2021

John E. Mielke, MD '58
Appleton, Wisconsin
November 4, 2020

Darold A. Treffert, MD '58
Fond du Lac, Wisconsin
December 14, 2020

David W. Westring, MD '58
Madison, Wisconsin
January 24, 2021

John R. Larson, MD '59
Madison, Wisconsin
February 28, 2021

David J. Ottensmeyer, MD '59
Huntsville, Alabama
November 8, 2020

John R. Bentson, MD '61
Pacific Palisades, California
December 28, 2020

Dean A. Magnin, MD '61
Marinette, Wisconsin
January 15, 2020

Thomas E. Galloway, MD '80
Hempstead, New York
October 15, 2019

Graduate Student
Zhan "Ross" Luo
Madison, Wisconsin
January 27, 2021

Former Faculty Members

David G. Dibbell Sr., MD
Madison, Wisconsin
November 19, 2020

Peter L. Eichman, MD
Green Valley, Arizona
January 7, 2021

William E. "Bill" Segar, MD
Indianapolis, Indiana
February 1, 2021

David P. Simpson, MD
Seattle, Washington
December 19, 2020

Goodbye Dear Friends

DAVID G. DIBBELL SR., MD

Retired Colonel David G. Dibbell Sr., MD, professor emeritus and past division chair of plastic and reconstructive surgery at the University of Wisconsin School of Medicine and Public Health—and a giant in his field—died on November 19, 2020, in Madison, Wisconsin.

Dibbell earned his medical degree from the University of Pennsylvania and completed residencies in general and plastic surgery at Yale and Stanford Universities. In addition, he trained as a fighter pilot and served in the U.S. Air Force from 1959 to 1974, including a year in Vietnam. There, he was appointed as the sole faculty member of the medical school in Hué in charge of a 1,000-bed hospital and 800-bed leprosarium; he treated patients from both sides of the conflict.

Next, Dibbell started the first U.S. Air Force reconstructive surgery program, in San Antonio, Texas. He eventually was recruited to UW-Madison to build its first reconstructive surgery program. He also created the university's renowned international outreach programs to provide surgical care in Central and South America. Known as a master surgeon and passionate educator, Dibbell developed several standard-of-care techniques, ultimately receiving the James Barrett Brown Prize in Plastic Surgery from the American Association of Plastic Surgeons.

"Few plastic surgeons besides Colonel Dibbell have impacted millions of patients by virtue of their ingenuity, intelligence and sheer bravery," says Michael Bentz, MD, chair of the Division of Plastic Surgery. "Perhaps most importantly, his professional legacy lives in all of us who learned from him, whether as residents, colleagues or faculty partners, who now 'carry on,' as he would say. In spite of the sadness, we move forward as better surgeons and educators for having known him."

PETER L. EICHMAN, MD

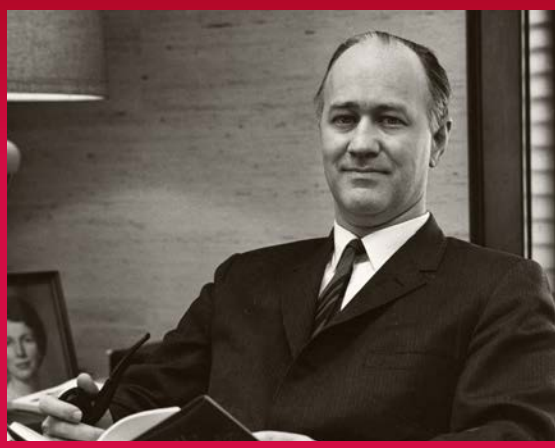
Peter L. Eichman, MD, a former dean of the University of Wisconsin School of Medicine and Public Health (SMPH), passed away on January 7, 2021, due to heart failure. He was 95.

The professor emeritus of neurology and medicine earned his medical degree from Jefferson Medical College in Philadelphia, trained at Walter Reed Army Hospital, performed research in Germany and further specialized at the Mayo Clinic.

In 1954, Eichman began a nearly 50-year stint on the faculty of the then-named UW Medical School. At age 40, in 1965, he became the youngest dean in the school's history. Colleagues described him as bright, energetic and capable from his experience with the student health department and administrative prowess.

During the approximately five years he served as dean, Eichman guided the school through an important period of expansion from central campus to the west end of UW-Madison—changes that led the school toward becoming what it is today: a vast, powerful and comprehensive academic medical center. Historical accounts indicate that many people respected Eichman for helping the Clinical Sciences Center (CSC) on the west campus become a reality and overseeing a revamp of the medical curriculum. But it was not easy, as Eichman helped the school navigate politics and financial pitfalls related to this expansion; the federal government's first major science- and medicine-related initiatives; and the tumultuous period of Vietnam War protests—including the bombing of Sterling Hall—on the UW-Madison campus.

"Nobody was more important than Dr. Eichman in establishing the CSC and thereby securing a bright future of growth



and achievement for our institution," recalls Philip Farrell, MD, PhD (PG '72), former dean of the SMPH. "He created the foundation that continues to advance the school's missions."

Later in his career, Eichman held additional roles with the UW System and the National Institutes of Health and raised money to help eradicate polio.

WILLIAM E. SEGAR, MD

William E. "Bill" Segar, MD—a pioneer in pediatric fluid and electrolyte balance and a former chair of the University of Wisconsin School of Medicine and Public Health's (SMPH) Department of Pediatrics—died in Indianapolis, his hometown, on February 1, 2021. He was 97.

Segar earned his medical degree from the Indiana University (IU) School of Medicine; he also completed a pediatrics residency at IU's Riley Hospital for Children and a pediatric nephrology fellowship at Yale University. Segar served in the U.S. Army before joining the faculties of IU, and later, Mayo Clinic in Minnesota.

At IU, Segar and Malcolm Holiday, MD, developed the Holiday-Segar Formula, which was published in *Pediatrics* in 1957. It is still used today to calculate fluid and electrolyte requirements for children.

Segar joined the SMPH Department of Pediatrics in 1970, served as acting chair in 1974 and chair from 1975 to 1985, and retired as an emeritus professor in 1996.

"Bill's work significantly improved the care of children hospitalized with diarrheal diseases," says Aaron L. Friedman, MD (PG '78), a colleague of Segar's and chair of pediatrics from 1996 to 2005. "His imprint was huge. As chair, he grew our faculty, funding level and reputation."

In the SMPH Department of Pediatrics, Segar launched new divisions and recruited more than 30 faculty members, including two who succeeded him as chair: Philip M. Farrell, MD, PhD (PG '72), who became dean of the SMPH, and Friedman, who became dean of the University of Minnesota Medical School.

Noting that Segar created a widely heralded mentoring program, Kathleen Maginot, MD '89—an SMPH associate professor of pediatrics who was among Segar's first student mentees in the program—says, "He sat alongside medical students in class and rotated with us on the wards. He was a superb role model."

Oncologists consult at the UW Cancer Center Johnson Creek.

ALLISON REMIKER, MD '12

I am an assistant professor of pediatrics at Northwestern University Feinberg School of Medicine, and a pediatric hematologist in the Division of Pediatric Hematology, Oncology, Neuro-Oncology and Stem Cell Transplant at the Ann and Robert H. Lurie Children's Hospital of Chicago. I began practicing in Chicago two years ago after my pediatrics residency and pediatric hematology/oncology fellowship in Indianapolis and Cincinnati, respectively.

I initially became interested in pediatric hematology/oncology as a volunteer at the American Family Children's Hospital as an undergraduate student. I found the patients' courage and tenacity to get better inspiring. Later, I became interested in the biology of blood cells—their potential aberrancies fascinate me.

I have had the opportunity to develop and direct the Lurie Children's Hospital Immune Hematology Program and co-direct our multidisciplinary clinic, among few in the Midwest. We care for children with many conditions, including immune dysregulatory disorders. I also have conducted hematology/oncology research, for which I received an American Society of Hematology Research Training Award for Fellows.

A memorable case was a teenage girl who had been an inpatient for several weeks with multiorgan dysfunction, including kidney failure, without a diagnosis. Through my consultation, we recognized that she had significantly abnormal lymphadenopathy, signs of autoimmunity and abnormal immune cells. Advanced analysis showed that she had idiopathic Multicentric Castleman Disease (iMCD), further classified to iMCD-thrombocytopenia, ascites, reticulin fibrosis, renal dysfunction and organomegaly.

Although her rare condition is difficult to treat, we have been able to give answers to her and her family and guide her treatment. Through caring for this young woman, I recognized the power of multidisciplinary care and listening to patients.

I have been lucky to treat a number of inspiring patients. It truly is a privilege to care for children and young adults.

GABRIELLE ROCQUE, MD '07 (PG '10, '13)

As a medical oncologist and health services researcher at the University of Alabama at Birmingham, I specialize in breast cancer, with a focus on metastatic breast cancer. I did my residency and fellowship at UW Health in Madison.

So many patients have touched my life as a physician, and I particularly reflect upon those who I have had the opportunity to really get to know, including their families. While a cancer diagnosis can be devastating, it sometimes helps put life into perspective and brings out the best in people as they consider what is really important to them. Most often, they realize it is people they care about the most.

Many factors contributed to my choice of specialty. As a medical student, I found several inspiring teachers, including Dr. Elizabeth Silverman, who taught in the hematology course. I also was influenced to pursue this path by my father, Dr. Paul LeMarbre, who was an oncologist in Waukesha, Wisconsin, at the time.

As a fellow, I was interested in all areas of hematology and oncology, but I was drawn to breast cancer due to the patient population and great mentorship from the breast oncology team at University of Wisconsin School of Medicine and Public Health and UW Health. These physician-researchers include Drs. Mark Burkard, Kari Wisinski and Amye Tevaarwerk.

I am very involved in several national organizations and hold leadership roles in the American Society of Clinical Oncology, the Eastern Cooperative Oncology Group and the Translational Breast Cancer Research Consortium.

I encourage medical students to listen to their hearts and take ample time to decide on the career to which they want to dedicate their lives. This has to be something that you can't wait to get to, starting the moment you get out of bed in the morning. In short, align the work with your passion. I also encourage students to be persistent and patient.

STUART S. WINTER, MD '88

Following a 22-year career at the University of New Mexico, in 2017, I joined Children's Minnesota, where I am a practicing pediatric hematologist/oncologist, as well as the chief research officer for the organization. My specialty includes the treatment of acute leukemias and lymphomas.

During my fellowship at Duke University, I became intrigued by the importance of translational research in the conduct of human clinical trials. Recently, my study team in the Children's Oncology Group found that one way of giving methotrexate with a guanine analog was more effective compared to other approaches for people suffering from T-cell acute lymphoblastic leukemia/lymphoma. The study accrued 1,895 patients from six countries, and it took more than a decade to organize and conduct. In retrospect, I realize that my job in summer 1985 at the University of Wisconsin Comprehensive Cancer Center (now the Carbone Cancer Center) played an important role in helping me with my career choice.

I often travel by air between New Mexico and Minnesota. Because of the pandemic, I chose to drive between these two states in summer 2020. Throughout those long drives, I was amazed by the big skies, beautiful landscapes and important historical perspectives that are offered in central and western America.

I also feel very fortunate to have attended the UW School of Medicine and Public Health when I did. It's been 32 years since I shook then-Chancellor Donna Shalala's hand while receiving my diploma; I was well prepared for what came next in my training and career.

A Lifetime of Service to Help Veterans in Need

REBECCA L. HAWKINS, MD '78 (PG '81)

by Masarah Van Eyck, PhD

To Rebecca L. Hawkins, MD '78 (PG '81), "service" just means doing her part—and in her case, it's helping run a ministry for homeless veterans after spending 30 years healing patients at the Veterans Administration (VA) Medical Center in Phoenix, Arizona.

Further, Hawkins isn't one to celebrate her own accomplishments. That said, she was disappointed when the COVID-19 pandemic caused the Wisconsin Medical Alumni Association (WMAA) to cancel its spring 2020 Awards Banquet, which honors distinguished alumni of the University of Wisconsin School of Medicine and Public Health (SMPH).

As that year's recipient of the WMAA's Ralph Hawley Distinguished Service Award, Hawkins was recognized for her contribution to her community in Phoenix, where she runs a charity for homeless veterans. But the reason Hawkins was disappointed didn't relate to celebrating her own award.

"I was hoping I'd be able to talk to other doctors who might be interested in starting a program like mine," she explains. "I consider myself blessed to be able to do this."

Her ministry—St. Joseph's Baskets, named for the Patron Saint of the Homeless—helps previously homeless veterans settle into their new homes. Having founded the charity after she retired in 2012 and run it with minimal help, Hawkins appreciates any opportunity to share with her peers how they can support services like hers (see sidebar article).

The Well-Being of Being Home

"You cannot take care of anything without a home," Hawkins says when asked why she turned her attention specifically to the veteran housing crisis. "Living on the streets, they can't cook a meal, they can't shower."

Having witnessed veterans sleeping under bridges, where they are exposed to the elements and crime, Hawkins decries, "Our veterans are dying in the streets. It's unconscionable that we treat them this way after they served our country for us."

Most often, homeless veterans present in emergency rooms to seek treatment for illnesses or they are identified on Phoenix streets by local outreach groups, such as Community Bridges, Inc. With help "getting into the system," veterans can secure housing through the Project H3 Vets Program, Hawkins notes. Yet they often arrive to their new homes with few, if any, belongings.

That's when Hawkins arrives. She greets them at the door with boxes and bags filled with housewares—like wastebaskets, mops, dishes and bed sheets—which she delivers in the back of her car.

"We come in with everything for the kitchen, bedroom and bathroom, including all sorts of hygiene and cleaning products," she says, adding that another group supplies furniture.

Hawkins runs the charity out of her church and collects all the necessary items with the help of another volunteer. She stores the items in the garage of her home, which she shares with Tom Schroer, to whom she has been "happily and chronically engaged" for 21 years.

Because each "basket" costs upwards of $200, Hawkins is in a constant state of collecting and gathering.

"Shopping for the items and delivering the baskets, that's the easy part," she says of her never-ending pursuit. "It's the fundraising that's hard—especially after you've tapped all your friends and family!"

A History of Hard Work

Looking back on her training and career, it's clear that Hawkins has never been one to shy away from hard work. After earning her medical degree at the SMPH, the Onalaska, Wisconsin, native completed an internal medicine residency at UW Health, including University Hospital, where she eagerly participated in 10 pm rounds with Dennis G. Maki, MD '69, the (emeritus) Ovid O. Meyer Professor of Medicine in the Division of Infectious Disease and Division of Allergy, Pulmonary and Critical Care Medicine in the SMPH Department of Medicine.

"Dr. Maki has always been the smartest guy in the room," Hawkins says of her mentor, whose reputation for high standards is universally known. "We were all happy to round with him because he knew so much and was an example of what it meant to be a great and compassionate physician."

Hawkins also remembers SMPH Professor Helen Dickie, MD '37 (PG '42), with equal appreciation. While Dickie was known to be a tough instructor, Hawkins shares, "If you worked hard, she had your back."

Adding that the medical field was male-dominated at the time, Hawkins says, "Dr. Dickie was my champion in so many ways" and later became a friend.

More than Prescribing a Pill

Shaped partially by her early experiences, Hawkins has been drawn to a similar combination of resoluteness and loyalty in the type of patients she serves. For instance, she proudly recalls caring for the last surviving Spanish War-era veteran.

And she adds, "I always have seen World War II veterans as real gentlemen, even if they were a little crusty when they spoke."

While the average age of her patients has gradually gotten younger over the three decades she worked at the VA Hospital, in the beginning, Hawkins served mostly men in their 60s and 70s. In fact, on her first day on the job, she learned that she would be running the hospice ward, a responsibility she remembers as the most rewarding time in her career.

"You could do so much to help veterans and their families through the dying process," she explains.

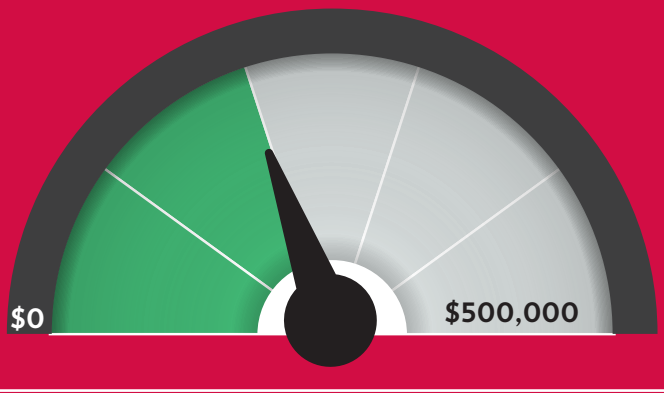
Beyond keeping the patients comfortable, "just being present" was a skill Hawkins embraced. As a young physician, she simply sat and listened as a dying veteran described his harrowing account of the Bataan Death March.

"For me it was a real blessing," she says of the listening practice, which she continued over the years. "You learn a lot of life lessons. You grow up. It's not just like prescribing a pill. It's a much more intimate experience."

—Continued on page 34

Helping Medical Students Succeed

GENEROUS DONORS TAP WMAA MATCHING FUNDS TO FUEL NEED-BASED SCHOLARSHIPS



Steve Wiesner, MD '85

FelixYip, MD '80

Brian Arndt, MD '05 (PG '08)

Kimberly Arndt, MD '05 (PG '09)

Mathew Aschbrenner, MD '06

John Toussaint, MD '51

by Kris Whitman

Many generous contributors have doubled their gifts through a matching fund launched in fall 2020 by the Wisconsin Medical Alumni Association (WMAA).

Aimed at decreasing the debt experienced by medical students at the University of Wisconsin School of Medicine and Public Health (SMPH), the fund offers a $12,500 match once that amount in new gifts has been received for a need-based scholarship. Individuals, families or classes can create a new need-based scholarship or contribute to an existing one.

The Class of 1985 was the first to endow its scholarship fund, created in 2015, which had not grown enough for medical students to benefit from it. At their virtual class reunion in October 2020, **Tim Gundlach, MD '85**, and **Steve Wiesner, MD '85**, provided "jump-start" donations and encouraged classmates to step up. In a follow-up letter to classmates, they noted that in-state tuition in 1985 was $6,014, and today, it is $39,614, with an average debt for a graduating SMPH medical student of $157,000.

In January 2021, WMAA Executive Director Karen Peterson wrote to the class, "I'm delighted to report that your SMPH Class of 1985 Scholarship Fund has $13,813 in new gifts and is now endowed; the WMAA will be adding $12,500 to your class fund thanks to your generosity. Thank you to those generous class members who are providing scholarship support to be awarded to deserving UW medical students who have a financial need."

Wiesner feels "forever grateful" to have received a scholarship as a medical student and for his overall experience at the SMPH.

"The four years of medical school were some of the most meaningful and important years of my education. I always felt supported by my classmates, by the staff, by the professors and by the opportunities that were available to me," says Wiesner.

He adds, "Many of my wonderful memories are due to our amazing Class of 1985 and the respect we showed to one another. I hope that, through our class fund, future medical school graduates can look back at their four years as being positive."

A Glendale, Wisconsin, native, Wiesner completed his physical medicine and rehabilitation residency at Northwestern University Medical School/The Rehabilitation Institute of Chicago (now the Shirley Ryan Ability Lab) and enjoyed a career of more than 26 years at Kaiser Permanente in Northern California. He is embracing retirement and continues serving on the WMAA Board of Directors.

Another SMPH alumnus in the Golden State, **Felix Yip, MD '80**, rallied support for the Class of 1980 Great People Scholarship Fund, to which he contributed significantly through the matching program.

"After our 40-year virtual reunion, I thought about those things for which I'm grateful and decided to write a letter to my classmates to encourage them to give to the scholarship, with the ultimate goal of reaching $1 million," says Yip.

Having completed an internship at Los Angeles County-University of Southern California Medical Center, a urology residency at Kaiser Foundation Hospitals in LA, and a pediatric urology fellowship at the University of British Columbia Children's Hospital, Yip has practiced urology in the LA area since 1987.

His role in the pandemic response made him aware of the heavy toll on the people of California, and he comments, "Generally, you think you can stay healthy by exercising, eating right and staying active, but COVID-19 can change your life without notice."

A realization of life's unpredictability increased the desire for Yip and his wife, Mildred, to increase their giving. And thinking about his move from Hong Kong to earn his undergraduate degree from UW-Madison and medical degree from the SMPH elicited memories.

For instance, Yip explains that his parents had less than an elementary school education, but they stressed the importance of education as a key to a healthy society, and they donated to schools. At UW-Madison, Yip received a Knapp Scholarship.

"I owe my career to the UW School of Medicine and Public Health. The faculty and my classmates were very good to me, and several helped me become who I am," recalls Yip, who pledged a dollar-for-dollar match for his classmates' donations to the class fund, in addition to the WMAA match.

Noting that the Class of 1980 fund has reached $691,800 as of March 15, 2021, he continues, "I hope our donations will reduce medical students' financial load so they can focus on their career choices."

With similar goals, **Brian Arndt, MD '05 (PG '08), and Kimberly Arndt, MD '05 (PG '09)**—classmates who have since married—helped establish their class fund at their 15-year virtual reunion in fall 2020.

According to Brian Arndt, scholarships helped them pursue their goals, and they wish to extend that gift to others.

Since graduating from the SMPH, Brian Arndt completed a family medicine residency in the UW Department of Family Medicine and Community Health (DFMCH), and Kimberly Arndt completed a transitional residency at Gundersen Lutheran Health System in La Crosse, Wisconsin, and a physical medicine and rehabilitation residency with the UW Health Department of Orthopedics and Rehabilitation. Now on the DFMCH faculty, Brian Arndt conducts research; teaches medical students and residents; and practices family medicine at the UW Health Verona Clinic. And Kimberly Arndt is a physical medicine and rehabilitation physician for the Wisconsin Department of Health Services.

Kimberly Arndt shares, "We helped start the Class of 2005/WMAA Scholarship Fund because the financial burden from medical school tuition is carried forward for years. Without help, this factor may impact medical students' decisions about future specialties."

Brian Arndt adds, "The WMAA matching funds helped us reach an endowed scholarship. This is a great way to give back to our alma mater in our home state."

Mathew Aschbrenner, MD '06, feels similarly about the Class of 2006 Scholarship Fund, for which he and **Katherine Nixdorf, MD '06**, rallied support and made donations.

"When I was in medical school, I received generous scholarships, which eased the pain of the large debt I accumulated. I knew that once I had the means, I would continue to pay forward my gratitude by contributing to scholarships," says Aschbrenner.

Having completed an ophthalmology residency at the University of North Carolina and a retina fellowship at Barnes Retina Institute in St. Louis, he is a vitreo-retinal surgeon in a private ophthalmology practice in his hometown of Wausau, Wisconsin. He also serves on the WMAA Board of Directors.

"I hope my gifts help students focus less on debt and more on becoming excellent doctors," Aschbrenner reflects, adding that scholarship funds continue in perpetuity.

John Toussaint, MD '51, agrees. He and **his wife, Carol,** find pleasure knowing they are making a difference through their gift to the Class of 1951 scholarship, with WMAA matching funds, and other ways they have supported the SMPH.

Following his high school graduation in Fort Atkinson, Wisconsin, Toussaint enlisted in the U.S. Army to qualify for a program at UW-Madison, where he spent one semester before basic training. In 1944, his infantry division was assigned to England and France.

Upon returning to UW-Madison, Toussaint earned bachelor's and medical degrees. He completed an internship in Fond du Lac, Wisconsin, a neurology residency at Wisconsin General Hospital (now University Hospital), and a fellowship at the Northern Colony in Chippewa Falls, with a stipend from the Wisconsin Department of Public Welfare. In 1958, he became the medical director of the newly built Central Wisconsin Center, which he helped plan. He is retired following 30 years of working with people with limited mental and physical abilities, as well as from his service as medical commander of the Wisconsin Air National Guard.

Carol Toussaint observes, "My husband definitely benefited from funds made available for medical education and service, and this inspired us to give back."

Since October 2020, nine new, endowed scholarship funds have been created with the WMAA matching dollars, in addition to seven existing funds that have reached the $12,500—plus the matching funds—required for endowment. As of March 24, 2020, $200,000 of the $500,000 matching dollars have been committed.

The minimum amount to endow a scholarship will increase from $25,000 to $50,000 on January 1, 2022.

If you are interested in creating a scholarship fund, please contact Sara Dillivan-Graves at Sara.DillivanGraves@supportuw.org or (608) 280-1124. The WMAA matching funds will be available until December 31, 2021, or until $500,000 of matching funds has been expended.

An Entrepreneurial Spirit

CHRISTOPHER "RUFUS" SWEENEY THINKS OUTSIDE THE BOX IN HIS TRAINING AND CAREER

by Beth Pinkerton

A close brush with death at age 15 set Christopher "Rufus" Sweeney down the path of becoming a doctor.

Sweeney had played three rounds of golf in the Oklahoma state tournament with a stomach ache that became so severe he collapsed. After what he describes as a very rushed exam, physicians at a public health center diagnosed him with Rocky Mountain Spotted Fever and prescribed antibiotics. When his condition became worse, Sweeney's parents took him to a private hospital for a second opinion. There, doctors diagnosed him as having an appendicitis and immediately rushed him into surgery.

"The surgeon said my appendix had ruptured, and if I had waited to finish the course of antibiotics, I wouldn't be here," Sweeney recalls. "I was really sick, and when I compared my two hospital experiences, I thought, 'I need to make an impact.' I didn't know what it would look like, but I knew I wanted to go into medicine."

Job shadowing and working in the medical field during his undergraduate studies at Brigham Young University in Utah validated his career choice. Getting to the University of Wisconsin School of Medicine and Public Health (SMPH) was somewhat of a happy accident.

Attending school in the Badger State hadn't been on his radar until he met a medical student from Yale University at a conference; that student told him that he liked Yale but wished he had chosen the SMPH because he sensed that it had a high level of support for students.

Applying to and attending the SMPH have been among "the best choices I've made in my life," Sweeney says.

Now a third-year medical student, Sweeney notes that a culture of support is championed within the SMPH from the highest levels of leadership on to professors and staff, and further to the student body. His respect and appreciation for Associate Dean for Students Gwen McIntosh, MD '96, MPH, and Associate Dean for Medical Education Shobhina G. Chheda, MD, MPH, runs deep.

"When I get a crazy idea, they don't shoot me down," Sweeney says. "They may offer suggestions if it seems that I've gotten my head in the clouds, but they'll say, 'Go for it! You know we'll support you any way we can.'"

As an Oklahoma Choctaw, Sweeney also expresses his gratitude to Lina Martin and Danielle Yancey of the SMPH's Native American Center for Health Professions.

Sweeney—who is known as a creative soul and prolific idea generator—says he inherited his entrepreneurial spirit from his paternal grandfather, who owned several gas stations, convenience stores and warehouses. Like him, Sweeney has been able to turn many ideas into reality with the support of SMPH faculty members and his partner, Miriam Bay Sweeney.

Rufus and Miriam Sweeney combined their knowledge and experiences—including his in medical school and from his work in admissions as an undergraduate student, and hers from degrees in technical editing and nonfiction creative writing—to launch Premed Muse (premedmuse.com) to help medical students write compelling personal statements. Rufus Sweeney also turned a bad experience with investing into a popular financial literacy elective for fourth-year medical students.

As newlyweds, the couple wanted to start planning for their financial future, and an acquaintance who worked for a large insurance company offered his services.

"He convinced us to invest in a product we didn't really need—especially prior to making any money. We sunk a bunch of funds into the investment he recommended only to realize two years down the road that it was a really bad investment," Rufus Sweeney shares. "We lost only enough to sting, but not enough to make a huge impact in the long run. But it was enough to get my attention and make me realize if this is a problem for me, it's likely a problem for a lot of people."

When Rufus Sweeney learned that the company targets medical and pre-med

The Sweeney family—Rufus, Eliot and Miriam—enjoy an outing on Picnic Point at UW-Madison.

students in addition to salaried medical professionals, he decided that he needed to quickly start spreading the word.

Rufus Sweeney chose to focus on financial wellness for medical students through his summer research project between his first and second years at the SMPH. Chheda advised him to find a faculty leader so the project would be sustainable. As fate would have it, a meeting on an unrelated project led Rufus Sweeney to connect with Gregory Avey, MD (PG '11), an associate professor in the Department of Radiology, who had been teaching a personal finance class to radiology fellows. Avey shared an interest in creating something to serve all SMPH students.

Having located a faculty partner and received a fellowship from the Wisconsin Medical Society, Rufus Sweeney began to put a plan into action. He recruited additional advisors, including Emma Crawford, manager of SMPH Financial Aid and Financial Wellness; Cliff Robb, PhD, associate professor in the personal finance major, UW School of Human Ecology; and Diana Wheeler, curriculum and electives manager of Phase 3 of the SMPH ForWard Curriculum. In March 2020, they launched an

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Kiley Elected as an AAAS Fellow for Microbial Gene Regulation Research

Patricia Kiley, PhD, professor and chair of the Department of Biomolecular Chemistry in the University of Wisconsin School of Medicine and Public Health (SMPH), was inducted as a fellow of the American Association for the Advancement of Science (AAAS) in February 2021. She is one of six fellows elected from UW-Madison at that time.

The honor, dating back to 1874, is bestowed annually on AAAS members who are nominated by their peers and honored for their efforts to advance science and society.

Kiley was elected for distinguished contributions to understanding mechanisms that regulate *Escherichia coli's* lifestyle in different oxygen environments, specifically how transcription factors exploit Fe-S metal centers for oxygen responses.

While oxygen can be life-sustaining, molecules that contain unstable oxygen atoms can damage essential biomolecules. To control oxygen reactivity, cells respond to it through sensing or stabilizing mechanisms. Kiley's interdisciplinary research team examines how cells sense oxygen and employ regulatory proteins such as iron and iron-sulfur to control gene transcription and thus gene expression in those cells.

The approaches and concepts they developed have provided important insights into how oxygen availability generally affects organisms, such as how *E. coli* survives in low-oxygen environments like the gut. The work has implications for bacterial disease control and manipulation of pathways that are normally inactivated by oxygen.

Fettiplace Wins Louisa Gross Horwitz Prize for Hearing Research

Robert Fettiplace, PhD, professor, Department of Neuroscience, University of Wisconsin School of Medicine and Public Health, received the Louisa Gross Horwitz Prize, his third international honor.

The prize, awarded annually by Columbia University, is given to a researcher or research group for an outstanding contribution in basic research in biology or biochemistry. Of the 103 Horwitz Prize winners to date, 51 have gone on to receive a Nobel Prize. Fettiplace shared the award with A. James Hudspeth, MD, PhD, Howard Hughes Medical Institute and Rockefeller University, and Christine Petit, MD, PhD, College de France and Institut Pasteur.

Fettiplace's research examines how hearing relies on interactions between the brain and structures in the ear. The prize committee called his work trailblazing in the biomedical sciences for showing that individual sensory cells, called hair cells, located in the inner ear are electrically tuned to specific sound frequencies and are arranged in an ordered pattern.

He also has shown that each hair cell is defined by the properties and location of ion channel proteins that allow detection of sound vibrations. Mutations of the genes encoding the proteins cause deafness.

In 2018, Fettiplace received his first prominent international research award, the Kavli Prize from the Norwegian Academy of Letters and Science, with Hudspeth and Petit. And in 2019, he received the Passano Award from the Passano Foundation, Johns Hopkins University and the University of Maryland School of Medicine.

Brown Leads Contract to Better Understand the Immune System

The University of Wisconsin School of Medicine and Public Health (SMPH) is one of four U.S. sites to receive a $2 million National Institutes of Health (NIH) Broad Agency Announcement peer-reviewed contract for research aimed at developing and refining in vivo animal models that closely mimic key aspects of the human immune system, in a more replicable and reproducible manner compared to existing models.

Through the three-year contract, the NIH is encouraging collaboration among the SMPH, Columbia University, University of North Carolina-Chapel Hill and University of Colorado.

Matthew Brown, PhD, assistant professor, Division of Transplantation, Department of Surgery (pictured), is the principal investigator at the SMPH. He and his colleagues are collaborating with Shannon Kenney, MD, the Wattawa Bascom Professor in Cancer Research, SMPH, an expert in the molecular regulation and pathogenesis of the Epstein-Barr virus (EBV), who co-leads the UW Carbone Cancer Center's Virology Program.

"With Dr. Kenney, we will explore the use of novel humanized mouse models for EBV pathogenicity studies," explains Brown, adding that the research includes investigation of the immune response in induced pluripotent stem cell-derived cells. "We believe this work will help inform future research in myriad fields."

Brown's team also is collaborating with investigators at the University of Massachusetts and The Jackson Laboratory in Maine.

This project has been funded in whole or in part with federal funds from the National Institute of Allergy and Infectious Diseases, NIH, Department of Health and Human Services, under contract number 75N93021C00004.

Weichert, Morris Lead Team with Federal Immunotherapy Grant

Research teams led by Jamey Weichert, PhD (top photo), and Zachary Morris, MD, PhD (PG '16) (bottom photo), at the University of Wisconsin School of Medicine and Public Health (SMPH) are investigating ways to make cancer cells susceptible to attack by the immune system.

Weichert, professor, Department of Radiology, and Morris, professor, Department of Human Oncology, are using immunotherapy with targeted radionuclide therapy in animal research to lay the foundation for future clinical trials. Their approach, funded by a $12.5 million National Cancer Institute grant, offers the prospect of treating any cancer in humans and dogs. It would allow physicians to treat tumors systemically, regardless of number and anatomic location.

Targeted radionuclide therapy links a radioactive atom to a molecule that is then intravenously injected and taken up mostly by cancer cells at all tumor sites in the body. The scientists have found in mice that using immunotherapy in combination with targeted radionuclide therapy can be more powerful than either approach alone. They will be investigating combinations of different immunotherapy agents to combat cancer's evasion of the immune system. The number of variables is potentially enormous, and only direct comparisons in controlled experiments will yield reliable results.

Gamm Leads Research with Department of Defense Grant for Vision

David Gamm, MD, PhD (PG '02, '03), is leading an international collaboration to develop and test a new way to treat U.S. military personnel blinded in combat.

A professor in the Department of Ophthalmology and Visual Sciences at the University of Wisconsin School of Medicine and Public Health and director of the McPherson Eye Research Institute, Gamm and his partners will use human induced pluripotent stem cells (IPSCs) to develop a transplantable patch to restore vision to armed forces who have sustained vision loss from combat injuries. The new project is titled Outer Retina Reconstruction for Combat Afflictions.

Shockwaves, high-powered lasers and blast injuries can damage photoreceptors and the retinal pigment epithelium (RPE), the cell layer underlying those light-sensitive cells.

The project, funded by a grant from the U.S. Department of Defense, will proceed in three phases. Gamm's team will work with Opsis Therapeutics (which he co-founded) to generate the photoreceptors and RPE. Another UW-Madison team will create biodegradable, micro-molded scaffolds (patch) that allow the photoreceptors to organize effectively before they are transplanted to the retina. And a team from the National Eye Institute and the United Kingdom will generate testing systems and assess surgical delivery using Yucatan swine, which have an eye structure similar to humans.

Gamm says the efforts could address eye diseases, such as macular degeneration, unrelated to combat injuries.

Sethi Honored with Chancellor's Distinguished Teaching Award

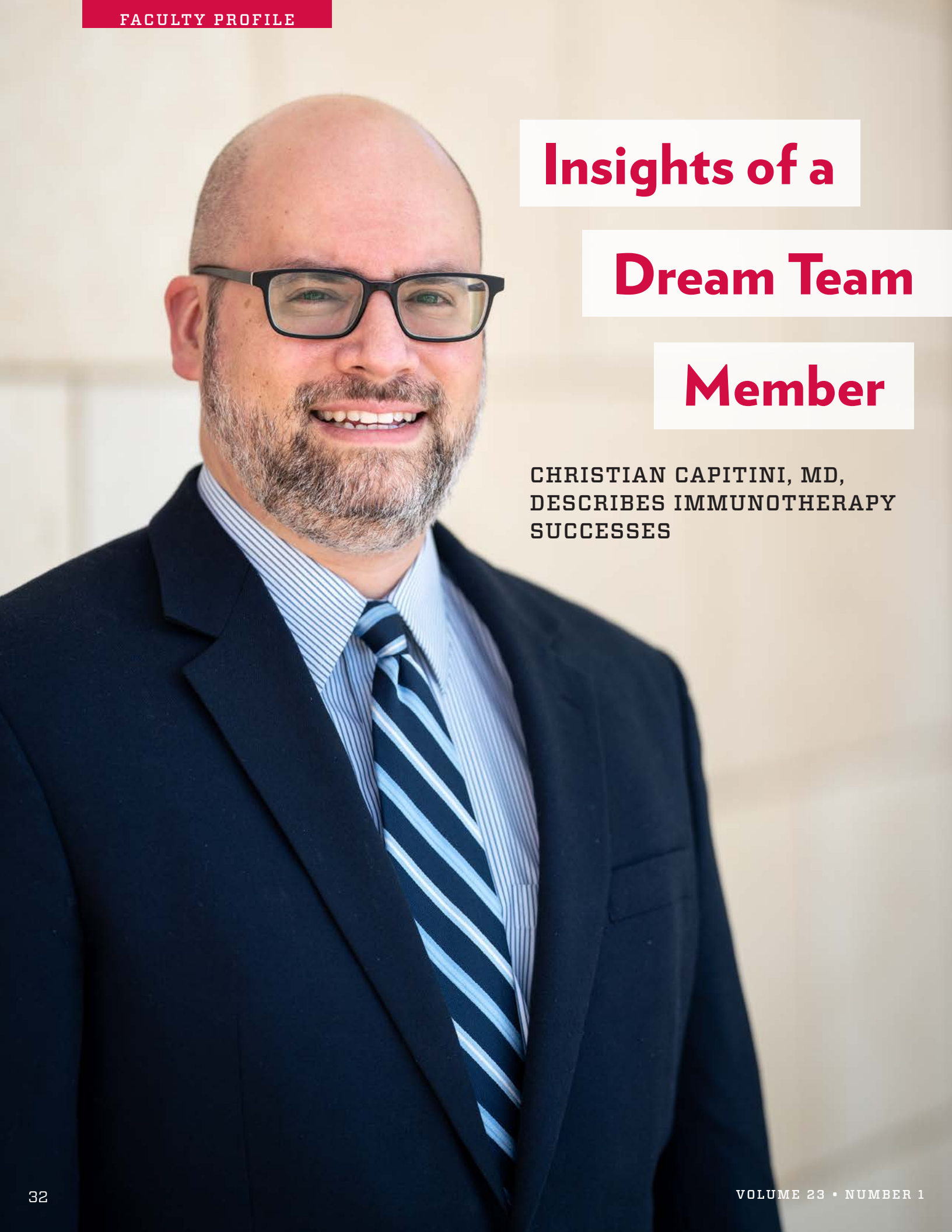
Ajay Sethi, PhD, associate professor, Department of Population Health Sciences at the University of Wisconsin School of Medicine and Public Health (SMPH), has been selected to receive a UW-Madison Chancellor's Distinguished Teaching Award, an honor established in 1953 to recognize the finest educators at the university.

Sethi has been the faculty director of the Master of Public Health (MPH) Program at the SMPH since 2014. In 2018, he was named the program's faculty member of the year. And in 2020, he was given the outstanding instructor award by the graduate students in the Department of Population Health Sciences.

Among several elective courses, he teaches the popular "Conspiracies in Public Health," which he developed several years ago during measles outbreaks that were occurring due to vaccine hesitancy. The course examines how and why conspiracy theories emerge in public health. During the COVID-19 pandemic, he worked with a team of modelers from UW Health and other partners to help project the effects of the pandemic on hospitalization and intensive care unit occupancy.

Sethi also conducts research in identifying modifiable factors related to infectious-disease transmission, morbidity and mortality. His portfolio includes work in HIV/AIDS, adult vaccination, adherence to antiretroviral therapy, and drug and alcohol abuse.

He will be recognized, along with 12 other award recipients, at a virtual event in April 2021.



Insights of a Dream Team Member

CHRISTIAN CAPITINI, MD, DESCRIBES IMMUNOTHERAPY SUCCESSES

by Chris Malina

Among the first things Christian Capitini, MD, wants to do once the COVID-19 pandemic is over is welcome visitors to his laboratory.

"It's really important to come here and see, with your own eyes, the kind of research that's going on. People can and should feel like this is their cancer center. They're a part of the mission just as much as we are," says Capitini, an associate professor in the Department of Pediatrics at the University of Wisconsin School of Medicine and Public Health (SMPH).

For nearly 10 years, he has maintained an active research lab at the UW Carbone Cancer Center while also providing care for children with cancer at the American Family Children's Hospital. It's a varied mix of clinical and laboratory responsibilities, but there's one big thread that ties it all together: immunotherapy.

While the idea of using the body's own immune system to fight disease isn't new, significant advances made at UW-Madison over the past decade have transformed immunotherapy into an increasingly viable treatment option, especially in pediatrics. And there's plenty on the docket in 2021 and beyond to push immunotherapy even further.

So, it's no wonder why Capitini is eager to get back to welcoming the public into his lab for a friendly tour.

From Madison, New Jersey, to Madison, Wisconsin

Capitini's interest in immunotherapy began in high school, during a chance summer internship at the Center for Molecular Medicine and Immunology in his home state of New Jersey.

"It made me so passionate about cancer immunotherapy," he recalls. "From that point on, I pursued every immunotherapy-related opportunity I could find."

After completing a bachelor of arts in biology with honors at Drew University in Madison, New Jersey, Capitini went on to earn his medical degree with distinction in research honors from the University of Rochester School of Medicine and Dentistry in New York. He also completed a residency in pediatrics at the University of Minnesota in Minneapolis and a fellowship in pediatric hematology/oncology at Johns Hopkins University and the National Cancer Institute in Baltimore and Bethesda, Maryland, respectively.

In 2011, Capitini was recruited to the SMPH—which he considered a perfect fit due to the program Paul Sondel, MD, PhD '75 (PG '80), was building around pediatric immunotherapy. Among other achievements, Sondel was instrumental in the testing and approval of dinutuximab, an antibody therapy aimed at treating children with high-risk neuroblastoma. The way Sondel approached and valued immunotherapy immediately appealed to Capitini.

"Most immunotherapies are developed as kind of a last-ditch treatment for patients who have failed all other options and have nothing left to consider," Capitini explains. "In the case of dinutuximab, that antibody was incorporated into up-front therapy. It was really nice to see it incorporated with our standard treatments, and to watch it dramatically impact survival."

The idea that immunotherapy could be built into the "fourth pillar" of cancer treatment, to stand alongside—and in some cases, replace—chemotherapy, radiation and surgery was a clear goal of the program, and Capitini quickly jumped in.

A First-of-its-Kind Cell Therapy

In recent years, Capitini has been particularly interested in CAR T-cell therapy, a type of immunotherapy used to treat certain hematologic cancers. During this multistep treatment, white blood cells, or T-cells, are withdrawn from a patient and modified with special receptors, known as chimeric antigen receptors or CARs. These new "supercharged" CAR T-cells are infused back into the patient so they can bind to cancer cells and destroy them.

With Capitini at the helm, UW Carbone participated in the first multicenter CAR T clinical trials. These phase II trials—which also were the first CAR T studies in Wisconsin—looked at the effectiveness of a specific therapy, known as tisagenlecleucel, in treating children with relapsed or refractory B-cell leukemia.

Thanks partially to testing at UW Carbone, the treatment was approved by the U.S. Food and Drug Administration in 2017; it was the first gene therapy approved by the agency. Soon to follow were other types of CAR T-cell therapy, including a similar version to treat adult patients.

"Most often, a new treatment is approved in adult cancer and then, if we're lucky, it gets tested in children and re-purposed," Capitini notes. "But dinutuximab and tisagenlecleucel showed that while pediatric cancers may be rare, we can study them and take what we've learned to potentially treat more common cancers in adults."

More research is underway to determine whether CAR T-cell therapy can be effectively used sooner in the treatment process. Like many immunotherapies, the CAR T approach is typically used only when a patient stops responding to more traditional treatments.

But another multicenter clinical trial led locally by Capitini is offering the therapy earlier to some patients who have a high risk of cancer recurrence.

"If that trial shows positive results, it would suggest that we can potentially move many of these exciting therapies into the up-front setting," he says. "More importantly, we could eliminate the use of chemotherapies that often have long-term, toxic side effects."

Later in 2021, Capitini will oversee UW Carbone's first multicenter clinical trial using CAR T-cell therapy in patients with solid tumors. He says this is important because while immunotherapy has made great strides in treating pediatric patients with hematologic malignancies, less progress has been made with solid-tumor cancers.

The study will target children with osteosarcoma, the most common bone cancer in children, and neuroblastoma, the most common pediatric solid tumor outside of the brain. If successful, the trial could pave the way for CAR T-cell therapy to be used as a treatment for many other types of cancer.

—Continued on page 35

Hawkins *continued from page 25*

Eventually, Hawkins left the hospice ward to serve in an academic clinical practice and, later, as a full-time hospitalist.

Although she says it broke her heart to leave her practice, she devoted herself equally to mentoring residents and medical students. For 20 years, she rounded on each patient first with residents, then with medical students and once more on her own, checking on each patient before writing notes late into the evening.

When it was time to retire, Hawkins says she was ready to leave medicine but not the community that has enriched her life.

"Veterans have given to me in many ways—both in their affection and in the sacrifices they have made for our country. I needed to do something to give back to them," she notes.

St. Joseph's Baskets has allowed her to maintain that sense of connection and drive. It also provides an endless source of fulfillment—one she hopes more people will embrace.

"It's really important to do something outside of yourself, outside of your own benefit," concludes Hawkins.

HOW TO HELP

Rebecca L. Hawkins, MD '78 (PG '81), welcomes questions from those who may want to start or participate in a charity like the one she runs; she can be reached at rebeccalynnhawkins@gmail.com. And for details about the organizations described, visit:

- The Franciscan Renewal Center: https://www.thecasa.org
- Community Bridges, Inc.: https://communitybridgesaz.org/

Sweeney *continued from page 29*

SMPH elective course called Radiology 914: Physician Financial Wellness.

The class has received positive evaluations, with multiple students sharing that it was the most personally valuable course they had taken in medical school. The two sections offered in spring 2021 filled immediately and had a waiting list.

In 2021, Rufus Sweeney and his team also secured a $100,000 AccessLex grant to research the course's impact. With it, they will measure baseline differences between under-represented minority (URM) students and their non-URM counterparts. They will then measure whether their course achieves equitable outcomes—that there is no distinguishable difference in financial knowledge, self-efficacy and behaviors.

Rufus Sweeney notes, "The course is less about dollars and cents and more about how to create a fulfilling type of life for yourself."

Pointing out that the course's goal is to prepare students to navigate important junctures during their careers, he adds, "When we talk about contract negotiation, for example, we don't focus just on how much money you can make. We talk about this in terms of what your ideal work life could look like and how to make that happen."

He continues, "For an individual, this may not be as much about salary as about flexibility with their time. Each person needs to feel fulfilled to take good care of patients."

As part of designing the life he wants, Rufus Sweeney envisions a career in preventive cardiology. And because he and his wife also have a 2-year-old son, Eliot, Rufus Sweeney decided to take a year off from classes to give himself time to focus on his next endeavor: creation of Longevity Solutions, an app to help American Indian patients reverse pre-diabetes.

"I have been impressed by Rufus' generosity and humanity, which are foundations of his character," says Avey. "The fact that he also has the grit and determination to implement the ideas conceived by his generous nature makes him an exceptional individual. Rufus is uniquely gifted in this regard. He is the sort of physician leader we need to nurture to help ensure the future of medicine."

Left to right: Rufus, Eliot and Miriam Sweeney

UW Prevention Research Center *continued from page 13*

community members, and students in public health, medicine, nursing and other fields. To that end, the center has partnered with prevention-related training programs, including the UW Preventive Medicine Residency Program. The residency focuses on applied public health and population medicine through practicum and clinical rotations, including at public health departments, accountable care organizations, community health clinics and hospital systems.

Explaining that the UWPRC's goal in such partnerships is to establish a pipeline of applied prevention researchers, Ehrenthal says, "Like all of our center's activities, training programs take a health equity approach."

Oversight and Guidance

As the UWPRC recruits members to its Community Advisory Board—structured to have equal representation from community members with lived experience (Family Circle) and individuals representing state agencies and organizations that provide services/advocacy (organizational partners)—it is building strong working relationships across many community and state organizations. Organizational partners have been instrumental in guiding recruitment of community members for the Family Circle. The full Community Advisory Board will be in place by summer 2021.

"Within the realm of our prevention research, we are focusing on what the community needs from us," says Gillespie. "At the beginning of the pandemic, the entire national network of centers shifted to best meet the needs of our partners."

Thus, the national PRC network has created a new committee to analyze ways that data from the center's research can help bolster efforts to reduce health and social inequities caused by cultural biases.

Janice Valenzuela, DVM, MPH '15, joined the center in September 2020 as the engagement and translation specialist. From her former position as the strategic outreach coordinator for the Minority Health Program at the Department of Health Services, she brings experience in engaging partners to address health disparities and equity issues across Wisconsin.

Janice Valenzuela, DVM, MPH '15

Future Plans

As the UWPRC sees its initial goals to fruition, it will branch into additional research projects that continue to explore ways to better understand how communities and individuals can avoid risks for chronic illnesses, explains Ehrenthal. And the small-grants program will continue to foster prevention researchers across campus and help faculty to become better prepared to actively work with community partners.

Capitini *continued from page 33*

Dream Team and Beyond

Capitini's immunotherapy work has received local and national recognition.

Along with other UW Carbone physician-scientists, he was named as an original member of the pediatric cancer Dream Team in 2013. A collaboration between the St. Baldrick's Foundation and Stand Up to Cancer, the nationally recognized Dream Team brings together experts in genomics and immunotherapy from different institutions—and provides much-needed funding—to find cures for difficult-to-treat childhood cancers.

More recently, Capitini and other UW Carbone immunotherapy researchers received a Team Science Award from the Society for Immunotherapy of Cancer (SITC), an honor bestowed only upon institutions that have significantly advanced the field over the past three decades.

"It's a tremendous honor to be on the list with such other prominent cancer programs," notes Capitini, who was elected an at-large director of the SITC in January 2021. "It really reflects the fact that it's a team effort here. I'm working on just one piece of a very large puzzle, with people who have non-overlapping areas of expertise and come together for a common problem."

In May 2020, Capitini was named as the co-leader of the UW Carbone's Developmental Therapeutics Program, which is aimed at improving cancer patient outcomes by discovering new targets for cancer therapy, developing therapeutic agents and biomarkers, and translating this research into early-phase clinical trials.

These are lofty goals, but Capitini believes the key to success involves bringing together researchers from throughout campus to forge new, unique collaborations. A perfect example is his recent collaboration with Krishanu Saha, PhD, an associate professor of biomedical engineering in the UW College of Engineering and an expert on the gene-editing technology CRISPR.

"Together, we're trying to design CAR T-cells using CRISPR Cas9, which is very different from how the current clinical products are made," Capitini explains. "We hope that will bring down the cost and improve the product's quality."

This type of collaboration and relationship keeps bringing Capitini back day after day, and it's why he calls UW-Madison home.

"There's no secret—it's the people that make this place special," he concludes. "You can really feel a shared mission here to move the field forward."

Caring and Character

MEDICAL STUDENTS' ESSAYS SHARE INSIGHT

KERN NATIONAL NETWORK
FOR CARING & CHARACTER IN MEDICINE

Recently, the Kern National Network for Caring and Character in Medicine (KNN) sponsored an essay contest called "Finding Inspiration: Character Exemplars" in some of its consortium medical schools, including the University of Wisconsin School of Medicine and Public Health (SMPH). The goal was for medical students to reflect on the definition of character and describe an example they've witnessed.

The KNN consortium and the Kern Institute aim to inspire trainees to become more than competent physicians but "exemplars of caring and character that inspire their local communities and inform a renewed social contract."

The SMPH Medical Writing Interest Group for students—particularly one of its leaders, Claudia Vilela, a first-year medical student—collaborated with Anne Stahr, director for faculty development programming from the SMPH Office for Faculty Affairs and Development and a member of the KNN, to promote and oversee the essay contest at the school.

SMPH medical students Hannah Sherfinski and Anna Heffron authored the winning and runner-up essays, respectively.

Winning Essay: Cultivating Character and Crafting Your Story

I'm a firm believer in the power of a good story. Recently, I started reading *Tattoos on the Heart* by Fr. Gregory Boyle. In this book, Fr. Greg shares stories about what it's like to live in a community with gang members, affectionately called his homies. These stories are filled with sorrow and grief, as communities continue to be ripped apart by gun violence and animosity, but there's also an overarching theme of hope. One night in bed, I read a line that gave me goosebumps: "Sooner or later, we all discover that kindness is the only strength there is." That's the power of stories—they give words to ideas we don't know how to express; they describe diverse characters who we can relate to or who challenge us; and they make us pause to reflect on our own lives and the stories that we want to tell.

Character, to me, is the accumulation of one's thoughts, words and behaviors that demonstrate how an individual aims to live her life—a mission statement, in action. When reflecting on a health professional who emulates authentic character, Dr. Dipesh Navsaria immediately comes to mind. Around UW Health, Dr. Navsaria (MPH, MSLIS, MD), is the bow tie-wearing, enthusiastic physician committed to promoting the well-being of children by integrating his passions for medicine, public health and literature. As the founding medical director of Reach Out and Read Wisconsin, Dr. Navsaria conveys the message that "books build better brains." Through the power of reading, early childhood relationships are strengthened between children and their caregivers, thereby promoting resilience and decreasing their risk for experiencing toxic stress.

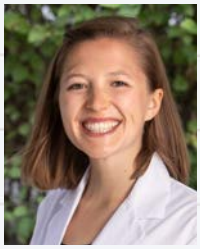
As a student pursuing an MD-MPH degree, I often find it difficult to imagine what a career in medicine and public health could look like. However, Dr. Navsaria beautifully merges his concern for his pediatric patient population with his desire to make society a place where families can thrive. Whether it's advocating for legislation that promotes safe, secure early childhood relationships or teaching public health and medical students about early brain development, Dr. Navsaria's words and actions convey his mission to promote the well-being of children. There is no doubt that Dr. Navsaria has a strong work ethic and determination, but more than anything, I'm impressed by the ways in which he utilizes compassion and creativity to amplify public health messages, such as through his monthly pieces in *The Cap Times* or his Reach Out and Read podcast. We need innovative strategies like these in order to overcome the health crises of our era—including COVID-19, racial injustice and climate change.

Dr. Navsaria has truly become my mentor. Like him, I am interested in how early-life trauma affects the developing brain. Specifically, I am passionate about working with foster youth, especially teens who are about to age out of the system. In the moments where I become anxious about finding my niche in medicine, Dr. Navsaria reminds me that instead

of fixating on the future, I should focus on pursuing experiences that help me become a more authentic version of myself—such as committing to Big Brothers, Big Sisters, writing letters to the editors about social causes that keep me up at night, or leading a student organization centered around environmental sustainability in the health care field.

Living with character requires introspection to know the values that are important to me and audacity to embrace a life of authenticity. I'm inspired by the way Dr. Navsaria lives his life, but he never expects me to mimic his actions. After all, there is no "right way" to pursue a career in medicine. Instead, he encourages me to reflect on how my unique character can shape the way I strive to live. As my mentor and a fellow lover of literature, Dr. Navsaria gives me the support I need to find my voice, pick up a pen and write my own story.

About the Author:



Hannah Sherfinski is a first-year medical student and is working on dual MD and master of public health degrees. She is from Hartland, Wisconsin, and hopes to practice in pediatrics and/or child and adolescent psychiatry.

Runner-Up Essay:
Not Only to Do No Harm

The patient was conscious and unsedated, but she looked up at me as though she was looking up through several feet of water. I knew she could tell I meant well for her, and I wanted to help her, but I also knew she did not know what would help, either. Drug-induced parkinsonism was a wild thing to behold, and, having dug through her medical history throughout the previous day, it was hard to believe she was actually here, sitting in front of me and intact, considering all the other dire adversities she had faced. I had pored desperately through all her previous notes, looking for some small clue that might reveal a way we could connect her to care in a way that she could stay connected, or some clue that might reveal a better way to treat all the medical problems she had. But I had found nothing, and it was becoming clear that all we would be able to do was to stabilize her as best we could and then send her back to all the problems that had landed her here. American health care was not made to help her, and she could not even afford to be here in the first place. And she was so young. It was all I could do to hold back tears of rage and excuse myself to go talk with my attending.

Character is something I have thought about a lot as I approach residency. When I first decided to apply to medical school to become a doctor, I entered under intentions to join a noble profession of like-minded individuals to help people. In training, though, it quickly became clear that the field of medicine often does more harm than good. I was astounded to learn how stark were disparities along lines of race, ethnicity, gender, sexual orientation, disability, socioeconomic status, and more. I was horrified to learn that the number one cause of individuals declaring bankruptcy in the United States was health care. I began to wonder whether the field I had entered would actually lead me to do more harm to people in need than good. "First, do no harm" began to feel more like a mockery than a pledge. The system was not set up to help doctors help people.

My own saving grace came from the actions of the physicians and students around me: from watching the dedication of my peers and mentors to helping their patients after all, despite all the odds stacked against them. There was an attending who had our whole team spend a few minutes silently reflecting on how we were or were not being the professionals we wanted to be, each morning before rounds. A physician at a low-income hospital defiantly subverted the hospital's policy to get her patient appropriate treatment. A surgeon routinely went back into trauma patients' rooms to talk with them individually about the factors that had landed them there. Fellow students and residents stayed up late with me writing policy for organized medicine to address racism as a public health threat. All of these people are working in a system they know to be unjust, but they are working to bend it, however slowly, toward justice. That, to me, is character, and it is that character that keeps me in medicine. It gives me hope that medicine can move closer to the reason physicians enter the field—beyond "doing no harm"—to help.

About the Author:

Anna Heffron is a seventh-year MD-PhD student enrolled in the SMPH's Medical Scientist Training Program through which she will earn her MD and doctorate degrees. She grew up in Phoenix and Omaha, and intends to practice in emergency medicine or combined emergency medicine/pediatrics.

A Tool to Equitably Distribute Limited Vaccines

While the supply of COVID-19 vaccines is gradually catching up to demand, in some areas the supply continues to fall short as new variants continue to emerge. Public health officials are charged with deciding who should be first in line for a shot.

Researchers at the University of Wisconsin School of Medicine and Public Health (SMPH) and UW Health developed a tool that incorporates a person's age and socioeconomic status to prioritize vaccine distribution among people who otherwise share similar risks due to their jobs. The tool helps identify those who are at greater risk of death from COVID-19.

The UW Health Office of Population Health helped lead development of the tool, along with the SMPH Health Innovation Program.

While the COVID-19 Vaccine Prioritization Tool was designed for use in the first phase of eligible health care workers, it could be used as vaccine distribution expands or if new vaccines become necessary to protect against variants, explains Grace Flood, MD, Office of Population Health.

The algorithm uses the Social Vulnerability Index to measure risk of mortality due to COVID-19 based on where someone lives. The metric incorporates 15 measures in four categories: socioeconomic status; household composition and disability; minority status and language; and housing and transportation. Race and ethnicity have been closely correlated with higher COVID-19-related hospitalizations and mortality.

Because age and social-vulnerability data are readily available and contribute to COVID-19 risk, an algorithm that incorporates both elements may serve as one of the best ways to distribute vaccines when supply falls short.

The algorithm was published in the *Annals of Family Medicine* COVID-19 collection and is available for download at https://www.hipxchange.org/COVIDvaccine

Metabolism "Rewiring" to Reverse Type 2 Diabetes

A fuller understanding of how pancreatic beta cells release the right amount of insulin suggests a new treatment approach for people with Type 2 diabetes.

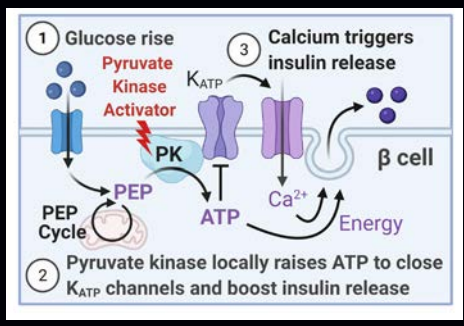
Matthew Merrins, PhD, an assistant professor in the Department of Medicine at the University of Wisconsin School of Medicine and Public Health (SMPH), led a study of beta cells identifying a role for pyruvate kinase, an enzyme involved in sugar metabolism. Published in *Cell Metabolism*, the findings offer a new model for the series of events involved in insulin secretion.

Scientists long believed that mitochondria initiated insulin secretion. They produce ATP, depleting ATP's low-energy version, ADP. The drop in ADP stimulates calcium—the ultimate trigger to release stored insulin. But mitochondria are most active after insulin secretion has begun.

The Merrins team found pyruvate kinase was located near the ADP-sensing proteins involved in insulin release. They supplied ADP and phosphoenolpyruvate, a product of sugar metabolism, to sections of pancreatic cells containing pyruvate kinase. The enzyme consumed both. And the proximity of the enzyme to the ADP-sensing protein turned out to have a major effect.

When they stimulated pyruvate kinase in mouse and human islet cells, insulin release quadrupled, but only when there was enough sugar in the vicinity. The activation also produced metabolically protective effects in the liver, muscle and red blood cells.

This detailed explanation of insulin release involves two phases: blood sugar is processed into ATP by pyruvate kinase, and insulin secretion is activated. Then mitochondria switch to producing ATP, which is needed to sustain insulin release. The back and forth between these two phases continues until insulin lowers blood sugar.



"The therapeutic idea is we could rewire metabolism to more efficiently trigger insulin secretion while improving the function of other organs," says Merrins.

Family Media Plans—A Way to Manage Screen Time

Conversations about managing children's screen time go back at least to the advent of smart phones. But the COVID-19 pandemic has given the issue new intensity: according to a recent *New York Times* article, children's screen time in May 2020 was double the same period in 2019. Virtual schooling kept kids in front of screens for hours a day without extracurricular activities or the ability to gather with friends. Experts have long argued that excessive media use is linked to negative health and academic consequences, including worse sleep, less physical activity and increased mental-health challenges.

One solution is to create a family media-use plan with guidelines on screen time and consideration of how media use does or does not align with family and personal needs and values.

Megan Moreno, MD, PhD (PG '03), a professor in the Department of Pediatrics at the University of Wisconsin School of Medicine and Public Health (SMPH), recognizes the challenges of reducing screen time, but encourages families to develop an approach to help them effectively manage it. She is the lead author on a recently published study in *JAMA Pediatrics* about how such a plan affected teens. Moreno's team found that teens who took part in a family media-use plan were more aware of their media use and perceived their interactions with technology to be slightly less important compared to other teens.

A pediatrician at UW Health and vice chair of digital health in the SMPH Department of Pediatrics, Moreno also suggests that families create screen-free alternatives, such as doing puzzles, cooking,

reading and taking daily walks. She says those activities give kids and parents a welcome break from the glow of the screen.

Amino Acid Restrictions and Lifespan in Mice

Dudley Lamming, PhD, an associate professor in the Department of Medicine's Division of Endocrinology, Diabetes and Metabolism at the University of Wisconsin School of Medicine and Public Health, expanded his work on the relationship between nutrition and aging. His recent study, published in *Nature Aging*, found that a diet restricting branched-chain amino acids (BCAAs) can extend lifespan and improve metabolic health in mice.

Protein-restricted diets are known to promote health and longevity in many species. Nine amino acids—including BCAAs—are essential. The BCAAs leucine, isoleucine and valine are linked to insulin resistance in mice and humans.

To assess their dietary contribution, Lamming's team reduced BCAA levels by two-thirds in the diet of both sexes of progeroid mice, which display characteristics of aging, and wild-type lab mice. Some began the restricted diet in middle age, others began early in life.

The team found that BCAA restriction extended lifespan and reduced frailty, but the effects were not uniform. Among those on the diet from middle age, wild-type mice got healthier and less frail, and female mice had less cancer but didn't live longer.

But when mice got this diet from early in life, progeroid mice lived longer, while wild-type male lifespan was extended by 30 percent, and the males experienced less frailty. However, no difference in lifespan or frailty was observed in wild-type female mice. The team also found that the low-BCAA diet improved body composition and blood-glucose control in both males and females.

"We showed for the first time that a low-BCAA diet

CLINT THAYER/DEPARTMENT OF MEDICINE

improves metabolic health in female mice, and in middle-aged and old mice of both sexes, and can extend the lifespan of males," Lamming notes. "We think that protein or BCAA restriction, at least to this degree and started when young, doesn't work to extend the lifespan of females."

Equity in Health Outcomes and Care

I have spent most of my career at the University of Wisconsin School of Medicine and Public Health (SMPH) studying ways to improve health outcomes and care. Over time, I've grown increasingly aware that many efforts to improve health disproportionately benefit privileged groups. Less privileged groups often are left behind, ultimately worsening disparities.

Wisconsin ranks high nationally in the overall quality of our health care, but our state performs poorly with respect to disparities. People of color and those who live in rural and urban disadvantaged areas are less likely to receive preventive health care services, often receive lower-quality care and have worse health outcomes. The COVID-19 pandemic has powerfully illustrated how health inequities have complex roots in the larger socioeconomic, cultural and physical environments, and highlighted the fact that effective solutions must incorporate the perspective of those most affected.

This raises the question: How does Wisconsin transition from doing very well at improving health outcomes and care for some residents, to excelling at reducing disparities for all residents? Wisconsin's transition will be helped by measuring disparities gaps, informing and accelerating programs that are working to eliminate disparities, and monitoring progress in reducing disparities.

Measuring Disparities

The SMPH's Wisconsin Partnership Program recognizes the critical need to support our state in this transition. A first step is to understand where disparities exist and make that information widely available through public reporting, which promotes public accountability, improvement and action by multiple stakeholders.

The program supported two recent statewide health disparities reports in partnership with the Wisconsin Collaborative for Healthcare Quality, a voluntary statewide network of more than 25 health systems representing 3.5 million patients. The reports focused on four specific measurement categories: vaccinations, screenings, risk factors and chronic diseases. Results identified substantial disparities gaps in race, ethnicity, health insurance, and rural and urban residence. In particular, American Indian and Black populations in Wisconsin experienced substantial disparities across many measures, while Asian/Pacific Islander, Latino and white populations experienced disparities in fewer measures (Smith et al., March 2021 *Wisconsin Medical Journal*).

Reducing Disparities

Measurement is just one step toward achieving health equity. Eliminating health disparities cannot be done by health systems alone nor accomplished in silos. Partnerships among many stakeholders—including policymakers, state and local public health departments, businesses and community organizations—are needed to improve the opportunities for all people to be healthy. Measurable improvement would require synergizing efforts to address not only the clinical determinants but also the social determinants of health. These social determinants might include health care access, education, social and community context, economic stability, neighborhoods and the built environment.

Clearly, solutions are not one-size-fits-all. Measurement allows stakeholders to prioritize efforts to implement programs for the populations that are most impacted by disparities. Collaborations among health systems and individual communities are critical to reduce health inequities and to connect people to the services they need to be healthy. These focused efforts should build partnerships to engage with populations experiencing disparities. This will help ensure that we get the right interventions to the right place at the right time. Without this, improvement efforts risk exacerbating disparities by not considering the very factors that created the disparities in the first place.

Monitoring Progress

Regular monitoring of disparities gaps promotes transparency and accountability, and helps ensure that efforts continue to eliminate these gaps. Through the Wisconsin Collaborative for Healthcare Quality, our state led the way nationally in monitoring progress toward improved health outcomes and care. The opportunity now is to invest the same effort—and, ideally, achieve similar success—in reducing disparities gaps in health. Wisconsin health systems have made this a priority for the coming years.

We feel urgency to meet this opportunity. Wisconsin ranks 40th among all states in racial inequalities in premature death, and we know we can do better. But realistically, significant progress will be measured in years and decades, not months or days.

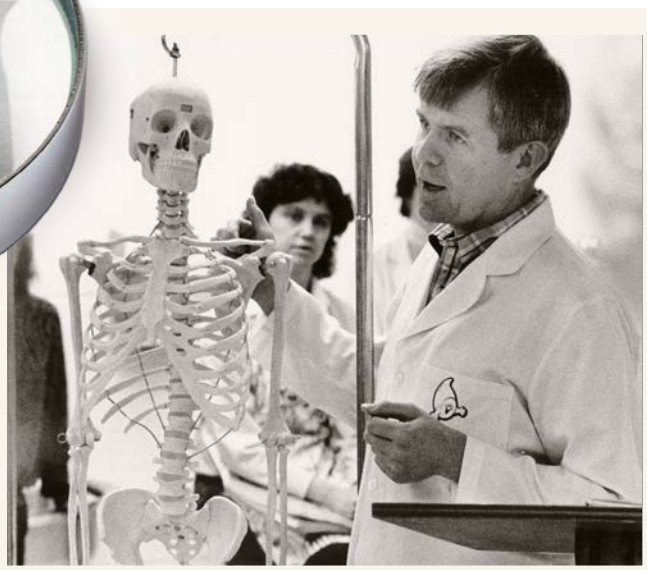
Facing a Challenge

All Wisconsinites, regardless of their race, ethnicity or where they live, need equal opportunities to live long and healthy lives. With the commitment and power of many partnerships, perhaps we can meet this challenge so we improve health outcomes and care for all groups, not just privileged groups.

Maureen A. Smith, MD, MPH, PhD

Professor, Department of Population Health Sciences and Department of Family Medicine and Community Health, University of Wisconsin School of Medicine and Public Health; director, Health Innovation Program; director, Community-Academic Partnerships, Institute for Clinical and Translational Research

I Know YOU



... OR DO I?

If you think you can identify the person in the photograph at right, send your guess to quarterly@med.wisc.edu. We'll draw one of the correct responses and announce the winner in the next issue of *Quarterly*.

For the last issue (see below), Jean Thierfelder, MD '79, won the prize drawing and will receive a gift from the Wisconsin Medical Alumni Association!

HINT ABOUT PHOTO ABOVE:

He is quick to share jokes and laughter.

ABOUT LAST ISSUE'S PHOTO:

In the last issue of *Quarterly*, 12 people correctly identified the photo of Alice McPherson, MD '51 (PG '58), an accomplished physician, teacher, scholar, leader and pioneer dedicated to the study and treatment of retinal diseases. She specializes in macular degeneration and vitreoretinal diseases and surgery.

McPherson earned her medical degree at the University of Wisconsin Medical School [now the UW School of Medicine and Public Health (SMPH)] and completed an ophthalmology residency at Wisconsin General Hospital (now University Hospital, part of UW Health). She completed a retina fellowship at Massachusetts Eye and Ear Infirmary and established her career in Houston, where she is a professor of ophthalmology at Baylor College of Medicine.

Carol E. Mueller, MD '52, recalled learning together in the anatomy lab.

Ron Engerman, PhD, professor emeritus, SMPH Department of Ophthalmology and Visual Sciences, described McPherson as "an illustrious alumna and most generous benefactor."

And Robert Castrovinci, MD (PG '77), identified her as "a major contributor to research in retina," and noted, "I'm thankful that I have met Dr. McPherson."

With the goal of reducing retinal blindness worldwide, McPherson founded the Retina Research Foundation (RRF) in Houston and the McPherson Eye Research Institute at UW-Madison. The RRF funds programs in research and education worldwide, and the McPherson Eye Research Institute is a cross-campus, interdisciplinary institute founded to advance basic and translational vision research at UW-Madison.

Among her numerous honors, McPherson received the Gonin Medal, the oldest, most prestigious medal in ophthalmology, awarded by the University of Lausanne and the Societe Suisse d'Ophtalmologie. She also received the UW-Madison Distinguished Alumni Award in 2015 and is the founding president of the UW Ophthalmology Alumni Association.

We Want to Hear From You

Please send us information about your honors, appointments, career advancements, publications, volunteer work and other activities of interest. We'll include your news in the Alumni Notebook section of *Quarterly* magazine as space allows. Please include names, dates and locations. Photographs are encouraged.

Have you moved? Please send us your new address.

CONTACT INFORMATION:
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750 Highland Ave.
Madison, WI 53705

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