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GLOBAL IS LOCAL

University of Minnesota trains physicians to work in communities here and around the globe.

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GLOBAL IS LOCAL

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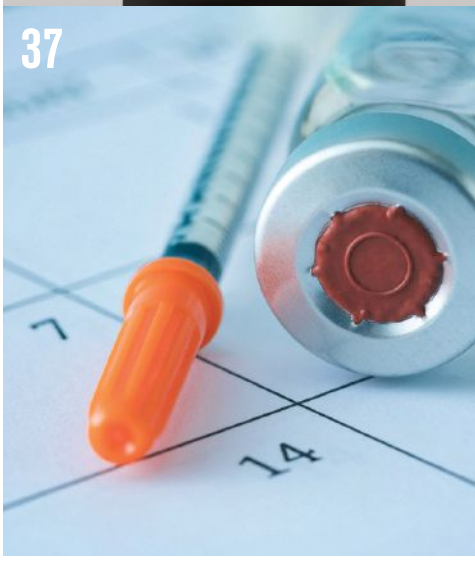

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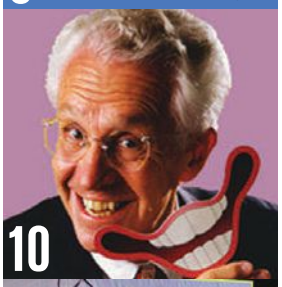

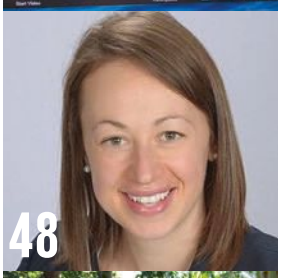

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Zeke J. McKinney, MD, MHI, MPH

Community partnership in clinical research

I have the opportunity to work as a co-investigator on an international COVID-19 vaccine trial, for which my institution is the only site in Minnesota. Because of the pervasiveness of the pandemic in our lives, this trial is getting a lot of attention—and raising concerns. These concerns are even greater in populations more profoundly affected by COVID-19.

Black, Indigenous, and people of color (BIPOC) communities have had significant—and, arguably appropriate—mistrust and distrust of health care research and health care institutions for decades. In the United States, experimentation in the Black and Indigenous communities has occurred on several occasions without informed consent and without even provision of the medical "standard of care." This history makes engaging these communities for participation extremely difficult for the present vaccine trial.

We have seen a push in medicine and in medical education to eradicate race-based medicine, namely, the systems and practices that perpetuate health inequities based on the social construct of race, under the auspices of there being some biological basis. The primary data on which many supposed racial differences are calculated, such as with glomerular filtration rate (GFR) or spirometry, are based on very small samples of BIPOC participants among much larger samples of White individuals. As a consequence, BIPOC patients are undertreated or misrepresented in terms of biological data.

To make matters worse, public health messaging has been conflated with political messaging. Disempowered communities are not reassured when we see inequitable medical treatment of politicians and celebrities who contract COVID-19 while we seem to lack available resources for the rest of us. Add to that messaging that appears to urge release of vaccines that have not been completely tested. Vaccine hesitancy—especially about a COVID-19 vaccine—seems to be increasing, which is not surprising.

In light of these conflicting and anxiety-inducing factors, I felt it necessary to be involved in this trial. A mentor cautioned me that I may lose credibility with the BIPOC community by being so visible about the trial, but I see an opportunity to ensure that vulnerable communities know that if any unethical or inequitable conduct may occur, there is someone like me there to mitigate it or caution about it (thankfully, no such issues have arisen).

For some BIPOC communities, it may be offensive to even propose their involvement in this vaccine trial. My perspective is the opposite: we can do communities no greater injustice than failing to provide real education and opportunities for participation in a medical trial like this. Until recently, most clinical trials did not share individual results with their participants, but that has changed in the last decade.

Physicians must be stewards of good information to the community and must maintain or rebuild the trust our patients have in us. This means fighting for good science to lead good policy and ensuring inclusion of all communities in scientific advances. We can no longer afford to consider research participants solely as "subjects"; they need to be considered partners whose goals, interests and concerns should drive our efforts as much as science itself. This trust-building process starts with sharing the data we are collecting. **MM**

Physicians must be stewards of good information to the community and must maintain or rebuild the trust our patients have in us.

Zeke J. McKinney, MD, MHI, MPH, is the chief medical editor of *Minnesota Medicine*.

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MEET THE 2020 NOMINEES

Dr. Mark Denison has put his life's work into action during the COVID-19 pandemic. Dr. Carl June is forging ahead on a groundbreaking, FDA-approved cancer treatment. And Dr. Michael Welsh pioneered the field of cystic fibrosis by identifying how it disrupts the lungs.

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The senses of medicine

BY KELLIE LEASE STECHER, MD

We learn awareness of the world around us

We physicians train for the majority of our youthful years. We go through undergraduate education, medical school and then our training culminates in residency or fellowship. Many of us are smart, but some rely simply on working hard and being persistent to make it in the medical community.

Over time we have to develop a heightened awareness of the world around us. If you ask a physician what a pseudomonas infection smells like, they—regrettably—can describe it for you. If you asked what gangrene or granulation tissue looks like, they can draw you a picture. Our lives revolve around touch, sight, smell, sound, emotional intelligence and the non-verbal cues from patients. For many of us, this leads to more empathy and a deeper feeling of loyalty and affection for our patients and love of our community.

Sound ...

We all use stethoscopes to listen to a patient's heart and lungs. But we also listen to the tone of the patient's voice and the rate at which they talk. We hear when they speak with pain or excitement.

Sometimes the most painful sound we experience is silence. I was in a viewing room to the side of an interventional radiology suite a few months ago. In the suite were 10 people running around, getting equipment, drawing labs, performing procedures. I watched closely and every so often I would open the door to give orders for transfusions. I was in the side room because I wasn't the physician doing the procedure and so wasn't wearing a lead vest. Sitting in silence watching chaos was something I hadn't experienced before. Usually, I was part of the procedures. In this moment, my skill set wasn't as important as the radiologist's. It was remarkable

watching a million little things take place on my patient—yet hearing none of it. The silence was deafening. Silence when we want to hear movement, rustling, a heartbeat. Silence when we are waiting for someone to help us. Silence when we need someone to support us. Silence when someone should speak truth. Silence can in fact, be the most detrimental thing we hear in medicine. Silence can leave more scars then I care to admit.

Sight ...

We watch a patient's eyes and look for clues about their mood. We look for bruises and scars. We look for signs of physical trauma. The eyes can give us clues into emotional trauma the patient may have suffered. We look for infections, injuries, blood clots, changes in appearance of skin. We evaluate everything for clues to help us make appropriate care plans.

Touch ...

We hug, we embrace, we wipe tears. We feel with our hearts for the people we take care of. We also use that sense to diagnose and palpate masses to determine size and reasons to be concerned.

Smell ...

Every OB/GYN knows the smell of amniotic fluid. We can tell if someone has an infection. Sometimes we can even sense if someone has cancer without any other data points.

Certain smells carry deep memories for me. Smells can create an entire picture. Even now, if I smell a different cologne, I picture the person wearing it, the last conversation, the last interactions. I can tell you what that person was wearing, or the smile I got. Sadly, smell also plays a role in forcing us to remember painful things in our own lives. If someone has been in a trauma or had a bad break up, the smells associated with those feelings can cause someone to feel as if they are drowning, almost suffocated by the memories.

The smell of a baby instantly takes me back to the moments when my own babies were handed to me. I can relive every second of those moments.

Our lives revolve around touch, sight, smell, sound, emotional intelligence and the non-verbal cues from patients. For many of us, this leads to more empathy and a deeper feeling of loyalty and affection for our patients and love of our community.

Time ...

In an operating room there is no time. I only become aware of time before operating and at the end of the case. Usually we are so intensely devoted to what we are doing that we don't feel the world around us. In residency, it never mattered what time it was, day, night, winter, summer, we rarely went outside and we were essentially married to our jobs. The only way I knew time passed was by looking in the mirror. As I got into practice, I experienced that all over again. I was in clinic, I was operating, I was delivering patients, no matter what time, holiday, season ... and suddenly another year goes by. For many physicians, our personal lives exist in only one dimension so we can train and take care of patients.

Love ...

Yes, most physicians still love their patients. We have a higher rate of suicide and burnout. We are painfully hard on ourselves. We expect perfection at all times. We have a deeper appreciation for human life and its fragility. For some of us, this translates to being more sensitive or harder on ourselves. We love harder in our personal lives and are more vulnerable to trauma because of these personality traits.

The senses we have developed over our careers connect us to our patients and create a sense of duty to the community. They also make us particularly vulnerable to moral injury and the stress associated with the pandemic.

We take in all the data. The sights, the smells, the way it feels, and we make an indelible picture that stays with us. We worry about our patients. We watch and wait and anticipate what will happen. When we give so much of ourselves to the profession of medicine and if we don't feel supported, moral injury comes into play. Anyone who has had to struggle with the ethics of allocation of resources during the pandemic will forever be changed. The thought of making decisions about who will be saved and who will be lost if there is a scarcity of resources is almost too much for my 2020 physician brain to grasp.

We need to support each other and also be a safe place for other health care workers. Everyone is struggling with the realities we face every day. Everyone is tired and wants this to end. There is so much uncertainly, and for a group that likes to be in control and make meaningful changes, this is in direct conflict with everything we have ever been taught.

My ask is this: for all the physicians out there, can we treat each other as if we were all patients? Can we listen and look for clues, can we watch each other's eyes and look for pain? Can we make sure that no one else is lost to suicide because of sadness we don't see? Can we try to keep ourselves and our colleagues safe, despite the pandemic? MM

Kellie Lease Stecher, MD, is an OB/GYN with M Health Fairview Center for Women, Edina.

Prioritizing COVID-19 vaccine

Should it go to health care workers or vulnerable communities first?

Physicians across the country are waiting for an effective COVID-19 vaccine, to get the pandemic under control. Initially, however, once the vaccine becomes available, there will be less of it than there are people who need it.

Difficult decisions will have to be made as to how to prioritize distribution of the vaccine when it first comes out. Distribution will need to be based on solid principles of science and public health.

The pandemic has disproportionately affected communities of color and American Indians, as well as low-income Minnesotans. Vaccine distribution may be an opportunity to address the health inequities that have been exposed by COVID-19 and its disparate impact on our state's most vulnerable communities.

What criteria should Minnesota use to ensure any new vaccine is distributed fairly, addressing health needs, public health concerns and health equity issues?

Address health disparities and essential workers

The CDC, in its most recent announcement to prepare for a COVID vaccine, emphasized the importance of getting the vaccine first to essential workers *and* to people most at risk, especially people from minority communities. This is a "both/and" strategy, not an "either/or" choice. Everyone involved in the vaccination effort must be committed to both, or it won't happen. With that strategic commitment, all of us can then make the important implementation plans.

The evidence is clear that Minnesota's communities of Black, Indigenous and People of Color (BIPOC) are most at risk for COVID. The most recent data shows that African Americans (4.8x), Native Americans (6.6x), Hispanic (3.7x) and Asian American (2.8x) have much higher mortality rates from COVID than do white Minnesotans; they also have higher rates of infection, hospitalization and ICU days.

Also, many of our essential workers are BIPOC people—nursing home workers, transportation, nurses, medical assistants, housekeeping, sanitation, clerks, food service and some physicians. Our vaccination for these people must be a top priority.

The vulnerability of BIPOC people is the result of the long history of racism in Minnesota, a history that has produced persistent health disparities even before COVID—higher rates of diabetes, heart disease, asthma, COPD, obesity and depression. These conditions of racism and disparities make BIPOC people ever more susceptible to COVID: less stable housing, often with many people living together; neighborhoods with more environmental risks; inadequate community space to social distance; lack of health insurance; less access to COVID testing; difficulty or inability to self-quarantine. Getting the vaccine to vulnerable people in our minority communities must be a top priority.

We need to start planning now for strategies to get the vaccine to our BIPOC essential workers and communities. We already have difficulty getting standard vaccines (flu, MMR, Varicella) to minorities during non-COVID times—problems of adequate resources, time, people and trust. Trust is very important to address racism in health care. When COVID vaccines become available, they must be effective and safe; the shameful legacy of experimenting on BIPOC with unproven and unsafe medical practices demands that we do it right with COVID.

Finally, we must pay attention to health justice: the burden of past racism and discrimination against BIPOC must be redressed. A strong united effort to get a safe and effective COVID vaccine to essential workers *and* BIPOC people is an important step in the right direction. We all do better when we all do better.

Christopher Reif, MD, MPH, is director of primary care, Community University Health Care Clinic

Put science back in charge

As I write this, a colleague of mine was just discharged from the hospital after over 100 days battling COVID-19, Minnesota logged its 2,000th death from COVID-19, our state had its highest one-day COVID-19 positive rate and physicians are still reusing N95 masks.

Our communities—especially our underserved communities—continue to be ravaged and divided by COVID-19 because our pandemic response has been hijacked by anti-science partisans who are using critical health resources as political leverage.

Today, physicians are grappling with dual pandemics: a global viral pandemic and a hyper-partisan political one. Let's put science back in charge so we can crush both. If we have a limited supply of vaccine, let's distribute it based on medical best-practice:

- Until there is an adequate supply, give what we have to those at highest risk of catching and spreading the disease.
- Then, rapidly expand the supply and give everyone the vaccine.

This strategy will put health professionals and essential workers at the front of the line. People who can self-isolate and are at lower risk won't be at the front of the line. (My apology to the many celebrities and athletic coaches who will be disappointed with this new approach.)

Medical best practices are also our best political strategy. Serving on the MEDPAC Board of Directors for 10 years has taught me that health care wins when we fight based on principles, not on politics. All physicians can help champion evidence-based interventions to drive an effective, equitable COVID-19 response. Because the principles and data that guide medicine aren't as inhibited by the destructive biases that dominate today's politics, following them will deliver better care for our underserved and disenfranchised patients.

This approach won't specifically earmark any vaccines for many of the folks who deserve better from our health system, but driving vaccine distribution based on medical best practices will have two equity benefits. It will most efficiently stop a disease that is disproportionately afflicting the politically disadvantaged. It also will prevent use of this critical resource as a political plaything, insuring it will be distributed to many who might otherwise have access barriers.

Putting science back in charge will help us crush *both* pandemics. **MM**

Will Nicholson, MD, is a family medicine physician. He serves as chair of the MEDPAC Board of Directors.

ACT HAPPY

Change your outlook—and your physiology

BY LINDA PICONE

Dale Anderson, MD, loved being a physician. Which isn't surprising, given that he seems to love almost everything about life.

It's not that he hasn't had his share of setbacks in 87 years, it's just that he has made a determined effort to be a happy person—which means, he says, to *act* that role. It's something he urges on other physicians.

Although he was never a professional actor—he did a little acting in high school and college—Anderson has studied theater for at least 40 years. "People in theater know that they have to get into the physiology of the part, or they won't do it well and the audience will notice," he says. "When you are really good at the part, you change your own physiology."

How do actors become good at their roles? They research, and they pay attention to the details: how a character walks, talks, gestures, speaks and more. So, if you want to be happier or calmer or stronger, Anderson says, you research and pay attention to those roles.

"The chemistry of emotions can be altered if you master some of the techniques used by method actors to stage the 'chemistry' of being 'up,'" Anderson wrote in an article about Health Care Players. "Just pretend!"

He was told when he was in medical school that he was unlikely to live past his 40s, given a family history of high cholesterol. "One of my professors said, 'We have to get you acting different.' I started doing that and … here I am," he says. "I've got the Alzheimer gene, the diabetes gene and the high cholesterol gene, but by golly, I said, I was going to get my act together and get rid of those genes. They're still there, but how do I keep them from taking over my life?"

Medicine controls the diabetes and the cholesterol, "but mainly it's my performance and my act."

Acting as if

What Anderson recommends is basically the "as if" technique developed by Harvard psychologist William James and sometimes used in recovery. The idea is that you "act as if" you are something—happy, young, confident, outgoing—by adopting the behaviors of someone who appears to be happy, young, confident or outgoing. If you're shy, but want to be confident, you notice what behaviors seemingly confident people have and then use them—even if that doesn't seem natural to you. Over time, if you act confident, you will, in fact, be confident. "The me I see is the me I'll be," says Anderson.

Anderson tosses around a few words that can sound a bit "woo woo," like "wellderly" and "neurobics" and "youthfalize." But, in fact, there is science behind the words and the practices.

The Wellderly study was started in 2007 by researchers at the Scripps Research Translational Institute, to explore the genetics of long health. In 2016, initial findings saw a possible link between long-term cognitive health and protection from chronic diseases like cancer, heart disease and diabetes.

Neurobics is simply exercise for the brain that stimulates nerve cells to activate new brain circuits and enhance neurotrophin production. While the science on this debated—especially when it comes to the marketing of "brain games" to ward off dementia—some research has shown, again, that cognitive training can help.

> "The chemistry of emotions can be altered if you master some of the techniques used by method actors to stage the 'chemistry' of being 'up.' Just pretend!"
>
> – Dale Anderson, MD

"Youthfalize" isn't a real word—although it has been used in the marketing of some products. For Anderson, it means staying young longer. "I've learned I can be 25 years younger or 25 years older," he says. "I'm trying to be 25 years younger." That means standing, sitting, talking, eating, smiling—performing—as if he were 25 years younger. "What are the colors, what are the aromas, what are the tastes? How do you walk 25 years younger?"

When you're smiling

There is now plenty of evidence that acting as if you're happy—smiling and laughing—changes your brain chemistry so that you will feel better emotionally and physically. The act of smiling—whether it comes naturally or you're forcing it—activates neuropeptides that send a message to your body that you're happy. Your brain releases dopamine, endorphins and serotonin, which make you feel happy and also decrease heart rate and blood pressure.

So, Anderson says, how do you "get your act together" to be happier? "What kind of fun, humor and pleasures do you enjoy? If it's not harmful to yourself or others—do more of it. What music, colors, aromas, textures make you feel good? What activities do you look forward to doing and what people do you enjoy being with?"

We need to recognize the value of fun, he says, and to seek it—even if it doesn't come naturally. "To develop a new role or activity that is more comfortable, less stressful and healthier, you will need to 'fake it' until the new chemistry feels real," he says. "Fake it. This is habit formation—and your habits become the real you."

The laugh track

Anderson recommends the simple use of a "laugh track." First one "hah," then two "hah hahs" and then three "hah hah hahs." "Is the physiology different when we do the laugh track," he says. "Yes, and now there's proof, you can see it on a functional MRI."

He has a red frame in the bathroom where he shaves, roughly 1-foot square. "That's the frame I laugh into," he says. "A frame I pretend is taking a picture of me."

At 87, Anderson feels he has a lot of living yet to do. "I don't want to stop at 88," he says. "That means I have to keep working on my act." **MM**

Linda Picone is editor of *Minnesota Medicine*.

"Drawing from the tradition of the theater, we can create a new paradigm for creating humor, health and happiness. This paradigm is based on the idea that we become what we do and how we act. In other words, we can become healthier and more successful by consciously modeling (acting) the happy-healthy trait we desire."

–DALE ANDERSON, MD

For more on Anderson and the chemistry of happiness—including his TED Talk, go to www.acthappy.com.


GLOBAL IS
LOCAL

What does it mean in Minnesota?

BY WILLIAM M STAUFFER, MD, MSPH, FASTMH

Decades before the novel coronavirus entered and spread throughout the United States, a handful of insightful Minnesota-based health professionals recognized a new paradigm in medicine that they described as "global is local." Following the Vietnam War, this emerging paradigm was recognized by health professionals caring for the newly arriving, vulnerable refugees whom Minnesota accepted during the late 1970s and early 1980s. They recognized that these new Americans had unique health challenges to which our health systems needed to respond.

Concurrent with our increasingly diverse patient population in Minnesota, we—and the world—were experiencing an explosion in international travel, supported by increasingly accessible, affordable and efficient air travel. Student, business, tourist and other travelers have traversed the globe in record numbers. In 2019 alone, more than a million people traveled to the United States each day and a total of 1.5 billion international boundary crossings were made. Today, a person can circumnavigate the globe by plane in less time than the incubation period of virtually all infectious diseases of public health concern.

In addition, since the early 1980s, the population has doubled to almost 8 billion, accompanied by increasing human migration. Currently, more than 270 million people live outside their country of birth, with a full third of these people having been forcibly displaced. We currently live in a world with the largest number of displaced people in history, primarily driven by political instability and climate change.

Health disparities now impact our global and local communities in similar ways. Today, the health issues of a low-income person in Minneapolis are more similar to those of a low-income person in Nairobi than they are to a high-income person in Edina. Similarly, the health issues of the high-income person in Edina are more aligned with a high-income person in Nairobi. While "global health" is in Africa, Asia and Latin America, it is also in the West Bank, Frogtown, Midway, Roseville, Worthington, Rochester and Brooklyn Park—and at the Minneapolis-St. Paul airport. Some health professionals remain grounded in the outdated concept that global health occurs "over there." in places such as Africa. We have been fortunate in Minnesota to have a legacy of health professionals who recognized that you do not have to purchase a plane ticket to address inequity and disparities in global health. Global health is in Africa, but it is also in every clinic and hospital and outside every front door in Minnesota. While mainstream medical education and health-delivery systems have been slow to respond to this changing paradigm, health professionals increasingly recognize the need to work across cultures, ask patients about recent travel and recognize conditions once considered "exotic."

For more than 40 years, Minnesota health professionals have been on the leading edge of the "global is local" paradigm through research, the development of educational programs, health system improvements and health policy to address health disparities. Thanks to the pioneering work and mentoring of young health professionals, Minnesota has become the model for this new paradigm over the past decade. The international community looks to Minnesota models and to the tremendously talented, innovative and passionate Minnesotans working in this area. In this issue of *Minnesota Medicine*, you will be introduced to some of the Minnesotans who believe global is local and who are striving—and succeeding—in making a more inclusive, equitable and healthy world. **MM**

William M Stauffer, MD, MSPH, FASTMH, is professor of Medicine and Pediatrics, Division of Infectious Diseases and International Medicine, University of Minnesota. He is the lead medical advisor to the Centers for Disease Control and Prevention Division of Global Migration and Quarantine.

GLOBAL MEDICINE PATHWAY AND PROGRAM

Caring, advocating and educating for regional communities facing health inequities

What does "global health" mean? We believe it refers to health conditions that transcend national borders and are manifested in health disparities around the world. Since the inception of what is now the University of Minnesota (UMN) Global Medicine Pathway and Program (GMPP), the mission of our faculty has been to improve the health of individuals and communities globally. For many of our faculty, this includes important work done locally and regionally with populations facing health inequities.

In Minnesota and the Midwest, like most parts of the world, we can map a chain of historical events leading to populations sharing unequal health risks and unequal health outcomes, from the impact of colonization and subsequent injustices faced by Native American communities to unique health care access challenges for our recent immigrant and refugee populations. People living in rural areas are increasingly facing shortages of health care workers, and non-citizen migrant agricultural workers must be wary of the effect seeking care has on their livelihoods. COVID-19 and recent racial injustices have magnified the issue of vast health inequities. We in Minnesota must recognize and address these challenges at home in much the same way that we hope to impact them elsewhere.

In 2005, the UMN Department of Medicine created the GMPP after decades of grassroots work and community collaboration, with the premise that there are core competencies in cross-cultural health care and global health that all practicing health care providers should achieve in order to reduce health disparities. The GMPP was one of the first global health-oriented training pathways for resident physicians and included courses and institutional collaborations focused on preparing physicians at all professional stages to practice in varied-resourced settings. Since 2005, more than 400 medicine and medicine/pediatrics residents have participated in the GMPP activities, many of

Residents work with the Rosebud Sioux Tribe on the Rosebud Reservation in South Dakota

NATIVE AMERICAN HEALTH CARE AND HEALTH EDUCATION

Minnesota and surrounding states exist on land originally inhabited by Native American communities rich in history, culture and societal structure. Yet hundreds of years of colonial expansion and subsequent unjust policies have led to striking health disparities in many rural and urban Native American communities. In particular, there is a shortage of medical providers capable of understanding the unique care needs of Native American populations.

The GMPP has worked with regional partners, including the UMN Center for American Indian and Minority Health, the Indian Health Service (IHS) and Tribal Nations, to form partnerships that increase curricula in undergraduate and graduate medical education on the unique health needs of Native communities; elevate the voices of Native communities, Native medical trainees, and Native medical faculty; and decrease physician vacancy rates in health centers serving Native communities.

We have formed a clinical partnership with the Rosebud Sioux Tribe and IHS involving direct care by academic-based clinicians, resident rotations with community-informed curricula and provision of assis-

whom have transitioned into careers addressing health inequities in our region—effectively helping to reframe a map in which "global health" includes local health.

Work in global health is collaborative by nature. The GMPP faculty provide clinical care in nearly every medical subspecialty, educate students and residents interested in addressing health inequities and advocate for justice in our health care environments. Much of the funding for the GMPP comes from grants, course revenues and the goodwill of faculty who are involved out of a passion for global health.

Sarah Sponsler, MA, and Brett Hendel-Paterson, MD

A mobile medical unit provides services to migrant workers.

HEALTH CARE FOR AGRICULTURE WORKERS AND MIGRANTS

Do you know who produces your food? Minnesota ranks among the top states in production of sweet corn, peas and turkey meat. Most farm laborers are immigrants, some of whom migrate over 1,000 miles each season. Farmworkers often live in crowded housing and perform dangerous tasks. At the same time, these workers face some of the greatest health inequities in our state. In addition to difficulties accessing care, the typical growing season is shorter than the residency time required for insurance eligibility, making it out of reach for most farmworkers.

The UMN Migrant Health Course was created in 2014 as an interprofessional, community-engaged learning elective for medical and other health science learners. In partnership with a number of UMN health sciences schools, this program teaches learners about social determinants of health while delivering mobile medical care directly to farmworker populations. Since its inception, more than 50 learners have been involved, with hundreds of patients served and critical collaborations developed with rural community organizations and health centers.

Major program challenges revolve around sustained funding. We do not charge patients. Immigration and insurance reform and removing the "public charge" rule are critical for the sustainability of our work. Some patients express concern about their safety after experiencing discrimination and harassment from the government, regardless of their immigration status. With COVID-19 limiting

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tance as needed with tribal health programs. We also continue to develop curricula within our medical school and local Minnesota primary-care residencies, with a larger goal of developing residencies with longitudinal focus on primary care in Native American communities. While regularly challenged by both political and financial forces, we believe our current programs provide a more sustainable model for how academic medical centers can appropriately partner with Native American communities.

Michael A. Sundberg, MD, MPH, and Mary J. Owen, MD

Philip Plager, MD, is a resident in the Global Medicine Pathway.

"The Global Medicine Pathway is one of the reasons I chose the University of Minnesota for residency; global medicine is important to me. For somebody with a passion for global health and global medicine, to have a pathway to mentors who have been doing this for years and years and years is very valuable. We encounter new ideas and new ways to be able to connect to the community. I've been working on the Rosebud Reservation. I was there for a month and will be going back during my chief resident year. I went to Rosebud with very few expectations and left feeling very grateful that I'll be able to return. The landscape there is incredibly beautiful, in a more rural and remote setting than I'm used to. But pediatrics is pediatrics everywhere. When I was seeing families and kids in clinic at Rosebud, I was seeing teenagers doing teenager things and families with new babies that had the same questions about new babies that we see here in the Twin Cities. I also saw some profound disparities, but I was struck by the amount of resilience in the patients I saw. I could definitely see it as being a place where I might practice long-term and I've started exploring possible careers with the Indian Health Service."

Plager is a third-year resident and will be chief resident in Global Medicine next year.

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direct patient contact, we are adapting our program through mobile health and telehealth to expand access to this vital community to our state economy.

Jonathan D. Kirsch, MD

Benjamin Katz, MD, was involved in the Migrant Farm Worker Health Elective as a medical student and then as instructor for two years.

"So much time of medical training is spent in these ivory towers, with little training on how to be a real provider in the real-world setting. The Migrant Farm Worker Health Elective didn't only showcase how to work with migrant farm workers, it showed us the lack of resources in rural Minnesota. The year I became a main instructor, we partnered with the TriValley Opportunity Council and their Migrant Head Start Program. We were able to bring pediatrics and family practice residents year after year, which enabled us to build further community relationships and partnerships. We were able to gain the trust of not just theorganizations, but also the people we were trying to reach; it was a really beautiful partnership. It was a focus of my global health work for three years, something I was very proud to build and contribute to."

Katz now works for the Alaska Native Tribal Health Consortium.

The Humanitarian Crisis Simulation is surprisingly real, with participants learning how to handle emergency response situations for "refugees" while in the midst of "militia" and medical threats.

PREPARING FOR DISASTER HERE OR ABROAD: HUMANITARIAN CRISIS SIMULATION

The University of Minnesota Humanitarian Crisis Simulation trains adult learners to address the global challenges of increasing numbers and durations of humanitarian crises and a record high number of people displaced by these disasters who require assistance in rebuilding their lives. Over six events, the Humanitarian Crisis Simulation has provided training to nearly 300 adult learners through a multi-day interdisciplinary educational offering that includes a full-scale field exercise. The event takes place in the Twin Cities and the majority of learners come from the Midwest. Many learners have gone on to work either overseas or domestically in humanitarian aid and/or human services.

The simulation takes place in a large outdoor setting and makes use of almost 100 role players to create a complex and realistic simulation of a humanitarian crisis. Adult learners from multiple disciplines work in teams to understand and manage the many issues contributing to the crisis. They must get the majority of their information from role players, and in doing so, gain firsthand knowledge of issues faced by displaced people. Learners stay in primitive conditions, work under pressure and face numerous obstacles and unexpected challenges.

Feedback from participants has been overwhelmingly positive. Prior learners return as volunteers in subsequent years, and faculty return year after year. However, the simulation suffers from a lack of financial resources, and faculty donate significant amounts of time to make the course a success. We hope to hold the event again in 2021, if we can obtain funding.

Sarah Kesler, MD

Vignesh Palaniappan, MD, took part in the Humanitarian Crisis Simulation two years ago, when he was in his last year of residency.

"The Humanitarian Crisis Simulation took book knowledge we were learning and then applied it. It was eye-opening—and really hard. The thing was set up impressively at the YMCA in Hudson, Wisconsin. We were divided into teams as if we were emergency response teams from multiple different organizations. We were on foot—and the YMCA of Hudson is gigantic. There were easily 50 to 100 volunteers who were there acting as refugees, and others acting as rogue militias. It was cold outside and rainy. There were multiple refugee camps and you would walk around and figure out where people were and how many of them there were. It felt real. We would come back and check a couple of hours later and realize that all the populations had shifted. Maybe the militia had come, maybe there was an outbreak of cholera. We would spend our day surveying and then come back together and come up with what was the biggest need. For our team, it was cholera, which is particularly deadly if you can't get IV hydration. That's what we focused on in 48 hours there—but it took us 36 hours to get to it. And these actors were amazing; they told us they were hungry, cold, under threat from the militia. They would ask if they could come out with us. We had to figure out all the moral conundrums.

"What I got out of it was the sense of just how difficult a rapid assessment can be—and then just how hard it is. It's not glamorous—and it's really needed."

Palaniappan is an academic hospitalist in internal medicine at Hennepin Healthcare.

EDUCATING FOR WORK WITH GLOBAL COMMUNITIES AT HOME

You do not need to travel to study global health; global health education exists right here in Minnesota, with a population filled with diverse cultural backgrounds and a variety of lived experiences. All medical providers in the Midwest will encounter people from other walks of life who face unique health challenges and who have a variety of travel histories. With an eye toward improving the care we provide here in Minnesota, the GMPP has created a variety of online courses to help health care workers exercise cross-cultural care where they live.

Our online curriculum helps providers understand the unique public health needs of humans as mobile individuals. This includes courses on immigrant and refugee health, principles in disaster preparedness and clinical medicine in resource-limited settings, public health and non-communicable diseases impacting the world. We provide content on parasitic infections, tropical viral infections, tropical bacterial infections, and travel medicine. Our courses also address palliative care and communicating about death and dying across cultures and languages.

With the online format, busy practicing providers anywhere in the world can take our CME-credited courses on their own schedules. Having studied the online content, providers can focus on practicing their skills through interactive simulations and hands-on lab time with our in-person courses in Minnesota, Thailand or Uganda.

Kristina Krohn, MD

Nasreen Quadri, MD, CTRopMed, trained at the HealthPartners Center for International Health (CIH) as a resident.

"My clinical experience at CIH as a resident physician challenged me to understand the breadth and depth of global health practice. Through the privilege of caring for our refugee patients and reflecting on their individual lived experiences, we collectively explored forced migration as a social determinant of health, dissecting the complex root causes of genocide, climate change, famine, war and persecution. My clinical training with primary care physician mentors at CIH has greatly influenced my career trajectory and connected me to community collaborations working on improving overall health and wellbeing of our local immigrant and refugee communities."

Quadri is now a Med/Peds hospitalist in the Twin Cities.

CARING FOR IMMIGRANT AND REFUGEE COMMUNITIES IN MINNESOTA

Global health is indeed local health at the HealthPartners Center for International Health (CIH). Located in the Midway area of St. Paul, CIH was established in 1980 in response to the influx of Southeast Asians to Minnesota after the Vietnam War. Initially called "The Hmong Clinic" or the "Southeast Asian Clinic," the clinic now serves patients from more than 50 countries. In 2018, the foreign languages most commonly spoken by CIH patients were Karen, Vietnamese, Somali, Oromo, Nepali, Cambodian, Swahili, Russian and Amharic.

As a training site, CIH is home to about 12 medicine residents each year who remain at the site throughout their residency. They spend one day every week in clinic during their outpatient rotations, providing primary care to immigrant and refugee patients. Residents are paired with physician experts in refugee health, tropical and travel medicine and the social determinants of health impacting the communities served. CIH serves as a model internationally for delivery of high-quality care to immigrants and refugees and is active in disseminating best practices. The Center has been the recipient of more than $2 million in grants, including a 10-year CDC Refugee Center of Excellence grant.

Patient issues managed by residents and preceptors include common chronic diseases, along with unique challenges in cross-cultural understanding and mental health that are associated with migration-related trauma. Residents also acquire competence in refugee new arrival screening, which is an area of current challenge due to the dramatic reduction in refugees resettled to MN and nationally. Additionally, residents become comfortable managing conditions more commonly seen in foreign-born populations (latent and extrapulmonary TB, hepatitis B, eosinophilia, parasite infections). Many also have the opportunity to diagnose and manage tropical diseases rarely encountered in the U.S.

Ann Settgast, MD, DTM&H

Shemal Shah, DO, trained at the HealthPartners Center for International Health (CIH) as a resident.

"Coming into residency, I requested to be placed at CIH because I was excited to learn from the diverse group of patients I would meet. After spending three years at the clinic, I truly find myself more humble, patient and knowledgeable. The experience of guiding a newly arrived person through the American landscape and culture is a journey for both the patient and provider."

Shah is an internal medicine hospitalist at Regions Hospital in St. Paul.

EMPOWERING IMMIGRANT INTERNATIONAL MEDICAL GRADUATES TO REDUCE HEALTH DISPARITIES

The growing shortage of physicians in the United States is reflected in the projection that by 2030, Minnesota will require a 28 percent increase over the current physician workforce to prevent disparities resulting from a lack of health care access. Experienced immigrant physicians who trained in other countries are eager to join this workforce, however they must first complete U.S. residency training. U.S. residency programs highly value hands-on clinical experience for Immigrant International Medical Graduate (IIMG) residency applicants, who are usually a few years out from their training. Opportunities for such experience are limited and expensive.

Anteneh Zewde, MD, faculty in the BRIIDGE program, with 2019 graduate Saron Yohannes, MD.

Toward a goal of increasing the number of primary care physicians in rural and underserved areas, the Minnesota Legislature and Department of Health developed a law calling for a state-funded grant program to develop training sites that provide hands-on experience for IIMGs prior to residency. The University of Minnesota Medical School has been awarded this funding, supporting the Bridge for Immigrant International Doctor Graduates through clinical Experience (BRIIDGE) program since 2016. BRIIDGE provides participants with nine months of internal medicine, pediatrics and family medicine clinical experience in the Twin Cities. BRIIDGE curriculum also includes social determinants of health, medical knowledge and particularities of the U.S. health care system.

BRIIDGE training has led to improved confidence, rapport-building and efficiency in its graduates. Eight of nine BRIIDGE graduates are currently enrolled in U.S. residency programs. With the success of the BRIIDGE program graduates and an anticipated return to post-pandemic teaching capacity, expansion to a larger cohort is on the horizon.

Hope Pogemiller, MD, MPH

Sarah Sponsler, MA is staff, University of Minnesota Medical School. Sarah Kesler, MD; and Jonathan D. Kirsch, MD, are faculty, University of Minnesota Medical School, Department of Medicine. Kristina Krohn, MD; Hope Pogemiller, MD, MPH; and Michael A. Sundberg, MD, MPH, are faculty, University of Minnesota Medical School, Department of Medicine and Department of Pediatrics. Mary J. Owen, MD, is faculty, University of Minnesota Medical School Duluth, Department of Family Medicine. Ann Settgast, MD, DTM&H, is faculty, University of Minnesota Medical School, Department of Medicine, and internal medicine physician, HealthPartners Center for International Health. Brett Hendel-Paterson, MD, is director, University of Minnesota Global Medicine Pathway and Program, and med/peds and palliative care physician, HealthPartners Regions Hospital.

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Sana Khan, MD, finished medical school in Pakistan and practiced there, then immigrated to the United States. She did residency training in the Bridge for Immigrant International Doctor Graduates through clinical Experience (BRIIDGE) program in 2019.

"I applied for residency because the barrier to my finding work was knowing the system. Knowing medicine is one thing, but knowing the system is a very different thing. I did some observerships, but that wasn't considered good experience. I came to know about BRIIDGE program from the Minnesota Department of Health and, fortunately, got selected. The seats are limited, so not everyone can get in. I spent about nine months in the program, half in-patient in the hospital, half in the clinic. Learning in health care has changed enormously in the past few years."

Khan is now a resident in internal medicine at the University of Minnesota. She expects to stay in Minnesota when she finishes.

reclaim the JOY of medicine

SAVE THE DATE
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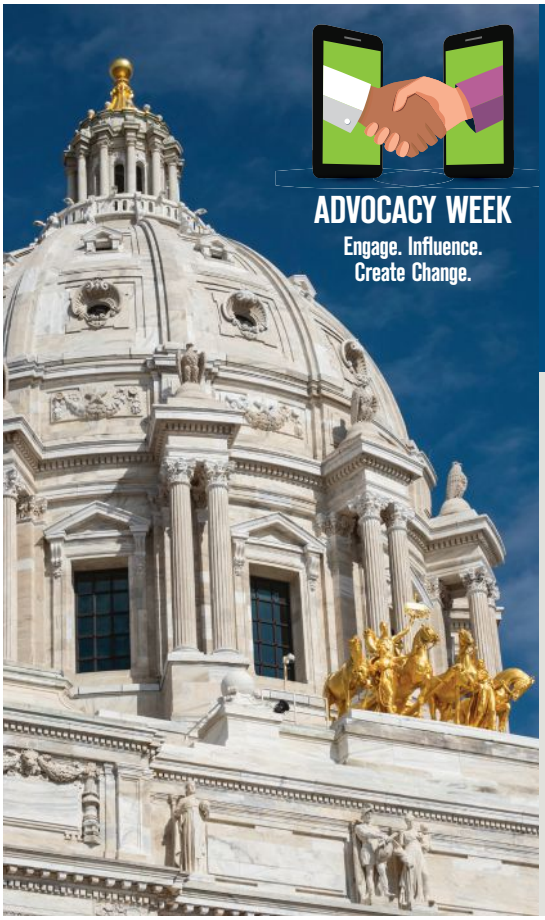
Health-care Provider Resilience Conference!

The MMA will host a one-day virtual conference to convene physicians, other health-care providers, and leaders to explore strategies to reclaim the joy of practicing medicine.

The conference is dedicated to improving the well-being and resiliency of physicians and other health professionals.

Stay tuned to MMA *News Now*, the MMA's weekly eNewsletter, for details.



***Save the Dates!* February 8-12, 2021**

MMA's Day at the Capitol is now *Advocacy Week*

The annual flood of white coats into St. Paul is going virtual in 2021. We are planning several virtual events, including an overview of the MMA's legislative priorities, addresses from key legislators and instruction on how physicians and physicians-in-training can influence policy to make Minnesota the best place to practice. Join us in February, and learn how you and your colleagues can raise your voice and make a difference!

Stay tuned to MMA* News Now, *the MMA's weekly eNewsletter, for updates.

Minnesota Medical Association

A UNIQUE PARTNERSHIP WITH THE UNITED

BY NASREEN S. QUADRI, MD; ERIN M. MANN, MPH; PATRICIA MBURU, MBCHB, GHP; AMIRA HAMADEH, MD, MPH; AND WILLIAM M. STAUFFER, MD, MSPH, FASTMH

The current state of the world demands solidarity through multilateralism, especially for complex processes such as refugee resettlement that necessitate international cooperation. The International Organization for Migration/United Nations Migration Agency (IOM) is a multinational leader for migration, coordinating with many partners to ensure healthy and safe migration, including refugees resettling to the United States. A refugee is any person with a well-founded fear of persecution based on race, nationality, political opinion or membership in a particular social group, who is unable to return to the country of nationality owing to such fear. The United Nations High Commissioner for Refugees (UNHCR) reports fewer than 1 percent of the 20.4 million individuals categorized as refugees are ultimately resettled in a third country; as of 2019, only 10 percent of those refugees were resettled in the United States. Minnesota is home to a unique and expanding partnership with IOM that connects Minnesota-based health professionals caring for refugees with IOM counterparts across the world.

An important role of IOM in the refugee resettlement process is migrant health assessments. IOM physicians evaluate the physical and mental health of refugees for diseases of public health significance as well as for diseases that could pose a health and safety concern to the refugee in transit to the United States. IOM physicians are guided in the overseas health assessment of the refugees by the Centers for Disease Control and Prevention (CDC), who issue health screening and management instructions. To standardize the use of medical information, a classification system assigns a class to each condition, paying special attention to previously unknown or untreated diseases of public health concern. Class A conditions (eg. active tuberculosis) require treatment before travel; most Class B conditions (eg. diabetes mellitus, hypertension) are managed prior to departure with follow-up care facilitated after resettlement in the United States. The majority of refugees examined have no significant medical conditions.

IOM colleagues from Kenya and Uganda discuss approaches for using handheld ultrasound technology during a visit to Minnesota in October 2019.

Refugees with complex medical needs are stabilized before their journey and travel requirements are organized by IOM. These may include medical escorts, supplementary oxygen, medical management en route and seating or mobility assistance. Refugees in treatment leave with a medication supply for at least three months. Resettlement agencies in the United States are notified of patients with complex medical needs, to ensure timely follow up. This includes any adaptations required, such as special schooling and accommodation and settlement in specific areas due to medical needs. Some refugees perceive the medical examination as an obstacle to their travel to the United States. They may fear they won't meet health requirements, so may avoid disclosing their medical conditions. Counseling to allay their fears is an integral component of the health assessment.

Over the last decade, the University of Minnesota (UMN) and the Minnesota Department of Health (MDH) have collaborated with CDC and IOM to strengthen the continuum of care for refugees resettling in the United States through a unique, bidirectional capacity-building partnership. Minnesota is a natural home for this partnership, given that the state has more than 40 years of experience in refugee resettlement and MDH is home to a CDC Center of Excellence in Refugee Health. Minnesota also has a rich and broad base of globally experienced health experts familiar with working in low-resource settings. The partnership is housed in UMN's Center for Global Health and Social Responsibility. Through the partnership, more than 50 Minnesota-based providers have led trainings and workshops and/or visited refugee camps in more than a dozen countries since 2018. Recently, teams from Minnesota co-delivered trainings alongside IOM colleagues at IOM clinics in Tanzania, Jordan, Indonesia and Ukraine.

Minnesota-based exchanges invite IOM health professionals, including nurses, laboratory technicians, radiographers and physicians, to Minnesota for week-long visits. The visits are an experiential opportunity to engage in local systems of care central to refugee resettlement. More than 40 IOM colleagues have visited Minnesota since 2018. The partnership connects predeparture and post-arrival refugee health care in a unique way; medical professionals evaluating patients abroad are directly connected with local health care professionals providing ongoing health care to refugees. Minnesota providers have the opportunity to learn about clinical settings and resources available to patients in preparation for their migration, including completion of paperwork used on arrival at the U.S. clinic. In some cases, these visits are a meeting of colleagues who connected during an international training. The power of relationship building among

NATIONS MIGRATION AGENCY

colleagues provides the foundation for ongoing co-learning.

Successful refugee resettlement requires the collaboration of several sectors. Refugee agencies provide resettlement services to newly arrived refugees, including coordinating access to food, housing, education, employment and medical care during the immediate 90 days after arrival. Micaela Schuneman, director of Refugee Services from the International Institute of Minnesota, reflects on visits from IOM providers: "Through meeting the IOM medical teams, I have gained a clearer understanding of the health exams performed before refugees arrive in Minnesota. It is great to discuss the health needs and priorities we see in Minnesota and talk about the access to health care and challenges our clients may have faced before arriving in Minnesota. Any time I can talk to a professional from another country, I learn something valuable."

On arrival in the United States, a majority of patients voluntarily undergo a domestic health assessment within 90 days, although there is no legal requirement that they do so. In Minnesota, on average 95 percent of newly arrived refugees completed this health assessment within 90 days of arrival. The medical screening is to diagnose and treat diseases of public health significance as well as start the process of accessing preventive medical care for refugees. As refugees are connected to the health care system locally, they are referred to specific clinics with experience in screening newly arrived refugees, like the HealthPartners Center for International Health (CIH) in Ramsey County. The clinic provides multidisciplinary care by a majority bilingual staff with access to in-house medical interpreters serving a majority limited English proficiency population. Tseganesh Selameab, MD, clinical medical director of CIH, says: "When we care for newly arrived refugees at the Center for International Health, what we have in our hands are the documents filled out by other doctors and nurses across the ocean with all the patients' medical history and information. Getting to meet our colleagues who are doing this work has allowed us to learn so much from each other about the IOM process and to get a deeper understanding of the challenges faced on both sides. Getting to shake hands with our colleagues and form relationships also brings a much needed humanization to our work."

The bidirectional partnership has benefited international IOM physicians and local physicians in Minnesota, who are jointly committed to providing the highest level of care to refugees across the continuum of resettlement. Participation in international training for Minnesota-based health care workers and local visits for IOM health professionals open avenues of collaboration and deeper understanding to optimize systems of care for refugees demonstrating solidarity in practice. MM

IOM and Minnesota-based medical educators co-deliver a training in Amman, Jordan in July 2019.

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THE ROLE OF KNOWING STORY AND

BY JIM BEAR JACOBS AND MICHAEL WESTERHAUS, MD

A woman in rural Wisconsin carries a rather unusual name. By the time of her birth in the early 1950s, her mother had already brought six children into the world. Each of those births took place on a very rural Indian reservation, surrounded by a network of indigenous midwives and caretakers. This time her mother decided to give birth in a hospital in a nearby mid-size town. After settling into her hospital room, she was given a call buzzer to alert the nurses of her needs. As labor progressed, she pressed the buzzer. No response. Contractions fell into rhythm and she pressed the buzzer. No response. The baby crowned and she pressed the buzzer again. And again, no response. By the time anyone responded, the baby was calmly nursing at her mother's breast and that call buzzer was ripped out of the wall. As the newborn's eldest brother walked through the maternity ward, he overheard one of the nurses say, "That's okay, I didn't want to touch that dirty Indian anyway." The name recorded on the newborn's birth certificate would rarely be used. Instead she would be known to her family and community as Buzzy, named after the call buzzer that never received a response.

The global "other"

When asked to imagine global health, many of our minds easily fill with images of nearly lifeless bodies receiving life-saving medications from heroic health professionals. We hear the deafening clatter of overcrowded waiting rooms or the soft whimpers of malnourished children. We smell the fleshy stench of untreated infection. Internally, we might feel a bodily tightening of revulsion or a flitter of urgency to respond.

If provoked to further description, we might skittishly acknowledge what we try to keep invisible; we imagine the heroic health professionals as White-bodied males, the sick and helpless as Black, Brown and Indigenous bodies, and all happening far, far away from Minnesota. A White U.S. male physician rounding on the wards in northern Uganda counts as global health while the work of a Black Ugandan female nurse rounding on the same team does not. Confronted with naming the racialization and gendering of our imaginations and practices, we now might feel an immobilizing lethargy or a defensive writhing.

And how do we imagine local health? Or global-local? For these, our imaginations are often far fuzzier and ill-defined. Is a White primary care physician from rural Minnesota who sees a White farmer in clinic doing local health? If the same physician next sees a patient born in Myanmar who works in a meat-processing factory in the same community, is that now global-local work?

These imaginative exercises and our bodily unease reveal that our use of the terms "global" and "local" often signals more about the position, power and identity of the person using them or being described than any particular set of knowledge, skills or attitudes. While of course connected to particular geographic spaces, global and local are also profoundly personal places lodged in our minds and bodies.

Knowing who we are and where we come from matters deeply when we wade into global and local spaces, if we desire to build relationship and effect social change. That starts by first asking ourselves: Who are my ancestors and where am I from? Who is my community? What is the history of the place in which I live?

Stories of place

I (Jim Bear) was born in St. Paul. I am the descendant of Scandinavian/German immigrants on my mother's side, and Indigenous Mohican on my father's side. Buzzy from the introduction is my auntie. Mohicans are indigenous to the East Coast in upstate New York, however forced relocation practices during the 19th century mean that since the 1830s, the center of Mohican life, culture and identity is a small reservation in central Wisconsin. My father was among the generation that moved away from the Rez in the late 1960s. A decade later, I was among the first generation of Mohicans born and raised in a large city away from my Mohican community. With the independence that comes with adolescence and a driver's license, I began making the five-hour drive to the reservation to spend more and more time with my grandmother and other relatives. At times, I would spend the entire summer there awakening to and immersing myself in my Mohican identity. I spent days listening to the stories of elders and feeling a deep sense of sacred homecoming. It gave me a reverence for place that I had never experienced before. As I transitioned to my adult years in the Twin Cities, this reverence for place and the stories that are held in the land fueled my passion for storytelling and Indigenous justice.

I (Michael) was born in St. Paul as the descendant of German, Irish and French settlers. My paternal great-grandparents arrived at Ellis Island by boat from Germany in 1923 and eventually settled in Duluth, where my great-grandfather labored for years in the U.S. Steel plant. I largely grew up amid the farm fields of central Minnesota in a household of educators. Science fair projects with my father and the selfless caregiving of my mother cultivated my interest in medicine. A curiosity for global exploration paired with an unexamined desire to help others brought me to Uganda just prior to medical school. During medical training, I built an identity on global health, repeatedly traveling to Uganda to provide primary

SELF IN GLOBAL AND LOCAL PLACES

Learners exploring Fort Patiko in Northern Uganda

care and teach about the social determinants of health. Moving home to Minnesota in 2011 to raise a family and practice primary care at a refugee health clinic in St. Paul, I continued teaching in Uganda each January and bringing students to Fort Patiko, a historical site connected to slave-trading and European exploration in northern Uganda. While passionately educating others in Uganda about colonialism, racism and the desire for cheap capital as root causes of health inequities, I remained largely unaware of those same histories in my birth place.

Sacred and disruptive spaces

Our paths first crossed under shady oak trees in Mendota during a Sacred Sites tour. Led by Jim Bear, the Sacred Sites tour explores the history of the Dakota, the Indigenous people of Minnesota. These tours began in 2011, after a Dakota elder interpreted a recurring dream of Jim Bear's to mean that he was to begin educating people in Minnesota about the sacred stories that surrounded them. The tour immerses participants in history by visiting three sites that hold some of the most sacred stories for the Dakota people. Each tour explores the place of creation, history and trauma, and examines the co-existence of both genesis and genocide in the same sacred river valley. Meant to be transformative, the tours incorporate reflective practices. For example: following an emotional telling of Dakota place and history, each participant receives a small amount of tobacco (a traditional indigenous offering for entering sacred space) and is told to go out into the space, sit and meditate in order to open spiritual eyes, ears and hearts to the celebration and grieving of the stories and land. Not interested in just making White people smarter, but in making White people better, Jim Bear involves reflection and ceremony to allow for real transformation to happen.

These tours now play a foundational role in a global-local experiential course that examines the roots of health inequities in Minnesota. In addition to making visible a historical context that has been intentionally made invisible, the tour teaches how deeply place matters and that stories layer and live on in particular places. With these lessons in mind, the class moves through other spaces in the Twin Cities—the Rondo Neighborhood, a Hmong farm, a nurses' union hall, zAmya theater and the neighborhoods of the learners—listening to leaders and visionaries who believe that equity arises from honestly

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acknowledging history and learning from the wisdom that emanates from proximity to place.

Dissolving boundaries between global, local and self

Buzzy, the Sacred Sites and Fort Patiko tours and the COVID pandemic teach that what is global are a set of social forces that forcefully harm some while protecting others. Globally circulated forces of capitalism, racism, patriarchy and settler colonialism—the structural determinants of health—constantly shape material realities and impinge upon human health in the most local of ways. Recognizing this universality shifts our gaze from the poor in other places towards centers of power in all places—not to lose sight of suffering in the global south, but to sharpen our focus on the sources of social forces that marginalize communities everywhere.

To truly understand any place, geographer Ruth Wilson Gilmore urges asking, "Why do things happen where they do?" In northern Uganda, the legacy of war and defunded public health systems create social conditions that permit unnecessary death from malaria, AIDS and diarrheal disease. In Minnesota, historical redlining, on-going residential segregation, forced cultural assimilation and land displacement and underfunded public education and housing systems create social conditions that translate into unhealed addiction, uncontrolled diabetes, severe COVID-infection and end-stage cancer.

Given the shared and predictable patterns of oppressive social forces turning into bodily pathology, we ask why we demarcate what is global and what is local at all. Too often, it is to minimize our accountability, set boundaries on relationships, elevate our expertise, excuse ourselves from historical study or perpetuate hierarchical valuation of human life by applying varied clinical care or research standards in different contexts. If that is the case, we must root it out.

If, however, it is to build off the insights and the potential that the local and the global each offer, then we have found a powerful path forward. Seeking to be intensely local—learning history, listening to story and rooting in community—creates the possibility of long-term relationships that foster vulnerability, trust and accountability. Seeking to be global—recognizing the linkages between social forces throughout the world, sharing innovative ideas across contexts and connecting transnational social movements—builds the power to advance health equity everywhere.

Regardless of where we consider local and where we consider global, we all have a personal connectedness and a place in such histories and forces. Practicing clinicians in any place need to ask, what histories don't I know? How am I complicit with perpetuating social forces that harm patients and communities? What is my role in dismantling them? If we can steady ourselves amid the uncomfortable answers we hear, we can deepen connection with patients and communities, stir creativity and build the imaginative, bodily and relational fortitude necessary to take on the structural determination of health over the long haul. **MM**

Jim Bear Jacobs sharing stories during a Sacred Sites Tour

Jim Bear Jacobs is program director for Racial Justice, Minnesota Council of Churches, and founder of Healing Minnesota Stories. Michael Westerhaus, MD, is assistant professor, University of Minnesota Medical School, primary care physician, Center for International Health, and a current Macy Faculty Scholar.

For More Information:

Global Health in a Local Context Experiential Course. Offered through the Center for Global Health and Social Responsibility, University of Minnesota. URL: https://globalhealthcenter.umn.edu/global-health-local-context.

Sacred Sites Tour. Offered through Healing Stories Minnesota: https://healingmnstories.wordpress.com/sacred-site-tours/

EqualHealth. Organization that offers social medicine courses in Haiti and Uganda in addition to supporting the Global-Local course in the Twin Cities. www.equalhealth.org

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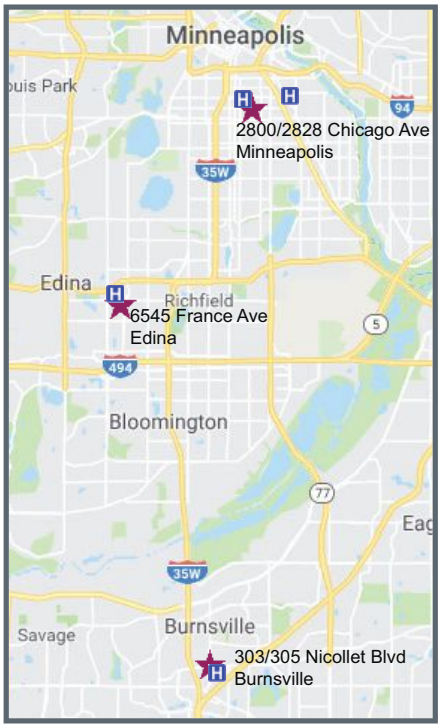

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National experts (clockwise from lower left): Esther Choo, MD; Uché Blackstock, MD; and Jane van Dis, MD; joined MMA President Marilyn Peitso, MD, for a session on equity in health care.

VIRTUAL ANNUAL CONFERENCE tackles pandemic and equity in health care

The COVID-19 pandemic and equity in health care took center stage during the MMA's first-ever virtual Annual Conference on September 25 and 26.

Due to the pandemic, MMA organizers had to pivot to convert the normally in-person event into the world of Zoom. More than 170 physicians and physicians-in-training signed up for the two-day event.

Highlights for the conference included:

- **A discussion on Minnesota's response to the COVID-19 pandemic** featuring infectious disease expert Michael T. Osterholm, PhD, MPH; state epidemiologist and medical director Ruth Lynfield, MD; and front-line physician Jon B. Cole, MD. They discussed the shifting epidemiology of the disease; the state, federal and world response to the pandemic; what the greatest challenges have been in the fight against COVID-19; and what we need to improve to ensure that we are better equipped to handle the next public health emergency.
- Another session discussed **the flaws and vulnerabilities in the U.S. health care system discovered during the pandemi**c. "Cracks in the Health Care System Exposed by COVID-19" explored the need to strengthen our public health systems, how COVID-19 has exposed racial and ethnic disparities in access to and quality of health care and how the health care industry has been forced to examine how health care is paid for and assess whether current payment models are still feasible.
- A conversation, led by Brooke Cunningham, MD, PhD, and David Jones, MD, PhD, examined **race in medicine from a clinical perspective** and assessed how physicians can more effectively make clinical decisions—without the need for a race-based lens.
- National experts Uché Blackstock, MD; Esther Choo, MD, MPH; and Jane van Dis, MD, examined **common barriers to addressing equity in health care** and provided a series of compelling arguments for enacting true and measurable changes.

Physicians, medical students and legislators receive annual MMA awards

Six physicians, two physicians-in-training and two legislators were honored with MMA awards as part of this year's virtual Annual Conference. Each year, the MMA honors those in medicine for going above and beyond.

Distinguished Service Award

Former MMA President **David Thorson**, MD, received the MMA's highest honor, the Distinguished Service Award, for his years of service to the association and to medicine. Thorson served as chair of the MMA Board of Trustees from 2009 to 2014 and as president in 2015. He is also a former president of the Minnesota Academy of Family Physicians, and has been named a *Minneapolis/Saint Paul Magazine* Top Doctor seven times. He has served as the team physician for the Saint Paul Saints, the United States Ski Team, the United States Freestyle Team, Mahtomedi High School and the Twin Cities Marathon. Thorson is a family physician based in White Bear Lake.

President's Awards

Heather Bell, MD; **Kurt DeVine**, MD; **Ruth Lynfield**, MD; and **John Hick**, MD, received the MMA's President's Award, which recognizes those who have given much of their free time to help improve the association.

For the past few years, Bell and DeVine have been major advocates for appropriate opioid prescribing programs as well as the expansion of medication-assisted

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MMA study finds broad health, care delivery, and economic impacts of COVID-19

Editor's note: We provided a quick overview of the MMA's COVID-19 impact study in the September/October issue of Minnesota Medicine. *Following is a more in-depth look.*

Minnesotans experienced adverse health outcomes due to delays in care, the use of telehealth has surged, the bottom lines of physician practices in Minnesota were hurt significantly during the first months of the COVD-19 pandemic and doctors fear the next wave of the virus. These are a few of the key findings of a study commissioned this summer by the MMA on the impact of the pandemic on physician practices.

The study, "Minnesota Physicians Respond to COVID-19," is based on responses to two surveys—one sent to Minnesota physicians (the 641 responses represent a +/- 4 percent margin of error at 95 percent confidence interval) and one sent to medical practice administrators (92 responses). Surveys were completed between June 16 and July 13, 2020.

"Given how quickly the health care world is changing during this pandemic, we realize these results are just a point in time," says former MMA President Keith Stelter, MD. "But they do confirm a lot of what we've been hearing anecdotally—even for patients without COVID-19, their health is suffering, the pandemic has accelerated use and acceptance of telehealth by both patients and physicians and there are serious concerns about what happens with the next wave."

Delayed care

More than 50 percent of physicians reported that their non-COVID patients experienced adverse outcomes due to care delays. Specifically, 19 percent of physician respondents reported that patients had delayed routine or preventive care, 17 percent said their patients feared seeking care because of potential exposure to the deadly virus and 5 percent reported that care delays caused a patient death.

"Several elderly patients have put off their patient appointments and had significant worsening of their pain issues," said one responding physician. Another pointed out: "There are patients on clinical trials that are hesitant to come back for visits, so this is impacting clinical research."

"The results of this survey confirm our concerns regarding patients avoiding care because of their fear of the virus," Stelter says. "It's one of the main reasons we've continued to encourage Minnesotans to seek care during the pandemic as part of our Practice Good Health campaign."

Telehealth use grows

Not surprisingly, the use of technology increased dramatically during the pandemic, the study found. In 2019, practice administrators reported that approximately 3 percent of patient encounters were conducted via telehealth, including e-visits, phone and video visits. Since March 2020, that number has increased to 28 percent, an increase of 833 percent.

Eighty-four percent of physicians reported that patients were satisfied or very satisfied with telehealth visits. A similar proportion of physicians (83 percent) said telehealth is meeting the care needs of their patients. "Telehealth is a lot like doing house calls," commented one respondent. "I am a guest in their home and the patient is much more comfortable. I hear the sounds of their life."

Nearly three-quarters of physicians said they think it is important to retain telehealth as a care delivery method, but changes are needed for that to continue. Seventy-eight percent reported uncertainty around ongoing reimbursement by insurers as a barrier to broader telehealth adoption and use. Another critical barrier to telehealth adoption is on the patient side—73 percent of physician respondents noted that patient access to technology and patient access to broadband (60 percent) were moderate to significant barriers to broader telehealth use.

"We're glad to see the expanded use of telehealth," Stelter says. "However, not all patients can currently access it. Many Minnesotans don't have access to broadband. Variation in technology platforms can also drive patient comfort and use. For telehealth to be truly helpful, everyone needs to have the ability to use it effectively. This is yet another example of the health care disparities that exist in Minnesota."

The bottom line

The research found that, overall, medical practices saw professional service volume and revenue decline by more than 45 percent for the period March 16 to May 10, compared to the same period in 2019. Non-primary care single-specialty practices were hit the hardest, reporting a 76 percent decrease in median volume and revenue.

The pandemic has affected earnings for both physicians and other health care workers. Ninety-one percent of physicians reported that they experienced reductions in their cash compensation and/or benefits. Ninety-six percent of organizations reported that they implemented reduced hours, furloughs/layoffs, terminations and/or hiring freezes for non-physician staff.

(continued on page 28)

VIRTUAL ANNUAL CONFERENCE *(continued from previous page)*

treatment accessibility throughout Minnesota, primarily in the vastly underserved rural communities where access previously was nonexistent. Earlier this year, they pivoted to focus on the pandemic, hosting a series of noon-time webinars to help Minnesota physicians stay educated on COVID-19.

Lynfield, who currently serves as the state epidemiologist and medical director with the Minnesota Department of Health, has been a crucial player in developing the state's guidance on the COVID-19 pandemic.

Hick, board-certified in Emergency Medicine and Emergency Medical Services, currently serves as deputy chief medical director for Hennepin EMS and medical director for emergency preparedness at HCMC. He has been a leader on the front lines of the COVID-19 pandemic.

Medical Student Leadership Award

June Zolfaghari and **Derrick Lewis** received the MMA's Student Leadership Award, which recognizes medical students who demonstrate exemplary leadership in service to fellow medical students, the profession of medicine, and the broader community.

Zolfaghari, a student at the University of Minnesota Medical School, Twin Cities campus, has been a strong advocate for LGBTQ patient care. She was recently chosen as a 2018-2019 Pete Dehnel Public Health Advocacy Fellow. In her work, she focused on LGBTQ health in the high-school community and she created a toolkit to alert school nurses about issues faced by LGBTQ youth.

Lewis, a student at the Mayo Clinic Alix School of Medicine, was recently voted to serve as the medical student representative on the MMA's Board of Trustees. He serves in various leadership roles at the Mayo Clinic Alix School of Medicine, where he is co-president of the Student National Medical Association, associate director of Pre-Med Insights, and co-leader of the Surgery Interest Group. He also recently joined with community members to start a consortium of local organizations committed to abolishing health care disparities. Lewis also serves as the secretary of the MMA's Medical Student Section Executive Committee.

James H. Sova Memorial Award for Advocacy

Sen. **Julie Rosen** (R-Vernon Center) and Rep. **Kelly Morrison**, MD, (DFL-Deephaven) received the Sova award, which is given to the extraordinary health care champion who comes along every once in a while.

This pair of legislators worked across the aisle to pass legislation to ease the burdens of prior authorization for physicians, while improving care delivery for patients. The MMA has sought to pass prior authorization reform for several years, and these two legislators saw our effort across the finish line and into law.

COPIC/MMA Foundation Humanitarian Award

Thomas Schrup, MD, received the COPIC/MMA Foundation Humanitarian Award, which recognizes MMA members who go above and beyond to help address the health care needs of underserved populations in Minnesota. Schrup volunteers at Pathways-4-Youth, a drop-in center in St. Cloud that caters to 16- to 23-year-old youth, many of whom are unstably housed or homeless. Schrup also serves as the medical director for the St. Joseph Volunteer Fire Department.

Thank you, sponsors

The MMA would like to thank the sponsors of this year's conference, which included: Premier sponsor **COPIC**, **AstraZeneca**, **DrFirst**, **Greenwald Wealth Management**, **UnitedHealthCare** and the **University of Minnesota School of Public Health**. MM

COVID-19 study *(continued from previous page)*

The survey also found that a large percentage of medical practices accessed financial assistance, be it through federal sources or a private loan/grant. The most common assistance was the federal Paycheck Protection Program, which was used by 73 percent of organizations. "The PPP and provider relief programs significantly helped our clinic to weather the storm of COVID," said one respondent. "If there is a second wave, we would need similar programs to withstand the financial impact."

Although respondents say they expect business to increase during the second half of 2020, they do not expect it to match 2019 levels. Multispecialty practices are the most optimistic about cash flow improvements.

News Briefs

2021 officers named to lead association

Marilyn Peitso, MD, a pediatric hospitalist in St. Cloud, was inaugurated as the 154th president of the MMA at the group's virtual Annual Conference in late September. She officially began her one-year term on October 1.

Randy Rice, MD, a family physician in Moose Lake, was elected as president-elect. Keith Stelter, MD, a family physician in Mankato, assumes the role of immediate past president. Carolyn McClain, MD, an emergency department physician in the Twin Cities, was re-elected as a trustee and will serve as the new secretary-treasurer. Edwin Bogonko, MD, a hospitalist in Shakopee, was re-elected as a trustee and has been elected to serve as board chair.

Lynn Cornell, MD, a renal pathologist in Rochester, was re-elected as a trustee.

In addition, newly elected board members beginning their roles October 1 include Dania Kamp, MD, a family physician in Moose Lake, and Elizabeth Elfstrand, MD, an OB/GYN in the Twin Cities. The size of the MMA board increased by one due to a bylaws change in 2019.

Maria Arciniegas Calle, MD, was elected to the resident/fellow board seat; Derrick Lewis, a medical student at the Mayo Clinic Alix School of Medicine, was elected to the medical student board seat.

Caleb Schultz, MD, an anesthesiologist in Minneapolis, was elected by the MMA Policy Council to fill the Council's seat on the MMA board.

Andrea Hillerud, MD, a family physician in the Twin Cities, was elected as an AMA delegate after most recently serving as an AMA alternate delegate; Lisa Mattson, MD, an OB/GYN in the Twin Cities, was elected to serve as a new AMA alternate delegate. Members of the AMA delegation begin their terms January 1, 2021.

Fear of the next wave

Administrators and physicians alike said they are concerned about a second wave of COVID-19. Ninety percent of administrators and 81 percent of physicians said they were concerned about their organization's ability to withstand a second wave of COVID-19. More than a third of administrators and physicians noted the need for additional financial support if the state faces a second wave of the pandemic. Twenty-one percent also said they were concerned about having enough PPE for a second wave.

More about the study

For an infographic and complete study results, visit www.mnmed.org/covidimpact.

Save the date: Reclaim the Joy of Medicine Conference will be January 28, 2021

The MMA will host a one-day virtual conference to convene physicians and other health care providers and leaders to explore strategies to reclaim the joy of practicing medicine on January 28, 2021. The event is dedicated to improving physician and other health care professional well-being and resiliency.

MMA joins forces to battle systemic racism

In mid-September, 30 organizations, including the MMA, adopted guiding principles to help Minnesota eliminate systemic racism and commit to addressing racial disparities and inequities. These principles came after months of conversations within these organizations and community groups.

The groups agreed to:

- Re-examine our organizational policies with an equity lens and make any policy changes needed to promote equity and opportunity.
- Seek to understand different perspectives and experiences and appropriately adapt our behaviors to improve culturally responsive care.
- Work to eliminate decisions that negatively impact underrepresented and underserved groups.
- Improve access to and consumer experience for all needed services—primary care, specialty care and hospital care.
- Partner with policymakers, employers and community advocates to remove the economic barriers to health equity.
- Continue to build pathways that support our patients in addressing their health-related social needs and provide connections to community resources.
- Commit to hiring locally and promoting Black, Indigenous, people of color and other underrepresented and underserved people into leadership roles. We commit to be employers that hire, develop, retain and support a diverse workforce.

- Renew and expand our organizations' commitment to providing anti-racism and implicit bias training for all leaders and staff.
- Advocate for increased funding for social needs, social services and programs that promote social justice.
- Advocate for investments that create innovative solutions to achieve enduring improvements in access, quality and health outcomes for the communities we serve.
- Promote the inclusion of businesses owned by Black, Indigenous, people of color and other underrepresented and underserved people when purchasing goods or services.
- Review any investment portfolio, assuring that we are invested in funds which align to our equity principles and values.

With MMA, the groups are: Allina Health, Allina Health Aetna, Blue Cross Blue Shield of Minnesota, CentraCare, Children's Minnesota, CCM Health, Entira, Essentia Health, Gillette Children's Specialty Healthcare, HealthPartners, Hennepin Healthcare, Institute for Clinical Systems Improvement (ICSI), Medica, M Health Fairview, Minnesota Association of Community Health Centers, Minnesota Community Care, MN Council of Health Plans, Minnesota Community Measurement, Natalis Counseling & Psychology Solutions, North Memorial Health, Nura Precision Pain Clinic, Planned Parenthood, Portico Healthnet, PrairieCare, PreferredOne, Southside Community Health Services, Stratis, UCare and University of Minnesota Physicians.

Health care groups urge Gov. Walz to address homelessness

In late September, the MMA joined several other physician groups in urging Gov. Tim Walz and policymakers to act to address the rise in homelessness. The COVID-19 pandemic, economic downturn and high unemployment, and the aftermath of George Floyd's killing all exacerbated an already acute challenge in many communities.

"Health begins where we live, learn, work and play," the letter began. "When individuals, including youth, children and families do not have a safe place to lay their heads at night, it can dramatically affect their health and well-being."

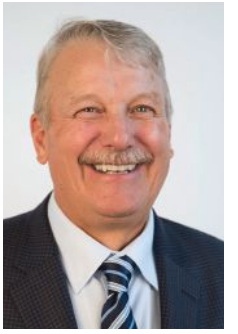
Social determinants of health—including access to safe housing—are critical factors in one's health status. Minnesota's communities of color have been particularly impacted by the rise in homelessness, worsening already existing inequities in housing and health among Minnesota's communities of color.

The letter urges Walz and policymakers to take several steps to address the spike in homelessness, including:

- Ensure that all people experiencing homelessness, including children, youth and families, have access to single-occupancy housing programs, such as hotel programs or shelters.
- Expand protections for individuals and families who are working, and work to prevent evictions to reduce the risk of homelessness.
- Develop a sustainable plan to secure housing affordability, including expanded access to high-quality affordable housing, rent control and housing options for youth.
- Protect encampments from clearance by law enforcement until there is safe access to alternative housing and shelter for residents.

In addition to the MMA, the letter was signed by the Minnesota Chapter of the American Academy of Pediatrics (MNAAP), Minnesota Academy of Family Physicians (MAFP), and the Minnesota Doctors for Health Equity.

Two MMA docs join national task force on cannabis



Former MMA President David Thorson (pictured), MD, and Mayo Clinic's Eugene Scharf, MD, have been named to the AMA Cannabis Task Force. Thorson will represent the MMA while Scharf will represent the American Academy of Neurology (AAN), which is based in Minneapolis.

The AMA voted to form the task force last year to evaluate and disseminate relevant scientific evidence related to the use of cannabis, whether for medical or recreational use, to health care facilities and the public. The group held its first meeting in mid-October. It will meet quarterly through 2021.

Along with the MMA and AAN, the task force includes 19 health care advocacy organizations.

Additional medical conditions being considered by state's Office of Medical Cannabis

The Office of Medical Cannabis (OMC) announced in late August that it will review the addition of anxiety, sickle cell disease, and tic disorder to the panel of conditions that allow a patient to participate in the state's medical cannabis program.

The medical cannabis law requires the OMC and Minnesota Department of Health (MDH) to annually consider adding conditions submitted by the public.

The Medical Cannabis Review Panel, a group made up of physicians, other health care providers and patients will review relevant research on the conditions, as well as comments provided by the public. Following the public comment period and public meetings, the panel is to issue a report on adding the conditions by November 2, with the health commissioner making a final decision on which conditions to add, if any, no later than December 1.

FROM THE CEO

First-ever virtual annual conference a big success. The pandemic did not stop the passing of the MMA presidential medallion from Keith Stelter, MD, to Marilyn Peitso, MD. It also didn't stop Minnesota physicians from gathering online to examine COVID-19 and its various impacts, and to engage in discussions about the use of race in medicine and the importance of continuing to pursue health equity for all Minnesotans. The conference was enriched by national experts, local perspectives, virtual discussion groups and engaging videos. For all of those who participated, thank you! If you missed it, you can still access much of the content online.

Noon-time physician forums are back by popular demand. The MMA's popular noon-time Physician Forums, launched earlier this year to deliver timely and accessible COVID-related information and resources, have resumed following a brief break. Upcoming forums will continue to address COVID topics as well as other timely topics affecting medicine in Minnesota.

2021 legislative session prep underway. The MMA is preparing for what is expected to be a busy and challenging legislative session that will be focused on addressing a significant state budget deficit. The Minnesota Legislature has not had much of a break since adjourning the 2020 regular session in May. A series of special sessions were held this summer and early fall because of the governor's extension of the COVID-related peacetime emergency declaration. Stay tuned for more information about MMA's 2021 legislative priorities and how you can get involved.

Start 2021 with joy. Few will weep when the calendar page turns from 2020 to 2021. Join your colleagues and start the year off fresh and with new resolve to invest in your health and well-being. Mark your calendars now for the January 28 Reclaim the Joy of Medicine virtual conference.

MMA Takes The Pulse of Members. The Pulse is MMA's new online tool that allows members to raise their voice to influence the direction of the association. In mid-October, The Pulse was used for the first time to capture member input on two new policy proposals—to advance legislation to require the state to create a state PPE stockpile and to support legislation allowing "mature minors" to consent to vaccinations. Do you have an issue you'd like the MMA to consider? Raise your voice and submit your proposal via The Pulse.

2021 membership season is here. Now, more than ever, the voice of physicians is needed to inform decisions affecting the health of Minnesotans and the direction of your practice. For 167 years, the MMA has been the voice of medicine in Minnesota thanks to your membership support. We know these are challenging times. As a result, the MMA dues rate will remain flat for 2021 and a variety of discounts are available to meet your needs. Please contact our membership team at 612-362-3728 or email membership@mnmed.org with questions.

Did you know? The MMA influences AMA policy and direction through its delegation to the AMA. Although MMA and AMA are independent organizations—from a governance and membership perspective—the MMA sends 10 delegates (five delegates and five alternates) to the AMA House of Delegates. The number of delegates is based on the number of AMA members in the state. At two meetings per year, the AMA House of Delegates serves as the AMA's legislative and policy-making body. You can learn more about the AMA delegation on the MMA website (see About Us, Governance & Leadership).

Please share your thoughts and comments at any time. Stay safe,

Janet Silversmith
JSilversmith@mnmed.org

VIEWPOINT

Social determinants of health in the time of COVID-19

PHOTO BY KATHRYN FORSS

Marilyn Peitso, MD
MMA President

As 2020 careens on toward the finish line, with no opportunity for the dust to settle, is it possible to step back and gain some semblance of perspective?

COVID-19 has dominated our work and home lives this year. It has brought into sharp relief the widespread racial disparities that exist within our society and state. We knew about these disparities before, with Minnesota having some of the widest educational achievement gaps in the nation, with gaps in percentage of Black vs. White home ownership in our state as examples. Statistics on COVID-19 bring racial disparity home in an unmistakable way to those of us in health care.

As a pediatrician, I was discomfited to hear about a recent study in *Pediatrics* showing that—after accounting for age, sex and family income—minority children were 2.3 times more likely than White children to have the coronavirus infection. Children from low-income households had almost three times higher rates of exposure to the virus than those from families with the highest incomes. This is our lane, physicians, and racial disparity is right there with us.

We have all heard about the outsized effect that social determinants of health have on the health of our communities. As defined by the CDC, these are "conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of-life-risks and outcomes." Safe and affordable housing, quality education, public safety without the fear of police brutality, access to healthy food, accessible health services, natural environments free of excess pollutants and toxins. Research shows that money given to poor families as subsidies from a local casino in a North Carolina Tribal Nation led to reduced behavioral problems, higher school achievement and lower rates of substance abuse in adulthood. Similarly, the earned income tax credit for low- and moderate-income families has been among the most effective means of reducing child poverty in our country, positively affecting millions of children.

Neel Kashkari, president of the Federal Reserve Bank in Minneapolis, and Alan Page, retired Minnesota Supreme Court justice and former Vikings defensive tackle, are two prominent Minnesotans who believe in confronting the social determinants of health. They have proposed amending Minnesota's Constitution to give every child a civil right to a quality public education. As they state in their July 13, 2020, editorial in the *Minneapolis Star Tribune*: "A quality education is without question the most powerful tool we have to break the cycle of poverty and create a society in which everyone can fully participate. It doesn't just change one child's life. It has the potential to improve the future for generations to come and leads to a more productive, vibrant society for all of us."

Earlier this year, the MMA convened a broad group of physicians to discuss what steps the organization could take to address structural, systemic and institutional racism and their effects on Minnesota's health inequities. Participants agreed that addressing social determinants of health is one of the key strategies. Suggestions included:

- Improving access/quality of pre-K education.
- Advancing "housing is health" policy.
- Advocating for universal health insurance coverage.
- Addressing police brutality and related traumas.

Finally, and close to home for physicians:

- Equipping physicians to effectively work within their communities to address these concerns.

This is our lane, physicians, and racial disparity is right there with us.

- Supporting efforts to educate our graduate and undergraduate students on social determinants of health.

Minnesota's physicians can work together and in partnership with others in our state and community to address these long-standing impediments to the health and well-being of our population. In the words of the late Minnesota Sen. Paul Wellstone, "We all do better when we all do better." Join us in this work.

ASTHMA AND AT-RISK POPULATIONS IN MINNESOTA

The impact of indoor and outdoor environments

BY KATHY RALEIGH, PHD, AND KATHLEEN NORLIEN, MS, CPH

Asthma is one of the most common lifelong health conditions, with more than 25 million Americans diagnosed. This widespread lung disease causes characteristic muscle contraction around the airways, inflammation of the bronchial tubes and production of mucus, making it difficult to breathe, especially at night. There are many risk factors and environmental triggers that impact the severity of asthma yet, despite overall improvements in Minnesota, asthma disparities persist among vulnerable populations. Following National Asthma Education and Prevention Program (NAEPP) guidelines, with particular attention to the populations most at-risk of exposure to triggers, is essential to comprehensive asthma management and can minimize the overall impact of illness.

There is a strong genetic component to developing asthma, although many factors contribute to severity of disease. Environmental conditions such as poor indoor and outdoor air quality can exacerbate asthma symptoms and contribute to a decline in quality of life. Low-income groups and communities of color experience higher levels of environmental exposures widening the asthma disparity gap. Exposure to triggers leads to increased medication use, missed days at school or work, and more trips to the doctor's office, the emergency department and the hospital. Young children, aging adults and individuals with co-morbid health conditions feel these effects most acutely.

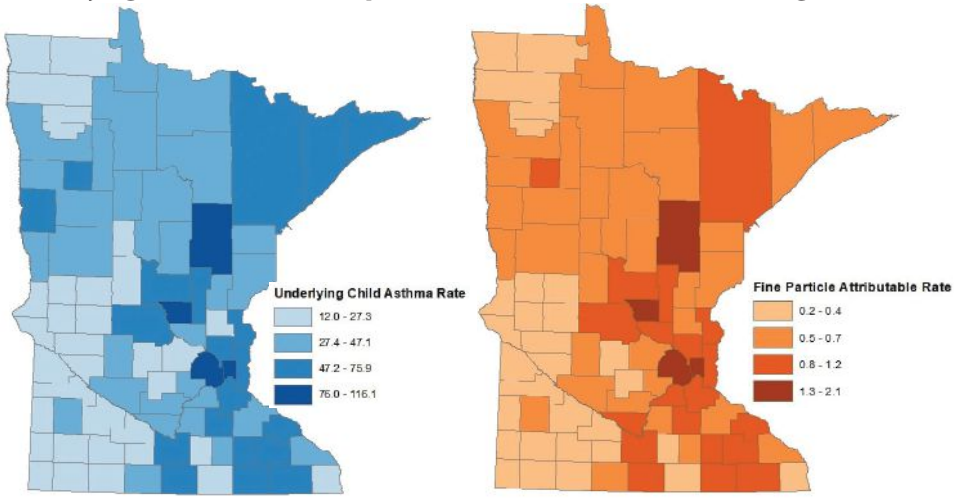
Asthma prevalence and disparities

Asthma ranks third among diagnosed chronic conditions in Minnesota, after high blood pressure and cholesterol. Approximately 393,000 residents—one in 14 (7.1 percent) children and one in 12 (8.3 percent) adults—live with asthma. According to the 2019 Minnesota Student Survey, American Indian and African American 11th grade male students report asthma more often compared to white males (21, 22 and 15 percent, respectively). Among adults, American Indians (21.8 percent) and African Americans (13.7 percent) have the highest self-reported asthma rates in Minnesota. The same disparities are clear with mortality. In Minnesota, asthma death rates are four times higher among African Americans and three times higher among Asian/Pacific Islanders compared to whites.

There are also disparities in health care utilization. In 2017, there were more than 18,000 emergency department (ED) visits for asthma across the state, with more visits among women (34.2 per 10,000 females compared to 30.4 per 10,000 males). Hospitalizations for children under the age of 5 occur at 10 times the rate of young adults (10.8 compared to 1.7 per 10,000). This disparity is further exacerbated in urban areas and counties with high childhood poverty rates. Children who live in

FIGURE 1

Child (under 18 years) asthma hospitalization rates by county. Underlying rate *(left)* and fine particle attributable (PM 2.5) rate *(right)*



the Twin Cities metropolitan region have almost double the rate of asthma-related ED visits annually compared to the rural areas of greater Minnesota (69.3 compared to 36.5 per 10,000). Hardest hit are high poverty counties where more than 80 per 10,000 children visit the ED for asthma annually.

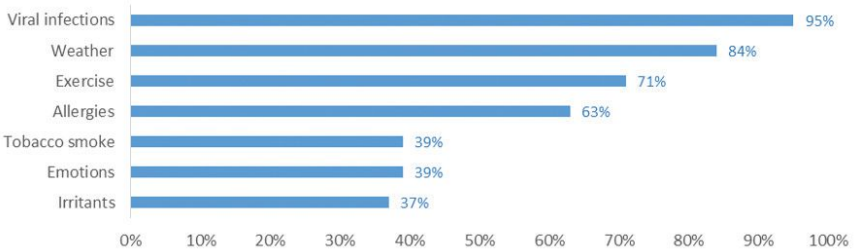
Occupational health is also a concern. Many causes of lung disease, including asthma, occur in the workplace. In 2013, the five industries and occupations in Minnesota with the highest prevalence of current asthma among adults were personal care and service (13.4 percent), finance and insurance (13.2 percent), accommodation and food services (12.9 percent), health care and social assistance (10.3 percent) and health care practitioners and technicians (10.1 percent).

The economic burden of asthma includes both direct (medical) and indirect (missed school or work) costs. In 2014, asthma cost an estimated $669.3 million, including $614.9 million in direct medical expenses and $54.3 million in lost work days in Minnesota. For children with asthma in Minnesota in 2010, the total cost was $105 million.

The common belief used to be that good health was due to personal choices and quality medical care. However, factors that explain disparities are broad and complex. We know that social and economic structural factors like education, income, racial discrimination, transportation, community social status, occupation and housing are major contributors to overall health. Traffic is not evenly distributed in urban areas with low-income areas and communities of color in urban zones like the Twin Cities metro area often experiencing greater exposure to traffic-related air pollution. Children in poverty often live in sub-standard housing with greater exposure to asthma triggers including allergens, smoking and stress. Some children are less likely to have regular primary care or ready access to inhalers. While no single program has demonstrated widespread and sustainable reductions in the nation's asthma disparities, both individual and system-level factors contribute to asthma inequities including disproportionate exposure to indoor and outdoor triggers.

FIGURE 2

HUD-RETA most commonly self-reported child asthma triggers



Asthma triggers and their impact

The environment plays a critical role in the development of asthma and exacerbation of asthma symptoms. Environmental triggers can cause airways to become overly responsive, resulting in wheezing, coughing, breathlessness or tightness in the chest. Common asthma triggers are dust mites, dander shed by pets, mold and pollen. Chemical irritants, viral infections, exercise, strong emotions/stress and indoor and outdoor air pollutants can also exacerbate symptoms. However, response to these triggers varies by individuals.

Indoor air

In the United States, residents spend up to 90 percent of their time inside, and nearly 70 percent of that time is in the home. Indoor activities and conditions create some of the most common asthma triggers. These include tobacco smoke, dust mites, mold and allergens from pests (e.g. cockroaches, mice), and pets with fur or feathers.

Activities that degrade air quality occur when there is emission of particulates (a mixture of small solid particles and liquid droplets that penetrate the lungs), chemicals or excess moisture inside. For example, hobbies such as painting and metalwork emit volatile organic compounds (VOCs), semi-VOCs and metal fumes that lead to unhealthy conditions. Smoke from combustion products and aerosol from vaping contribute to indoor air pollution. Often overlooked, cooking can produce elevated nitrogen dioxide from improperly vented gas stoves. Heating homes with older wood-burning equipment can increase fine particulate matter ($PM_{2.5}$, fine particle matter less than 2.5 microns in diameter) increasing unhealthy indoor air.

New building materials and new furniture can increase of VOCs in a home. Regular household activities such as vacuuming with a poorly contained vacuum cleaner, burning candles or incense and using air fresheners and other fragranced products all contribute to greater levels of particulates in the air. A single fragrance can contain between 50 and 300 potentially lung-irritating ingredients. Chemicals in fragrances can reduce forced expiratory volume (FEV_1) and cause wheezing, cough, chest tightness, rhinitis and dyspnea. Perfumes and common fragrance ingredients can cause new-onset asthma for adults and are especially impactful indoors.

Outdoor air

For people with asthma, exposure to ambient air pollution (particulate matter and gaseous pollutants such as ozone, nitrogen dioxide and sulfur dioxide) can cause symptoms like coughing, wheezing and chest tightness. Outdoor workers, such as those in construction and agriculture, are vulnerable to poor air quality—particularly if they have asthma, heart or other lung conditions. Many factors contribute to poor ambient air quality in Minnesota. Vehicle emissions affect lung health, especially near busy roadways with heavy traffic. Emissions from industries, homes and fires (i.e. backyard fires, wildfires) also impact the air we breathe.

Population impacts of outdoor air pollution

Substantial epidemiological evidence describes the impact of ambient air pollution on lung health, including morbidity and mortality related outcomes. In Minnesota, a recent analysis indicates that poor air quality impacts asthma hospitalization rates (Figure 1). Results from this study show that small changes in air quality can have a large impact on health outcomes, and that air quality is an important issue across Minnesota, not just in metropolitan areas. Vulnerable populations, including those without health insurance and the very young and old, experience a greater proportion of respiratory events across the state. In the Twin Cities, communities of color and areas with more residents living in poverty show higher rates of air pollution attributable respiratory hospital visits and deaths.

The public health approach in Minnesota

The Minnesota Department of Health (MDH) routinely collects data to document the burden of asthma in Minnesota while promoting evidence-based asthma programs to complement the medical management of asthma done in clinics.

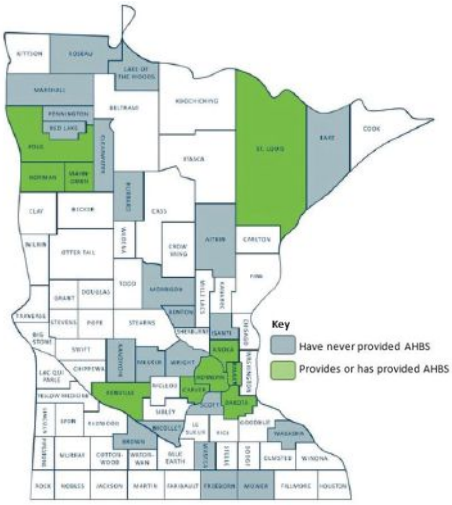
Asthma surveillance

MDH uses a variety of health data to create a comprehensive picture of asthma prevalence, exacerbations, clinical care and disparities. MDH publishes statewide hospital and ED-related asthma data, in addition to county- and sub-county-level data available to the public via the MN Public Health Data Access portal (https://data.web.health.state.mn.us/asthma) with charts, maps and data queries. MDH and the Minnesota Pollution Control Agency (MPCA) work together to coordinate public health surveillance and environmental monitoring of outdoor pollutants. MDH toxicologists develop health-based values to evaluate potential human health risks from exposures to chemicals in ambient air. A health-based value (HBV) for air is a concentration of a chemical (or a mixture of chemicals) that is likely to pose little or no risk to human health. These HBV can be used for assessing risks in the environmental review process, issuing air permits, risk assessments and other site-specific assessments. Air guidance HBV values are developed using public health protective practices that protect susceptible portions of the population, including but not limited to children, pregnant women and their fetuses, individuals compromised by pre-existing diseases and the elderly.

This ongoing surveillance enables MDH to effectively target health promotion and prevention programs and to evaluate results. For example, to protect student athletes from asthma risks, MDH developed an online training course, "Athletes and Asthma: The Community Coach's Role" (https://www.health.state.mn.us/diseases/asthma/communities/training.html). For schools, MDH offers mini-grant funding opportunities (https://www.health.state.mn.us/diseases/asthma/schools/index.html) to provide asthma education, develop environmental school policies to help students with asthma, track asthma data and build partnerships and community awareness around asthma.

FIGURE 3

Asthma home-based service locations



Development of an evidence-based program

In 2012, MDH received a two-year federal grant from the US Department of Housing and Urban Development (HUD) to assess indoor air and asthma triggers. The grant, known as Reducing Environmental Triggers of Asthma (HUD-RETA), funded asthma home-based services (AHBS) for children with poorly controlled asthma. To address asthma triggers, AHBS included a home assessment, provision of allergen-reducing products and asthma self-management education (ASME) over a series of three to four home visits. This program

Asthma resources for clinicians

Minnesota's public health data access website to explore asthma in Minnesota Data (https://data.web.health.state.mn.us/asthma).

Guidelines for the Diagnosis and Management of Asthma (https://www.ncbi.nlm.nih.gov/books/NBK7232/) provide clinical practice guidelines for the diagnosis and management of asthma.

RETA-Home online training (https://asthmahealthyhomes.web.health.state.mn.us) provides a step-by-step guidance of how to do a home visit for someone who has asthma and provides low cost solutions to some of the more commonly found asthma triggers in the home.

Home Characteristics and Asthma Triggers (https://www.epa.gov/sites/production/files/2018-05/documents/asthma_home_environment_checklist.pdfa) is a checklist for home visitors.

Short Asthma Trigger Checklist (https://www.health.state.mn.us/diseases/asthma/managing/documents/asthmatriggerenglish.pdf) in English or Spanish can be printed and provided to patients.

Minnesota Department of Health's Asthma Program website (https://www.health.state.mn.us/diseases/asthma/index.html).

The Air Quality Index of the Minnesota Pollution Control Agency (https://www.pca.state.mn.us/air/current-air-quality) to help guide outdoor activity choices and avoid rigorous outdoor activity during poor air quality events.

agement education (ASME) over a series of three to four home visits. This program significantly reduced ED, urgent care, and unscheduled office visits after 12 months. In addition, the number of asthma-related missed school days decreased for children and their parents missed fewer workdays.

The most commonly reported triggers mirrored those found in previous Minnesota AHBS projects. These triggers included viral infections, weather, exercise and allergies for 50 to 95 percent of participants. Other irritants, strong emotions/stress and tobacco smoke were found to be triggers in close to 40 percent of homes (Figure 2).

Cats were the most common pets, found in 13 percent of homes, followed by dogs (10 percent), pet rodents (5 percent) and birds (3 percent). Products with fragrances also were common. When public health nurses assessed their clients' homes, they found many products with fragrance ranging from air fresheners to candles to incense. Up to a third of the homes had one or more scented products.

Asthma Home-Based Service (AHBS) program

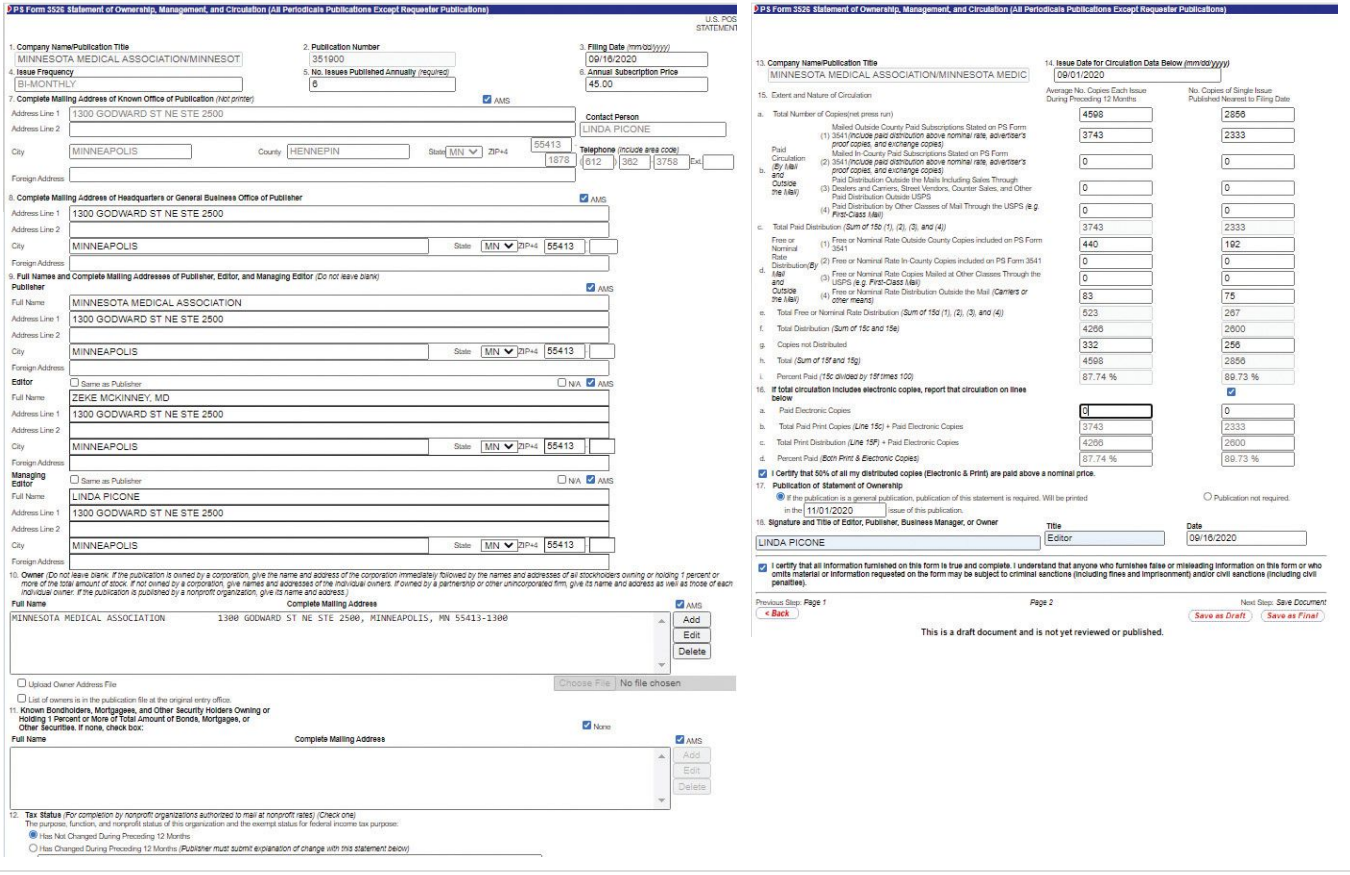
The AHBS projects in Minnesota demonstrate positive results when the emphasis is on asthma self-management education (ASME) and trigger-reduction in the home. The outcomes include a consistent reduction of asthma symptoms while simultaneously reducing health care costs, with savings between $5.25 and $1.61 for every dollar spent. While some local public health departments currently provide AHBS, these services are not yet available throughout the state. MDH is currently working to expand this evidence-based program. Physician offices are encouraged to work with their local public health (LPH) department to make referrals for AHBS where available. The map in Figure 3 shows the current AHBS locations and other asthma-related activities:

MDH offers training for licensed school nurses and public health nurses to build capacity around guidelines-based care and AHBS through the Association of Asthma Educator's "Becoming an Asthma Educator & Care Manager" program. In 2018-2019 alone, MDH funded 28 scholarships for nurses to attend the American Lung Association of Minnesota's "Asthma Educator Institute."

Across the state, all Minnesotans benefit from better indoor and outdoor air quality, and individuals who have asthma and other chronic diseases stand to gain the most from these improvements. Asthma continues to impact the lives of many, yet with the right knowledge, clinical care, prevention programs and opportunities, we can minimize the burden of this disease in Minnesota. **MM**

Kathy Raleigh, PhD, is an epidemiologist with the Minnesota Department of Health. Kathleen Norlien, MS, CPH, is a research scientist with the Minnesota Department of Health.

REPORT TO THE POST OFFICE



MINNESOTA IMMUNIZATION TRENDS DURING COVID-19 PANDEMIC

Many children missing routine vaccinations

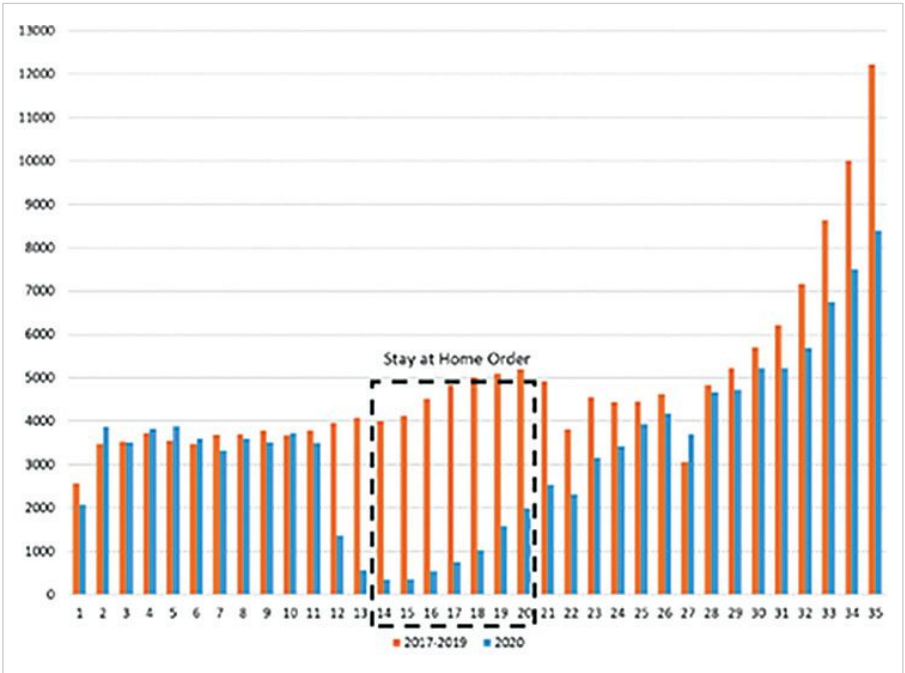
BY SYDNEY KURAMOTO, MPH; MAUREEN LEEDS, MPH; AND SANG PHUNG, MPH

As the COVID-19 pandemic continues to affect Minnesota, a new immunization issue has emerged. In the wake of a stay-at-home order that temporarily suspended most preventative care, the Minnesota Department of Health Immunization Program saw a substantial decrease in immunization administration data for children 4-6 years old and adolescents 11-12 years old.

This means that thousands of children and adolescents may be missing important routine vaccinations that can help protect them from diseases and the effects of those diseases. This includes but is not limited to pertussis, meningococcal and HPV. In a time when Minnesota is already grappling with the pandemic, routine vaccination is even more vital to protecting and maintaining the health of Minnesota's youth. We have the vaccines to prevent another disease outbreak that could occur at any moment if we aren't able to maintain and achieve the herd immunity necessary to keep the public safe.

FIGURE 1

Routinely administered immunizations in children aged 4-6 years old by week, 2020 versus 2017-2019 average, Minnesota.



Decreased immunization trends: the data speaks

The Minnesota Immunization Information Connection (MIIC) is the statewide immunization information system (IIS). In an effort to better understand the effects of COVID-19 on immunization administration in Minnesota, we began using MIIC data to compare the number of immunizations administered to children aged 4-6 years and adolescents aged 11-12 years by week. To examine trends compared to previous years, we looked at weekly data from 2020 compared to an average of 2017-2019.

Overall, we saw similar trends across both age groups. The number of routine childhood vaccines (DTaP, Polio, MMR, Hepatitis A, Hepatitis B, Pneumococcal Conjugate and Varicella) administered by week to children 4-6 years old during the stay-at-home order ranged from 62 to 91 percent lower than the 2017-2019 averages (Figure 1). Since this age group is routinely recommended to receive a booster dose of DTaP, we took a closer look at DTaP administration by week within this age group and found a similar trend ranging from 61 to 91 percent lower than the 2017-2019 average.

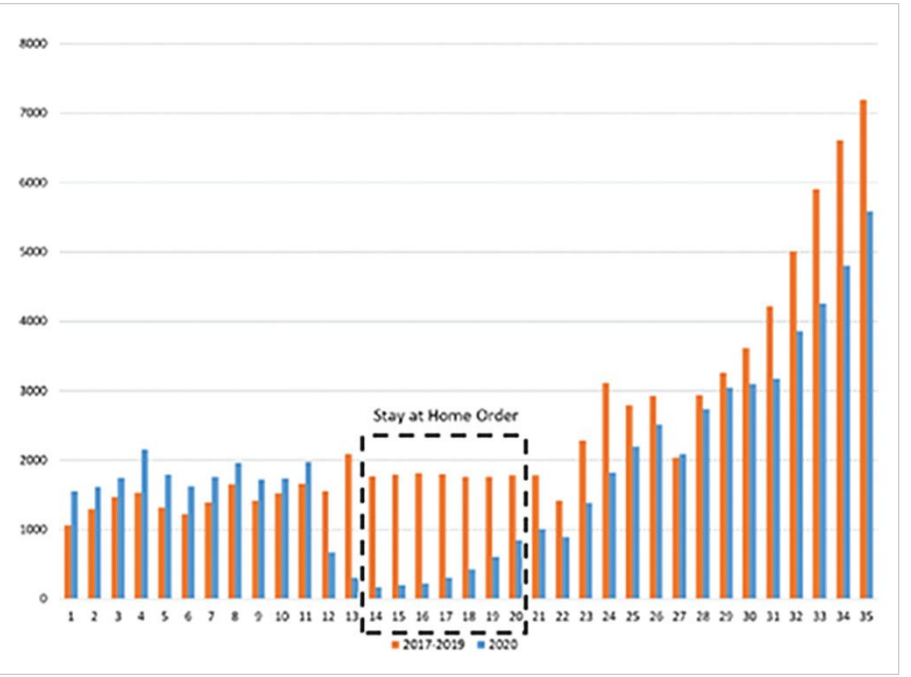
The number of routine adolescent vaccines (HPV, Tdap, and Meningococcal ACWY) administered by week to adolescents 11-12 years old during the stay-at-home order ranged from 57 to 90 percent lower than the 2017-2019 averages (Figure 2). Since many children in this age group are preparing to enter seventh grade, which requires Tdap vaccination or an exemption, we then looked closer

at Tdap administration by week for 11-12 year-olds and found a similar trend ranging from 54 to 91 percent lower than the 2017-2019 average.

Once the stay-at-home order was lifted, we saw an initial increase in immunization uptake across both age groups through early August, but not a full catch-up. This means we still have children and adolescents who need to be caught up on vaccinations they may have missed during the spring. However, we are now seeing another substantial difference in the immunizations given in 2020 compared to the 2017-2019 average. In the last week of August (week 35), the number of routine vaccines administered among 4-6 year-olds and 11-12 year-olds were 31 and 22 percent lower than the 2017-2019 average, respectively. This is especially concerning, as the month of August is normally a time of increased vaccination due to the start of the school year.

FIGURE 2

Routinely administered immunizations in adolescents aged 11-12 years old by week, 2020 versus 2017-2019 average, Minnesota



Catching up

Clinicians play a crucial role in catching up children and adolescents that are behind in their immunization series due to the effects of the pandemic. However, concerns regarding safe environments for patients and staff may be an ongoing barrier. Fortunately, there are many resources and tips for how to safely vaccinate, including:

- Limit the number of patients on-site at any time to reduce person-to-person contact. The American Academy of Pediatrics (AAP) recommends that most well exams and checkups can use telehealth, supplemented by in-person visits when necessary (i.e., vaccination and screening tests).
- For services that must be done in-person, such as vaccinations, the American Academy of Family Physicians (AAFP) emphasizes the importance of educating staff on COVID-19 related infection control practices and procedures, including proper PPE use and cleaning and sanitation. Organizational changes can include dedicating specific times of day for well and sick visits or physically separating visits in different areas of a building.
- In order to observe physical distancing and reduce crowding, there may be circumstances where health care providers cannot provide care for every patient. The Minnesota Department of Health (MDH) encourages health care providers to prioritize newborn care and vaccination of infants and young children (through age 24 months) if a practice can provide only limited well-child visits.

Minnesota clinics have already begun to establish creative measures to vaccinate their patients. CentraCare Health in St. Cloud has implemented drive-through vaccination appointments. In the Metro, Hennepin Healthcare is bringing vaccination to patients via Vaccine Mobile, a mobile clinic.

One of the ways to help families stay on top of their children's vaccination schedule is through reminder and recall notifications. Clinics can use MIIC to send out immunization notifications through the mail to families of children and adolescents who are not up to date on their immunizations. The Minnesota Department of Health has resources on how to conduct reminder/recall using the Client Follow-Up feature in MIIC (https://www.health.state.mn.us/people/immunize/miic/train/cfu.html) to identify individuals who need vaccinations and send notices to them.

Next steps

With COVID-19 still looming for the foreseeable future, the immunization community must continue to work together to catch-up on immunizations. When clinicians recall children and adolescents for catch-up vaccination, they can take advantage of the immunization visit to also give them influenza vaccination.

The practice of providing and advocating for routine vaccinations is far from new and the great progress we've had over the decades is a testament to that. Clinicians should continue the hard work and effort they've put in throughout the years. Intentional reminder/recall activities combined with innovative measures to stay safe in the time of COVID-19 will assure a rapid recovery from the decrease in administered immunizations. MM

Sydney Kuramoto, MPH, is an MIIC informatician; Maureen Leeds, MPH, is an epidemiologist; and Sang Phung, MPH, is an epidemiologist, all with the Minnesota Department of Health.

Abstract submissions

More than 30 students, residents and fellows submitted abstracts and case studies to *Minnesota Medicine*, for possible publication.

The quality of the submissions was, overall, high, according to reviewers, and a number of them touched on issues relevant to today's health care. Eight abstracts were published in the November/december issue of *Minnesota Medicine*; four are in this issue. Several other abstracts will be published in subsequent issues of the magazine.

The reviewers looked at each manuscript to determine whether the research or case description was clear and complete, whether the methodology was sound, whether the scientific literature review was sufficient and whether the findings had implications for future research. Reviewer comments were sent to all those who submitted.

We thank our reviewers: Devon Callahan, MD; Renee Crichlow, MD; Milton Datta, MD; Ann McIntosh, MD; Zeke McKinney, MD, MHI, MPH; Abby Metzler, MD, and Siu-Hin Wan, MD. Callahan and Wan are former members of the Minnesota Medicine Advisory Board; McKinney is chief medical editor of *Minnesota Medicine*.

Delayed diagnosis of Polycythemia Vera in a patient presenting with foot ulcers

BY MICHELLE PATREGNANI AND SAMUEL IVES, MD

Polycythemia Vera (PV) is a myeloproliferative neoplasm that leads to erythrocytosis, and sometimes thrombocytosis and leukocytosis.[1,2] The most common cause is a mutation in the Janus kinase 2 (JAK2) gene, which increases activity of a tyrosine kinase involved in hematopoiesis.[2-4] The primary clinical manifestations of the illness include pruritus, vasomotor symptoms, hypertension, and splenomegaly, but PV is most commonly diagnosed by erythrocytosis on routine laboratory evaluation in asymptomatic males over age 60. Arterial ulcerations are another well-described but less common phenomena.[2,5-7] We present a patient with PV, initially misdiagnosed as peripheral arterial disease (PAD).

Case report

A 27-year-old man on lisdexamfetamine (Vyvanse) for ADHD presented to establish primary care. He reported a four-year history of foot pain and redness with areas of ulceration that improved with rest. He was diagnosed and treated for Raynaud Phenomenon and PAD at an outside facility with initial improvement, but his symptoms had progressively worsened over time. He was subsequently seen by Rheumatology, which felt his symptoms were inconsistent with Raynaud phenomenon due to the lack of blue/white discoloration of toes, no symptoms in hands, and no association with cold exposure. Differential diagnosis then included Vyvanse vasculopathy, Livedoid vasculopathy, ANCA-associated vasculitides, Pernio, and inherited hypercoagulable states. His initial workup was without evidence of autoimmune vasculitides or inherited hypercoagulable conditions. To evaluate for aortic anomaly, CT of chest/abdomen/pelvis was obtained and showed no sign of vascular pathology, but revealed splenomegaly to 20 mm. A skin biopsy of ulcerated lesion was without evidence of vasculitis or findings of Pernio.

Seven months after initial workup, he presented with worsening pain and ulcerations in his right second and fourth toes. There was concern for osteomyelitis, given the extent of lesions; routine blood work, not previously obtained, revealed a thrombocytosis of 800mm^3 and erythrocytosis, with hematocrit of 58%. With these laboratory findings in the setting of splenomegaly, hypertension, and lower extremity symptoms, PV was suspected and diagnosed with a positive JAK2 test.

Discussion

Our patient's presentation is consistent with erythromelalgia, a neurovascular condition characterized by episodic burning pain, erythema, and increased temperature, usually in the hands and feet, and can progress to arterial ulcers. Biopsy of ulcers typically shows thrombotic occlusion of arterioles and intimal proliferation, however not seen in our patient. Erythromelalgia is a well described consequence of PV and early recognition is important for prompt evaluation to prevent further vascular symptoms.[7,8] While there is a wide spectrum in the symptoms of PV, in patients with vasomotor symptoms, hypertension, and splenomegaly, clinical suspicion of PV is high and workup should be started with complete blood count.[9]

Conclusion

Polycythemia Vera has a variable presentation and is uncommon in young adults, which can make diagnosis difficult and lead to a delay, as seen with our patient. Early recognition and familiarity with the range of presentations of PV is important to aid in timely diagnosis and treatment. **MM**

Michelle Patregnani is a medical student, University of Minnesota. Samuel Ives, MD, is an internist, Hennepin Healthcare.

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Metastatic Melanoma of Unknown Primary in a 28-year-old patient

BY KALPIT MODI AND SAMUEL IVES, MD

Melanoma is an aggressive skin cancer that occurs due to mutations in pigment-producing cells known as melanocytes.[1,2] It tends to metastasize beyond its primary site with a median survival of only 6-9 months after metastasis.[3] Melanoma of Unknown Primary (MUP) is a rare subtype of melanoma in which a primary lesion is absent, making early detection before metastasis difficult. We report a case of metastatic MUP in a 28-year-old patient.

Case report

A 28-year-old woman from Ethiopia with no pertinent past medical history presented with transient hemiparalysis and hemiparesthesia involving her left upper and left lower extremities. The patient reported no associated diplopia, facial droop, or leg weakness. She had experienced a similar episode four months prior, which lasted 30 seconds and for which she did not seek medical care. The patient worked as a nurse and had frequent contact with patients with active pulmonary tuberculosis. She did not smoke.

On exam, the patient had normal motor and sensory function, balance, and mentation. Her skin exam showed no lesions, and she had palpable lymphadenopathy.

On further evaluation, blood counts were normal, an HIV test was negative and an Interferon-Gamma Release Assay was positive. Chest x-ray showed multiple well-circumscribed pulmonary nodules of varying sizes. A non-contrast CT of the head showed multiple lesions near the gray-white junction. A brain MRI showed numerous T2-hyperintense intra-axial lesions with adjacent vasogenic edema. A contrast-enhanced CT of the chest/abdomen/pelvis revealed a hypodense lesion in the left hepatic lobe (5.1 cm x 4.5 cm). At this point, both malignant and infectious causes were considered, including M. tuberculosis. A biopsy of the liver lesion was conducted due to its lower morbidity as compared to a brain or lung biopsy. It did not reveal any acid-fast bacilli, and an M. tuberculosis amplification test was negative. Immunohistochemical studies from the biopsy were S100 and SOX10 positive, suggesting metastatic melanoma. A follow-up exam did not reveal any skin lesions suggesting a primary site. She was offered treatment for metastatic melanoma.

Discussion

Melanoma of unknown primary (MUP) occurs in only 3.2% of all melanoma cases.[4] There are two main theories to its pathogenesis. The first is the complete spontaneous regression of a primary lesion.[5,6] Partial regression of cutaneous melanoma is well-documented and thought to occur in 23%-58% of cases.[4] The second hypothesis is that MUP develops within lymph nodes due to migration of melanoblasts to those sites.[4,6]

MUP is more common in men than in women and more prevalent in Caucasian patients than any other racial demographic.[6,7] It is usually diagnosed in the 4th or 5th decade of life.

A diagnosis of MUP is made based on detection of metastatic disease on imaging and subsequently confirmed by biopsy in the absence of a clear primary site. The prognosis is similar or slightly better for MUP than for a melanoma with a known primary site.[4,7]

In conclusion, melanoma of unknown primary is a rare form of melanoma, often found late due to lack of an easily visible skin lesion. It is diagnosed based on clinical symptoms, imaging, and histopathological analysis of biopsied tissue. The overall prognosis is similar or slightly better than patients that have a known primary site. **MM**

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One-year retrospective quality evaluation of corporate medical director review of Department of Transportation examinations

BY MARIA N. STARCHOOK-MOORE, MD, MPH

Few studies have evaluated the quality of Department of Transportation (DOT) medical examinations being performed. Corporate medical director review of the DOT examinations anecdotally revealed frequent divergences from Federal Motor Carrier Safety Administration (FMCSA) guidelines. This study aimed to evaluate common process errors on the part of clinicians and drivers, with the objective of developing interventions for quality improvement cost-reduction for employers requiring these examinations.

Methods

This is a retrospective cross-sectional study of 1,602 DOT examinations performed in the calendar year 2019 in eight states and reviewed by the corporate medical directors for a national company that employs Commercial Motor Vehicle (CMV) drivers. The study manually collected discrete data from the FMCSA Form MCSA-5875 (Medical Examination Report Form) for each driver and developed quality checkpoints for each examination performed and reviewed. Clinician variability for medical examinations was reviewed by state and type of medical licensure. Medical director variability for agreement or disagreement with examination results was evaluated. Driver form responses were evaluated relative to specific conditions and length of certification. Data analysis was primarily qualitative, reporting means and percentages of various subpopulations. Statistical analysis of goodness-of-fit was performed with chi-square testing when required.

Results

Reviews of 1,610 DOT examinations were made; eight were excluded due to missing data (n = 1,602). Drivers were 99.3% male, with mean age 43.6 years, mean weight 216.7 pounds, and mean height 70.2 inches. Most certifications were for 2 years (66.3%), followed by 1 year (29.6%), then 3 months (2.4%), and 6 months (0.5%), with no certification in 1.1% of examinations. Medical directors agreed with examiners 85.0% of the time, and, more specifically, in 94.2% of 2-year certifications and 65.0% of 1-year certifications. In drivers with sleep disorders, 75.5% of examinations never obtained CPAP compliance data; in insulin-dependent diabetic drivers, 28.6% of cases failed to provide additional information. Conditions disproportionately associated with medical director disagreement were history of pacemaker, stents, implantable devices, or other heart procedures (medical director disagreement in 74.2% of the cases), history of blood clots or bleeding problems (disagreement in 71.43% of the cases) and history of heart disease, heart attack, bypass, or other heart problems (disagreement in 67.2% of the cases). These were followed by history of insulin use (disagreement in 61.11%), history of chronic (long-term) cough, shortness of breath or other breathing problems (each with disagreement in 45.45%), history of diabetes or blood sugar problems (disagreement in 43.21%), and history of chronic (long-term) infection or other chronic diseases (disagreement in 33.33%). The remainder of the conditions had disagreement in less than 30% of the cases. Medical directors demonstrated disagreement by examiner type of licensure ($p = .03$) and by state ($p = 0.002$) via chi-square analyses.

Conclusion

DOT examinations are very thorough and require significant attention to avoid errors in the process. Care must be taken while dealing with patients with specific health conditions. Proper coordination must be taken before the visit to ensure that all the proper information is available from the driver at the time of the DOT examination as appropriate. This study demonstrates that more systematic surveillance of discrete DOT examination data can reveal discrepancies in examination quality, and such data can be used to drive process improvement for reviewing medical directors, for examining clinicians, and for drivers requiring certification. **MM**

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Acute prostatitis complicated by prostatic abscess

BY CHRISTOPHER WIGER AND SAMUEL IVES, MD

A prostatic abscess is a localized collection of fluid in the prostate and is a rare complication of prostatitis. Although the incidence of prostatic abscess is low with the use of appropriate antibiotic therapy, significant morbidity can result if undetected and untreated.[1]

Case report

A 50-year-old man with type 2 diabetes mellitus (DM) and hypertension presented to the clinic with a five-day history of pelvic pain with urination. He also showed urinary retention, urgency, frequency, and constipation. Examination was notable for fever, suprapubic tenderness, and an enlarged, tender prostate. Urinalysis revealed proteinuria, hematuria, and ketonuria. Urine culture grew Klebsiella pneumoniae and the patient was prescribed nitrofurantoin. Due to persistent symptoms after one week, a CT was obtained, which revealed an enlarged prostate and prostatic abscess (Figure 1). The patient was admitted for further management of the prostatic abscess, which consisted of changing the antibiotics to ciprofloxacin, transrectal ultrasound (TRUS)-guided drainage, and transurethral unroofing of the abscess.

Discussion

Predisposing factors for prostatic abscesses include urinary tract obstruction, DM, immunosuppression, and incomplete therapy for acute prostatitis.1 In addition to having DM, this patient was inadequately treated for prostatitis with nitrofurantoin leading to abscess formation. Nitrofurantoin is not recommended for urinary tract infections (UTI) in men or for prostatitis because it does not achieve therapeutic concentrations in the prostate.[2] In this patient, the diagnosis was delayed because the patient was misidentified as having a UTI, which led to the use of nitrofurantoin instead of a different antibiotic that would have been appropriate for prostatitis.

Prostatic abscesses are commonly caused by Gram-negative bacteria; Escherichia coli causes more than 70 percent of cases, followed by Klebsiella, Pseudomonas, Proteus, Enterobacter, and Enterococcus species.[1,3] Organisms enter the prostate via reflux of urine into the prostatic ducts.[1] Since prostatic abscesses usually result from ascending urinary tract infections, patients frequently present with urinary symptoms. Exam often reveals fever and a tender, fluctuant prostate.[4,5] Many of these symptoms overlap with symptoms of acute prostatitis. It is important to have a low threshold for suspecting an abscess and imaging a man with prostatitis and DM, since these patients are at higher risk for an abscess.[6] The initial diagnostic test for prostate abscess is usually TRUS.[5,7] In more severe cases, CT can show spread of infection to adjacent organs. MRI can be used when TRUS is inconclusive and when higher image resolution is desired.[8]

Most patients require surgery with adjunctive antibiotic treatment.[7] Medical management can be used for patients with abscesses less than 1 cm who are not clinically ill, but surgery is required for larger abscesses.[8] Preferred antibiotics target Gram-negative organisms and achieve adequate levels in the prostate. Quinolones, such as ciprofloxacin, have historically been used, but their use is decreasing due to safety concerns and increasing resistance. Other antibiotic options include third-generation cephalosporins, aztreonam, or a combination of an aminoglycoside with ampicillin.[7] If patients do not improve, there is a low threshold to proceed to surgical intervention. TRUS-guided drainage is the first choice because of its low risk of complications and ability to use local anesthesia.[9] Transurethral unroofing is appropriate for large, multiloculated, or recurrent prostatic abscesses.[7]

In conclusion, the persistence of urinary symptoms in patients with prostatitis, especially in patients with risk factors, should lead to evaluation of an abscess followed by expeditious treatment. MM

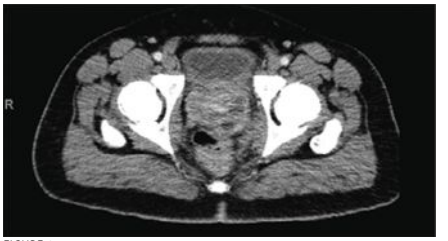

FIGURE 1.

Prostatic abscess on CT

Prostate is markedly enlarged, with a large abscess in the posteroinferior aspect of the prostate (arrow).

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Minnesota physicians' familiarity and use of Provider Orders for Life Sustaining Treatment (POLST)

BY KARLY BOLL, BA; BERET FITZGERALD, BA; BRUCE GREGOIRE, BS, MS; JACK INGLIS, BA; AND LISA SKARLING, BA

Americans spend a disproportionate amount of health care dollars during their last year of life, but much of this spending is incongruous with patients' goals and preferences. The Provider Orders for Life Sustaining Treatment (POLST) form was introduced in Minnesota in 2009 as a tool to convey patients' wishes during acute medical events. Little research has been done about the use of POLST forms in Minnesota since its introduction. This research surveyed physicians from the Minnesota Medical Association's membership. We found that most physicians were familiar with POLST. Among the providers most likely to interact with terminally ill patients, a high percentage were using POLST forms. Physicians in rural Minnesota and urban physicians were equally likely to use and sign POLST forms. Physicians felt that there was a need for more patient education about POLST forms, and that POLST forms would benefit from increased clarity about patients' wishes.

The majority of seriously ill Americans prefer comfort care or limited intervention over standard life-extending treatment.[1,2] However, many Americans receive interventions in the last months of life that are discordant with their preferences, decrease their quality of life, and impose significant financial burden on their families and the health care system.[3,4] The United States spends a greater percentage of its GDP on health care than any other developed nation.[5] At the same time, its health care costs are rising more quickly than comparably developed countries. A disproportionate amount of health care costs are accrued at the end of Americans' lives: 26% of U.S. Medicare spending is spent on patients' last year of life.[6] Some researchers have proposed that addressing health care expenses at the end of life is an important step in controlling overall costs in the American health care system.[7,8] One tool of interest for controlling health care costs while also benefiting patients and families is advance care planning (ACP). ACP facilitates end-of-life care by allowing patients to dictate their wishes before they are physically and mentally compromised. This creates the possibility of avoiding intensive life-sustaining treatment, which is the default and most expensive form of care. ACP is associated with a variety of benefits such as increased quality of care, lower caregiver stress, and reduced end-of-life care costs.[9,10]

A more recent addition to the constellation of ACP options is the Provider Order for Life Sustaining Treatment (POLST) form. POLST is a portable medical order signed by a health care provider for severely ill patients who are likely to die within one to two years. The form consists of two pages with six sections that allow patients to accept or decline specific interventions (such as CPR, artificial nutrition, and antibiotics), and dictate the extent of treatment in a medical emergency. Previous research has shown the POLST can be an effective tool, significantly limiting hospital admissions, ICU admission, and in-hospital death among patients opting for comfort measures.[1,11,12] Furthermore, the form has been generally well-regarded by providers as a way to guide discussions about end-of-life care.[13] Minnesota first released an official POLST form in 2009. The Minnesota POLST program is currently endorsed by the National POLST Paradigm for having "addressed legal and regulatory issues associated with POLST forms and processes" and having "developed strategies for ongoing implementa-

TABLE 1

Respondents' demographics

VARIABLE	NUMBER OF RESPONDENTS (N = 656)	PERCENTAGE (%)
SPECIALTY	(N)	(%)
Internal Medicine	170	26.5
Family Medicine	162	24.8
Surgery	72	11.0
Emergency Medicine	49	7.5
Pediatrics	43	6.6
Radiology/ Pathology	28	4.3
Obstetrics and Gynecology	26	4.0
Psychiatry	26	4.0
Anesthesiology	25	3.8
Neurology	10	1.5
Other	20	3.1
Blank	13	2.0
REGION		
Twin Cities	363	55.3
Rural	293	44.7
YEARS IN PRACTICE		
<10	84	12.8
11-20	175	26.7
21-30	162	24.7
>30	235	35.8

tion and quality assurance."[14] In the decade since the Minnesota Medical Association (MMA) first began efforts to implement a Minnesota POLST program, there has been little data collected to assess usage of POLST in Minnesota. Without such data, it is impossible to gauge the success of POLST in Minnesota or assess any need for improvement.

In this study, we sought to gain a preliminary understanding of the familiarity and use of the Minnesota POLST program by surveying Minnesota physicians. Our objectives were to determine the rate of POLST familiarity and use among different physician specialties, geographic regions, and work settings, as well as to assess perceived benefits and problems with the Minnesota POLST program.

Methods

This study was part of the MMA POLST Steering Committee's efforts to evaluate its success in increasing POLST use by its members. The MMA's membership consists of more than 10,000 practicing and retired physicians. There are approximately 25,000 physicians licensed in the state of Minnesota.[15] An invitation was sent to approximately half of the membership of the MMA. All physician members of the MMA were eligible for participation in the survey. Physicians were sent an email invitation to participate in the survey. If there was no response, two reminder invitations were sent at intervals of seven days. At the end of the sampling period, there were 6,526 invitations successfully sent to members. A total of 656 physicians completed the survey (10.1% of invitations). No compensation was provided for completion of the survey, and participation was voluntary.

Survey

The survey consisted of 16 multiple-choice questions. It did not collect personal or identifying information and was not linked to the participant. The survey utilized skip logic so that questions not relevant based on previous information were not presented to the participant. Participants were able to skip questions and exit the survey at any time; data from partially completed surveys was retained for analysis.

Participants were asked about demographic information, familiarity and use of POLST, completion of POLST forms, circumstances of conversations about POLST, and perceived benefits and problems with POLST forms. Many questions had an "Other (Please specify)" option and were coded by BG as described in the remainder of this section.

Participants were categorized as practicing in the Twin Cities (referring to Minneapolis, St. Paul, and surrounding suburbs) or Non-urban. Participants could select a specialty of family medicine, geriatrics, hospice/palliative care, internal medicine, oncology, or "Other: Please specify." The "Other: Please Specify" responses were interpreted and recoded into the categories in Figure 1. Specialties with fewer than 10 responses were grouped into an "Other" category.

Analysis

Survey data was analyzed using frequency distribution, Chi2 tests, and ANOVA. All statistics were calculated using State 14.1 (College Station, TX).

TABLE 2

Familiarity, use, and signing of POLST forms

	NUMBER OF RESPONDENTS	PERCENTAGE (%)
FAMILIAR WITH POLST (N = 656)		
Yes	401	61.1
No	216	32.9
Unsure	39	6.0
EVER USE POLST (N = 399)		
Yes	295	73.9
No	98	24.6
Unsure	6	1.5
EVER SIGN POLST (N = 248)		
Yes	248	83.8
No	42	14.2
Unsure	6	2.0

Ethics

Membership in the MMA is voluntary. Survey data was collected in an anonymous and depersonalized fashion. The project was performed outside of an academic institution. Review by an ethics committee was deferred in lieu of approval by the MMA POLST Steering Committee.

Results

The total number of responses was 656. The most common specialties were family medicine (24.8%), internal medicine (26.5%), and surgery (15.0%) (Table 1). Most respondents practiced in the Twin Cities region (55.3%). Participants were most commonly more than 30 years into their career (35.8%), and the majority of participants were more than 21 years into their career (60.5%).

Nearly two thirds of respondents were familiar with POLST (61.1%) (Table 2). Among those familiar with POLST, 73.9% had experience using POLST. The 248 (83.8%) physicians who had used a POLST had signed one. Fifty-eight percent of signers had signed 10 or fewer POLSTs.

The top three problems related to the POLST endorsed by physicians who had used the POLST were "patients or families are unaware of the form" (47.1%), "patients or family don't understand the purpose of the form" (42.7%), and "time-consuming to complete" (29.2%) (Table 3). Over 80% of physicians who had ever used the POLST endorsed each of the benefits of the POLST (Table 3).

Among all specialties, family medicine, internal medicine, and palliative care physicians were most likely to use POLST (87% collectively). We looked at differences in the rates of use and signing POLST forms among those specialties. There were no differences in use (Chi2 = 0.9890, p = 0.911) and signing experience (Chi2 = 8.025, p = 0.091). There were also no differences between Twin Cities and non-urban physicians for use (Chi2 = 3.096, p = 0.213) or signing experience (Chi2 = 4.257, p = 0.119). Older physicians were more likely to have signed POLST forms (Chi2 = 15.841, p = 0.015), but there were no differences in general

use of POLST across years of experience (Chi2 = 7.045, p = 0.317).

Discussion

The objectives of this study were to investigate trends in Minnesota physicians' familiarity with POLST as it varies across geography, training, and work settings, and to assess perceived benefits and problems with the Minnesota POLST program. Our results showed nearly two-thirds of respondents were familiar with the POLST. The familiarity was highest among family medicine, internal medicine, and palliative care physicians. Among the providers most likely to encounter a POLST in their clinical practice (family medicine, internal medicine, hospice medicine, emergency medicine) we saw over 87% of providers using the form at some point in their clinical practice. There was no difference in familiarity between rural and urban physicians. Physicians with longer careers were more likely to have used or signed a POLST, but there was no difference in familiarity between new and experienced physicians.

These findings are reassuring and suggest that patients in Minnesota who could benefit from the POLST will likely have access to a physician who is both familiar with and has experience completing the POLST. Primary care providers, and family medicine providers in particular, are central to the management of populations most likely to benefit from utilizing POLST, namely the elderly and critically ill patients receiving care across many subspecialties. Our results are consistent with other studies suggesting that family practice physicians are learning about and utilizing POLST.[13] Additionally, there is a higher prevalence of elderly Minnesotans in the rural parts of the state.[16] As POLST is more heavily used by the elderly, it is important for a successful statewide POLST program to be present in rural communities. Our results demonstrated that rural physicians are just as familiar and just as likely to use a POLST form as their metropolitan colleagues, which suggests that rural Minnesotans have equal access to the POLST form during ACP.

TABLE 3

Perceived problems and benefits of POLST forms

	NUMBER OF RESPONDENTS (N = 295)	PERCENTAGE (%)
PROBLEM WITH POLST		
Confusing or difficult to complete	18	6.1
Inadequate space on the form to document wishes	30	10.2
Inadequate reimbursement for service related to the POLST	58	19.7
Patients or family are unaware of the form	139	47.1
Patients or family don't understand the purpose of the form	126	42.7
Time consuming to complete	86	29.2
BENEFIT OF POLST		
Ability for patient and family to express wishes about care	247	83.7
Avoids unnecessary or unwanted treatment	250	84.7
Facilitates end-of-life planning discussions	258	87.5

There is still a large population of physicians who are not familiar with the POLST (38.9%), and thus more physician education, such as in the form of CME courses, will be necessary to close this knowledge gap and improve ACP in Minnesota. There remains a question about whether a physician in an acute situation (emergency medicine, intensive care) has the same experience to ask if a patient has a POLST form. A POLST form's impact is greatest at the moment a patient presents in an acute setting.[1,12] This is notable because the transition from living in the general public to being hospitalized is vulnerable to miscommunication of POLST information.[17-19]

Eighty percent of all physician respondents who were familiar with the form agreed that benefits of the POLST include the ability for patients and families to express wishes about care, the avoidance of unnecessary or unwanted treatment, and the facilitation of end-of-life planning discussions. Being that these are the primary goals of the POLST put forth by the MMA, these data suggest that the form is fulfilling its intended purpose.

The POLST is meeting the goals of the MMA as well as being widely disseminated throughout the state, but our data indicates that there is room for improvement. The most mentioned issue was the perception that patients and families were unaware of and did not understand the purpose of POLST. Families and physicians alike could benefit from increased outreach across the state about the existence and benefits of POLST, which may lead to more understanding and interest in the form, as well as a smoother and easier discussion at the time of filling it out. Additionally, approximately a third of the physicians who were familiar with the POLST also felt that it was too time-consuming in its current form. It is unclear if this indicates that the form itself is too long, or if discussions of the content of the form and its sensitive implications about end-of-life are too time-consuming. Respondents identified additional problems with the POLST in the narrative portion of the survey. Problems reported most frequently included accessibility, tracking issues, and gaps in communication between individuals who fill out the forms and providers who are asked to sign them. Several respondents commented that the form does not have sufficient information for nuanced communication or decision-making regarding end-of-life care, and suggested a need for more instruction for health care professionals. A few stated that they prefer previous versions of the POLST that included a "trial of intubation" option, and that the current forms allow for conflicting information that can make them difficult to interpret. Some emergency medicine physicians expressed a lack of clarity of their role in initiating or carrying out POLST orders. Other problems identified include patients' reluctance to discuss elements of the form, unrealistic expectations for survival in the event of a

code, religious health care organizations that do not recognize the POLST, and emotional distress that occurs when a patient has gone through the POLST conversation but the orders are not followed.

These comments reveal multiple potential areas of improvement of the POLST, but also highlight the fact that no one form can satisfy all preferences. Conflicting problems were identified, with some saying that the form is too time-consuming while others report that the form is too short and needs more nuance. Several of the critiques, however, could be remedied by increased provider education on how to use and discuss the form, as well as a more robust and standardized way of storing, communicating, and accessing the form. While no single change to the form will be able to address all concerns, the volume of responses that we received indicates that it would be important for Minnesota physician opinions to be considered before future revisions of the form.

The results of this study must be considered in light of several limitations. This study was subject to selection bias in that responses were sampled from MMA members who volunteered to participate in the survey. Physicians' likelihood of responding may have been affected by their familiarity with or opinions about the POLST. The sample population did not include advanced practice registered nurses, physician assistants, or other professionals who use the POLST, nor did it include providers outside of the state of Minnesota. This study was also limited by paucity of existing research on this topic, which reduced the ability to focus survey questions based on prior knowledge. Further research could help clarify specialty-specific POLST usage, POLST accessibility and portability processes, education and interprofessional communication practices regarding the POLST, utility of specific sections of the form, comparisons with the national form and forms from different states, and POLST usage by long-term care facilities, first responders, and emergency departments.

Conclusion

This study sought to understand the trends in familiarity and use of POLST among physicians in Minnesota. We found that among the providers who are most likely to use the POLST, there was a high degree of familiarity and use, without differences between rural and urban physicians. However, among all physician respondents, one third were not familiar with the POLST, representing a considerable barrier to optimal ACP in Minnesota. Additionally, our results were substantially limited by selection bias and the need for more research, especially in primary care, hospital medicine, and emergency medicine. Many physicians expressed that the form could be improved by increasing the general public's knowledge about POLST as well as allowing for more flexibility to reflect the nuanced desires of each patient. There is a need for more research in this state to determine how the POLST is used by non-MD health care providers, how the POLST is communicated during care transitions, and how to increase the public's familiarity with POLST to aid providers' discussions around end-of-life care. **MM**

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JESSICA BUTANIS, DO

- Outpatient internal medicine physician, Alexandria Clinic (Alomere Health), Alexandria. Member, American College of Lifestyle Medicine.
- MMA member since 2017.
- Grew up in Little Falls. Went to St. Mary's College of Maryland—where she played tennis. Medical school at Des Moines University and internal medicine residency at Iowa Methodist Medical Center, Des Moines.
- Married to Jeremy, with three little girls: Miranda, 5; Evelyn, 2; and Sophie, 3 months. Family includes dog Molly, a 1-year-old Vizsla.

Became a physician because …

I was initially inspired in high school as my father was going through some medical issues. I was very grateful for the physicians who cared for him. I then discovered that I enjoyed learning about the human body and was interested in preventative health. Those interests brought me to primary care medicine, where I felt I could impact people every day.

Greatest challenge facing medicine today …

I believe one of the greatest challenges is the lack of focus on preventative health, including healthy eating, exercise and sleep. As a general internist, many of the diseases I treat are preventable and very costly to our health care system. Patients deserve education on prevention and lifestyle changes, but providers are limited in the time they can spend with patients discussing these changes. My hope is that throughout my career I will see a shift in how these types of discussions are reimbursed. I would also advocate for a system-wide team approach to include the physician, nurse, dietician, psychologist, etc. to help keep patients accountable and focused on living a healthy lifestyle.

Favorite fictional physician …

Dr. John Dorian from Scrubs. I appreciate his sense of humor but also his compassion for his patients.

If I weren't a physician …

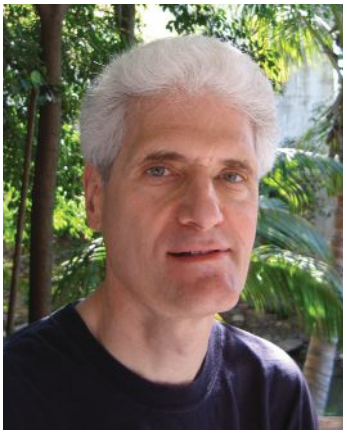
I would do something in the field of nutrition or exercise science. I've always loved athletics, especially endurance sports, so it would be fun to incorporate that into my career.

MITCHELL BENDER, MD

- Dermatologist at Dermatology Specialists PA, Edina, and adjunct faculty in the Department of Dermatology, University of Minnesota Clinical and Surgical Center, Minneapolis.
- MMA member since 1979.
- Born in the Bronx in New York City. Graduated from the State University of New York at Stony Brook, medical school at the University of Kentucky College of Medicine, Lexington, Kentucky, and residency in the Department of Dermatology at the University of Minnesota.
- Married to Priscilla (Perci) Chester, a sculptor and painter. They have two sons, Daniel and Alexander. Bender enjoys photography, reading, working out and travel.

Became a physician because …

My younger sister was born with Down Syndrome. At 6 years old, I sustained a serious fracture of my humerus and there was a question of whether I would have function of my left elbow. I learned very early about the impact of health challenges to a family and an individual. I wanted to have a positive impact on the lives of others and medicine was my vehicle.



Greatest challenge facing medicine today …

There are many challenges including understanding and managing cancer, understanding human genetics/human genome, neuroscience and managing infectious disease. Affordable health care coverage for all is a major challenge for the United States. Without this, advances cannot be delivered to patients. We need to address the racial disparities in medicine. At present, people of color have less access to care and their morbidity and mortality statistics are behind as compared to White patients.

Favorite fictional physician …

Abraham Verghese, MD, senior associate chair of the Department of Internal Medicine and professor for the Theory and Practice of Medicine, Stanford Medical School, is the author of the novels *Cutting For Stone* and *The Tennis Partner*. Reading these works made me once again appreciate and respect the art and practice of medicine, as well as the dedication of physicians.

If I weren't a physician …

I would have been a teacher. I remember and appreciate my teachers and mentors. Without their input, I would not be where I am today.

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