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PHYSICIANS TURN
THEIR EXPERIENCES
AND SKILLS IN NEW
DIRECTIONS

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This issue of Minnesota Medicine went to press just as the first COVID vaccine was arriving in Minnesota. By the time you read this, hundreds of health care workers on the front line will have received their first vaccinations. COVID is going to be a major factor in our lives—and in this magazine—for many months, but at last we have a glimpse into a better 2021.



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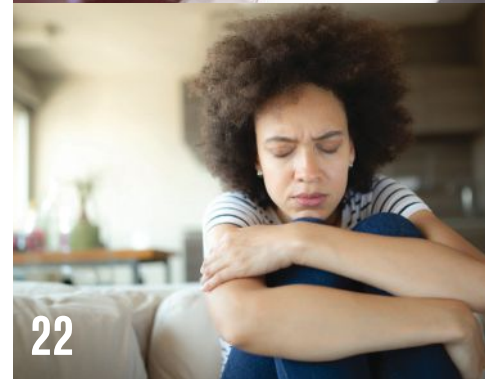
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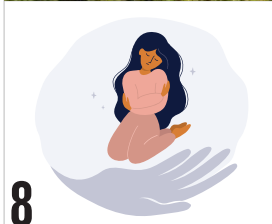
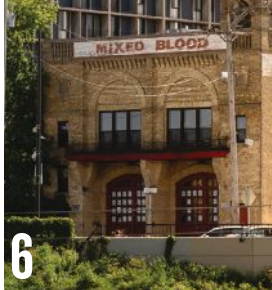
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Zeke J. McKinney, MD, MHI, MPH

Our judgmental view of patient behavior is not only a barrier to patients engaging with us as clinicians, but also to their sense of self-worth when considering their own health goals.

Reducing judgment to create trust

A friend recently told me about a 150-person golfing and networking event—within local and national pandemic regulations and guidelines at the time—he helped organize for his professional organization in the fall. Although it was outdoors, people were eating and drinking (and thus likely not always wearing masks) and, with use of alcohol, physical distancing was not necessarily respected.

The good news is that no one got sick. But he is hesitant to share this information publicly, fearing a negative reaction to this sort of gathering. This is common in clinical practice, where patients hesitate to discuss some unhealthy behaviors with their doctor for fear of judgment or scolding.

We have all heard patients or acquaintances talk about “my doctor was mad at me” regarding some health behavior, like HIV, depression, obesity or smoking. This can decrease health care engagement by patients, and it disproportionately impacts underserved populations where these conditions are more common.

Fortunately, we are not completely blind to these effects. Increasingly, medical literature supports frameworks to reduce stigma in both public health and medicine. Approaches such as “Health at Every Size” (HAES) to address weight in a neutral fashion can reinforce healthy behaviors in the context of self-acceptance.

The HAES framework dispels the traditional view that lower weight is healthier and that an inability to lose weight is due to an individual’s choices, instead focusing on celebrating body diversity and respecting an individual’s self-attunement as the best guide to integrating healthier eating and activity behavior.

Our judgmental view of patient behavior is not only a barrier to patients engaging with us as clinicians, but also to their sense of self-worth when considering their own health goals. When we allow people

to accept and discuss their health and behaviors without judgment while being open to a spectrum of solutions to meet their goals, we build trust. Then we have the opportunity to hear about suboptimal health behaviors and can have discussions about how to mitigate them, at least to some degree.

In my own practice, I talk about autonomy with patients by telling them that I am only an oracle, albeit an imperfect one—I provide information. If they want to do everything I recommend, that’s fine; if they want to do nothing I recommend, that’s also fine. They are welcome to take some and leave some. If it turns out that I’m not the best person to help them achieve their goals, then I am prepared to help them find the right person. I say, “I don’t want someone to tell me how to make health choices for myself, and I won’t tell you how to do that either.”

This conversation, especially at an initial visit, tends to go over well and to convey that my office is a safe space where people can be themselves.

We cannot forget that the only instances where we can intervene are the ones where our patients are comfortable enough to approach us about them. **MM**

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



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Mixed Blood Theatre uses theater as a tool to create a healthy relationship with the East African community in the Cedar-Riverside neighborhood of Minneapolis.

PHOTO BY RICH RYAN PHOTOGRAPHY, PROVIDED BY MIXED BLOOD THEATRE

STORYTELLING AND PUBLIC HEALTH

Mixed Blood Theatre listens to its community

BY LINDA PICONE

As the Cedar-Riverside area of Minneapolis became increasingly an East African immigrant community, Mixed Blood Theatre, in the center of the neighborhood, had to decide if it was going to be an island or an anchor.

“We tried to create an audience-performance relationship, which is what we knew,” says Jack Reuler, founder and ar-

tistic director of the theater. “But in 2015, we realized this was not the right relationship. So, we asked ourselves, ‘What if we

use theater as a tool to create a healthy relationship with the community?’ We stopped making the essence of our work being people coming to plays.”

Instead of opening theater seats to the community (which Mixed Blood has also done, with a no-fee option for tickets), Reuler and theater leaders decided to learn what was important to the people who lived in their neighborhood by going to them.

Starting in 2017, Mixed Blood began a series of “story circles” organized by Abdurrahman Mahmud, who had trained as a nurse in Ethiopia and spent a decade working with humanitarian organizations in Africa. Storytelling is an important art in the East African community, Mahmud says. “Bringing the people together was a great learning opportunity for us.” He and the theater wanted to explore health care disparities in the immigrant community.

That exploration, which they called Project 154, was initially funded by a

national organization, Artplace. When that funding ended, however, Reuler and Mahmud regrouped and began exploring ways to move the work forward. “We went from that specific project to a whole storytelling studio,” Mahmud says. “We’re now building partnerships between City of Nations Storytelling Studio and stakeholders in the community: religious leaders, health care providers and more.”

Story circles

Community members were invited to take part in 25 storytelling sessions of nine to 13 people each, clustering people by gender, age, etc. Men and women were in different sessions, as were those who were in a generation born in Africa and those in a younger generation who were either born in the United States or grew up here. There were Somalis and those from Ethiopian ethnic groups.

“One of the great things we learned from the community were the taboo issues,” Mahmud says. “Something a young girl is not able to discuss with her mother or a young man may not be able to talk about at the dinner table.”

The three key “taboo” issues that came from the storytelling groups were:

- Reproductive health education issues.
- Mental health.
- Substance abuse.

“Each one of these taboo things triggers another one,” Mahmud says. “When a young girl at school experiences some kind of sexual incident or becomes pregnant and doesn’t have good communication with her mother, she may experience mental health issues and may even turn to substance abuse.”

“We wanted to take the three taboos out of the shadows and put them into the central conversation,” says Reuler.

There was always an appropriate facilitator for a storytelling session, Mahmud says. “The facilitator doesn’t guide what people talk about, they just open the sessions and capture what is said. They create trust.

“Many of the folks in Cedar-Riverside come from refugee camps. When you live in a refugee camp, it’s hard to speak freely

because of fear of repercussion. One of the roles the facilitator had was to tell people they could speak freely, that we were not recording anything, not taking any pictures—that we would not even take their name, if they weren’t comfortable.”



One of the great things we learned from the community were the taboo issues. Something a young girl is not able to discuss with her mother or a young man may not be able to talk about at the dinner table.”

– Abdurrahman Mahmud,
Abdu’s City of Nations Storytelling Studio

Nevertheless, more than 250 people were willing to share their stories in the groups and 15 were willing to allow their stories to be put on the Project 154 website (<https://mixedblood.com/community/project-154/>). But, Mahmud says, “We had to negotiate a lot of things. A lot of women declined to come in front of the camera and tell their stories; that’s kind of taboo.” A majority of the participants were women, but only three agreed to do video profiles.

Comments from group participants included such things as:

“Usually, men don’t go to the hospital because of the fear of being diagnosed with an illness.”

“Us—Somali people and humans in general—we stigmatize people with mental health problems.”

“America is making me look weak.”

Working for behavioral change

Project 154 “was really about changing the behavior of providers and patients, more than quantitative results,” Reuler says. The goal was to have health care providers understand East African immigrant culture and values to better work with their patients—and to have the immigrant community become better advocates for their own health care.

“One of our goals at City of Nations Storytelling Studio is to collect all these stories, put them in a video and then take it back to the community,” Mahmud says. “We want to go to all the stakeholders who are providing services to this community and educate them as to what the community’s issues are and how the community wants to be approached.”

For members of the immigrant community, he says, “We want people to be more comfortable saying they have an issue or they are struggling with addiction. We want to help them understand these issues deeply and at least to be comfortable to discuss these things in their own circles.

“That is where the real community engagement starts.”

In the next phase of Project 154, City of Nations Storytelling Studio, with the support of Mixed Blood, will support emerging artists to start conversations about some of the health issues that came out of the story circles, and a traveling exhibition, “Health Exchange: Stories from our Neighborhood,” will be presented at health care institutions to share the stories, experiences and lessons learned. The exhibition, which is accredited for CME, is expected to be done by the end of March.

“It has very clear outcomes for physicians,” says Reuler of the exhibition. “You should know this and this and this about the community.”

Abdu’s City of Nations Storytelling Studio, Mahmud’s organization, grew out of the Project 154 work. Currently, Mixed Blood Theatre hosts the studio, but the long-term goal is to have Mahmud build an independent model for integrating the arts and immigrant health. **MM**

Linda Picone is editor of *Minnesota Medicine*.

SELF-COMPASSION

Can you be as caring to yourself as you are to patients?

BY LINDA PICONE

Long before the COVID pandemic, Kristin Neff, PhD, was researching, writing and talking about self-compassion: treating yourself the same when you fail, have a bad experience or are in pain as you would treat others—with understanding, warmth and help.

“We need compassion generally, but if you just aim compassion outward, you’re going to get burned out and won’t be able to help anyone else,” says Neff, associate professor in educational psychology at the University of Texas and co-founder of the Center for Mindful Self-Compassion.

Health care providers, in particular, care for others but too often don’t care for themselves. “When you care for others and you’re in contact with people who are suffering, you suffer as well,” she says. “You’re overworked and stressed. People often recommend self-care, but that’s insufficient.”

There are three elements of self-compassion, according to Neff:

- **Self-kindness vs. self-judgment.** Being gentle with yourself, rather than beating yourself up over mistakes or failings.
- **Common humanity vs. isolation.** Remembering that you are not alone; like other people, you will make mistakes and suffer hardships.



Kristin Neff, PhD

- **Mindfulness vs. overidentification.**

Putting your feelings in perspective.

Self-compassion does not mean doing yoga or taking a long, hot bath or finding joy in music—although any and all of those may be good ways of reducing stress. And it’s neither self-indulgence nor enhanced self-esteem, according to the explanation of self-compassion on Neff’s website (<https://self-compassion.org>). It is a mindset, an internal practice. Although there are courses and specific exercises, self-compassion can be as simple to do as taking a 3-minute self-compassion break.

“You remind yourself of the three parts of self-compassion and say some kind words internally,” Neff says. “It really seems to be very, very effective.”

Neff’s research indicates that practicing self-compassion has a physiological effect: “It deactivates the sympathetic nervous system and taps into the parasymp-

athetic nervous system, reduces cortisol and helps you feel more calm, relaxed and flexible. It actually reduces burnout.”

With patients

What we cultivate internally also impacts other people, Neff says. “When you’re in the presence of someone who is suffering, you actually share their suffering. Your pain centers are being activated in their presence.”

That suffering cycle works both ways—if you are suffering, others feel that as well. Neff, whose son is autistic, says she discovered this working with him. “When you’re burned out and overwhelmed and stressed, they feel it,” she says. “If you cultivate a sense of warmth and stability, other people can pick up on it.”

Self-compassion is uniquely helpful when caring for others, because you can give yourself in the moment, Neff says. “You give yourself compassion for how hard it is in the moment. Breathe in compassion for yourself and breathe out compassion for the person you’re caring for.”



Neff says she doesn't yet have data that physicians practicing self-compassion can increase patient satisfaction, but it's one of the areas she's interested in.

Habits of resilience

"Self-compassion is an incredibly important habit to develop because it influences so many aspects of our lives," says Michael Maddaus, MD, "It means caring about yourself and recognizing and accepting the feelings that you're having. Instead of thinking there's something wrong with you, you recognize that you're struggling and then figuring out ways to deal with it."

Maddaus, once professor and vice chair of the Department of Surgery at the University of Minnesota Medical School, identifies eight habits that he has found to be life-changing. He includes them in what he calls "The Resilience Bank Account."

Self-compassion is one of the eight habits he identifies but, he says, "It's no magic

bullet; it's one element of the mix." The other habits are:

- Sleep.
- Nutrition.
- Exercise.
- Meditation.
- Gratitude.
- Connection.
- Saying "no."

"It's like a beautiful stew of habits that really make the difference," he says. "All of these things feed into an upward spiral. You do one thing, like practicing gratitude, which leads to better relations with others, which feeds into being connected with others."

Maddaus developed his ideas on the resilience bank account after his very successful career as a surgeon—which followed a difficult upbringing, juvenile arrests, dropping out of high school and a stint in the U.S. Navy—faded. He became addicted to narcotics after surgery on his back and hip and spent three months in in-patient treatment. From that, he became interested in finding ways to be more resilient and began to identify and research habits that help.

Everyone makes mistakes, Maddaus says, and we often beat ourselves up over them, but mistakes as a physician can have much more weight. "So many of us are hard on ourselves for the tiniest things and we hypercriticize ourselves inside our heads," he says. "But then elevate that up to the level of taking care of a patient, where the mistake can be on the scale of having a bad interaction while talking to them to making a critical error in the operating room."

Medicine should be one long, continuous quality improvement program, Maddaus says: "The keys are curiosity, a desire to learn and psychological safety." That last is essential to being able to improve. If you are afraid to talk about your mistakes, you don't have the opportunity to correct them.

Psychological safety is "a big deal" in many organizations today, including medical institutions, Maddaus says. If a resident, a nurse or another physician thinks an attending physician's order for a patient

“Self-compassion ... means caring about yourself and recognizing and accepting the feelings that you're having. Instead of thinking there's something wrong with you, you recognize that you're struggling and then figuring out ways to deal with it.”

– Michael Maddaus, MD

is wrong, but doesn't feel safe bringing it up, there is a lack of psychological safety—and that takes away the chance of catching and correcting error.

"I translate that psychological safety to myself," Maddaus says. "It's the same thing in the internal milieu in our heads. When we are harsh with ourselves and hyper-judgmental, it leads us to try to avoid making that mistake again, but it shuts down our ability to learn. By being self-compassionate, you recognize and own the mistake and you realize that you are human and not alone in making mistakes. In that wider mental and emotional space, you create the opportunity to learn from the mistake, rather than just trying to avoid it again." MM

Linda Picone is editor of *Minnesota Medicine*.



'Reclaim the Joy of Medicine' Virtual Conference

Kristin Neff, PhD, and Michael Maddaus, MD, will be part of the MMA Reclaim the Joy of Medicine: The 5th Annual Bounce Back Clinician Resilience Conference, Monday, January 28. For more information about the one-day, virtual conference and to register, go to <https://www.mnmed.org/education-and-events/Reclaim-the-Joy-of-Medicine>.

For more information

Self-compassion.org with links to research, guided meditations, exercises and tips for practicing self-compassion by Kristin Neff, PhD.

Michaelmaddaus.com with links to a blog and a free download of *The Resilience Bank Account Skills for Optimal Living*.

ETHICS SUPPORT DURING COVID-19:

The Minnesota COVID Ethics Collaborative

BY DEBRA DEBRUIN, PHD, AND SUSAN M. WOLF, JD

The Minnesota COVID Ethics Collaborative (MCEC) provides support for the state of Minnesota on ethical issues in the COVID-19 pandemic. MCEC aims to rapidly share expertise and develop ethical guidance to meet the moral challenges posed by this crisis. The Minnesota Department of Health (MDH), State Healthcare Coordination Center (SHCC), Minnesota Hospital Association (MHA) and University of Minnesota have partnered to convene the collaborative, which includes more than 70 members from organizations across the state, incorporating multidisciplinary perspectives from ethics, law, public health, medicine, nursing and disaster planning, among other fields. Every major health system in the state offers expertise to the collaborative, along with experts on tribal health and from governmental agencies, nonprofits and academia. MCEC works closely with the Statewide Critical Care Workgroup as well.

The inspiration for MCEC arose from two previous projects to develop ethical guidance for public health emergencies in Minnesota, both sponsored by and completed in partnership with MDH: the Minnesota Pandemic Ethics Project and Ethical Considerations for Crisis Standards of Care. Both projects recommended that MDH establish an ethics support process at the state level to provide guidance in real time during a crisis. At the start of the COVID-19 pandemic, Debra DeBruin, who co-led both of the two

previous projects, offered to help MDH develop such capacity. The SHCC and MHA quickly joined the effort, and the MCEC co-leads began to work with these partners to build the team and develop the process for ethics support.

MCEC aims to help the state and its health professionals navigate ethical challenges arising in the COVID-19 pandemic. As MCEC began work in March, cases and hospitalizations were increasing. Members shared a concern that the state's health system could become too overwhelmed to be able to provide critical care resources to all patients who need them. In addition, any new therapeutics developed could initially be in scarce supply.

Consistent with the established ethics guidance in the state, the framework that MCEC developed on the allocation of ventilators and scarce critical care resources in the COVID-19 pandemic balances three fundamental objectives: protecting the public's health, respecting individuals and groups and striving for fairness while protecting against inequity. So, while the framework endorses allocating ventilators to save the most lives possible, it also incorporates many protections for rights, fairness and equity. For example, the framework contains protections against discrimination and bias, forbidding rationing by factors such as race, ethnicity, gender, citizenship or immigration status or socioeconomic status. It emphasizes clinical prognosis—allocating scarce resources based on likelihood of surviving the acute episode to hospital discharge. Each patient must receive careful, individual evaluation.



ETHICS

A patient's age, disability status, or comorbidities should not be considered, unless directly relevant to that short-term prognosis. To do otherwise would systematically disadvantage older Minnesotans, those with disabilities and populations affected by health disparities. Allocation decisions should be regularly evaluated. Many of these protections carry over to other frameworks developed by MCEC.

To date, in addition to the framework on the allocation of ventilators and scarce critical care resources, MCEC has developed ethical guidance on the allocation of the antiviral medication remdesivir and on decision-making for in-hospital cardiopulmonary resuscitation (CPR).

The Statewide Critical Care Workgroup identified a need for guidance about how to balance patient preferences about CPR with staff safety when adequate personal protective equipment (PPE) is unavailable. The Critical Care Workgroup began to draft that guidance, then approached MCEC to further develop it collaboratively. The framework emphasizes institutional responsibilities to strive for adequate PPE, while recognizing that if PPE is inadequate, staff safety is an ethically appropriate consideration in deciding whether to perform aerosolizing procedures.

When the FDA issued an Emergency Use Authorization (EUA) for remdesivir, MDH requested that MCEC develop guidance about how to ethically allocate the medication. This guidance addresses both allocation to health care facilities across the state in order to facilitate equitable access geographically and allocation among patients within a facility. When the EUA was first issued, little data was available about which patients benefit most from remdesivir, rendering decisions about how to prioritize among patients difficult. Over time, the publication of clinical trial data shed light on this question, prompting modification of allocation priorities. Eventually, remdesivir distribution shifted from free provision through the federal government to sale of the medication to health systems. This change heightened concerns about equity and access, and so prompted further revision to the guidance.

Work in progress includes guidance on the allocation of convalescent plasma for COVID-19 and investigational monoclonal antibody therapies, which are now available under EUAs from the FDA. MCEC has also been working on prioritizing critical workers with high occupational exposure to COVID-19 for allocation of some scarce resources. This accords with the established ethics guidance in the state on the duty to protect those who take

For more information

- <https://www.health.state.mn.us/communities/ep/surge/crisis/panethics.html>
- <https://www.health.state.mn.us/communities/ep/surge/crisis/ethical.html>
- <https://www.health.state.mn.us/communities/ep/surge/crisis/allocation.pdf>
- <https://www.health.state.mn.us/diseases/coronavirus/hcp/remdesivir.pdf>
- <https://www.health.state.mn.us/communities/ep/surge/crisis/cpr.pdf>
- For a detailed discussion of MCEC's process, see S Lim et al. Developing an Ethics Framework for Allocating Remdesivir in the COVID-19 Pandemic. *Mayo Clinic Proceedings* 2020;95(9):1946-1954.
- MDH. Crisis Standards of Care webpage. <https://www.health.state.mn.us/communities/ep/surge/crisis/index.html>

on risk to serve the public (“reciprocity”) and the importance of maintaining essential services such as health care, emergency response, public transit, and food production and distribution. Since many of the workers who are least able to protect themselves on the job—for example, due to inadequate PPE or settings with close contact—belong to socially vulnerable communities affected by health disparities, prioritizing critical workers with high occupational exposure to COVID-19 also promotes equity.

MDH has organized a separate process for developing guidance for vaccine allocation, since the state will be tailoring guidance issued by

the federal government. The US Centers for Disease Control and Prevention (CDC) has invited Minnesota and other states to participate in a pilot project to develop frameworks for vaccine allocation that will serve as models for this effort in the United States. Some members of MCEC serve on MDH's COVID-19 Vaccine Allocation Advisory Group.

To develop ethics guidance, MCEC typically convenes working groups, including some MCEC members, MDH personnel and health professionals with relevant expertise. The working group drafts guidance, which undergoes review by the full MCEC. Guidance is grounded in the foundational ethical frameworks developed in the two earlier ethics projects in the state. Emerging literature, legal developments, and models from other states are also considered. Feedback from MCEC deliberations leads to refinement of the guidance by the working group, and the process repeats until the draft guidance is deemed ready to submit to MDH. Members of MDH's leadership team and its Science Advisory Team review the draft, and revisions continue until MDH approves and publishes the guidance. New developments may prompt further refinement of the guidance, as happened with remdesivir.

MCEC will continue to support COVID-19 response efforts through consultation and development of guidance on topics as they emerge. The COVID-19 pandemic poses enormous challenges. MCEC strives to help Minnesota respond effectively and ethically. **MM**

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Sean Ewen, MD, became an entrepreneur while still in medical school. The microbrewery he started with his brother is just one of several enterprises he has now—with plans for more in the future.



**PHYSICIANS TURN
THEIR EXPERIENCES
AND SKILLS IN NEW
DIRECTIONS**

BY SUZY FRISCH

Physicians regularly take in reams of data in complex circumstances to diagnose medical troubles, chart courses of treatment and push the limits of technology. It's likely all in a day's work.

Why not turn that experience and those skills in new directions?

"Physicians are confronted all day long, every day, with problems," says Clark Otley, MD, medical director of Mayo Clinic Department of Business Development. "People come in and they are not doing well, and we have to put our minds to how can we help them get well again? If you have a physician faced with a tough challenge, they can be very creative in developing a solution and bringing it to life."

Combine expertise in physiology, anatomy and disease processes with people who are no strangers to hard work and you have a force for ingenuity, says Danny Sachs, MD, a seasoned entrepreneur and director of the Innovation Fellows program at the University of Minnesota Earl E. Bakken Medical Devices Center. "Physicians are good innovators," he adds, "because they know the needs and they are the ones you are eventually selling to."

Minnesota offers fertile ground for medical inventors and a storied history of innovation. These featured entrepreneurs are transforming their ideas into devices and technology that advance health care for all.

Sean Ewen, MD

Owner, Allied Medical Training and Wooden Hill Brewing Company

Sean Ewen, MD, didn't set out to be a serial entrepreneur; he was already far down the path to becoming a physician. But he kept finding opportunities to change the way things are always done. Four businesses later—including an emergency medical services training program and an Edina microbrewery—Ewen says his medical training and a desire to improve people's lives has helped him succeed in business.

In Ewen's first ventures, he applied his insider knowledge of medicine and medical training to successfully power up and operate two companies—while still attending medical school at the University of Minnesota.

"Physicians are experts at identifying and solving complex problems. Medical school and residency and practicing really train one to be able to ask the right questions and figure out what you don't know and get that information," Ewen says. "That really helps a lot in business."

Ewen started Allied Medical Training in 2010, the summer before his third year of medical school. He had trained to be an emergency medical technician (EMT) before starting medical school, aiming to gain skills and familiarity with health care. Ewen noticed that compared to the training he was experiencing in medical school—including the ability to watch streaming or recorded videos of lectures—EMT programs lagged far behind the times.

He invested in equipment and got Allied certified, providing the required curriculum with more options like online, in-person or hybrid training. The business took off and has doubled revenue every year except one. It now trains 500 EMTs annually, 25 percent of all new technicians in Minnesota. Allied recently opened a second location in the Twin Cities with plans to expand nationally.

Ewen's second business cropped up during his fourth year of medical school in 2012. As the profession transitioned to electronic health records (EHR), the Uni-

versity brought on medical students and residents to help train its physicians. Ewen saw that he and his peers were effective trainers because they speak the language of medicine and understand medical workflows. Ewen started IT Physicians to consult on EHR implementations, recruiting other medical types to join him. He traveled across the country for four years training physicians, helping them operate EHRs efficiently and serve patients better.

Around this time, Ewen concluded that he was interested in making a go as a full-time entrepreneur. "I found that I liked the idea of impacting change on a larger level. A practicing physician cares for a couple thousand people a year, and that's a big impact. I began to feel that it wasn't something I wanted to do on a day-to-day basis," Ewen says. "I wanted to try to solve other health care-related problems."

Ewen's entrepreneurial itch eventually expanded to other industries. In 2018, he and his brother James applied their passion for craft beer into Wooden Hill Brewing Company. He tapped into his

Sean Ewen, MD applied his insider knowledge of medicine and medical training to successfully power up and operate two companies—while still attending medical school at the University of Minnesota.

medical training to understand what he didn't know and to ask the right questions. Neither brother had worked in hospitality before and they faced the complexity of opening a brewery, tap room and



restaurant—essentially three mini-businesses—simultaneously, he says. They spent several years planning and evolving the operation before opening as Edina's first brewery and tap room.

"I'm glad it's not my first entrepreneurial experience because it took everything that I learned in my previous years of entrepreneurship to be able to start it," Ewen says. The brewery had a good start during its first two years, with strong sales and 30 employees, then COVID-19 hit. Ewen's problem-solving skills and medical knowledge came in handy as Wooden Hill pivoted its operations to address the pandemic.

Now also working in commercial real estate, Ewen sees a common thread in his ventures of improving others' lives—a goal that also inspired his pursuit of medicine. Today, that means employing people, building a community gathering place, helping others find space to open their own businesses and providing training that prepares people to achieve their career goals. "That's the core of it," Ewen says. "That's what drives me to keep going."

PHOTO BY RICH RYAN PHOTOGRAPHY



Sean Ewen, MD, started Allied Medical Training just before his third year in medical school. Today, Allied trains 500 EMTs per year — 25 percent of all new technicians in Minnesota.

Gwenyth Fischer, MD

*Pediatric critical care physician
University of Minnesota Masonic Children's Hospital*

It didn't take long into training to be a pediatric critical care physician for Gwen Fischer, MD, to notice that innovation specifically for youth lagged far behind that for adults. She set out to change that individually and systemically, as an innovator and leader in the pediatric medical device arena.

Now a pediatric critical care physician at University of Minnesota Masonic Children's Hospital and assistant professor of pediatrics, Fischer started and leads the University's Pediatric Device Innovation Consortium (PDIC). It works to spur the creation of medical devices geared for children. The consortium trains physicians and engineers in device development and commercialization while providing funding, expert guidance and project management.

Fischer devised the idea for the consortium while completing her fellowship training and the University's Earl E. Bakken Medical Device Center Innovation Fellows program. "The FDA says we're 10 years behind when you compare what's available to kids and adults," Fischer says. "People are focused on big adult markets—it makes sense. But who is really focused on the kids? If you can improve their care early on, you are preparing them for a life of productivity and happiness. It became apparent that there is a huge hole when it comes to pediatric and all small-market devices."

Launched in 2011, the PDIC has helped about 30 projects make progress in their journey from idea to approved medical device. One of those items is Fischer's invention, a smart syringe used during pediatric cardiac arrest that quickly determines weight-based dosages for critical medications. The Dose Dial is nearly ready to enter the regulatory phase, with Fischer planning to license the technology to an existing manufacturer.

Fischer credits her engineer father with her propensity for invention. She enjoys working with people from diverse disciplines and splitting her time between car-

ing for patients and creating new ways to provide them with excellent care.

"Spending half of my time in the clinical world really keeps me grounded to the patient we're trying to help, and it reminds me that there is so much work that we need to do in pediatrics," Fischer says. "It inspires me to go back to the PDIC and think about ways we are missing the boat on kids and how we can move the needle forward on innovation. Nothing is more satisfying to a physician than making their patients' health better."

Gwenyth Fischer, MD started and leads the University's Pediatric Device Innovation Consortium (PDIC). It works to spur the creation of medical devices geared for children.

Richard Ehman, MD

Radiologist, Mayo Clinic, and CEO of Resoundant

Dick Ehman, MD, always wanted to bridge science and medicine, first thinking he would apply a doctorate in physics to working in the biological sciences. Before he started down the PhD path, an advisor suggested that he approach his goal from the vantage of medicine. He applied his physics education, natural inquisitiveness and passion for helping others to making discoveries in radiology.

More than 70 patents later, Ehman has advanced radiology and MRI from the medical technology's early days. One of his inventions, magnetic resonance elastography (MRE), allows physicians to noninvasively measure the stiffness of tissues in the body.

Ehman's technology is crucial because it is not feasible to assess tissue stiffness with conventional imaging. By combining MRI and low-frequency mechanical waves into MRE, physicians can diagnose and assess liver fibrosis without requiring a needle biopsy—a complication-prone procedure. The less invasive and less expensive diagnostic is now used at more than 1,500 sites worldwide.

**Richard Ehman,
MD invented
magnetic resonance
elastography
(MRE) that allows
physicians to
noninvasively
measure the
stiffness of tissues
in the body.**

“It is deeply gratifying to see patients benefit from something that spares them from an invasive procedure to have a diagnosis,” Ehman says. “We founded Resoundant because we wanted to make this innovation available to patients everywhere.”

As owner of the technology, Mayo Clinic formed Resoundant in 2010 and spun it out in 2013 with Ehman at the helm. Starting Resoundant was no small feat for Ehman and his team, including writing a business plan, developing prototypes, conducting research and convincing the MRI manufacturers to add the technology to their existing MRI machines. Resoundant reinvests revenue into research and development of new applications of the technology, such as for neurosurgery and cancer.

Inventing and translating can be a long slog, Ehman notes, but he is motivated by a desire to solve problems for patients and a pure love of his work. “For physician inventors, the problems that they encounter in medical practice can be a deep source of inspiration,” he says. “And if you see a thousand interesting problems to work on, why not work on ones that, if you solve them, will be most helpful?”

Ehman came to Mayo in 1984 for a fellowship and then joined the clinical staff, but also began to develop a research program. His initial discoveries addressed the challenges of movement in MRI, such as flowing blood, that obscures views of other tissues. While working as a clinician full-time, he would come back to Mayo at night and on weekends to build “crazy” experiments. Eventually, Mayo licensed Ehman's technology solutions to MRI manufacturers.

That experience led to many more successes, providing numerous lessons along the way. One key to being a successful inventor, Ehman says, is having fun and being creative. It's also fruitful to work with colleagues from different disciplines and remember the initial impetus for the invention. For Ehman, it all comes back to applying his ideas to helping people.

Allisa Song

Third-year student, Mayo Clinic Alix School of Medicine and CEO, Nanodropper

A sense of injustice propelled Allisa Song into inventing a medical device that helps people with eye conditions. She read a 2017 investigative article in *ProPublica* about how drug companies make eye drops too big for the human eye, leading to significant waste of medication and money.

Song—then a neuroscience researcher in Seattle with one company under her belt—decided to develop a product to help. She formed a team to design a medical device that would slash waste by more efficiently delivering eye drops.

Song started Nanodropper in January 2018 while applying for medical school, working with her team to create, test and patent the new product. Its adaptor for eye-drop bottles, now cleared by the FDA, screws onto existing bottles and delivers much smaller doses of medication.

The human eye can hold 7 to 10 microliters of volume; traditional eye droppers release 35 to 70 microliters. With excess medication spilling out of the eye with each application, many people with chronic eye conditions limit their use of prescription drops. One-quarter run out each month, and that's especially dangerous for people with degenerative conditions like glaucoma, says Song.

“Every month, people are overpaying for their medications,” she says. “If the problem is that the size of the eye drops is too big, let's give patients more control over their own eyes. I thought that an adapter was a solution to help alleviate that pain point.”

Song and the Nanodropper team have raised money for the Rochester-based company by entering 20 start-up competitions and winning several.



Allisa Song formed a team to design a medical device that would slash waste by more efficiently delivering eye drops.

With seven employees, Nanodropper secured a patent, initiated sales at eye clinics and inked a contract with the U.S. Department of Defense in 2020. All four of the cofounders have been named as honorees in the 2021 *Forbes* 30 Under 30 list.

Starting and running a company during medical school is a feat that Song chalks up to vats of coffee, always working during school—and having a cohesive and supportive team, “a huge part of the secret sauce that allowed me to be a student entrepreneur.” She previously started her first venture—a developer of drip irrigation tools for small-scale farmers—while working full-time.

With Nanodropper, Song strives to make a difference in people’s lives, especially those who struggle to pay for their medications and patients with chronic degenerative eye diseases. In general, she likes finding ways to solve problems and meet needs, using her mechanical aptitude when she can.

“I find it personally rewarding to have something that I’m contributing to that effects change right now,” Song says. “Being an entrepreneur is my way of bringing my ideas to life and packaging them in a way that’s helpful for everyone.”

Tony Shibley, MD

Obstetrician-gynecologist, OBGYN Specialists

A surgical problem found obstetrician-gynecologist Tony Shibley, MD, and it needled him until he developed a solution. As minimally invasive surgery for hysterectomies and fibroid removals became more common in the early 2000s, there wasn’t an elegant way to remove uteri or tumors without cutting them into smaller pieces. It bothered Shibley that morcellation tools occasionally led to tissue being left behind—which could be dangerous when undetected cancer was present.

He sought a safer alternative, but none existed. Eventually, Shibley heeded the call of innovation. “You are frustrated with the way something is going as a surgeon,” says Shibley. “We need to be doing our best work from start to finish, provide patients with the safest surgery and eliminate all unwelcome outcomes and unintended consequences. We need to provide the same level of excellence all the way.”

In 2011, he started designing a new approach that would contain all tissues during surgery and morcellation. The PneumoLiner tissue pouch provides a working space and containment method for safely and thoroughly removing biological material from a patient’s abdomen.

There were many ups and downs along the way, including a high-profile case that propelled the FDA to issue safety warnings for stand-alone morcellators in 2014. It recommended not using the devices for fibroids when physicians suspect cancer or for women over 50. This roiled the specialty, causing some surgeons to revert back to open surgical procedures.

Shibley kept improving his device, looking for a safe solution that would allow physicians to continue doing minimally invasive surgeries. In 2016, he and his development partner, Olympus Medical Systems Group, released the PneumoLiner. Its design

Tony Shibley, MD designed the PneumoLiner tissue pouch, which provides a working space and containment method for safely and thoroughly removing biological material from a patient’s abdomen.

worked to the partners’ benefit when the FDA revised its guidance in 2020, recommending that surgeons use power morcellators with tissue containment systems.

Currently, the PneumoLiner stands alone. Sales are underway in the United States, and the device is approved for use in Canada and Europe.

While some physician entrepreneurs prefer to start their own business, Shibley found it effective to partner with a company that specializes in biomedical engineering, development and commercialization. This allowed him to continue working as physician. “I like what I do for a living and being a surgeon,” he says. “Going out and putting together the business operations of a company and hiring people and raising money—that’s a really big job.”

It’s satisfying for Shibley to know that something he created is making a difference. “It has changed the standard of care,” he adds. “It’s being used across the country and it’s just great. I’m very happy with that.”

J. David Brown, MD *Ophthalmologist and inventor*

While sitting at a glaucoma conference, ophthalmologist J. David Brown, MD, was frustrated that proposed advancements made just incremental tweaks in surgical techniques. He had an idea using nanotechnology that would shunt fluid to the surface of the eye, reducing ocular pressure and preventing blindness. With encouragement from fellow glaucoma surgeons, he decided to pursue it.

It's been a 21-year endeavor for Brown, who has researched, developed, patented, tested and licensed the Brown Glaucoma Implant to MicroOptx, a Maple Grove medical device company. His invention now serves as the basis for the company's Beacon Aqueous Microshunt, which is now in human clinical trials.

With an end-goal in sight to help glaucoma patients, Brown stuck to his work despite many challenges. "It's not easy. You meet roadblocks and people who don't believe in you and think you're crazy again and again and again," he says. "You have to believe in yourself."

Brown credits his success to self-confidence, perseverance, getting connected with talented partners ... and a bit of luck.

Starting with a napkin sketch in 1999, Brown taught himself nanotechnology and biomedical engineering to flesh out his concept. While developing his implant, he continued to work as a glaucoma implant surgeon variously at HealthPartners, the University of Minnesota and the Minneapolis Veterans Administration Medical Center. Brown secured a patent in 2001, raised funds for research by licensing his technology and developed the prototype with Tingrui Pan, a biomedical engineering graduate student at the University of Minnesota.

Brown started animal studies on the implant in 2007 with a preclinical trial services company. There, he met two medical device veterans who saw the promise of his invention. They offered to license his technology and run with it, forming MicroOptx in 2014. Ever since, MicroOptx has been working to commercialize the device.

Brown is not involved with MicroOptx, serving instead as an informal advisor. Ever the inventor, he continues to finesse and improve his technology, with the overall goal of creating effective treatments for glaucoma.

"I should be retired and relaxing, but I just want to make it better and better. I have seen so many patients I wish I had this for," Brown says. "I want to make it so that this is the best treatment available for glaucoma. There isn't anything right now that can do what my device can do." **MM**

Suzu Frisch is a Twin Cities freelance writer.

J. David Brown, MD invented a device using nanotechnology that would shunt fluid to the surface of the eye, reducing ocular pressure and preventing blindness.

Want to be an entrepreneur?

Here is some free advice from veteran innovators Dick Ehman, MD, and Clark Otley, MD, of the Mayo Clinic; Tony Shibley, MD, of OBGYN Specialists; and Danny Sachs, MD, of the University of Minnesota Earl E. Bakken Medical Devices Center.

+ FOCUS

Concentrate on what you're good at and find partners who shine in areas where you don't. A multidisciplinary team will help take your idea across the finish line. "It's a really uncommon person who is a great doctor, a great inventor and a great businessperson," notes Otley.

+ SAFEGUARD

Protect your idea by pursuing a patent, including describing your idea in detail on paper with drawings, hiring an intellectual property attorney and using nondisclosure agreements before discussing your invention with others, Shibley says.

+ QUANTIFY

Define the unmet need your invention addresses and quantify the size of the opportunity, such as how many patients the problem affects in the United States annually, Sachs says. Potential investors and business partners will want to know this information.

+ DIAL INTO RESOURCES

Minnesota has a robust ecosystem of support for start-ups and a healthy medical device community. Take advantage of resources and opportunities for networking and advice, Sachs says.

+ BE FLEXIBLE

Don't get so wedded to your initial idea that you can't adapt it to challenges and obstacles, Ehman says. Know when to put an idea on ice or walk away completely when it's not working.

+ COMMIT FOR THE RIGHT REASONS

Keep focused on helping patients, solving their problems and the love of invention, not economic returns, Otley says.



Best Practices for Prescribing Opioids

AND OTHER CONTROLLED SUBSTANCES

You need to earn 2 CME credits to fulfill the legislative mandate. Where better to turn than the Minnesota Medical Association, the state's largest physician advocacy organization?

During the 2019 session, the Minnesota Legislature passed a law that requires individuals with licenses with the authority to prescribe controlled substances to obtain CME on best practices in prescribing opioids and controlled substances.

To help physicians comply with this mandate, the MMA has developed an online, self-assessment activity that includes content on best practices in prescribing opioids as well as non-pharmacological and implantable device alternatives for treatment of pain and ongoing pain management.

This activity has been approved for AMA PRA Category 1 Credit™

Cost

MMA members are free, others pay \$60.

Questions on the activity?

Email the MMA
(cme@mnmed.org)

Questions about the mandate and how to provide documentation of course completion?

Email the Minnesota Board of Medical Practice
(Medical.Board@state.mn.us)

For more information, visit
**[www.mnmed.org/
opioidmandate](http://www.mnmed.org/opioidmandate)**





CANCER DURING COVID

Balancing medical decisions

BY YATHARTH SHARMA AND
ELSA KEELER, MD, MPH

The COVID-19 pandemic has brought numerous changes to the delivery of health care. The essential adjustments to address the acuity and severity of the COVID-19 pandemic have created a widening gap in access and timely treatment for people with cancer. Patients with cancer, often immunocompromised, face risk of worse outcomes should they contract COVID-19. Diagnostic studies, surgeries and treatment for many cancer patients have been delayed in recent months, potentially affecting prognosis and overall health. Diagnosing and treating cancer during a pandemic is an unprecedented challenge for physicians.

In early studies of COVID-19 infection in three hospitals in Wuhan, patients with cancer and COVID-19 had worse outcomes, with higher severity (ICU admission and mechanical ventilation) and mortality compared to patients without underlying health conditions. The risk was highest among patients who recently received tumor treatment and in those with lung cancer. Because of universally adopted measures and the need for additional precautionary measures for cancer patients, oncologists have been forced to reorganize many patients' treatment plans to minimize the number of clinic visits and hospital admissions, knowing delays

may have the potential to compromise cancer care.

Amit Mahipal, MD, MPH, a medical oncologist at Mayo Clinic, says his hospital, like many institutions, has taken precautions to slow the spread of COVID-19, including visitor limitations, virtual visits and routine temperature checks for staff and patients. Nevertheless, Mahipal says, "Cancer doesn't stop; attempts were made to provide the optimal care [during the COVID-19 pandemic]. Initially, there was a delay in treatment, including surgery." Many patients' treatment plans dictate regular hospital visits; any compromise can jeopardize the patient's recovery—con-



“I already live a life of uncertainty. [The COVID-19 pandemic] adds an additional layer of stress to an already difficult ‘new normal.’”

– Kris Nozal, cancer patient

sequences are inevitable. Mahipal reports how one of his patients waited one to two months to contact his primary physician (because of COVID-19). After testing, CT scans showed a lesion in his pancreas. After a month of scheduling endoscopy and biopsy, he was diagnosed with pancreatic cancer. “For patients with pancreatic cancer, time is of the essence,” Mahipal says.

Kris Nozal, a patient with aggressive stage-4 sarcoma, describes her treatment and altered routine as one filled with stress and uncertainty, most of which can be attributed to fear that her cancer will progress. “My CT scan and cardiac testing were both delayed by a month,” she says. “Those tests are essential; an unfavorable CT or echo could alter my treatment plan.”

However, hospitals’ decisions to alter the treatment of cancer patients are validated when analyzing the data around COVID-19 spread. Two contrasting examples illustrate the impact of preventative measures on the spread of COVID-19 within a hospital. In Singapore General Hospital, all incoming patients were screened using a standard questionnaire; any patient who filled the criteria for SARS-CoV-2 was isolated during the treatment, in addition to other precautionary measures. This lowered the intra-hospital spread. Where extraordinary preventive measures have been adopted, the spread of COVID-19 is lower. In comparison, a single-center study in Wuhan at the beginning of the pandemic found 41 percent of 138 cancer patients were suspected of acquiring the infection while hospitalized. Such data was the catalyst to the reorganization of many hospitals and clinics across the United States to prevent the spread of COVID-19.

Risk of complications if infected with COVID-19 and delays in treatment are further complicated by the stress and effect on the emotional and mental health of patients with cancer. According to *Cure Today*, at least 80 percent of patients with cancer experience an increase in anxiety during their initial diagnosis and treatment plan. Adding an unprecedented global pandemic amplifies the stress.

Mental and emotional health is essential to physical health, especially in patients facing cancer

“I already live a life of uncertainty. [The COVID-19 pandemic] adds an additional layer of stress to an already difficult ‘new normal.’ Cancer and now [COVID-19] certainly make me feel even more isolated and an outsider to normal living,” Nozal says.

Physicians and health care organizations have made necessary life-saving decisions to address the COVID-19 pandemic. Perhaps a most difficult decision has been altering treatment plans for cancer patients, with inevitable unintended consequences. Maintaining the health and safety of patients has to be balanced against delays in care because both have the potential to change the life trajectory of patients with cancer. Progression of disease is a potential casualty of the pandemic. **MM**

Yatharth Sharma is a student intern with Rein In Sarcoma organization (reininsarcoma.org). Elsa Keeler, MD, MPH, is a pediatrician with HealthPartners.

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Why grief matters

Physicians can help patients handle loss

BY KIMBERLY SCHOONOVER, MD



People express grief differently—sometimes with intense emotions and sometimes with mild sadness, sometimes for months to years and sometimes for days to months. As medical professionals, we need to understand how grieving affects people, and how to identify and understand the management of grief and complicated grief.

After the death of a loved one, bereaved people navigate challenging societal expectations and circumstances. Common situations may include:

- Unwanted comments (minimizing the loss of an infant and/or stillborn, for example) and intrusive and uncomfortable questions about the death.
- Stigma, such as after a loved one is lost from suicide.
- Feeling isolated (such as after the sudden loss of an infant in current society where infant death is uncommon).
- Avoidance by other people (others turning away from them at work or in the general public to avoid conversing with the bereaved person).
- Relationship difficulties (which can occur after a child dies and the parents have different ways of expressing grief or of supporting one another).

The way to categorize grief—normal, uncomplicated, pathological, prolonged,

complicated—continues to be debated. If grief is an extension of love, how long does someone have the right to grieve? How intensely is one “allowed” to grieve?

There are different theories about the mourning process, or the process of integrating the loss into a new reality.

Stage theory describes adjusting to the loss through stages of shock-numbness, yearning-searching, disorganization-despair and reorganization. The accuracy of this model has been questioned.

Task theory posits that a bereaved person actively engages in the grieving process by accepting the death, processing the pain, adjusting to a world without the loved one and finding an enduring connection with the person who died.

Dual process recognizes that a grieving person oscillates between confronting (loss-orientation) and avoiding (restoration-orientation) the distress related to the death by not focusing on the loss for a period of time. This model recognizes that this is a healthy way of coping with the death of a loved one.

‘Normal’ vs complicated grief

What makes “normal” grief different from complicated grief is the intensity and/or duration of grief, in addition to impacting familial, social and/or occupational function-

ing that is different than would be culturally explained. Most people start to integrate the loss of their loved one into their new reality within the first six months (yearning, anger and/or depression tend to reach their peaks by six months). When intense emotional pain and/or yearning continue beyond what typically is experienced and impact the person’s level of functioning, complicated grief should be considered. Complicated grief has been associated with worsening mental and physical health and quality of life.

Acute grief may be experienced in many ways, including: anxiety/restlessness, anger and despair, yearning and numbness, “brain fog,” fatigue, insomnia, loss of appetite, ruminations about the one who died, a sense of helplessness and unreality, sensing the presence of the one who died, social withdrawal and suicidal ideation. Increased inflammatory markers as well as physical complaints may occur. Depending on the circumstances, such as the death of a child or spouse, the risk of mortality may increase.

The prevalence of complicated grief varies from about 10 percent of the general adult population in non-violent bereavement to higher in those bereaved by a violent death, a death of a child (expected or unexpected) or after a disaster. For example: 57 percent of mothers whose infant had died suddenly and unexpectedly met the criteria for prolonged grief disorder one year after the death and 41 percent met the criteria three years after the death. Risk factors for complicated grief include: being female, over 60, grieving an unexpected loss (including traumatic or violent death or suicide) as compared to a natural death, lack of preparation for the loss, low social support, history of anxiety or depression in the bereaved person prior to the death and the loss of a child. Screening tools can identify persons with complicated grief. These include a self-report Brief Grief Questionnaire and the Inventory of Complicated Grief (ICG), where a score greater than 30 indicates that complicated grief is very likely.

Diagnosing complicated grief

Different terminology and criteria are used to diagnose complicated grief [International Classification of Diseases-11th Revision (ICD)-11 and Diagnostic and Statistical Manual of Mental Disorders (DSM)-5]. It should be noted there are studies that support the idea that while the ICD-11 criteria define prolonged grief disorder (PGD) and DSM-5 criteria for persistent complex bereavement disorder (PCBD) differ on some points (such as 6- vs 12-month requirement), they perform similarly in identifying individuals with complicated grief, although may be less sensitive for certain populations, such as bereaved military family members.

The ICD-11 criteria define PGD by yearning for or persistent preoccupation of the one who died, accompanied by intense emotional pain in addition to impairing one's ability to function in important areas of life for at least six months after the loss (that is outside of one's social, cultural and/or religious norms).

The DSM-5 criteria for PCBD requires the bereaved person to continue to have yearning or intense sorrow or preoccupation with the person who died or circumstances of the death in addition to six out of 12 reactive distress symptoms and/or social and identity disruption (such as difficulty accepting/anger related to the death, emotional numbness, excessive avoidance of reminders of the loss, feeling that life is empty without the person who died), in addition to functional impairment that has persisted for at least 12 months and is not otherwise explained by sociocultural norms.

Anxiety, major depressive disorder (MDD) and posttraumatic stress disorder (PTSD) can co-occur with complicated grief. In both MDD and complicated grief, there are shared symptoms such as rumination, sadness, sleep disturbance, social withdrawal and suicidal ideation. In MDD, the symptoms are more generalized rather than specific to the loss, as in complicated grief. In complicated grief, for example, suicidal ideation specifically relates to the desire to not live without the person who died. While PTSD and complicated grief

share similar symptoms, including a sense of shock, sleep and concentration disturbances, intrusive thoughts and images, and avoidance, they differ as well. In complicated grief (where yearning is typically more present than fear), the aim of avoidance is to reduce distress specifically related to reminders of the loss, rather than from a traumatic event; the intrusive memories relate to the thoughts of the death of the loved one rather than to a traumatic event.

Management of grief

Specific management for uncomplicated grief beyond the usual support from the bereaved person's support network (family, friends, others) is usually not necessary and hasn't been shown to be consistently beneficial, with the possible exception of those who specifically request assistance. If the bereaved person has complicated grief, then cognitive behavioral therapy specific for complicated grief can be helpful. If the person has anxiety or depression, antidepressants can be helpful for those conditions, but it is important to recognize that antidepressants are not effective for complicated grief.

While the loss of a loved one will likely occur for most people at some point in their lifetime, the grieving process can be very distressing for the bereaved person as well as for those witnessing the emotional pain of the bereaved person. By understanding grief and complicated grief, health care professionals can be a source of support for those who are grieving by providing condolences, education and reassurance about the symptoms and experiences of grief, and directing those with suspected complicated grief to appropriate resources. **MM**

Kimberly Schoonover, MD, is an internal medicine physician at Mayo Clinic.

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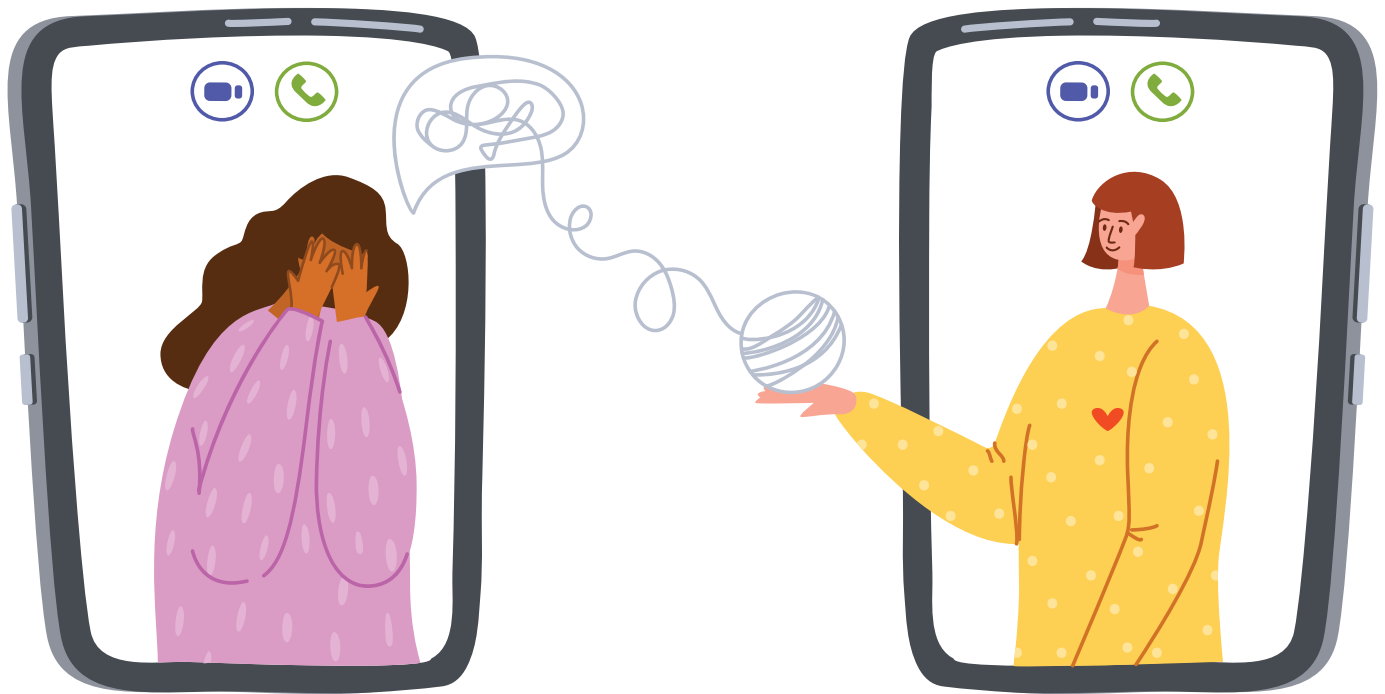
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FLEX TIME

When COVID hit, Minnesota's psychiatrists made a rapid shift to telehealth. Opinions vary about its success.

BY ANDY STEINER

Until recently, psychiatry was largely an in-person profession. Most psychiatric appointments were one-on-one affairs, with psychiatrist and a patient alone in a room. When COVID arrived in the United states, psychiatrists and their support teams around the country had to shift rapidly to virtual practice. Patients needed care—and psychiatrists, if they wanted their practices to survive, needed to find a way to safely provide it.

In the years leading up to this seismic shift, many Minnesota mental health providers had been making plans to one day offer telemedicine visits as an option for patients who couldn't easily make it into the clinic. In some isolated rural commu-

nities, this already had been happening for decades, but resistance from insurers held up the process for many others.

Pressures from COVID-19 ultimately forced the decision, and governmental agencies and insurance companies relaxed regulations that had been limiting telehealth, ushering in a change that health care providers had been dreaming about for years, says Kaz Nelson, MD, associate professor and vice chair of education at the University of Minnesota's Department of Psychiatry and Behavioral Sciences.

"A lot of the regulations that were hard to move around were relaxed very rapidly by the federal body that enforces HIPAA," Nelson says. "When COVID happened,

basically they said right away, 'We're not going to enforce HIPAA right now. If you want to provide care using Google, Zoom, Facetime or Doxy on your cellphone or other video communication device, go ahead. We are not going to come after you for HIPAA violations.' When that happened, it really freed up systems to pivot very rapidly."

Minnesota Medicine talked to Minnesota psychiatrists—and a few other mental health insiders—about how the sudden shift to telehealth impacted their practices. Some gave this new way of working rave reviews, saying they plan on seeing patients remotely long after the pandemic is over or at least ebbing. Others talked about the shortcomings of virtual visits—and even more told of ways this new option will change their practices well into the future.

Was it hard to make the shift to telemedicine?

"It happened in our clinic very rapidly. Within a week we moved to almost all online care, except sometimes people have to come in for an injectable medicine. Most of our providers are working from home. You can even route calls from a clinic to someone's home. With a lot of effort, this

all came together. We also switched to providing inpatient psychiatry services using the same technology.”

KAZ NELSON, MD, UNIVERSITY OF MINNESOTA

“Suddenly, when COVID struck, the primary way of delivering care for us became video. We now offer between 70 and 80 percent of our outpatient services through video. We were well prepared for this. We flipped over within three weeks. Admittedly, I was a bit of a skeptic about how impactful televideo could be in mental health, but for us it’s worked wonderfully.”

TODD ARCHBOLD, CEO, PRAIRIECARE MEDICAL GROUP

“An important part of the telehealth story is to think about how clinicians and psychiatrists adapted to telehealth when COVID struck. We had to make the switch very quickly, within weeks. It’s clearly had an impact on our workforce. It is not something we were trained to do. It is not a style of service delivery that any of us had done before. But we switched everything over and kept working.”

JENNY BRITTON, DIRECTOR OF CHILDREN AND FAMILY SERVICES, WASHBURN CENTER FOR CHILDREN

Do you see any disadvantages to telepsychiatry?

“It is a very different experience doing a telepsychiatry appointment with someone who is an established patient you’ve seen for years. In those cases, it is as smooth as silk. But in the early stages, when you are just getting to know somebody, when the therapeutic rapport is getting established, it just doesn’t measure up to an in-person appointment.”

MARIE OLSETH, MD, DFAPA, OWNER, WEST END CONSULTATION GROUP

“We need to be able to see and hear to make it work well. Also, eye contact can be an issue with screen communication. Oftentimes, when you’re on a platform like Zoom, you’re looking at yourself rather than at the camera. People with a lot of experience with this have learned how to develop trust without locking eye contact.

If you haven’t developed that skill, you can struggle with interpreting people’s expressions or communication cues.”

KAZ NELSON

Many providers are discovering unexpected advantages to virtual visits. What do you like most about offering this option?

“I have some patients I’ve done telepsychiatry visits with when they’ve been on the road for work. When everything suddenly changed, it was easy for us to pick up and go with it. I’m grateful that we have this option during the pandemic.”

MARIE OLSETH

“There are going to be people who strongly advocate for inpatient care continuing—hospital leaders and administrators and providers who are interested in resuming normal operations. Me, personally, I have found this to be awesome. The amount it takes to drive in to work, all the energy it takes to go and provide care is eliminated by a Zoom link. Think of all the carbon that was being wasted. I honestly don’t miss the face-to-face at all. Working this way, I can meet my needs and my family’s needs so much more efficiently. I feel like I am balancing a thousand things all the time. You can give away my fancy desk: Someone else can have it. If they let me, I will always work from home. For me, it’s been quite an elegant solution.”

KAZ NELSON

“In general, I can tell you that most of our patients have embraced telehealth. Over the past 15 years, we’re a public mental health clinic, traditionally about 50 percent of patients miss their appointments. They don’t have transportation. They forget. They aren’t motivated. With telehealth, we have a show rate between 85 and 90 percent.”

MICHAEL FARNSWORTH, MD, DFAPA, FORENSIC PSYCHIATRIST

There are some client populations that telepsychiatry just doesn’t seem work well for, like those enrolled in Assertive Community Treatment programs for people with serious and persistent mental illness or addiction. What’s been your experience so far?

“A lot of our patients don’t have a cell phone. They often don’t have a data plan or a computer or access to the internet. Then you throw that in with the level of paranoia they have. All of this technology can get frightening ... Most of my appointments are still in person. We are trying to see people outside. If they’ll come outside and talk to me, I’ll go and visit them. We’ll have our appointment on the sidewalk. We’re realizing that some people are falling apart that haven’t fallen apart in quite a while. There have been a number of people on my Ramsey County team that have been really stable and more working on recovery for years. I think that the level of isolation that this caused has really



impacted them. There are some people hospitalized that haven't been hospitalized in years. This technology didn't cut it for them, obviously."

STEVE HARKER MD, RAMSEY COUNTY/RADIAS HEALTH FORENSIC ACT TEAM PSYCHIATRIST

What do you think your practice will look like in the future?

"My practice will work a lot like it does today. The first patient might be in my office. The next patient might in a dedicated private space in another town where they could be interviewed via telehealth as if they were in their office. I see them on a high-definition screen that is installed over my desk at eye level. I might be seeing the next patient in my office. I'll just push the screen aside. One of the beauties of interactive high-definition telemedicine is it works well when you have a system that's developed and a program works. We have a system where patients understand it. We have staff dedicated to the model. When a patient comes into the clinic they are greeted at the front desk by the reception. They are brought back by a nurse's aide who does the prep work, takes their vitals."

MICHAEL FARNSWORTH

"There will eventually be a return to in-person practice. But telepsychiatry will be much more widely available. The benefit to come out of this is there will be that telepsychiatry will offer substantially more inclusion and accessibility. Now it is much more accessible in our toolkit. Now that we all have the tools, it will be much more present in our spectrum of practice moving forwards."

KAZ NELSON

"I see us evolving toward more of a flex clinic space where clinicians might have half meetings in person, half on video. There is going to be added logistical complexities for clinicians moving between in-person and televideo visits."

TODD ARCHBOLD



If you had to choose between seeing patients in person or online, which would you pick?

"Do I think it telemedicine an ideal way to practice psychiatry? No. I believe firmly the therapeutic relationship that happens is much more tangible, much stronger when you are in person. We have 1,000 friends on Facebook. We all have the opportunity to see people on a screen, but our opportunities to see people in person are decreasing. While I think it is a great option to use during this time of pandemic or when you can't see a doctor, I don't think it is ideal."

MARIE OLSETH

You're a telepsychiatry pioneer, developing remote links to patients who were physically isolated in remote areas of the state. What did telehealth look like in the early days?

"I was assigned the task of supervising the Minnesota Sex Offender Program in Moose Lake and St. Peter. Out of necessity, we had to develop a system to communicate between those two sites. We had early telehealth attempts to communicate and see some of the residents. In those early days, it was very primitive. It was a lot like when the astronauts landed on the moon and they bounced around and you could see their ghost images. The approach met

the need but it was not ideal. If the patient moved, their ghost image would slowly move with them. We just didn't have the bandwidth."

MICHAEL FARNSWORTH

Do you think comfort level with telepsychiatry is different for different generations?

"I had one teen patient who was really struggling with in-person appointments. Since we've moved to telehealth it's been a restart. It's given her some distance over the screen. It's what teens do. It takes some intensity out of the in-person experience."

RACHAEL KRAHN, PSYD, LP, ASSOCIATE CLINICAL DIRECTOR, WASHBURN CENTER FOR CHILDREN

"My opinion is this is the best thing since sliced bread. But many psychiatrists don't get what I'm saying. They say, 'How could you possibly care for a psychiatric inpatient over a screen?' People like me who have more experience and comfort with technology have found it easier to translate and have developed skills for interacting with people on this platform that are more innate vs. people who didn't have as much experience. I think it definitely may be a generational thing." MM

KAZ NELSON

Andy Steiner is a Twin Cities freelance writer.



Elections, budget picture and pandemic set stage for the 2021 legislative session

Three factors have aligned to make the 2021 legislative session one of the more challenging in recent memory—split partisan control of the Legislature, the enormous impact of the ongoing pandemic and a cloudy budget forecast.

Despite protracted legal battles that extended the election season, the November elections are in the rearview mirror. And despite tens of millions of dollars spent on state legislative races to secure control of the House and Senate, Minnesota's voters have kept true to form by once again electing a Legislature divided between the two parties—the only divided Legislature in the nation. The GOP maintains control of the State Senate and the DFL retains control of the House of Representatives.

Further complicating the outlook for the 2021 session is the state's fiscal forecast. This year saw wide swings in the state's budget picture. That volatility will impact how policy makers will approach the work of setting the biennial budget, the session's signature task.

Going into the last session, projections showed a surplus of more than \$1.5 billion, but that surplus quickly morphed into a deficit of almost \$2.5 billion as the pandemic grew in the spring and the economy sputtered. A December 2020 estimate from Minnesota Management and Budget (MMB), the state's fiscal agency, suggests that the state once again has a surplus of slightly more than \$600 million for the remainder of this biennium, thanks to resiliency in the economy and federal and state stimulus spending. The projections for the upcoming biennium still show a \$1.27 billion deficit.

Virtual Legislature

As it has every element of our society, the COVID-19 pandemic has dramatically changed how the Legislature functions. Once the pandemic arrived in force in March 2020, the Legislature quickly shifted much of its work to online, virtual platforms. The solution was an imperfect one, with many legislators, the media, lobbyists

and the public frustrated by the lack of transparency and ability to impact the legislative process. The 2021 session is certain to at least begin virtually, and it remains unclear how these issues will be addressed. This makes it difficult for the public to engage in the process and for lobbyists and other interest groups to meet the 30 new legislators.

Health care issues again will take center stage. As noted above, setting the biennial budget will be the key task before legislators in 2021, and that process has a large impact on the state's health care programs. More than 30 percent of the state's budget is spent on health and human service programming; the MMA will advocate for protecting our health care safety net programs from any cuts. There is strong bipartisan interest in supporting telehealth and the MMA will be working to maintain the new coverage options for telehealth and telephone services. Proposals to provide needed COVID-19 relief also likely will occupy a significant time for legislators, as they balance the need to provide public health protections such as mask mandates and limits on bars, restaurant and entertainment venues, with calls to “reopen our economy.” Unfortunately, MMA-supported efforts to increase vaccination rates and reduce firearm injury and death face long odds in the divided Legislature.

With access to the Capitol tightly limited, the MMA has had to reconfigure how it approaches its annual Day at the Capitol, the MMA's single most important advocacy event. Like the Legislature, the MMA will move the event online, expanding the content to include several days of informative, exciting content. Despite the unusual nature of the session—or indeed because of it—it will be even more important for physicians, residents and medical students advocate for patients, physicians, and public health. Now dubbed “Advocacy Week at the Capitol,” the events begin on February 8. Stay tuned to *MMA News Now* for more information. You can also visit www.mnmed.org/advocacyweek for the latest details. **MM**

News Briefs



5th annual physician well-being conference set for January 28

Given the stresses of 2020, physicians and other clinicians deserve to take some time for self-care and mutual support. Join your colleagues and the MMA for a one-day, virtual

gathering January 28 to learn and deploy strategies to help you reclaim the joy of practicing medicine.

Highlights for the Reclaim the Joy of Medicine: 5th Annual Bounce Back Clinician Resilience Conference include:

- Keynote **Bryan Sexton, PhD**, is an associate professor at Duke University and director of the Duke Center for Healthcare



Safety & Quality. Sexton has captured the wisdom of frontline caregivers through rigorous assessments of safety culture, teamwork and workforce resilience. He has studied teamwork, safety and resilience in high-risk environments such as the commercial aviation cockpit, the operating room and the intensive care unit.

- **Kristin Neff, PhD**, is recognized as one of the world's leading experts on self-compassion, being the first one to operationally



define and measure the construct more than a decade ago. She has developed Mindful Self-Compassion (MSC), an eight-week program to teach self-compassion skills in daily life, co-created with her colleague Chris Germer, PhD. Her book, *Self-Compassion*, was published by William Morrow in 2011.

The event will cap off with an interactive session on storytelling.

For more information and to register, visit www.mnmed.org/joyofmedicine.

MMA files amicus brief on contested flavored tobacco ordinance

In December, the MMA partnered with the AMA and 24 other public health and anti-tobacco organizations on an amicus (“friend of the court”) brief with the Eighth Circuit Court of Appeals in a case that determines a local government’s authority to ban the sale of tobacco or tobacco products.

In the case, tobacco manufacturer R.J. Reynolds has sued the City of Edina for its June 16, 2020, ordinance prohibiting the sale of flavored tobacco products within city limits. This is one of several recent suits that R.J. Reynolds has filed throughout the country against similar local ordinances.

R.J. Reynolds claims that the ordinance is preempted by federal law, specifically by the Tobacco Control Act (TCA), and so cannot be upheld. Earlier this year, the Minnesota District Court found that the ordinance was not preempted by federal law. As a result



of this decision, R.J. Reynolds has taken its case to the Eighth Circuit Court of Appeals.

The Court must determine whether the City of Edina’s ordinance is preempted by the TCA, specifically whether Edina’s ordinance constitutes a “product standard” under the TCA. The TCA gives local governments the authority to regulate or prohibit the sale of tobacco products within their jurisdiction, but not the authority to regulate “product standards,” which is exclusively reserved for regulation by the Food and Drug Administration.

The MMA, AMA, Public Health Law Center and others filed the amicus brief to support the long-standing precedent that a local government can regulate the sale of tobacco products to protect their communities. The brief also illustrates that Edina’s ordinance is not a “product standard” subject to preemption by the TCA.

The MMA advocates for its members and the health of Minnesotans through the court system by filing amicus briefs in cases with the potential to impact physicians or health care in Minnesota. The MMA has a long history of opposing Big Tobacco.

State adds two more conditions to medical cannabis program

Two more medical conditions will join the state’s medical cannabis program in August 2021. In December, the Minnesota Department of Health (MDH) announced that it will add sickle cell disease and chronic vocal or motor tic disorder to its list of qualifying conditions.

“Giving sickle cell patients a more direct pathway into the medical cannabis program will permit them a non-opioid option to manage their pain,” said Commissioner of Health Jan Malcolm.

Minnesota’s medical cannabis program already has Tourette’s syndrome as one of its qualifying medical conditions. Vocal or motor tic disorder is distinct from Tourette’s syndrome in that patients experience only vocal or motor tics; people with Tourette’s experience both vocal *and* motor tics. Evidence from Tourette’s patients who participate in the program shows that medical cannabis can effectively treat tics.

In addition to the two new conditions, MDH considered but ultimately rejected a petition for anxiety. Malcolm said that the agency will commit to a deeper look at the condition in the first part of 2021.

There were no petitions for new delivery methods this year.

Under state rules, patients certified for sickle cell disease or chronic motor or vocal tic disorder will become eligible to enroll in the state's medical cannabis program on July 1, 2021, and to receive medical cannabis from either of the state's two medical cannabis manufacturers starting August 1, 2021. As with other qualifying conditions, patients need advance certification from a Minnesota health care provider.

State law establishes a system by which individuals may seek to add new qualifying conditions. A panel of patient advocates and health care providers review the submissions and makes recommendations to MDH, although the commissioner has the authority to adopt or reject petitions.



AMA adopts Minnesota resolution to stop using race as a proxy for biology

A Minnesota-submitted policy that calls for halting the use of race as a proxy for biology, genetics or heredity when treating patients was adopted by the AMA's Interim House of Delegates (HOD) in November.

The resolution also asked that medical education at all levels recognize the harmful effects of presenting race as biology, while also recognizing that race does have an influence on health outcomes through racism and systemic oppression.

In a related matter, the AMA adopted policy that clearly states that racism is a serious threat to public health and that the AMA will work to prevent and combat the influences of racism and bias in innovative health technologies.

In other action, the HOD passed policy strongly supporting the continued growth of telehealth services, including calling for equitable coverage throughout all parts of the country, appropriate payment for services comparable to in-person and use of telehealth to reduce health disparities and promote access.

The Minnesota AMA delegation was led by **Paul Matson, MD**, an orthopedic surgeon from Mankato who was attending his last

AMA meeting as part of the Minnesota Delegation. Matson has been a member of the delegation for more than 20 years. Other delegation members included: **David Estrin, MD**; **Cindy Firkins Smith, MD**; **J.P. Abenstein, MD**; **David Thorson, MD**; **Andrea Hillerud, MD**; **Laurel Ries, MD**; **Ashok Patel, MD**; **Dennis O'Hare, MD**; and MMA President **Marilyn Peitso, MD**.

Two additional Minnesotans were elected to serve as delegates and will join the Minnesota delegation starting in 2021. **Adrina Kocharian**, a fourth-year MD/PhD student was elected for a Region 2 Delegate position representing the Medical Student Section and **Dan Pfeifle, MD**, an internal medicine resident at Mayo Clinic, was elected a regional delegate representing the Resident and Fellow Section. Regional delegates review MSS-authored resolutions and represent the medical students' and resident and fellows' interests at the AMA HOD as full voting members.

Dionne Hart, MD, MMA trustee from the Southeast District, was named the AMA representative to the National Commission on Correctional Health Care (NCCHC). The NCCHC is a voluntary accrediting organization for the nation's correctional facilities, on which the AMA has a liaison seat.

Tobacco-21 advocate wins TCMS honor

The Twin Cities Medical Society Board of Directors has presented **Caleb Schultz, MD, MPH**, with the 2020 First a Physician Award, which recognizes a member of TCMS who gives their time and energy to improve the health of their patients, has made a positive impact on organized medicine and the medical community's ability to practice quality medicine and has been instrumental in improving the lives of others in our community. Schultz was instrumental to Minnesota's first Tobacco 21 policy and continues to support local and statewide efforts.

Member receives Rural Health Lifetime Achievement Award

In November, MMA member **Deborah J. Erickson, MD**, received the Rural Health Lifetime Achievement Award as part of the Minnesota Rural Health Awards, which are given to individuals and groups who have made a significant contribution to improving rural health in Minnesota.

Born and raised in Warroad, Erickson, who practices family medicine/obstetrics at the Altru Clinic there, saw firsthand her community's overwhelming health care needs and challenges, and returned to her hometown after medical school to serve as the single longest-term physician in the city.

Erickson passes on her knowledge and her passionate commitment to rural health to medical students from the University of Minnesota Medical School-Duluth's Rural Medical Scholars Program.





Board approves two new health equity task forces

At its December 7 meeting, the MMA Board of Trustees approved the formation of two new health equity task forces: the MMA Task Force on Barriers to Workforce Diversification in Physician Education, Training & Licensure, and the MMA Racial Healing & Reconciliation Task Force. These two new task forces will help advance the MMA's health equity initiatives.

The purpose of the **MMA Task Force on Barriers to Workforce Diversification in Physician Education, Training and Licensure** is:

- Understand the various drivers in medical education, residency training and the licensure process that affect the supply and distribution of Black men and other underrepresented minorities in medicine.
- Understand the role that discrimination, implicit bias and racism play in medical education, residency training and the licensure process in Minnesota.
- Identify the policies, practices and structures in medical education, residency training and the licensure process that perpetuate racism and/or otherwise limit workforce diversification.
- Determine roles for the MMA, as well as for other potential stakeholders, in advancing specific strategies in medical education, residency training and the licensure process to increase the number of Black men and other underrepresented minorities in medicine.

The task force will deliver the following:

- Inventory of the policies, practices and structures in medical education, residency training and licensure that perpetuate racism and/or otherwise limit Minnesota physician workforce diversification.
- Recommendations to reduce or eliminate those policies, practices and structures.

It will be made up of 15 to 20 physicians and physicians-in-training and consist of medical school leadership, residency program leadership and other relevant stakeholders. In addition, membership will include medical students, residents and physicians from BIPOC (Black, Indigenous and People of Color) communities.

The Task Force will convene for its first meeting during the second quarter of 2021 and is expected to work through 2021 (with four to five meetings expected to take place during that time).

The **MMA Racial Healing & Reconciliation Task Force's** charge is to advise the MMA's Board of Trustees on recommendations to promote racial healing between the MMA and physicians and others from BIPOC communities.

The Task Force is charged with:

- Documenting racial and/or ethnic discriminatory actions by the MMA toward BIPOC physicians and physicians-in-training.
- Facilitating conversations to confront and understand the truth of how MMA's racist and/or ethnic discriminatory actions have shaped BIPOC physicians' experiences.
- Articulating recommendations on ways to heal from the wounds of the past and build mutually respectful relationships across racial and ethnic lines.

The task force will deliver the following:

- An inventory of racial and/or ethnic discriminatory actions by the MMA toward BIPOC physicians.
- Recommendations about how to acknowledge and facilitate the healing needed as a result of MMA's past racial and/or ethnic discriminatory actions.
- Recommendations about whether the MMA should seek to address racial and/or ethnic discriminatory policies or practices perpetuated by Minnesota's medical community on Minnesota's BIPOC communities.

The task force will be made up of 15 to 20 physicians and physicians-in-training, and will include medical students, residents, and physicians from BIPOC communities.

The group will convene for its first meeting during the second quarter of 2021 and meet for approximately 12 to 18 months (with six to eight meetings expected to take place during that time).



FROM THE CEO

Welcome, 2021!

Like all of you, I am excited to replace the 2020 calendar with a new one that holds the promise of better days ahead. I've always visualized the start of a new year as the summit of a big hill—a place of clear skies, fresh air, open space, with boundless views to the horizon. The summit is also the starting point for the pathway that leads down the hill and down through the months of the year. The new path is partially clouded by uncertainty, but also guaranteed to offer new adventures and probably more than a few bumps and detours along the way. This is also the time of year for new resolutions—a commitment to

change poor habits, accomplish a specific goal, embrace a new experience and document your progress. One of my 2020 resolutions was a plan for a June trip to visit family in Sweden. You can guess the outcome of that resolution—postponed because of the major bump and detour that was COVID-19.

The MMA, too, begins 2021 with new resolve to press forward with its commitment to make Minnesota the healthiest state and the best place to practice medicine. There is plenty of work to be done to achieve those goals, among the most urgent of which is reducing racial disparities and achieving health equity.

In the wake of the killing of George Floyd, the MMA, like many other organizations, took a hard pause to listen and reflect. Was our work to achieve health equity making a difference? Were our plans realistic? Was our rhetoric greater than our commitment? Were our resources focused to yield progress? Based on input captured through polling and through several large convenings over the summer, I believe that MMA's health equity initiatives are now more focused and stronger than ever. Those initiatives are focused on diversifying the physician workforce, addressing social determinants of health and reducing structural racism and implicit bias in health care.

As we work to reduce bias and racism in health care, the first place we plan to look is inward to understand our role and the role of organized medicine in Minnesota in ignoring, abetting or perpetuating racism. To that end, the MMA Board of Trustees in December authorized the formation of a new MMA Racial Reconciliation Task Force. This group is tasked with 1) documenting racial and/or ethnic discriminatory actions by the MMA toward BIPOC physicians and physicians-in-training; 2) facilitating conversations to confront and understand the truth of how MMA's racist and/or ethnic discriminatory actions have shaped BIPOC physicians' experiences; 3) articulating recommendations on ways

to heal from the wounds of the past and build mutually respectful relationships across racial and ethnic lines. I am hopeful that this work can expand into a broader reconciliation effort by all health care organizations in Minnesota.

The MMA has a 168-year history and this magazine has been published for 103 years. That is a lot of history and documentation to wade through. We also know that what is written rarely tells the full story. This effort will also include conversations with Minnesota physicians who can supplement what has been written and recorded on paper.

I expect that this work will be difficult and potentially painful. It would be naïve to think the MMA was somehow immune to the discrimination and racism prevalent throughout the United States during the past 168 years. With uncertainty about what we will discover as we start down this path, the MMA owes it to past, current and future Minnesota physicians to confront its history so it can more effectively move forward. In the words of Bryan Stevenson, JD, founder/executive director of Equal Justice Initiative and author of *Just Mercy: A Story of Justice and Redemption*, "You can't demand truth and reconciliation. You have to demand truth—people have to hear it, and then they have to want to reconcile themselves to that truth." The MMA is ready to hear its truth. I hope you will join us in this important work to share your experiences and your stories and to open your hearts to the truth.

A handwritten signature in dark ink that reads "Janet Silversmith".

Janet Silversmith
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VIEWPOINT

Check in on a colleague

Fellow physicians, we have all been through the wringer this past year experiencing an unprecedented pandemic. Our colleagues on the frontlines are receiving the brunt of it with some paying the ultimate price. With every shift, emergency department physicians and those working in the ICU are seeing patients die in unfathomable numbers. They are further stressed by the fear that they might catch COVID-19 and bring it home to their families, and by seeing some of their colleagues contract the virus. The cases appear endless, even as news of a vaccine offers real hope.

2020 has tested us in so many ways—the capacity of our health care systems, the leadership of our public officials, the preparedness of our public health infrastructure, the patience and cooperation of the public and our own resilience. Many have called us heroes and applauded our efforts. After all, we became physicians to help others; this is what we signed up for, right? Some of us are able to generate our own self-motivation to persevere, but others are struggling. We are not receiving as much support as we'd expect.

“It’s heartbreaking for health care workers to finish an exhausting workday only to stop at the grocery store and see people not wearing a mask,” former MMA president and now co-CEO of Carris Health, Cindy Firkins Smith, MD, told reporters at a press conference before Thanksgiving. “Don’t call health workers heroes if you can’t put a piece of cloth or paper over your face to protect them.”

Physicians and other health care workers are tired and frustrated. More than ever before, we need to come together and invest time and resources to take care of each other. Let’s make sure we show them that they are supported. Check in on a colleague and ask them how they’re doing, whether it’s by text, email or phone call.

Let them know where they can seek help if needed. Remind them that they can always contact Physicians Serving Physicians at 612-362-3747 for independent, confidential counseling and peer-support resources.

Tell them to visit the MMA website (<https://www.mnmed.org/advocacy/Key-Issues/Physician-Well-being>) where they can find well-being resources.

Let them know about our upcoming conference at the end of January. The Reclaim the Joy of Medicine: The 5th Annual Bounce Back Clinician Resilience Conference has been created to support physician well-being by providing resources and support to individuals and advocating for changes to the stressful and administratively complex environments in which physicians work.

On this day, join me in resolving to take care of yourself and your colleagues. Eat healthy and get out to enjoy nature for the benefit of the mind, body and spirit. The MMA is here to have the back of medicine, it’s up to each of us to reach out and have the backs of our colleagues. **MM**



Edwin Bogonko, MD, MBA
MMA Board Chair

PHOTO BY KATHRYN FORBES

Physicians and other health care workers are tired and frustrated. More than ever before, we need to come together and invest time and resources to take care of each other.



IMMIGRATION DETENTION

A public health crisis in Minnesota

BY MADISON E. KAHLE; CALLA BROWN, MD, MHR; CHARLES N. OBERG, MD, MPH, FAAP; AND CYNTHIA HOWARD, MD, MPHTM

As physicians in training, we are taught to consider social determinants of health and their impact on diagnosis, management and outcomes. We learn how to ask questions about housing, availability of food and transportation, among other factors. Increasingly, research shows that immigration detention negatively affects health, and immigration enforcement activities, policies that bar individuals with certain legal statuses from accessing health-related services such as public insurance, and public discourse that uses racist stereotypes to describe people who have immigrated to the United States, operate together to make legal status a social determinant of health.

Although immigration detention negatively impacts health in many ways, the COVID-19 pandemic exemplifies the systemic assault to health for individuals affected by the immigration enforcement system. Given the role that this system plays in affecting the health of families and communities in the state of Minnesota, it is time for physicians to more fully understand the implications of immigration detention and to advocate for accountability.

COVID-19 spread during incarceration

Incarceration is one of the fastest means of spreading the novel coronavirus due to cramped conditions, minimal opportunity for social distancing and poor sanitation.

These risks are present for those inside detention facilities, but they also extend to the surrounding community. As of fall 2020, the 14 largest outbreaks in the United States were traced to incarceration facilities. Within prisons and jails in the United States, more than 200,000 prisoners or employees have contracted the virus. As employees, visitors and detainees leave facilities, COVID-19 is then brought to the community at large.

Recognizing the potentially deadly threat of amplified circulation of the novel coronavirus, the criminal court system has reduced the population of detainees in jails by releasing prisoners deemed by the court to be “non-threatening.” However, even in

the same jails that have released criminal offenders, immigration judges have denied similar measures for people detained by the immigration enforcement system, increasing the risk of infecting, harming and even killing not only the detainees but the community at large. Within Immigration and Customs Enforcement (ICE) centers specifically, there have been more than 5,878 positive cases. Multiple reports of denying COVID tests to symptomatic employees and detainees indicate that these numbers are a significant underrepresentation of true infections. Given further reports of failing to isolate suspected cases, lack of face coverings and minimal cleaning supplies, ICE detention during the pandemic could lead to more illness and deaths.

ICE record of preventable deaths

Before COVID-19, ICE had an established record of preventable deaths. From 2018 through 2020, lack of sanitation and access to medical care, denial of mental health services and hundreds of reports of physical, verbal and sexual abuse at the hands of guards led to 29 reported deaths of detainees. Within one single for-profit detention center, medical negligence, including an 8-hour delay in care following a cardiac arrest and multiple cases of denying mental health care to suicidal inmates, led to several deaths without repercussions for staff involved or the facility. This particular center is still operating with concern about ongoing abuse of detainees. Several reports of denying necessary medications, refusing to treat chronic illness and grossly ignoring signs of cancer have led to several cases of progression of illness that, although not lethal, severely undermines the quality of life for these individuals. Recently, the U.S. Congress launched investigations into sterilizations performed without language translation and informed consent.

To us, as health care providers, this should be appalling.

Children in custody

The treatment of children demonstrates particularly egregious neglect and harm.

Seven children died in ICE custody between 2018 and 2019. More than 5,400 children detained upon entry to the U.S. southern border have been forcibly separated from their parents since 2016. As

recently as July 2020, reports surfaced of children being separated from parents and left in hotel rooms with no caregivers for weeks. Within detention facilities, multiple investigations have demonstrated



Avenues for advocacy

In your practice

- Ensure interpreters are present who speak the languages of your community.
- Provide telehealth instructions in the languages of your community.
- Use the *Family Preparedness Plan* guide for undocumented families (https://www.bmc.org/sites/default/files/Programs___Services/Programs_for_Adults/center-family-navigation-community-health-promotion/1-Family-Preparedness-Plan.pdf).
- Participate in trauma-informed care training.
- Provide the *Family Forever: An Activity Workbook to Help Latino Children Understand Deportation* (http://www.childrenspsychologicalhealthcenter.org/wp-content/uploads/2014/11/Workbook_to_help_Latino_Children_Understand_%20Deportation.pdf).
- Volunteer through Physicians for Human Rights to conduct medical evaluations locally.

In Minnesota

- Contact your representatives and demand release of nonviolent detainees.
- Vote for candidates who advocate for these issues.
- Advocate for a state sanctuary law.
- Advocate for community electronic monitoring, rather than detention.
- Advocate for standardized requirements for sanitation, health care access and solitary confinement.

Across the country

- Contact your representatives and demand release of nonviolent detainees in light of COVID-19.
- Vote for candidates who advocate for these issues.
- Advocate or donate to pro-bono representation for immigrants.
- Join the Protect Immigrant Families organization in fighting for the inclusion of those Tax Identification numbers (not just Social Security numbers) in COVID-19 relief bills.
- Join the American Association of Pediatrics in advocating for removing asylum restrictions for unaccompanied minors crossing the border during the pandemic.
- Amplify the voices of immigrants in spaces where they are not welcome.

the use of extremely cold temperatures and sleep deprivation to control and subdue children, which both violates international agreements to protect the safety of children and constitutes torture under international standards. The psychological damage of separation, stigmatization and the use of temperature as a weapon is traumatizing and cannot be condoned in our country. If these conditions were present in hospitals, or if this level of neglect in hospitals led to as many deaths, there would be serious repercussions. It is time to hold the immigration enforcement system accountable for its effects on the health and lives of detainees, their families and the community.

The effects of the immigration system impact not only those without legal status; 4.5 million U.S. citizen children have a parent without legal immigration status. Citizen children with a parent detained experience three times higher rates of anxiety as well as higher levels of depression, self-stigmatization, aggression and withdrawal.

Detainees in Minnesota

It may be easy to think this is a problem only for southern border states, but that could not be further from the truth. In Minnesota, ICE contracts with local county jails to house detainees. Since these are federal contracts, jails are limited in their ability to enforce local Minnesota standards for detainee health, sanitation or isolation, which is problematic when considering ICE's record of abuse and medical neglect. Compared to criminal offenders, civil offenders, such as immigrants, should legally be treated with fewer restrictions. But, in Minnesota, detainees frequently are sent to solitary confinement, one of the most restrictive policies possible, and have limited access to educational opportunities, visiting hours and technology to research their case. Technology access is particularly crucial as detainees in the federal immigration system are not entitled to legal representation. Some states provide funding for pro-bono representation, but Minnesota is not among them.

There have been COVID-positive cases within ICE detention in Minnesota. Before the first positive case was diagnosed, detainees organized a hunger strike to protest conditions that could lead to the spread of Covid-19 within detention facilities. While criminal court judges allowed for the release of some criminal offenders and Minneapolis Mayor Jacob Frey pleaded for similar release for immigration detainees, an immigration judge ruled against it. Immediate release of non-violent detainees is crucial to preventing the spread of Covid-19.

Advocacy and efforts needed

It is vital to address the underlying conditions of detention and how the state allows people living in Minnesota to go into ICE custody. As medical providers, there are many ways to advocate for ICE accountability and safety. Many detainees immigrate to escape hostile living conditions, such as pervasive gang violence. Some detainees have experienced circumstances that would allow them to qualify for asylum status. Psychological and medical evaluations often can help provide documentation that makes it more likely that asylee status is granted, but medical evaluations are not provided unless through individual physician volunteers.

State legislation for mandatory mental health resources, sanitization metrics, healthcare metrics and solitary confinement standards would give the state the ability to enforce the safety of detainees. Advocating and fundraising for greater technology access would give detainees an option to defend themselves without representation. Legally, there are many community-based alternatives to detention that preserve human dignity and can save up to \$108,000 in federal funding per detainee per year. In some parts of Minnesota, state police frequently use ICE as an interpreter for traffic stops. In Minneapolis, the Sanctuary Ordinance stops police from inquiring about immigration status on traffic violations, which could eliminate this racial profiling if legislated statewide.

We are the voice of Minnesota health care; we need to pressure our representatives to

do what is best for the health of the community. As physicians, we have a responsibility to recognize our common humanity and fight for universal human rights. **MM**

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HEALTH CARE'S
SHAKY RECOVERY

We face the reality of inequity

BY TODD ARCHBOLD, LSW, MBA



The early snowfall across Minnesota was a reminder that the seasons will continue to change, and each day the sun will continue to rise and set. When everything around us feels uncertain, everything that is important becomes clear.

A report published by the Commonwealth Fund (<https://www.commonwealthfund.org/publications/2020/oct/impact-covid-19-pandemic-outpatient-care-visits-return-prepandemic-levels>) illustrates the disruptions felt by our health care systems throughout the first several months of the pandemic. According to this report, by mid-April, overall outpatient visits were down nearly 60 percent while telehealth visits were up 14 percent (behavioral health visits are up 41 percent). The regulations that have allowed for increased access to telehealth services are largely being extended through 2021 (it is

important to note there is no single governing body over telehealth; decisions are made by individual insurance companies, often at the plan level). Larger health systems have leveraged telehealth platforms at 2 to 2.5 times that of smaller practices with fewer than five providers. The report also shows that in many areas, health care has returned to relative pre-pandemic levels. Most health systems suffered a devastating financial impact during the spring months that will be felt for the foreseeable future.

Our health care systems are slowly rebuilding and stabilizing—but are now suffering morally as we face the damning realities of health care inequities in our communities, the failure of our idealized national and global collaboration efforts, the fundamental flaws in payer-provider relationships that has led to many American's being under-insured or simply the

estimated 14.6 million people who may have lost their job-connected health insurance. The biggest threat facing our health systems today is our struggle to retain the critical staff needed to care for a variety of sick patients. The capacities of our hospitals are not limited by space or beds, but rather by the number of necessary staff.

The level of collaboration and coordination within our Minnesota health care systems is unprecedented, though our institutions are not infallible. For the first time during the pandemic, we have now seen the rural COVID-19 infection rates rival the numbers in our greater metropolitan areas, reaching levels that continually threaten hospital capacities across the state. As the threat of reaching ICU bed capacity initially rose last May, the Critical Care Coordination Center (C4) was established as a collaborative effort between the

Statewide Healthcare Coordination Center (SHCC) and M Health Fairview Systems Operation Center (SOC). This system is responsible for managing ICU bed placement and patient transfers across the state of Minnesota in response to the COVID-19 pandemic. Throughout November and December, we saw record-breaking numbers reaching thousands of new COVID-19 cases identified each day, occupying on average well over 20 percent of our overall hospital beds in Minnesota. Nationally, the number of hospitalizations doubled in this same timeframe, totaling over 100,000 in early December, a number that would have far surpassed capacity just months earlier. The surge in COVID-19 patients requiring hospitalization poses a risk to other types of patients and our ability to meet their medical needs. The need for mental health services and support within our communities continues to increase as well.

In the meantime, our communities have grown comfortable yet weary of the continually changing landscape. Gov. Tim Walz has continued to adjust the Stay Safe MN plan just before the holidays, resurrecting previous restrictions on restaurants and bars, fitness centers, youth sports and social gatherings. According to MDH data, these types of settings have contributed nearly 71 percent of COVID-19 outbreaks. Many workplaces are committing to indefinite work-from-home structures, and most school districts have returned to distance learning models in light of rising infection rates. Data from a variety of early coronavirus studies in schools show that infection rates in schools mirror that of the communities they live in—suggesting that schools have not become the “super-spreaders” that many feared. One of the largest studies, done at Brown University, analyzed data from 47 states encompassing 200,000 students and 63,000 staff. The report showed an infection rate of 0.13 percent among students and 0.24 percent among staff who had returned to school.

It has become clear in recent months that the biggest factor impacting the recovery of our health care systems is the



Our health care systems are slowly rebuilding and stabilizing—but are now suffering morally as we face the damning realities of health care inequities in our communities.”

collective behavior of individuals in our communities. We demonstrated an ability to slow the spread of infection last spring with strict shelter-in-place orders, mitigating the surge that we felt was inevitable. We then spent the summer months monitoring ripples and trends in infection rates that could be correlated to community activities. Now, with the risk factors mounting with colder weather, we are relying on the public to adhere to masking mandates, follow the Stay Safe MN orders and quarantine when sick in order to prevent catastrophe. Increasing infection rates pose a threat to our institutions and all the essential workers we rely on, and lead to even stricter restrictions in our communities. While these restrictions are proven to slow the spread of the coronavirus, they come with their own cost to our economy, unemployment, mental health and more.

The accelerated success of global vaccines now offers hope during our darkest time and the race is on to deliver vaccines to critical health care workers and our at-risk populations. Experts expect that the general public will have access to a vaccine as early as March, and we anticipate an impactful level of herd immunity by fall. Many questions remain about the effects of the vaccine (such as its longevity, if a vaccinated person can still be infectious, etc.) as well as how well the public will comply. The mass distribution of a vaccine is the tipping point we have been waiting for—and ultimately the one thing that will

allow our health care systems to begin to normalize. The tables have turned on our health care systems in that our medical experts are now on the end of the bullwhip, and have become the last line of defense.

The challenges we have faced throughout 2020 are the same threats that have plagued humankind for centuries. However, there are extraordinary circumstances that define the current challenges, perhaps as an example of overdetermination, including the politicizing of the coronavirus pandemic, the polarization of societies’ understanding of systemic racism, the unusual confluence of weather systems causing record West Coast wildfires and the failure of regulatory enforcement that is supposed to keep our international ports safe. And, leading up to and after the November 3 election, an intense battle over voter rights in America, and the fallout of unfounded accusations of voter fraud and lawsuits long after the election. One can’t help but wonder why these problems persist in our modern world—at the cost of trillions of dollars and precious human life.

The lyrics in John Lennon’s humanistic 1971 song “Imagine” seem absurdly altruistic as we grapple with systemic variation of opportunity. One example of a macro-level approach at addressing disparities is the step taken by the American Psychiatric Association. Jeffrey Geller, MD, MPH, president of the APA, is now months into a comprehensive reckoning of structural racism in psychiatry through a series of writings and public townhall meetings. We are building a roadmap for equity and inclusion while working to meaningfully engage with our oppressed communities—beyond the walls of our clinics and hospitals. In this regard, we must continue take risks and be vulnerable.

While our health systems and communities are far from stable, it behooves us to appreciate the dramatic improvement in our understanding of COVID-19, how it is spread and advancements in effective treatments and medication trials. **MM**

Todd Archbold, LSW, MBA, is chief executive officer, PrairieCare and PrairieCare Medical Group.

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. Twelve abstracts were published in the September/October and November/December issues of *Minnesota Medicine*. Four are in this issue.

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's 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*.

Fossa of Landzert herniation in a young woman presenting with chronic episodic abdominal pain

BY GRACE BRAIMOH, MD, AND ROBERT MATLOCK, MD

Multiple aberrations evolve during the formation of the mesentery in the stages of early development. These aberrations from gut malrotations may lead to fossa development where bowel loops herniate. We present a case of a left mesocolic paraduodenal hernia into a dorsal mesentery fossa, also called the fossa of Landzert, in a young woman who presented with long-term complaints of episodic abdominal pain, nausea, and vomiting.

Case report

A 20-year-old female was referred to gastroenterology clinic with long-term complaints of episodic abdominal pain, nausea, and vomiting dating back many years.

She had tried numerous medications, diet changes, and bowel regimens in the past without relief. The patient had been evaluated by various health care providers with extensive work-up, including multiple imaging studies such as abdominal ultrasonography, CT scans, and esophagostro-

duodenoscopy with biopsies, without detection of clear pathology.

On examination, her blood pressure was 160/81, pulse was 93/bpm, oxygen saturation of 100% on room air, with normal temperature and BMI of 22.9. Abdominal examination revealed mild epigastric tenderness to palpation, without distention or peritoneal signs.

Her most recent CT scan showed a cluster of bowel loops above the celiac artery, which prompted suspicion for a supramesocolic hernia without obstruction (image 1). Patient was referred to a surgeon for further evaluation and definitive diagnosis was accomplished by direct visualization using robotic-assisted diagnostic laparoscopy.

Intraoperative findings revealed herniation

of the majority of her small bowel, with the exception of about 10 cm of the terminal ileum through the paraduodenal fossa up to the transverse mesocolon into the lesser space behind the stomach. Reduction and repair of paraduodenal hernia with closure of mesenteric defect was performed successfully.

The patient was discharged on post-operative Day 2 and returned on post-operative Day 3 with nausea and vomiting. An abdominal CT showed obstruction at the level of the duodenum, which was managed conservatively with nasogastric tube placement, fluid resuscitation, and pain management. Patient was discharged four days later with complete resolution of symptoms.

Discussion

The fossa of Landzert is located behind the ascending part of duodenum. Herniations occur when small bowel loops prolapse through the Landzert fossa. This is present in about 2% of the population. Paraduodenal hernias occur both on the right and left side, with left-sided hernias being more common.

Symptoms of episodic nausea, vomiting, and intermittent cramping in the absence of imaging findings should trigger suspicion of paraduodenal hernias.

CT has been shown to have good specificity with detection of paraduodenal hernias, but definitive diagnosis and treatment involves exploratory laparoscopy to further visualize and repair these hernias.

Timely treatment with surgical intervention is important due to risk of bowel

incarceration and death. Hence, it is important for clinicians to have a high index of suspicion for paraduodenal hernias with patients presenting with nonspecific radiologic findings and clinical symptoms. **MM**

Grace Braimoh, MD, is a resident in internal medicine, Hennepin Healthcare, Minneapolis. Robert Matlock, MD, is a gastroenterologist, Hennepin Healthcare.



Serotonin syndrome in a 27-year-old female in the context of therapeutic titration of sertraline

BY MICHELLE CORKRUM, PHD; RACHEL KAY, MD; AND BARRY RITTBERG, MD

Serotonin syndrome is a life-threatening medical emergency that can result from serotonergic drugs used to treat neuropsychiatric disorders. Serotonin acts on receptors throughout the body, and at an excess level can result in the triad of symptoms associated with serotonin syndrome: altered mental status, autonomic nervous system instability, and neuromuscular hyperactivity.¹

We report a case of serotonin syndrome in a 27-year-old female admitted to our inpatient psychiatric unit with major depressive disorder and worsening suicidal ideation, undergoing a therapeutic titration of the selective serotonin reuptake inhibitor, sertraline. Given the patient's persistent symptoms of depression and suicidal ideation, on hospital Day 6, the patient was started on sertraline (50 mg), added to prior-to-admission medications of trazodone (50 mg), and lisdexamfetamine (70 mg). Two days after the initiation of sertraline (50 mg), she reported abdominal pain and hand tremors that lasted most of the day and resolved without treatment. The patient reported having similar symptoms from past antidepressant medication trials.

Given her symptoms, the treatment team waited until their resolution on Day 9 of her hospitalization to increase her sertraline to 100 mg daily. The next day, we increased her dose of lamotrigine to 300 mg daily. Two days later, on hospital Day 12, her dose of sertraline was increased to 150 mg daily; she reported tolerating the dose increase. On hospital Day 13, the patient reported new-onset bilateral hand tremor. In addition to her bilateral hand tremors, the patient had dilated pupils, diaphoretic palms, clonus in the left ankle,

and bilateral hyperreflexia at the knees and ankles. The patient's new symptoms were concerning for serotonin syndrome.

The diagnosis of serotonin syndrome is clinical, with no specific set of laboratory tests to confirm it. However, The Hunter Serotonin Toxicity criteria is a validated measure that can be used to diagnose serotonin syndrome with a sensitivity of 84% and a specificity of 97%.² The Hunter criteria necessitate the following: (1) recent addition or increase of a serotonergic drug; (2) rule out other potential medical causes; and (3) no recent changes to a neuroleptic substance, as well as \geq three of the following signs: mental status changes, agitation, myoclonus, hyperreflexia, diaphoresis, shivering, tremor, diarrhea, incoordination, and fever.²

Our patient met the criteria, with symptoms of palmar diaphoresis, myoclonus, hyperreflexia, and tremor. The differential diagnosis for serotonin syndrome is broad and includes anticholinergic syndrome, malignant hyperthermia, and neuroleptic malignant syndrome.¹ To differentiate these conditions from serotonin syndrome, the causative agent and signs and symptoms are key components. Anticholinergic syndrome is associated with the use of anticholinergic agents and is characterized by fever, mydriasis, dry mouth, delirium, and urinary retention. Serotonin syndrome is characterized by hyperreflexia and hyperactive bowel sounds. In contrast, anticholinergic syndrome is associated with normal reflexes and hypoactive bowel sounds.¹

Malignant hyperthermia is a result of a reaction to inhalational anesthetic agents resulting in hyperthermia. Malignant hyperthermia results in skeletal muscle rigidity and hyporeflexia.¹ Neuroleptic malignant syndrome traditionally develops over the course of several days in response

to neuroleptic drugs, resulting in altered mental status, bradykinesia or akinesia, muscular rigidity, and hyperthermia. A distinguishing factor between neuroleptic malignant syndrome and serotonin syndrome is the presence of bradykinesia in the former and hyperkinesia in the latter.¹

Due to our concern for serotonin syndrome, we treated the patient with 8 mg of cyproheptadine, an antihistamine drug commonly used to treat serotonin syndrome,³ and consulted the internal medicine team. The patient was transferred to the medical unit and diagnosed with serotonin syndrome, given her symptoms of tremors and hyperreflexia. During her hospitalization on the medical unit, she received an additional 4 mg of cyproheptadine, and sertraline and trazadone were discontinued. On hospital Day 16, she was deemed medically stable and appropriate for return to the inpatient psychiatric unit for further management of her depressive symptoms; she was started on bupropion to treat her symptoms of depression and suicidal ideation.

The combination of multiple drugs to target specific psychiatric symptoms is a common practice in the care of patients.¹ Medical practice aims to integrate patient symptoms and treatment responses to develop a care plan. In our patient, the serotonergic drugs used for disease management were within approved therapeutic ranges; however, the patient developed serotonin syndrome. This case provides insight into a rare response to common therapeutic drugs seen in the inpatient psychiatric setting. Furthermore, it highlights the importance of being aware of the signs and symptoms of serotonin

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Serotonin syndrome...

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syndrome even in the setting of therapeutic dose ranges of serotonergic drugs, and of integrating collaborative care plans from multiple teams within the hospital setting to ensure optimal patient outcomes. **MM**

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Primary care, the PSA test, and excess surgery: Does da Vinci robot acquisition lead to more prostatectomy?

BY SUNDUS SHAUKAT, MBBS, AND MAHAD A. MINHAS, MD, MPH

The prostate-specific antigen (PSA) is commonly ordered by primary care providers (PCPs) and may lead to unnecessary surgery, especially in the setting of new and expensive treatment modalities. The da Vinci robot has been widely adopted for radical prostatectomy (RP) after FDA approval in 2001. Prior work has associated acquisition of the robot with an increased absolute number of RPs at the state and regional level. We examined this association nationally using population-based RP rates from the Dartmouth Atlas, data which are derived from fee-for-service Medicare patients.

Methods

Publicly available age- and race-adjusted RP rate data for all 306 hospital referral regions (HRRs) of the Dartmouth Atlas were obtained for a pre-robotic period selected from 1999 to 2001 and a post-robotic period selected from 2008 to 2010. Total number of male Medicare beneficiaries in each HRR were also obtained (denominator for creating the da Vinci robot rate). Total da Vinci robot counts in each of the 306 HRRs were provided by Intuitive Surgical for 2008 only, and for each HRR, the total robot count was turned into a rate per 100,000 male Medicare beneficiaries. The HRR RP rate change was created by subtracting pre- and post-robotic RP rates. The HRR da Vinci robot rate change was created by using the 2008 da Vinci robot rate with an assumption that the pre-robotic rate was 0. HRRs with fewer than 26,783 male Medicare beneficiaries (50th percentile) were excluded to eliminate unstable or suppressed RP rates. Simple linear regression was used to assess association between the two variables. Two sensitivity analyses were done and excluded

HRRs with a population less than 49,735 (75th percentile) and 86,605 (90th percentile). Confounders such as urologist supply and disease burden were not addressed in this study.

Results

From 1999 to 2010, the national RP rate per 100,000 male Medicare beneficiaries declined from 1.64 to 1.32. A total of 222 (72.5%) HRRs had at least one robot in 2008. Of 306 HRRs, 153 were excluded due to suppressed or unstable RP rates. A total of 153, 76, and 30 HRRs had more than 26,783, 49,735, and 86,506 males, respectively. No association was found between RP rate change and the da Vinci robot rate change among 153 HRRs ($r^2 < .012$, $b1 < 1.4$, $p = .18$) and 76 HRRs ($r^2 < .007$, $b1 < .94$, $p = .48$). However, among 30 HRRs, for every 1 per 100,000 increase in the da Vinci robot, 4.9 per 100,000 more RPs were done in the post-robotic period compared to the pre-robotic period ($r^2 < .15$, $b1 < 4.9$, $p = .03$).

Conclusion

Acquisition of the da Vinci robot did not appear to increase the utilization of RP within HRRs with a male Medicare population between 26,783 to 85,605 (123 HRRs). However, in the 30 most densely populated HRRs (population size >85,605), including Minneapolis, robot acquisition was associated with increased RP rates in the post-robotic era. PCPs in these 30 HRRs should be mindful of these findings when ordering a PSA test. **MM**

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Acute liver failure from low-dose acetaminophen

BY NATALIE WILSON AND SAMUEL IVES, MD

Acute liver failure (ALF) is a rare, life-threatening condition defined as rapidly progressive liver dysfunction with coagulopathy (INR ≥ 1.5) and hepatic encephalopathy in patients without underlying liver disease.^{1,2,5} In the United States and Europe, the most common cause of ALF is acetaminophen overdose.^{1,3,4} While low doses of acetaminophen are generally regarded as safe, there is increasing evidence that therapeutic doses can result in ALF, especially in the setting of chronic alcohol use.^{3,4,8,9} This case report explores the unique presentation of low-dose acetaminophen use as a cause of ALF and the resulting challenges in early recognition and treatment.

Case report

A 38-year-old previously healthy woman was admitted with four weeks of fatigue, progressive upper abdominal pain, and vomiting. She had been taking 3 g/day of acetaminophen for the pain for a total of 3–4 days. She reported intermittent alcohol use with increased intake the week prior to admission.

Initial lab results included AST 1900 IU/L, ALT 600 IU/L, alkaline phosphatase 80 IU/L, total bilirubin 2.5 mg/dL, and direct bilirubin 1.5 mg/dL. Lipase was elevated at 1400 IU/L. Right upper quadrant ultrasound revealed a normal common bile duct and no cholelithiasis or gallbladder wall thickening. Her presentation was thought to be alcohol-induced acute pancreatitis and alcoholic hepatitis.

On Day 2 of hospitalization, her aminotransferases significantly worsened with AST 13,200 IU/L, ALT 4100 IU/L, and total bilirubin 4.1 mg/dL. She developed coagulopathy with INR 4.4, hypoglycemia, and acute kidney injury.

The following day, her mental status deteriorated and she became encephalopathic. She was noted to have lactic acidosis and acute renal failure. She was diagnosed with acute liver failure at this time. Workup for etiology was pursued and

was negative for viral infection (hepatitis A and B, EBV, and CMV), autoimmune hepatitis, or hepatic vein thrombosis. Serum acetaminophen level was undetectable though positive on urine toxicology. Etiology of ALF was considered to be acetaminophen toxicity potentiated by alcohol use.

She was started on a five-day course of IV N-acetylcysteine which resulted in drastic improvement of LFTs, coagulopathy, and mental status. She was ultimately discharged home with complete normalization of her liver function.

Discussion

This case highlights the difficulties in recognition of low-dose acetaminophen as a cause of acute liver failure (ALF) in patients with chronic alcohol use. There is increasing evidence that factors such as malnutrition and chronic alcohol use may potentiate the hepatotoxic effects of acetaminophen.^{3,4,8,9} In addition, this patient presented with acute pancreatitis, a rare complication of acetaminophen-related ALF that occurs in 0.3–5% of cases, which may have distracted from early recognition of liver injury.⁵ Delayed diagnosis and treatment is associated with a worse prognosis and development of multi-organ failure, such as acute renal failure, as seen in this case.² Therefore, the clinical suspicion for acetaminophen hepatotoxicity must remain high even in the setting of therapeutic levels of acetaminophen use.

This presentation of ALF may not initially, or ever, be recognized as acetaminophen-related. Interestingly, the most common cause of ALF in the United States following acetaminophen use is “indeterminate,” or cases where an etiology was never identified.^{1,2} Further, there is an increasing number of studies demonstrating that a significant number of indeterminate cases are actually due to unrecognized acetaminophen toxicity.^{6,7,10} In cases of indeterminate ALF, especially in patients with any history of acetaminophen use, the

administration of N-acetylcysteine should always be considered, given the clinical implications of a missed diagnosis. **MM**

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Are the kids all right? A look at flourishing among school-age children and youth in Minnesota

BY MARVIN SO, MPH, AND ANNA LYNN, MPP

Flourishing is a state characterized by positive social and behavioral functioning in children, which can be influenced by family, health care, and community factors. The National Survey of Children's Health (NSCH) provides an opportunity to describe characteristics of the children who are—and are not yet—flourishing at the state level. Using the 2016-2017 NSCH to calculate prevalence estimates and odds ratios (ORs), this study examined parents' perspectives on Minnesota children aged 6–17 in households, and explored select child, family, and health care correlates. The findings indicate that 41.4% of children in the state met flourishing criteria. Unadjusted ORs demonstrated differences in flourishing by child, family, and health care characteristics; after accounting for relevant covariates, parent-child connectedness, family resilience during difficult times, medical home status, and encountering adverse childhood experiences remained significantly associated with flourishing. Through highlighting factors predictive of parent-perceived flourishing, this study outlines potential insights for intervention that could accelerate child and adolescent well-being in Minnesota.

Background

Minnesota consistently ranks as one of the best places in the country for child and family health.^{1,2} In contrast to these accolades, children's health and educational disparities across race, socioeconomic status, and geography in Minnesota are well-known,^{3–6} and have prompted efforts by both providers^{7,8} and the state government^{9,10} to address their root causes. Although previous examinations of children's health across the state have told us much about negative outcomes, we have relatively less information about indicators of successful development.¹¹

Flourishing, or thriving, is a concept that embodies the World Health Organization edict that health comprises more than simply the absence of physical or mental disorders.¹² Flourishing has gained traction in recent years, given its associations with aspects of child well-being (e.g., BMI,¹³ school engagement¹⁴), with calls to better define, measure, and even incentivize flourishing within health care systems.^{12,15,16} Ultimately, flourishing can be described

as *positive mental health*, and research suggests that self-regulation, interest in learning, communication, and positive relationships are key attributes for young people.^{17–19} Possessing such assets reflect overall vitality and can translate to physiologic, immunologic, and social function—even when confronted with health risks like stress or infectious disease.^{17,18}

Since 2017, the Minnesota Department of Health (MDH) has convened a statewide learning community to develop values and strategies that promote “public mental well-being.”²⁰ This workgroup, along with other efforts,^{21,22} illustrates burgeoning interest in understanding and enhancing positive dimensions of health, rather than solely avoiding morbidity and mortality. Although health care systems have historically focused on identifying and treating health conditions, promoting flourishing may represent a complementary path for optimizing child wellness beyond diagnoses. Taking stock of flourishing in Minnesota could therefore help us better understand communities' needs,

and elucidate opportunities for allocating services or improving existing supports.

Methods

This study used the National Survey of Children's Health (NSCH), a household survey designed to generalize to the population of non-institutionalized children in each state and nationally.²³ Parents completed an electronic or paper survey asking questions related to the health, development, and risk and protective factors of a randomly selected child in the household. Although previous studies have characterized flourishing nationwide,^{24,25} there have been few efforts to do so in Minnesota.

The three flourishing-related items in the NSCH are based on developmentally relevant milestones and experiences for school-age children; they ask parents to report how well a given statement described their child: (1) “shows interest and curiosity in learning new things,” (2) “works to finish tasks he or she starts,” and (3) “stays calm and in control when faced with a challenge.” These items align with con-

structs we define as “curiosity about learning,” “self-regulation,” and “resilience,” respectively.²⁶ Consistent with prior work,²⁵ the three items were summed to create an overall child flourishing index (range: 0-3). Children whose parents reported that every statement was “definitely true” were classified as flourishing (i.e., scored 3/3 for the overall index). These questions were developed through an extensive process engaging experts, parents, and the literature,²⁵ providing support to their construct validity. Other relevant measures included individual items (e.g., parent-child connectedness) and composite indicators of adverse childhood experiences (ACEs), family resilience during difficult times, household socioeconomic status, receipt of public assistance, and receipt of care within a medical home model—all constructed in accordance with previous studies.^{25,27} Missing data were replaced using imputation methods, described elsewhere.²⁸

To maximize the stability of estimates, we combined data from the 2016 and 2017 surveys (variables and response options used in this analysis did not change between years).²⁶ Effectively, the analytic sample consisted of all Minnesota children ages 6-17 in residences with valid responses for all three flourishing-related items (n=1,214). First, to contextualize childhood flourishing in this state, we calculated unadjusted prevalence estimates and 95% confidence intervals (CIs) of childhood flourishing for Minnesota, states in U.S. Health Resources and Services Administration Region V overall (including Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin), and nationwide. Nested *t*-tests were used to investigate if Minnesota was significantly different compared to regional and national estimates. Second, we used logistic regression to calculate unadjusted odds ratios (ORs) and 95% CIs of flourishing by various child, family, and health care characteristics; these analyses were then replicated, adjusting for sex, race/ethnicity, age, parental education, and special health care need status. We chose variables documented to covary with flourishing,^{24,25} cor-

roborated using stepwise forward selection procedures. Analyses were conducted in Stata V16.1 (College Station, TX), using weights to account for the complex sample design and non-response; effectively, findings reflect the sociodemographic diversity of children throughout the state.

Results

The survey responses in the analytic sample were representative of 835,658 children in Minnesota households. Overall, 41.4% of children ages 6-17 were reported by parents to be flourishing (Figure 1). This prevalence was higher than both the national and regional average, although the difference was not statistically significant. When examining individual items, there were also comparable rates of self-regulation, resilience, and curiosity about learning in Minnesota relative to regional and nationwide prevalence, with one exception: the prevalence of curiosity about learning was significantly higher in Minnesota relative to the average prevalence in the region (86.8% vs. 82.4%; $p=0.03$).

Within Minnesota, there were differences in flourishing by child, family, and health care characteristics based on crude estimates (Table 1). Specifically, lower prevalence of flourishing was observed among children who were in the younger age category (6–11 years), were boys, experienced ACEs, or were non-White. At the family level, children living in households with lower household income, that received public assistance, that primarily spoke a non-English language, had parents who were born outside the United States, had low parent-child connectedness, or did not possess family resilience, evidenced lower prevalence of childhood flourishing. With respect to health care, children who lacked a medical home had lower levels of flourishing, as did those on public insurance or a public-private combination (compared to those solely on private insurance). Children who were uninsured demonstrated a higher flourishing prevalence.

Flourishing significantly varied by child race/ethnicity, age category, ACEs category, family resilience, parent-child con-

nectedness, receipt of public assistance, insurance type, and medical home status. After controlling for key covariates, four factors remained significantly predictive. Children in families that demonstrated low parent-child connectedness or lacked qualities of family resilience in the face of problems were less likely to be flourishing compared to their counterparts with these family characteristics (adjusted OR: 0.25, 95% CI: 0.16–0.39 and adjusted OR: 0.29, 95% CI: 0.19–0.46, respectively). Children lacking a medical home were also less likely to be flourishing compared to children receiving services aligned with the medical home model (adjusted OR: 0.59, 95% CI: 0.41–0.84), as were children who experienced two or more ACEs relative to children who experienced no ACEs (adjusted OR: 0.22, 95% CI: 0.13–0.37).

Discussion

We found that two in five of Minnesota's school-age children were described by parents to be flourishing. Although this rate is comparable to nearby states and the overall country, it nonetheless underscores that the majority of children and youth do not meet flourishing criteria. There were significant differences in flourishing by certain child, family, and health care characteristics that stakeholders invested in children should contemplate. Of note: adjusted models showed that several aspects traditionally viewed as indicators of childhood disadvantage, such as household socioeconomic status, were not significantly associated with flourishing after controlling for factors that might explain putative differences. As we work to rectify the concerning disparities documented here (e.g., by race/ethnicity), this finding suggests that flourishing may be possible regardless of children's circumstances. Several factors can be considered as potential elements of healthful developmental contexts, discussed below.^{25,29}

Flourishing provides a more comprehensive portrait of pediatric health, conveying how children function, to complement previous studies focused on states of impairment such as depression.^{4,5} These results can further be related to informa-

TABLE 1

Child, family, and health care characteristics associated with flourishing among children ages 6-17 in Minnesota, 2016-2017

CHARACTERISTIC	Flourishing ^a % (95% CI)	Unadjusted OR % (95% CI)	Adjusted OR ^b % (95% CI)
OVERALL	41.4 (37.2 – 45.7)	---	---
CHILD			
RACE/ETHNICITY: White, non-Hispanic	45.5 (40.8 – 50.2)	(Reference)	(Reference)
RACE/ETHNICITY: Black, non-Hispanic	19.5 (4.3 – 34.6) ^d	0.29 (0.10 – 0.78)*	0.30 (0.06 – 1.12)
RACE/ETHNICITY: Hispanic	32.8 (18.9 – 46.7) ^d	0.59 (0.30 – 1.13)	0.65 (0.33 – 1.28)
RACE/ETHNICITY: Other, non-Hispanic ^c	39.2 (26.4 – 51.9) ^d	0.77 (0.44 – 1.36)	0.78 (0.44 – 1.36)
AGE: 6-11 years old	36.4 (30.5 – 42.2)	(Reference)	(Reference)
AGE: 12-17 years old	46.1 (40.0 – 52.2)	1.50 (1.05 – 2.13)*	1.02 (0.53 – 1.96)
SEX: Female	43.4 (37.7 – 49.1)	(Reference)	(Reference)
SEX: Male	39.7 (33.4 – 45.9)	0.86 (0.60 – 1.22)	0.83 (0.59 – 1.16)
ADVERSE CHILDHOOD EXPERIENCES^e: 0 ACEs	48.2 (42.9 – 53.5)	(Reference)	(Reference)
ADVERSE CHILDHOOD EXPERIENCES^e: 1 ACE	43.9 (33.5 – 54.3) ^d	0.84 (0.52 – 1.35)	0.82 (0.52 – 1.30)
ADVERSE CHILDHOOD EXPERIENCES^e: 2+ ACEs	18.0 (11.1 – 25.0)	0.24 (0.14 – 0.40)*	0.22 (0.13 – 0.37)*
FAMILY			
HOUSEHOLD SOCIOECONOMIC STATUS^f: 400% FPL or greater (highest)	46.6 (40.3 – 52.8)	(Reference)	(Reference)
HOUSEHOLD SOCIOECONOMIC STATUS^f: 200-399% FPL	41.9 (34.0 – 49.9)	0.83 (0.54 – 1.26)	0.87 (0.56 – 1.34)
HOUSEHOLD SOCIOECONOMIC STATUS^f: 100-199% FPL	38.7 (26.1 – 51.2) ^d	0.72 (0.41 – 1.28)	0.81 (0.46 – 1.42)
HOUSEHOLD SOCIOECONOMIC STATUS^f: 0-99% FPL (lowest)	28.6 (13.1 – 44.2) ^d	0.46 (0.19 – 1.08)	0.63 (0.26 – 1.51)
PARENTAL NATIVITY: Parent(s) born in the U.S.	42.7 (38.1 – 47.4)	(Reference)	(Reference)
PARENTAL NATIVITY: Any parent born outside U.S.	38.8 (27.8 – 49.9) ^d	0.85 (0.52 – 1.41)	1.32 (0.74 – 2.37)
PRIMARY LANGUAGE AT HOME: English	42.9 (38.6 – 47.3)	(Reference)	(Reference)
PRIMARY LANGUAGE AT HOME: Non-English	27.5 (9.8 – 45.2)	0.51 (0.20 – 1.25)	0.79 (0.29 – 2.13)
FAMILY RESILIENCE DURING DIFFICULT TIMES^g: Demonstrates family resilience	46.7 (41.6 – 51.7)	(Reference)	(Reference)
FAMILY RESILIENCE DURING DIFFICULT TIMES^g: Does not demonstrate family resilience	21.9 (15.3 – 28.6)	0.32 (0.21 – 0.50)*	0.29 (0.19 – 0.46)*
PUBLIC ASSISTANCE^h: Receives public assistance	30.1 (21.0 – 39.2)	(Reference)	(Reference)
PUBLIC ASSISTANCE^h: Does not receive public assistance	45.0 (40.3 – 49.7)	1.90 (1.19 – 3.04)*	1.60 (0.99 – 2.57)
PARENT-CHILD CONNECTEDNESSⁱ: High parent-child connectedness	50.3 (45.0 – 55.6)	(Reference)	(Reference)
PARENT-CHILD CONNECTEDNESSⁱ: Low parent-child connectedness	21.3 (15.5 – 27.0)	0.27 (0.18 – 0.40)*	0.25 (0.16 – 0.39)*
HEALTH CARE			
INSURANCE STATUS: Private only	44.9 (40.3 – 49.6)	(Reference)	(Reference)
INSURANCE STATUS: Public only	27.8 (17.9 – 37.8)	0.47 (0.28 – 0.80)*	0.63 (0.35 – 1.11)
INSURANCE STATUS: Private and public	39.3 (20.0 – 58.6) ^d	0.79 (0.35 – 1.82)	0.81 (0.35 – 1.89)
INSURANCE STATUS: Uninsured	62.1 (36.7 – 87.4) ^d	2.01 (0.67 – 5.60)	2.11 (0.77 – 5.75)
MEDICAL HOME^j: Care meets medical home criteria	47.3 (41.5 – 53.1)	(Reference)	(Reference)
MEDICAL HOME^j: Care does not meet medical home criteria	34.6 (28.4 – 40.8)	0.59 (0.41 – 0.84)*	0.59 (0.41 – 0.84)*

NOTES. OR: Odds Ratio. 95% CI: 95% Confidence Interval. FPL: Federal Poverty Level.

^a Based on children for whom each flourishing-related statement was “definitely true”.^{25,26}

^b Adjusted for sex, race/ethnicity, age, parental education, and special health care need status.²⁶

^c Includes children reported to be Asian, American Indian, Alaska Native, Native Hawaiian/Pacific Islander, multi-racial, or other.

^d Estimate has a 95% CI width exceeding 20%, suggesting greater uncertainty about the true prevalence. This estimate should be interpreted with caution.

^e Adverse childhood experiences was determined based on parent report about whether their child ever experienced any of the following: hard to get by on family’s income; parent or guardian divorced or separated; parent or guardian died; parent or guardian served time in jail; saw or heard parents or adults slap, hit, kick punch one another in the home; was a victim of violence or witnessed violence in neighborhood; lived with anyone who was mentally ill, suicidal, or severely depressed; lived with anyone who had a problem with alcohol or drugs; and treated or judged unfairly due to race/ethnicity.

^f Household socioeconomic status was classified based on federal poverty level categories, determined based on family income, size, and composition using U.S. Census Bureau thresholds.

^g Family resilience during difficult times was determined based on parent report about whether their family talks together about what to do, works together to solve problems, knows they have strengths to draw on, and stays hopeful even during difficult times when faced with a problem.

^h Receipt of public assistance was determined based on parent report of receipt of any of the four benefits in the last 12 months: cash assistance; Women, Infants, and Children; Supplemental Nutrition Assistance Program (i.e., food stamps); or free/reduced cost meals at school.

ⁱ Parent-child connectedness was determined based on parent report of how well they can share ideas or talk about things with the child that really matter. Children were classified as having high parent-child connectedness if the parent responded “very well” to this question; all other children were classified as having low parent-child connectedness.

^j Receiving care that meets medical home criteria was determined based on parent report of child having a personal doctor or nurse, usual source of care, and family-centered care. Additionally, any children needing referrals or care coordination must also meet those criteria.

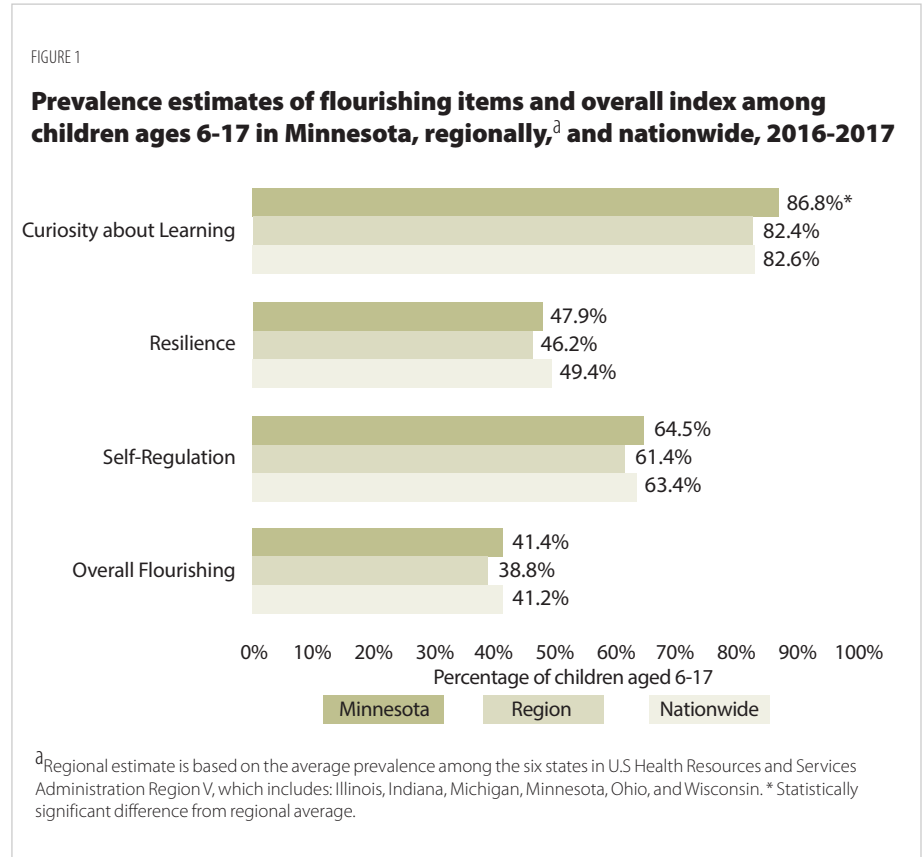
* Statistically significant difference from reference group

tion from the Minnesota Student Survey, which captures additional components of mental well-being such as empowerment and social competence.³⁰ Although study design differences preclude direct comparisons, the two surveys could be examined jointly in state efforts to stimulate positive development.

This study has clear limitations. First, the analysis relied on cross-sectional data, limiting the ability to infer causality or direction of effects. Second, surveys were completed by parent self-report; although caregivers are likely the optimal reporter for these concepts,¹⁸ this may have introduced social desirability, recall, or reporter bias. Third, although early efforts have been made to validate the child flourishing index, it is a population-level indicator and its application within clinical settings requires further inspection. Fourth, certain prevalence estimates possessed wide confidence intervals, which could be due to small sample sizes or extensive variability within subgroups; they need to be viewed critically in concert with other state data.

Finally, and meriting major consideration, our definition of flourishing is best understood as reflective of children's context and relationships at multiple socioecological levels. It should not be interpreted as an immutable characteristic, but rather as a holistic marker of child well-being, pliable to change through medical, social, and community supports. Despite these issues, this article provides an initial profile of childhood flourishing in Minnesota. Additional research is needed to test mechanisms, probe for possible clinical and policy levers, and layer patient and provider perspectives onto these findings. For example, there could be other characteristics or skills that families would describe as demonstrating flourishing, and these characteristics might look different across cultures or communities. It would also be crucial to learn more about flourishing among populations not well addressed with this dataset (e.g., Native American children).

Implications for practice. There is some difficulty in positioning study find-



ings within clinical practice, as validated screening instruments and decision-making approaches based on flourishing are still nascent.¹⁶ However, compelling arguments have been made that “the science of thriving” has already reached sufficient clarity and momentum to warrant redesigning health care systems to promote positive indicators of health.^{15,31} Placing greater focus on components of existing tools (e.g., prosocial sub-scale of the Strengths and Difficulties Questionnaire) may be a place to start. Regardless of one's practice setting, the medical home, parent-child connectedness, and family resilience findings deserve consideration by clinicians. Providers that structure services to align with medical home principles might observe benefits for flourishing in pediatric patients. The medical home framework proposes that clinically- and cost-effective health care for children and youth is accessible, continuous, comprehensive, coordinated, compassionate, culturally effective, and family-centered.²⁶ Similarly, provider actions to assess and support

family relationships and coping could also foster flourishing.

As others propose,³² primary care providers are well positioned to not only screen for anomalies, but also ask about and support protective factors. These clinicians are trusted professionals accessed by the majority of families—including those of lower socioeconomic standing²⁷—representing a key touchpoint for intervention. Understandably, some providers may feel that high-quality management of childhood illness and physical health is already a considerable task. Promoting flourishing in practice may seem a nebulous proposition, but giving attention to these factors can contribute to a more holistic clinical impression of children and help build skills and routines that actually remain salubrious for families beyond any single visit.³²⁻³⁴ While clinicians' ability to overcome entrenched social determinants may have limits, enhancing curiosity about learning, resilience, and self-regulation reflect more proximal targets and can buffer patients from health risks. Such efforts align with contemporary guidance

for optimal primary care,³⁵ and can range from small practice changes to more formal partnerships. For example, to promote curiosity about learning, providers could create “literacy-rich” clinic environments, provide anticipatory guidance about the importance of unstructured play, or connect families to relevant resources (e.g., afterschool programs). Advocating for the structural changes below may also constitute a key task for providers.

Implications for systems. Minnesota is among the nation’s leaders in advancing value-based payment reform through Medicaid—setting the stage for a health care system that might meaningfully address, measure, and pay for the social and emotional components of child health.^{36,37} In tandem, there are clear examples of on-the-ground efforts to promote holistic well-being (see the MDH’s Minnesota Thrives resource database²¹), and research activities are increasingly incorporating

indicators of patient and community assets.^{11,30,38} To build on this foundation, health, educational, social service, and other systems could facilitate or incentivize the delivery of evidence-based interventions known to promote dimensions contained within the flourishing measure (e.g., self-regulation), such as social-emotional learning,^{34,39} mindfulness,⁴⁰ and positive parenting programs.^{33,41} It will be vital to consider which communities stand to benefit most from improved dissemination of interventions—such as those experiencing socioeconomic disadvantage or behavioral health provider shortages.⁴² Finally, children with a history of two or more ACEs exhibited 78% lowered odds for flourishing relative to peers with no ACEs, representing the largest effect size among our adjusted models with significant findings. Effectively, prioritization of policies that reduce exposure to ACEs (e.g., parental incarceration) could mitigate health

consequences⁴⁰ and simultaneously bolster flourishing.

Conclusion

Although we remain clear-eyed about the importance of addressing diagnosable pediatric health conditions, these findings cast light onto another facet of the status of children. Providers and systems seeking to improve family outcomes can do more than ensure young people have problems assessed or illnesses managed. We should also imagine what supports and resources they need to function well and thrive. These data suggest that clinical and community actions addressing parent-child connectedness, family resilience, access to comprehensive medical care, and ACEs can move us closer to population-wide flourishing for our children and youth. **MM**

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Changing the negative mindset

As a pediatrician, I am excited about a measure of positive mental health for pediatric patients as an alternative to the typical metrics regarding the absence of disease. In clinical work, we screen patients and families for negative deviance. If an elevated maternal depression screen, PHQ-9, GAD 7, or failure of achievement on developmental screen is noted, our resultant plan of action is to mitigate further negative impact on a child’s mental health and development. We may also screen for ACEs, again looking for the potential negative impact of familial or environmental situations on our patients based on odds ratios and population risk. This approach constitutes an inherently negative mindset—a mindset that parents may interpret as a pessimistic message of affliction or problem noted in their child.

Flourishing is an excellent example of a positive metric that can counter-balance parents’ perceptions of negativity or their defeatist mindsets. Highlighting what is positive or going well for a child allows a parent to focus on augmenting protective factors that are often in their control, instead of focusing on the elimination of negative factors for which they have less agency. Using a positive metric like flourishing can also provide a beneficial direction for clinicians’ action planning. Clinicians could prioritize action plans such as: 1) enhancing parent-child connectedness and child curiosity of learning through programs like Reach Out and Read; 2) building family resiliency through partnering with families to lessen the impacts of SDOH; or 3) designating a clinic as a medical home. These are examples of protective, concrete recommendations that can help parents work towards positive outcomes.

The flourishing metric also aligns with that which is paramount to pediatrics: preventive care to optimize lifelong health. The public health aspects of preventative care cannot be solved by the health care sector alone—they require the coordination of multiple sectors of society, and this coordination would benefit greatly from a common language. The flourishing metric offers a standardized framework that all societal sectors could use as a measure of community success for children.

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NATALIA DORF-BIDERMAN, MD

- Hospitalist in internal medicine at Methodist Hospital, St. Louis Park.
- MMA member since 2018.
- Born and raised in Montevideo, Uruguay. Went to undergraduate and medical school at Universidad de la Republica in Montevideo. Residency at University of Minnesota. Has worked at Methodist Hospital since finishing residency in 2010.
- Married to Joel Carter, MD, with daughter Anouk, 13, and son Alec, 20, plus Aussiedoodle MC Cooper.



Became a physician because ...

I have wanted to become a physician since I was about 3 years old. A letter from my preschool teacher that our family found when I was in medical school stated that I had started talking about being a doctor that semester. I was apparently caring for my 4-year-old classmates and making sure they were healthy; if I thought they were not, then I would “help” them. My father was an

internist and family doctor who would care for entire families and make house calls. I came along on many of those visits and not only did I receive a lot of candy and pinched cheeks, I saw what an incredible impact he had in people’s lives. I knew then I wanted to leave that kind of mark in the world.

Greatest challenge facing medicine today ...

Moving from a transactional model to a relational model of care delivery. Through my work in clinician documentation integrity, coding, billing, public reporting and quality metrics, as well as professional well-being, I see what an impact the patient-clinician relationship has on everything we do. The intersection of our people processes and the outcomes on our metrics is undeniable.

Favorite fictional physician ...

Marion Stone from the book *Cutting for Stone* by Abraham Verghese. He paints the perfect picture of what it is to find and follow your deep calling.

If I weren’t a physician ...

I would be the lead singer in a band ... or one of the backup singers for Sting. Singing was my first passion.

LORA WICHSER, MD

- Deputy vice chair for education, Department of Psychiatry & Behavioral Sciences; program director of Psychiatry Residency; and director, Medical Student Psychiatry Clerkship, University of Minnesota Medical School. In-patient psychiatrist, Psychosis Unit, M Health Fairview Riverside.
- MMA member since 2013.
- Hometown is Minneapolis. Quadruple Gopher—college, medical school, residency and fellowships all at University of Minnesota. “Once I joined the University of Minnesota community, I never wanted to leave.”
- Newest family member is a one-eyed lap dog who sleeps the day away, as long as he’s on the lap of one of his humans.

Became a physician because ...

Being a doctor is the best job in the world. You get to help individual people feel better while being a teacher and scientist too! That’s why I chose psychiatry—to find the

people who needed the most help and use my (loud) voice to advocate for them. People experience terrible things in this world; the best thing we can do is be there for each other.

Greatest challenge facing medicine today ...

Our educational system is built on a framework of institutionalized racism, sexism and homo- and trans-phobia. We need to change how we choose and educate future physicians so we as a society can benefit from their voices.

Favorite fictional physician ...

Dr. Beverly Crusher (“Star Trek, The Next Generation”) was a huge inspiration to me as a child. She represented confidence, competence and the ability to have a tremendous impact on many lives. As a single parent, she did it all, but not magically—it was hard work and she struggled sometimes.

If I weren’t a physician ...

I would probably be a paramedic. I love crisis-management in the medical field. Wherever there’s an emergency, that’s where I like to be.



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 **Kristin Neff, PhD**, is recognized as one of the world's leading experts on self-compassion, being the first one to operationally define and measure the construct more than a decade ago. She has developed an eight-week program to teach self-compassion skills in daily life, co-created with her colleague Chris Germer, PhD, called Mindful Self-Compassion (MSC). Her book, *Self-Compassion*, was published by William Morrow in 2011.

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