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Learning health systems

Bridging the gap between research and practice

BY TIMOTHY BEEBE, PHD

More than one-fifth of all medical care may be unnecessary, according to a 2017 article in Health Affairs by Jason Buxbaum and colleagues. This low-value care—that is, patient care with no net benefit in specific clinical scenarios—costs patients, purchasers, and taxpayers hundreds of billions of dollars every year. The United States spends more on health care per capita than any of the world's wealthiest countries, comprising 18% of the U.S. gross domestic product in 2017.

Work needs to be done on many fronts to change low-value care to high-value care across populations and across the country. One way to start is to bring-up-to-date, highly informed public health research to the physician in the exam room and to the patient they serve through a learning health systems (LHS) approach.

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Adverse medical outcomes

Creating a principled response

BY MARISSA K. LINDEN, JD, AND RUTH E. FLYNN, JD

Academic medical centers—along with private health care practices—require a comprehensive strategy to deal with potential adverse medical outcomes, one that is tailored to meet their unique needs and cultures. Some large institutions rely on comprehensive legal advice to develop and implement these strategies, but small practices could also benefit from the lessons learned from academia and the law firms that represent them—and should consider the principles detailed in this article.

University of Minnesota Physicians (M Physicians) could provide a roadmap. No longer c ontent with the status quo, the academic physician practice—which, in addition to providing direct patient care, trains medical students, residents, fellows, and graduate students, and pursues new

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DEPARTMENTS

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PUBLISHER Mike Starnes, mstarnes@mppub.com

EDITOR Richard Ericson, rericson@mppub.com

ART DIRECTOR Scotty Town, stown@mppub.com

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Cannabis use during pregnancy may harm infants

New research published in the Journal of Perinatology states that cannabis exposure during pregnancy could affect infants' growth and development.

Researchers at HealthPartners Institute, the University of Iowa, and the University of Minnesota analyzed data on 3,435 women receiving prenatal care in the HealthPartners care system over a 21-month period. Urine testing showed that 283 of these women had cannabis in their systems while pregnant.

According to the study, babies born to women who had cannabis in their system during pregnancy were more likely to have their birth weight for age at or below the 10th percentile. Additionally, 9.1% of the babies exposed to cannabis during pregnancy had an abnormal developmental screening at 12 months of age, compared to 3.6% of babies who were not exposed to cannabis during pregnancy.

Although nationwide data show that about 5% of women self-report using marijuana during pregnancy, over 8% of women the researchers studied had a positive urine screen for cannabis during a prenatal visit.

According to the researchers, this could indicate that self-reported figures fail to capture the full scope of fetal cannabis exposure. With the increasing access to cannabis across the nation, some reports suggest that some women are using the drug to self-medicate pregnancy-related nausea.

Elyse Kharbanda, MD, senior investigator at HealthPartners Institute and lead author of the study, says that it's possible that women may use cannabis when they don't realize they're pregnant, they don't realize how long cannabis can stay in their system, or they may use and don't report this on surveys due to fear of stigma.

Providers, Helmsley Trust partner to improve cardiac survival rate

The University of Minnesota, The Leona M. and Harry B. Helmsley Charitable Trust, and health care systems across the Twin Cities recently announced the creation of the Minnesota Mobile Resuscitation Consortium (MMRC) and its mobile extracorporeal membrane oxygenation (ECMO) vehicles, a collaborative initiative to treat cardiac arrest as quickly as possible.

The MMRC, made possible by an $18.6 million grant from the Helmsley Charitable Trust, aims to save the lives of cardiac arrest patients in scenarios under which traditional resuscitation efforts have failed.

In December, specially trained teams began serving people across the Twin Cities by using SUVs equipped with the critical life-support equipment. The vehicles meet the patient at participating emergency departments to be placed on ECMO, which eliminates the need for ongoing CPR.

Since the program's launch, 20 cardiac arrest patients have been served by MMRC SUV response teams across the Twin Cities. The MMRC health care system partners include Fairview Health Services, Regions Hospital (HealthPartners), and North Memorial Health Care System, with contractual partnerships for physician services with Hennepin Healthcare and Lifelink III for clinicians. MMRC is the first program of its kind in the U.S. to serve multiple health care systems.

The MMRC is an extension of the University's ECMO resuscitation program that started in 2015 under the leadership of Demetri Yannopoulos, director of the Center of Resuscitation Medicine and a professor in the Medical School.

The next phase of the MMRC's program will include larger mobile

ECMO trucks equipped with medical equipment and virtual reality technology to help experts attend to patients remotely. This will allow experts to administer treatment on-site in the vehicle, shortening the time to treatment and broadening the area served by the program.

Other donors are Zoll Medical, Stryker Emergency Care, Getinge Incorporated, and General Electric.

Health system gets top prize in Healthcare Innovation awards

Hennepin Health and Hennepin Healthcare earned first place in the 2020 Innovator Awards Program presented by Healthcare Innovation. The award recognized the team's work to integrate health care and social services by expanding access to housing navigation, and to reduce the readmission rate for Hennepin Health members who use HCMC for hospital services.

An analysis of 2018 Hennepin Healthcare readmissions data showed higher group readmission rates for Hennepin Health members receiving hospital services at HCMC. It also showed that homelessness was a leading risk factor. In response, the systems collaborated to build a comprehensive, multilayered initiative to address this leading contributor to high health care use. The two organizations:

- Developed a tool to identify patients experiencing homelessness. The tool overhauled screening processes to include information about housing status and the use of other social assistance programs.
- Improved service coordination by introducing patients experiencing homelessness to outpatient community care management during hospitalization. Patients received care management for 90 days or more following discharge.

Participating patients engaged in care management through the first 37 weeks, and no patients were readmitted within 30 days. In addition, social workers helped to house 16% of participants and connect many more to other services.

The program reduced medical costs and improved health outcomes for underserved members. It now also includes Hennepin Health members admitted to Hennepin Healthcare for substance use disorder.

Nicotine treatment may improve outcomes for substance abuse patients

A pilot study conducted by the Minnesota Department of Human Services (DHS) has demonstrated the value of including nicotine treatment as part of treatment for substance use disorders (SUDs).

In 2018, 14% of the state's adults smoked, compared with 77% of adults in SUD treatment. Nicotine treatment traditionally has not been included as part of SUD treatment, even though tobacco-related illnesses claim more than eight times as many lives as alcohol and drug use.

DHS conducted its nicotine treatment pilot study at three substance use disorder treatment programs. The goal was for the programs to treat their clients' nicotine dependence as they would any other chemical addiction. The study found:

- Eleven percent of people in the pilot study stopped smoking.
- Almost seven in 10 showed measured improvement in the severity of their substance use disorder.
- People in the pilot were more likely to complete substance use disorder treatment.

The treatment programs that participated in the pilot were CentraCare/Recovery Plus in St. Cloud, Park Avenue Center, and Wayside Recovery Center. The nicotine treatment they offered included counseling sessions and individual treatment plans. They also provided nicotine patches, gum, lozenges, and medications to help people stop smoking. The pilot ran from February 2018 through June 2019. All three sites continue to offer nicotine treatment as a part of their SUD treatment programming.

Hospital recognized for inpatient mental health services

CentraCare–St. Cloud Hospital recently was awarded Platinum designation by Optum for its care provided to mental health inpatients. The Platinum designation—the award's highest level of achievement—recognizes that the hospital's inpatient mental health units met or exceeded Optum's effectiveness metrics and efficiency criteria. Platinum distinction demonstrates shorter stay (without compromising outcomes), lower cost, better care with less practice variability, and better follow-up rates that lessen the chance of relapse and readmissions.

St. Cloud Hospital has received this award annually since 2015.

The award is based on clinical data collected by Optum during the course of an entire year. Optum looked at specific criteria, such as readmission rates and average length of inpatient stay, comparing St. Cloud Hospital's data to that of other regionally based facilities.

Rural breast cancer patients travel long distances for treatment

The closing of rural hospitals and specialty care units is causing many people, including breast cancer patients, to seek treatment far from home. A study from the University of Minnesota School of Public Health recently found that U.S. rural breast cancer patients typically travel three times farther than urban women for radiation therapy to treat their disease.

The study, led by PhD student Colleen Longacre, appeared in The Journal of Rural Health.

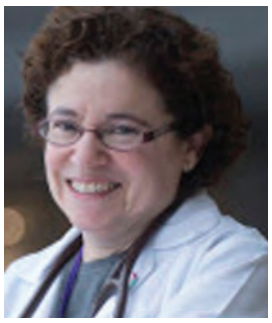
Longacre looked at Medicare data from more than 52,000 women diagnosed with breast cancer between 2004 and 2013. The data was used to determine where the women lived and the distance to the facility where they received radiation therapy.

The study found that patients living in rural areas traveled, on average, nearly three times as far as woman an living in urban areas for radiation treatment, and that the nearest radiation facility for rural women was, on average, four times farther away than for urban women.

"Radiation treatment is not just a one-time thing," said Longacre. "Conventional radiotherapy requires treatment five days per week for 5–7 weeks at a time. This means that the average rural woman logs more than 2,000 miles of travel over the course of treatment."

The study also found that:

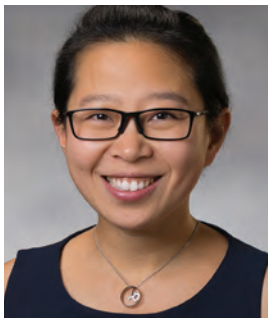
- The severity of the cancer case was not associated with how far women chose to travel for care.
- People who chose to travel to a clinic farther away than the nearest facility were typically younger, married, or from higher income areas.
- Women who were older, single or widowed, and from lower income areas chose to travel shorter distances for treatment.



Diana Cutts, MD, has been appointed chair of pediatrics at Hennepin Healthcare. Dr. Cutts joined the Department of Pediatrics as a staff pediatrician and medical director of the Growth and Nutrition Clinic. She is the pediatric consultant to the Mother-Baby Program/Redleaf Center for Family Healing, and has served as the director of the department's Office of Pediatric Research and Advocacy since 1998. She had been assistant chief of pediatrics for 11 years.

Patrick Courneya, MD, has rejoined HealthPartners in a new role as chief health plan medical officer. He had previously served as medical director and associate medical director for the organization's health plan. His return to HealthPartners follows six years at Kaiser Permanente as executive vice president and chief medical officer for national health plan and hospital quality.

Rahul Koranne, MD, MBA, FACP, has been named president and CEO of the Minnesota Hospital Association (MHA). Dr. Koranne had served previously as senior vice president of medical affairs and chief medical officer at MHA, and was a vice president with HealthEast Care System. Since 2008, he has served on multiple committees and task forces at both the state and national levels.



Yan Dong, MD, has joined St. Luke's Cardiology Associates. Dr. Dong completed a cardiovascular fellowship at Case Western Reserve University MetroHealth Medical Center in Cleveland, Ohio, as well as an electrophysiology fellowship at Stanford University in Stanford, California. She is board-certified in cardiology, internal medicine, and electrophysiology. The St. Luke's health system also welcomes **Elisabeth Gibbons, MD,** to its Denfeld Medical Clinic. Dr. Gibbons received her medical degree from the Medical College of Wisconsin in Milwaukee. She completed her residency through the North Memorial Family Medicine Residency Program. Board-certified in family medicine, Dr. Gibbons had previously cared for patients at St. Luke's Medical Arts Clinic and at IHS Sells Indian Hospital in Sells, Arizona.

Advocating for older adults

Rajean Moone, PHD, LNHA, FGSA

Minnesota Leadership Council on Aging

What is the mission of the Minnesota Leadership Council on Aging (MNLCOA)?

The Minnesota Leadership Council on Aging is a coalition of 34 nonprofit organizations dedicated to creating communities and systems that support aging with dignity and a spirit of well-being in Minnesota. Our members represent more than 1 million older Minnesotans and 100,000 aging services professionals. MNLCOA supports positive systems change and policy for older Minnesotans, their family members, and aging services professionals.

How was this organization formed?

MNLCOA was formed in 2004 by the Metropolitan Area Agency on Aging and the former Minnesota Senior Federation to coordinate the efforts of organizations that support and advocate for older adults and their caregivers, and to develop common ground and achieve collective impact around systems and policy issues. One of its first initiatives, "Communities for a Lifetime," provides information, resources, and assistance to improve the quality of life for people of all ages and abilities.

Please describe your advocacy before the Minnesota Legislature.

MNLCOA takes a strong education and awareness approach with the Minnesota Legislature. We do that in several ways. First, MNLCOA develops fact sheets on topics important to older Minnesotans, their families, and people that work in aging services. Fact sheets include topics such as dementia, family caregiving, transportation, and equity. Second, MNLCOA endorses policies that bring positive system change to Minnesota, with unanimous "yes" votes from all 34 nonprofit organizations that comprise our membership. Third, MNLCOA hosts an annual Minnesota Leadership Council on Aging Summit. Each year, the Summit brings together older adults, advocates, community members, government officials, and elected officials. At the December 2019 Summit, Gov. Walz signed an Executive Order to establish the Council on an Age-Friendly Minnesota.

> "We need to work together to ensure that Minnesota remains a great place to age well."

Please tell us about the Elder Care and Vulnerable Adult Protection Act of 2019.

The Star Tribune's "Left to Suffer" series, published in November 2017, as well as a report from the Minnesota Office of the Legislative Auditor, provided a troubling look into elder abuse in Minnesota's formal, licensed settings, along with inconsistencies in systems designed to investigate reported instances of maltreatment. Maltreatment of vulnerable adults—whether abuse, neglect, or financial exploitation—is unacceptable. The administration, state Legislature, and stakeholders convened and established guidelines in response. Those guidelines formed the foundation for the Elder Care and Vulnerable Adult Protection Act of 2019.

What should physicians know about this legislation?

While the Act is lengthy, there are some salient points for physicians. It is important to note that provisions are being negotiated in rulemaking and there could be changes as a result of these discussions. Important information for physicians includes:

1. By Aug. 1, 2021, most registered housing with services establishments in Minnesota will be subjected to one of two levels of a new assisted living license regulated by the Department of Health: assisted living and assisted living with dementia care.
2. By July 1, 2020, any assisted living facility must be administered by a Licensed Assisted Living Director regulated by the Board of Executives for Long Term Services and Supports (formerly the Board of Examiners for Nursing Home Administrators).
3. There are new procedures for the use of electronic monitoring (cameras in resident rooms), including informing facilities of the placement of a camera. Consumers have a 14-day grace period in which they do not have to inform a facility in order to investigate suspected maltreatment, but they must inform the Long Term Care Ombudsman.
4. There is a host of new consumer protections in the law, including expansion of the Office of Ombudsman for Long-Term Care, uniform disclosure forms, Department of Health surveys, intake assessments, daily "I'm okay" checks, discharge protections, and protections against deceptive marketing.
5. The establishment of a new Assisted Living Report Card. This Report Card, modeled after Minnesota's Nursing Home Report Card, will help consumers make informed decisions about assisted living by allowing comparisons on quality indicators found to be important in research, as well as data from focus groups that included consumers, advocates, families, and providers.

Please tell us more about these new Assisted Living Report Cards.

The Assisted Living Report Card is being spearheaded by the Department of Human Services in partnership with the University of

Minnesota. Our state has always been on the cutting edge of quality indicators and measures in long-term care. While most of the country must rely solely on the Medicare Compare website for nursing homes, Minnesota established a Nursing Home Report Card that goes above and beyond the results of surveys and health status data to include quality surveys and measures directly from consumers and families. The Assisted Living Report Card is being modeled after this successful tool. Currently the University of Minnesota is completing a comprehensive meta-analysis of research on quality in assisted living as well as talking directly with consumers, families, and providers to learn directly from them important factors in determining what is quality. These will be modeled into the new Report Card.

Please tell us about your work with the Minnesota Gerontological Society.

The Minnesota Gerontological Society—which strives to bridge research and practice in the field of aging—is one of our nonprofit member organizations, as is the Minnesota Association of Geriatrics Inspired Clinicians. Together, they provide a practitioner's perspective on our goals and mission.

What difficulties do older adults in Greater Minnesota face in accessing services?

While a patchwork of services (at times fragile) typically exists in a network across all 87 counties, these services can be quite distant for some rural older adults, making it challenging to access supports to age in place. Very often, the older adult's family can also be a great distance away, making it difficult to find informal supports from family and friend caregivers. Older adults and family caregivers that experience access issues should contact the Senior LinkAge Line at 800-333-2433, where a neutral, trusted voice right here in Minnesota can help troubleshoot and navigate options to make informed decisions about needs and wants, as well as availability of services.

What else would you like physicians to know about your work?

For the last few decades, those working in aging painted a picture of our rapidly changing Minnesota. They targeted 2020 as a key year—the first year we will have more adults over age 65 than children in school. Twenty years ago this seemed so far way, but we are now just months from this demographic reality. The question is … are we ready? While Minnesota is a great place to age for many, this is not true for everyone. Significant health, economic, and social disparities exist in communities of color, LGBTQ communities, Native American communities, and rural communities. These disparities result in lower life expectancies, increased rates of institutionalization, decreased access to a full range of long-term services and supports, and poverty. The communities often lack a voice in designing systems and policies created for them. Another challenge is that investments in services and supports for older adults and their families have not kept pace with growing demand. We need to work together to ensure that Minnesota remains a great place to age well and live well!

Rajean Moone, PHD, LNHA, FGSA, is executive director of the Minnesota Leadership Council on Aging.

◂ **Learning health systems** from cover

Strengthening the contributions of research to improve the care provided to patients requires embedding LHS researchers in health care systems and allowing them to engage in rapid, iterative learning about practice-relevant questions and using data to drive decision-making. Researchers in this context must balance the demand for rapidly generated, practical evidence with the rigors of peer-review and scientific standards. Classical comparative effectiveness research (CER), health services research (HSR), and patient-centered outcomes research (PCOR) approaches are ill-equipped to generate practical evidence for immediate application within health systems.

Definitions

Learning health systems, characterized by their dedication to continual improvement and innovation, strive to address unnecessary and potentially harmful variations in care to lower costs while improving care.

As part of the recently formed Minnesota Learning Health System Mentored Career Development Program (MN-LHS) scholars in multiple fields will be embedded in health systems and collaborate with their stakeholders to provide insights and evidence that can be rapidly implemented to improve both patient outcomes and health systems performance.

Funded with a $4 million grant from the Agency for Healthcare Research and Quality (AHRQ) and the Patient-Centered Outcomes Research Institute (PCORI), the MN-LHS is a collaboration among the University of Minnesota School of Public Health, Mayo Clinic, Hennepin Healthcare, and six other collaborating clinical sites.

The MN-LHS is one of 11 institutions with awards from AHRQ and PCORI totaling $40 million over five years to support the training of researchers to conduct patient-centered outcomes research within learning health systems.

> The pace of traditional research lags … behind the real pace of change.

Background

The need. Health systems face a complex web of imperatives, which in turn present opportunities to conduct applied, timely LHS research to evaluate clinical or organizational practices to help systems modify, scale, or de-adopt changes in ways that maximize value within care delivery. A recent survey of health system leaders conducted by the National Academy of Medicine highlighted multiple benefits from this type of research, such as identifying questions that support the organization's performance goals, using data to drive decision-making, improve patient care, and enhance the reputation of the system.

The problem. Health system leaders, practicing clinicians, and researchers often face barriers to engaging in learning health systems research, including lack of engagement between health care operations and research, shallow pools of expertise, a lack of pathways to identify and develop ideas, limited funding, and divergent goals or incentives. A 2015 National Academy of Medicine workshop noted that "…the pace of traditional research lags so far behind the real pace of change that results are outdated by the time studies are completed."

The solution. In the 20 years since the publication of the Institute of Medicine's report, Crossing the Quality Chasm, there has been an increasing emphasis on improving care delivery by ensuring that health care delivery research findings are quickly and safely implemented into clinical practice. The report describes how LHS can draw upon health care providers, payers, or policy systems "in which science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience" to achieve these goals.

LHS researchers reside at the interface of research, informatics, and clinical operations within the walls of learning health systems. They need to form and lead multidisciplinary teams comprised of members from all levels of the organization, respond to patient needs and concerns, ascertain the priorities of health systems, encourage dialogue between research and practice, and increase the responsivity and applicability of research to the needs of practice without sacrificing scientific rigor or disrupting day-to-day clinical operations. This broad set of scientific and practical skills, when executed optimally, could remedy the disconnect between research and practice that is exacerbated by a fast-changing clinical context and limits on clinicians' ability to engage in research.

However, embedded LHS researchers remain rare, in part due to the limitations of traditional research training programs. A program that is

specifically designed to train embedded researchers who will focus on systematically generating, adopting, and applying evidence quickly to improve personalization, quality, equity, and outcomes of care is sorely needed.

The MN-LHS Mentored Career Development Program

The program. The MN-LHS is a three-year, funded LHS training vehicle for promising clinicians and researchers, supported by the collective strengths and expertise of its partner sites. The award from AHRQ and PCORI funds approximately three MN-LHS scholars each year and is open to clinicians who are dedicated to LHS research or seeking to pivot toward an LHS approach. The primary components of the program are individualized coursework indexed off AHRQ LHS Competencies and PCORI Methodology Standards, and an intensive mentored research experience embedded in an active health care system.

The partners. The University of Minnesota School of Public Health, Mayo Clinic, and Hennepin Healthcare form the core of the MN-LHS, supplying overall governance, individualized training experiences, and program evaluation and improvement. The program's impact is amplified via a network of collaborating clinical partners who have agreed to formally participate in the work of the program. Each of the partners—Fairview Health Services, Minneapolis VA Health Care System, Children's Minnesota, Ebenezer Senior Living, Essentia Health, and HealthPartners—are committed to assisting in the recruitment of scholars and mentors, supplying clinically-embedded experiential externship opportunities, and serving on the program's governance structure. The majority of the health care delivery systems included in the MN-LHS have research shops that are already proximal or fully embedded in practice, thus facilitating research and educational experiences for scholars. The University of Minnesota Office of Academic Clinical Affairs and M Health Fairview recently joined the MN-LHS as a partner, supporting up to five scholars annually.

The plan. The specific goals of the MN-LHS Program are to 1) provide rigorous, competency-based training in the design and conduct of high quality LHS research, with standard and individualized components; 2) ensure MN-LHS scholars acquire embeddedness thinking and skills in LHS research, including practical questions around health equity, stakeholder engagement, and responsible conduct of research; 3) offer experiential learning opportunities and externships; and 4) leverage extensive multidisciplinary mentoring capacity to support scholar development as productive and embedded LHS investigators. These goals are accomplished through deployment of the following components:

1. Pre-award planning for each scholar to map their current competencies against the aforementioned AHRQ LHS Competencies, creating individual development plans to achieve greater LHS competency, and developing contracts between the scholars and their mentors.
2. Competency-based training at a fundamental level in the AHRQ LHS Competencies and PCORI Methodology Standards through a) required coursework; b) DesignShop, a biweekly MN-LHS

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◂ **Adverse medical outcomes** from cover

cures and treatments—is embracing a cultural shift in the way it identifies and handles adverse medical events through its communication and resolution program. Their Principled Response Model to Adverse Clinical Outcomes is built on a foundation of transparent communication and proactive response to these events, an approach that seeks to benefit all parties: patients, physicians, and medical staff.

Through adoption and implementation of this principled response model, they believe they will continue to lead the industry in patient care, experience, and outcomes—consistent with the University's land-grant research and education missions.

[We] encourage physicians to report unplanned clinical outcomes as soon as possible.

A proactive approach

While this risk management approach has evolved over time, the response model continues to stress proactive action. Once an adverse medical event or unexpected outcome is identified, the goal is to not wait for a patient to complain or for a lawyer to call. Instead, they encourage physicians to report unplanned clinical outcomes as soon as possible, investigate and assess the situation, and strive to proactively and candidly communicate with the patient regarding the event or outcome. If the collective assessment reveals that its medical team provided appropriate care, this conclusion will be promptly communicated to the patient and the care, if necessary, will be vigorously defended. However, if the medical care provided to a patient fell below its standards, the institution will, where appropriate, seek to provide an explanation, an apology, or an offer of fair compensation.

Each step of the response model process strives for open and candid conversations with patients and, if appropriate, the patient's family. Communication is key, and these conversations are intended to:

- provide a comfortable and non-adversarial forum in which the care can be openly discussed;
- keep the patient advised of the progress of an investigation;
- assist in managing the parties' expectations;
- promote accountability for all parties; and
- strengthen the physician-patient relationship

The success of the response model rests on a foundation of honesty and transparency with the patient, which begins with candid, ongoing discussions in the service of the patient-physician relationship, especially when the clinical outcome resulted from an avoidable medical error. At its heart, this model represents a tangible commitment to the clinical mission and many of the reasons physicians entered the field. Over the past several years, Ruth Flynn, JD, associate general counsel and vice president for enterprise risk management, and her team have successfully utilized this model selectively. They are now moving toward consistent and systematic application of these principles for all future unplanned clinical outcomes. When faced with an adverse event, the risk management team will guide providers to respond in a way that honors a trusting patient relationship—a strategy that's been proven to avoid needless litigation and strengthen trust.

Lessons from Michigan

With an understanding that the traditional "deny and defend" approach often helps few and leaves plenty of wreckage in its wake while impeding clinical improvement, Flynn's team believes this response model is truly about achieving better outcomes for all stakeholders, and could produce similar results for all systems. The evidence bears that out.

The University of Michigan Health System in Ann Arbor has shown promising results since implementing its own early disclosure and offer program 20 years ago. Michigan's program has resulted in fewer claims, fewer lawsuits, and lower liability costs. Ten years after implementing its program, Michigan found that the rate of new claims had decreased from approximately seven per 100,000 patients to fewer than five. And, the rate of lawsuits had also declined—from 2.13 suits per 100,000 patients per month to approximately 0.75.

Not surprisingly, Michigan has also reported anecdotal evidence suggesting that its program significantly accelerated clinical improvements while helping to maintain the patient-physician relationship—even when patients have been harmed by a medical error. Michigan also notes that its program has had a positive effect on the morale of health care professionals whose voices are heard throughout the process and the need to resort to the adversarial process diminishes.

And, hopefully, these outcomes will also motivate other health systems to apply this or a similar model. The benefits should be a signal to other health systems to join the movement: greater patient satisfaction, better care from medical professionals, and enhanced trust in the medical system.

A principled approach

Make no mistake: The response model is not a "roll over." Quite the contrary, it is a highly principled approach, one that promises to quickly support caregivers when their care was reasonable under the circumstances, while building a sense of clinical accountability when outcomes resulted from unreasonable medical mistakes.

> Adverse medical outcomes are rarely simple black and white issues.

Physicians, residents, and medical staff can remain confident that when they provide good care, management will go to bat for them. This is because the response model requires transparency and honesty about all outcomes—good and bad. When the standard of care is met, M Physicians will defend the care. When compensation is warranted, the academic physician practice will move quickly to fairly resolve the potential claim without the need for litigation, while accelerating clinical improvements to protect future patients.

Outside legal support

One way this is accomplished is by retaining attorneys who not only specialize in medical malpractice, but who understand a devotion to the response model. The law firm of Gislason & Hunter, LLP, has partnered with M Physicians in the growth and implementation of the response model. The law firm has a dedicated Medical Malpractice Group with an extensive history of successful defense representation in various forms of professional malpractice actions in Minnesota, Iowa, and Wisconsin, along with a commitment to pursue early, thorough, and candid evaluations of adverse medical outcomes. Indeed, all health systems, big and small, academic or non-academic, could benefit from engaging legal counsel to employ the response model with specialized knowledge, understanding, and compassion.

This approach benefits everyone. Physicians can feel secure that the practice will defend good medicine, and patients can feel secure that they will receive open, honest communication at all stages of their care. If there is an adverse event, proactive steps will be taken that continually advance clinical improvements.

Leadership

Underscoring its commitment and dedication to the response model, M Physicians recently created a new leadership role to serve as a driving force behind the program. Barbara Gold, MD, an anesthesiologist by training, was

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Physician employment contracts

Legislating noncompete provisions

BY ANTONIO "TONY" FRICANO, JD

The utility of a physician noncompete provision in a contract may look much different depending on the perspective of the viewer. On the one hand, we may have a physician two years out of residency who is terminated without cause and now will be forced to relocate because the noncompete provision effectively restricts the ability to practice in the same geographic region. Many new physicians lack bargaining power, so they may not have leverage to negotiate these agreements, and then, as in this example, may be forced to relocate to find new employment.

On the other hand, we may have a specialty heart clinic that took on a young, inexperienced physician and, over the course of a prolonged employment period, invested, trained, and assisted this physician in establishing a practice. Without a noncompete provision in the employment contract, upon expiration or termination of the employment contract, that employed physician can leave and open up a competing practice across the street, taking the client base of the clinic.

Each of the above scenarios presents an argument either for or against the use of noncompete provisions in physician agreements. Currently, issues of fairness related to enforcement of noncompetes are decided by the courts, however, the Minnesota Legislature is considering changing that through the introduction of a law invalidating physician noncompete provisions.

Legal background of noncompete provisions

A noncompete provision is a contractual obligation that places a restriction on a physician's ability to practice in a certain geographic area over a period of time. These provisions will most commonly be found in physician employment agreements, although they can also be found in partnership agreements and other types of joint venture or commercial relationships with physicians.

While physician noncompete provisions are enforceable in most jurisdictions, there are a few states with outright prohibitions and other states where the threshold for enforcement effectively creates a bar to enforcement. Most states that allow noncompete provisions use a three-part inquiry to determine if the provision is enforceable, which asks:

1. Whether there is a legitimate business interest to protect;
2. Whether there was consideration (benefit) rendered to the employee; and
3. Whether the agreement is reasonable in duration and scope.

In some jurisdictions, an overly broad restriction will be struck in its entirety. Other jurisdictions, called "Blue Pencil States," allow judges to rewrite an unreasonable restriction so that the restriction is reasonable.

Minnesota is a Blue Pencil State, and although noncompetes in employment agreements are strictly construed against the employer, reasonable noncompetes are routinely enforced. The reasonableness of each agreement will be determined based on the particular facts involved; but terms of two–three years are usually enforceable when agreed to in the context of an employment agreement. Additionally, there must be independent consideration for the noncompete—e.g., the noncompete will not be enforceable if presented after employment commences without some additional benefit to the employee.

Contesting enforcement

When determining if there is a protectable interest, the fundamental question is whether the enforcement would actually protect an employer interest. Although there are not many recent published Minnesota cases analyzing enforcement of physician noncompete provisions, a 2018 Indiana Court of Appeals case affirmed the lower court ruling and held that an anesthesiologist group's noncompete could not be enforced in order to prevent one of its employees from working at a hospital after the anesthesiologist group had already lost its contract to serve that hospital. The Court reasoned that since the anesthesiologist group had already lost its contract, there was not a business interest to protect at the time the employee was hired. It will be interesting to see if other jurisdictions adopt the logic this ruling is based on.

In some instances, the protectable interest issue overlaps with the reasonableness issue. For example, if the vast majority of an employer's patients reside within a 10-mile radius, then is a 50-mile radius for the noncompete necessary to protect the employer's interest? Also, is a three-year noncompete necessary if the departing employee's patients have already transitioned to a new physician? These are the types of issues a court will consider in deciding whether to enforce a noncompete.

The bill

House File 557 and Senate File 350, the bills that are under consideration in the Minnesota Legislature (collectively the "Bill"), provide that all physician noncompete provisions are void as a matter of law. The Bill was originally brought in the Minnesota House of Representatives on Jan. 31, 2019, where it was subsequently referred to the Health and Human Services Policy Committee on March 11, 2019, and then referred to the Labor Committee on March 14, 2019.

The Labor Committee amended the Bill to add in a provision indicating that the prohibition would only apply to noncompetes entered into after enactment of the Bill. At that point, the Bill was referred back to the Judiciary Finance and Civil Law Division of the House of Representatives for a second reading and, upon the adjournment of the 2019 regular session, was set for a day in the following year, at which point it would again be up for review. The companion bill in the Minnesota State Senate followed a parallel path with the introductory reading on Jan. 22, 2019, and referral to the Health and Human Services Policy Committee.

On Thursday, Feb. 13, 2020, the Bill was reintroduced at the Judiciary Finance and Civil Law Division of the House. As of this writing, in the Senate, the Bill is waiting for consideration by the Senate Judiciary Committee, which has not yet been scheduled.

Many new physicians lack bargaining power.

Remaining protections for employers (if the Bill passes)

Although they serve a somewhat similar function as a noncompete, the Bill does not address non-solicitation clauses, so the framework for enforcement of those clauses will remain unaffected if the Bill passes. Non-solicitation clauses generally prevent providers from soliciting patients that they treated when working for their employer. Courts view non-solicitation provisions more favorably than noncompete provisions because they are usually narrower in scope than a geographic-based restriction. Notwithstanding the foregoing, Court will still invalidate a non-solicitation provision if it is unreasonable. When analyzing whether a breach of a non-solicitation provision occurred, the court will look at whether it was the physician or patient that initiated the contact following termination of the agreement. Courts are unlikely to

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The noncompete bill: Addressing one inequity

Editor's note: Sen. Abeler is among the coauthors of SF 350, which would eliminate noncompete clauses in physician contracts. A long-time champion of patient and physician advocacy, he presents some unvarnished perspective below.

BY SEN. JIM ABELER, DC

Noncompete contracts. They have been around for a long time. Now even fast food restaurants use them to keep employees from working for the competition. If you're in a low-paying job, a noncompete clause seems inherently unfair. But what about doctors? Noncompete clauses make sense for them too, don't they? After all, if you go to work for a health care system or a system/insurer, you shouldn't be able to just quit and continue treating the patients who want to stay with you. Is that fair? Maybe the real question is, fair to *whom*?

The impact of noncompetes

The noncompete contract, coupled with the consolidation of health care into mega organizations, has changed the expectations of those entering the profession. Noncompete contracts mean that young physicians or seasoned practioners could be forced to leave a region—or perhaps an entire state—if he or she didn't get along with the contract holder, who had suddenly become their new master. What if they didn't agree with policies that required the delay, denial, or sequencing of needed medical care for the enurement of their new employers, as opposed to the best interests of the patient? The very concept of such care denial flies in the face of what their dream was about.

It has happened slowly, incrementally, one loss of freedom at a time. And now the big health care organizations have the average physician by the throat. No longer free to practice as they choose, serve a population they would like to care for, or focus their skills as they dreamed, they are simply employees for a massive corporation.

Physicians have to decide if they want to be treated like robots or as talented, highly trained human beings with critical skills. Those in bleachers watching this competition, the patients, cheer for good to prevail. The joy for doctors will be to practice their craft in the best way they know, in the best interest of their patient, and not worry about noncompetes or other contract provisions. If not, we will have lost a lot.

Maybe it's time for doctors to form a union. Maybe it's time to have collective bargaining. Maybe it's time for doctors to stand up on behalf of their patients and say, "We are not going to take this anymore."

America once had a health care system that was the shining star of the world. Thanks to the good efforts of clinicians, there are some outcomes we can still brag about. However, we have lost a lot in the last two decades as we moved into health care becoming a profitable business for corporations and shareholders. We've lost more than we can measure when it comes to helping people be healthy.

At long last, many physicians have awakened to the undesirable place in which they find themselves. Those who never thought of themselves as chattel have found themselves indentured by a contract they may no longer find friendly. Finding themselves trapped in an undesirable situation that will last one, two, or more years is a circumstance they could not have anticipated as they fought for an "A" in organic chemistry.

Physicians need to help themselves and stand up. Patients need to help the change and stand up for themselves. New physician-led organizations need to form to compete with the big systems. Or the circumstances will even get worse.

If the noncompete legislation now before the Minnesota Legislature (House File 557 and Senate File 350) passes, that could be a move in the right direction.

Sen. Jim Abeler, DC, (R-District 35) is chair of the Minnesota Senate's Human Services Reform Finance and Policy Committee and a chiropractor at Abeler Chiropractic in Anoka.

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find a breach of the non-solicitation clause when contact is initiated by the patient, because of the public policy in favor of patient choice.

As non-solicitation provisions would likely take on added significance if the Bill passes, we may end up seeing an attempt to expand these provisions to cover some of the protections lost following the disallowance of noncompete provisions. Because of this added significance, it will be important to carefully consider these provisions during contract negotiations.

A few specific considerations that should be taken into account:

- If you agree to a "choice of law" provision (under which the parties specify that any contract disputes be determined in accordance with the law of a particular jurisdiction), make sure that the jurisdiction does not prohibit the provisions you will want to enforce (e.g. don't agree to North Dakota choice of law if you want to enforce the noncompete restrictions).
- Employed physicians with an established client base will want to ensure that the non-solicitation provision does not apply to the group of clients that the physician brings into the practice.
- The attorney fee clause should be carefully reviewed. Without being explicit, clauses can be drafted so that only the employer can recover fees. This is often done through use of language granting fees for "any party suing to enforce its rights under the agreement." As the employer will generally be the only party suing to enforce its rights, it is actually a one-sided provision in favor of the employer.
- Employers should consider buyout provisions, as opposed to liquidated damages provisions, because restrictions that are agreed to as part of a business sale are looked at more favorably by the courts. Although the end result of a buyout provision is similar to a liquidated damages provision, there is a legal distinction that will likely increase the chances of enforceability.

Although employers may attempt to fill some of the gap created by loss of the noncompete through expansion of the non-solicitation clause, the dynamics involved in negotiating physician employment agreements would be significantly changed if the Bill passes. In the near term and prior to the bill passing, physician employers may want to try to re-contract with their providers to extend their noncompete status for an extended period of time. Employed providers may see this as a situation to capitalize on that and request additional consideration in exchange for agreeing to the noncompete. While there are many unknowns, the one certainty is that passage of the Bill would disrupt the current contracting dynamics.

Antonio "Tony" Fricano, JD, is a health care attorney at Lathrop GPM and has extensive experience advising physicians, health systems, and other health care organizations on physician employment and services agreements. Prior to starting with Lathrop GPM, Tony was an inhouse attorney at the largest health system in Illinois.

Glioblastoma

Activating an immune response

BY CLARK C. CHEN, MD, PHD

Glioblastoma is the most common form of brain cancer in adults, with some 14,000 cases diagnosed each year in the United States. It is also among the most deadly of human cancers. Most patients afflicted with glioblastoma die within two years of diagnosis. Famous individuals have suffered from this disease in recent years. Sen. Edward Kennedy died of glioblastoma in 2009. Vice President Joe Biden's son, Beau Biden, died from the same cancer in 2015, and Sen. John McCain succumbed to the disease in 2018. Glioblastoma affects two to three per 100,000 people in the United States.

As a disease of the brain, glioblastoma corrodes our ability to feel, see, speak, walk, and think—the qualities that make us human. Further magnifying the ramification of these effects, available research suggests that glioblastoma preferentially affects both male and female patients with higher levels of education, according to a Swedish study (https://tinyurl.com/mp-chen01). While the reasons for this are not clear, it is possible that these patients are more aware of symptoms and may seek treatment earlier.

Standard treatment strategies

The standard-of-care treatment involves maximal surgical removal followed by combined chemotherapy and radiation therapy. Because the glioblastoma cells continuously evolve and adapt to the effects of these therapies, recurrence after treatment is nearly universal. Novel therapeutic approaches beyond standard radiation and chemotherapy is imperative in this context.

Recent success in immunotherapy as cancer treatment offered a glimmer of hope that such approaches may be beneficial to glioblastoma patients. In melanoma, for instance, application of immunotherapies that activate T cells, one of the key immune cells that initiate anti-tumor responses, has radically improved survival expectation and revolutionized cancer care. The 2018 Nobel Prize in Physiology or Medicine was awarded for this discovery.

Unlike chemotherapy, which directly kills the cancerous cells, immunotherapy activates and bolsters the patient's immune system to harness its natural power to recognize, target, and eliminate cancer cells. There are several aspects of immune therapy that render it particularly attractive as a cancer therapy.

First, the immune system can continuously and dynamically adapt to the cancer cells with potential to launch multiple rounds of attack on cancer cells as they evolve.

Second, in contrast to chemotherapy and radiation therapy, which induce significant damage to normal cells, immune response is typically precise in its tumor kill, and spares healthy cells.

Finally, each immune response is associated with a "memory" that can be triggered to attack the cancer again if it were to return.

Bolstering immunotherapy with ultrasound

Despite these potential benefits, initial clinical application of immunotherapy as glioblastoma treatment has been disappointing. Subsequent studies revealed that glioblastoma cells are particularly adept at suppressing the patient's immune response. For instance, there are very few T cells in regions infested with glioblastomas. Moreover, the few T cells that are found do not appear to be capable of mounting an immune response. T cell-activating immunotherapies are ineffectual against glioblastomas in this context.

With this understanding, a major focus in glioblastoma research has shifted toward developing therapies that would quench the immune-suppressive effects of glioblastoma cells. One promising approach involves induction of damages that would naturally attract active T cells into the regions infested with glioblastoma.

To achieve this end, we injected hollowed particles made of silica, or glass, called microshells, and filled these fragile particles with near body-temperature fluorocarbon liquid into the tumor. Ultrasound waves are then directed to blow up these shells inside the tumor to induce immune response.

Ultrasound are sound waves with high frequency that can pass through a variety of tissues, including the skin and skull. By converging multiple ultrasound beams at a single point, ultrasound can be focused in a manner similar to the convergence of sun rays by a magnifying glass. Analogous to the magnifying glass, a specially designed "acoustic lens" concentrates multiple, intersecting beams of ultrasound to a precisely defined location. Each ultrasound beam delivers a limited amount of energy such that no injury is induced in each beam path. However, energy deposition from the convergence of multiple beams induce thermal destruction or mechanical shear at the target site, depending on how the ultrasound is configured. Because focused ultrasound can pass through skin and skull, targeted destruction of tumor can be achieved without the need for traditional open surgery.

Most patients afflicted with glioblastoma die within two years of diagnosis.

When focused on glioblastomas injected with microshells, the ultrasound induces explosions of the microshells to rupture the cancer cells. These ruptured cells, in turn, release tumor proteins that attract the infiltration of T cells into the regions infested with glioblastoma. In contrast to the T cells normally found in these regions, the newly recruited T cells have not been inactivated by glioblastoma cells and are capable of initiating anti-tumor immune response.

Most importantly, the immune-activating capacity of these T cells can be further augmented by the Nobel-prize winning immunotherapies that are now commercially available.

In animal models, the application of immunotherapy to microshell/ultrasound-treated glioblastoma has led to impressive tumor shrinkage. In many instances, this combination has cured animals of glioblastomas. The treated animal remained healthy without evidence of neurologic injury or weight loss as the tumor regressed. These findings suggest that the immune response initiated was causing specific destruction of the tumor without unintended side-effects. Moreover, the immune systems of these cured animals were capable of fighting off glioblastoma cells that were subsequently re-injected.

Finding the ideal temperature

An important finding in our study (https://tinyurl.com/mp-chen02) is that ultrasound rupture of the microshells must be carried out at the body's natural temperature. If excess heat is produced in the rupturing process, the anti-tumor immune response would be lost, since the immune cells are destroyed by the elevated temperature. Temperatures that deviate too much from the body temperature appear to compromise the effectiveness of the white blood cells. This "Goldilocks" aspect of immunotherapy was not previously appreciated. As such, sophisticated ultrasound engineering and precise control of focused ultrasound are required in this particular application.

Fortuitously, decades of work by researchers at the University of Minnesota Medical School have yielded a focused ultrasound unit that is ideal for the described application. The safety of this unit has been demonstrated in clinical trials. The unit has been shown to be capable of inducing shearing of tumor tissue while maintaining body temperature.

Of note, the microshells utilized in our study were previously approved by the U.S. Food and Drug Administration (FDA) for clinical use. As the remaining components of the combined therapy (the immunotherapy and the focused ultrasound unit) have been FDA-cleared for clinical use, we will be initiating a first-in-human study to test this combination as glioblastoma therapy with the goal of patient enrollment in 2020.

Collaborations across fields

The study represents innovations that emerge when experts in apparently unrelated fields collaborate, including cancer biology and focused ultrasound engineering. Lessons learned from this landmark study have the potential to transform the cancer care for patients afflicted with glioblastomas. As we transform the natural history of this deadly disease, we will not only palliate human suffering but also maximize our ability to meaningfully influence our collective destiny.

Clark C. Chen, MD, PhD, is the Lyle French Chair in Neurosurgery and head of the Department of Neurosurgery at the University of Minnesota Medical School. He is also a University of Minnesota Physicians neurosurgeon and member of the Masonic Cancer Center.

The Elder Care and Vulnerable Adult Protection Act

Ensuring the safety of older Minnesotans

BY REP. JENNIFER SCHULTZ

In 2019 the Minnesota Legislature and Gov. Tim Walz passed bipartisan legislation, the Elder Care and Vulnerable Adult Protection Act, to license assisted living facilities and enact elder care protections. Many stakeholders, including advocates for older adults and providers, united after spending over 100 hours negotiating bill language.

Safe and healthy environments

The decision to move an aging relative into a facility where they can receive more frequent and professional care is a difficult one for every family. Older adults deserve the peace of mind that they will live with dignity in a safe and healthy environment and be able to trust those providing services every day. The highest standards for care should be a universal expectation.

Unfortunately, in 2017, some egregious breaches of this trust came to light which warranted immediate attention from state regulatory officials and lawmakers. Unthinkable instances of maltreatment had been occurring in nursing homes and assisted living facilities, in some cases with little or no follow-through. Deep problems were soon discovered within the Minnesota Department of Health's Office of Health Facility Complaints which impacted its ability to thoroughly investigate claims of wrongdoing. Families, consumer advocates, and members of the media sounded the alarm about the need for policymakers to act.

A new commissioner of health, Jan Malcolm, quickly prioritized the issue and was able to eliminate a staggering backlog of 3,000 unaddressed complaints of maltreatment. Under her leadership, the department also modernized systems and hired new staff with the experience and training to follow through. While these corrective steps were important, long-term fixes were necessary to address systemic issues preventing too many seniors from living safe, healthy lives.

The path to legislation

Then-Gov. Mark Dayton quickly pulled together a taskforce—led by AARP Minnesota—which developed strong consumer-focused recommendations for the 2018 Legislature to consider. To the detriment of Minnesota seniors, only weak half measures emerged, leaving a great deal of work left to do. In 2019, following the previous November's election which resulted in a new DFL majority in the Minnesota House, I was honored to become chair of the House Long Term Care Division, and was wholly committed to developing a comprehensive package of elder care reforms. I'm proud that we were able to bring all stakeholders together in a divided Legislature to enact groundbreaking legislation—of which I was the chief author with Sen. Karin Housley—which strengthens safety for our parents and grandparents living in nursing homes and assisted living facilities.

It is intolerable and traumatic for any resident to experience reprehensible behavior such as abuse, neglect, theft, or assault at the hands of the very individuals entrusted to provide care. Such a situation is made even worse when the resident and their family lack clarity regarding their rights as they seek accountability and attempt to move forward.

A cornerstone of our bipartisan legislation created an Assisted Living Bill of Rights, which, in plain language, lays out the rights and recourse residents have if they are violated. The statute establishes numerous safeguards residents can expect, including:

- Appropriate care and services
- The right to participate in care and service planning
- Freedom from maltreatment
- Privacy and confidentiality protections
- The right to counsel and advocacy services
- The ability to make a complaint without limitation

Lawmakers heard from residents and their families who had been fearful of retaliation for making a complaint. Retaliation against residents can take many forms, including eviction; seclusion; withholding food, care, or other services; or restrictions on the use of amenities or living arrangements. Our

legislation creates strong protections against retaliation within nursing homes and assisted living facilities, and defines steps for the Department of Health to take when investigating an accusation of retaliation.

Regulatory measures

Prior to this legislation, Minnesota had been the only state in the nation that had not mandated licensure of assisted living facilities. While these businesses operate in a significantly different fashion from nursing homes, they also often deliver complex types of care, and some framework of guardrails was overdue to ensure resident safety. We recognized this by creating two separate classifications in our licensure framework: one for facilities providing extensive care, including dementia and memory care, and another for those providing basic care to older adults. The new licensure also resulted in background checks required for staff and administrators as an added safeguard. Facilities have plenty of time to prepare for these changes, which take effect on August 1, 2021.

Having peace of mind is beneficial for family members, but having first-hand knowledge that their loved one is comfortable can be even better. When family members suspect negligence or abuse, they often advocate to place a camera inside a resident's room to monitor them electronically. Previously, nursing homes and assisted living facilities could prohibit the use of an electronic monitoring device for any reason. Particularly in instances when residents fear retaliation, this can be deeply concerning. Our legislation removed this prohibition and now allows residents to place a monitoring device in their personal living area if they provide notice to the facility within 14 days. Alternatively, they can file a report with the Minnesota Adult Abuse Reporting Center. This provision became effective on Jan. 1 of this year.

New tools for consumers

While a resident may experience abuse, neglect, assault, or theft within a facility, sometimes wrongdoing occurs even before a family seeks out an assisted living facility or nursing home for a loved one to enter. Too often in their marketing materials, facilities exaggerate the level of services they provide, including promises to provide specific care they aren't able to deliver. Sometimes this is a mistake or a result of miscommunication; for instance, a staff member not fully understanding the type of care a potential resident may need. Other times, however, deliberate, deceptive marketing practices are used which can put a resident and their family on the hook for thousands of dollars. In our legislation, we require a full and clear explanation of services and all the associated costs prior to a resident being admitted to the facility.

As people get older, the type of care they need can change quickly. There have been instances of a facility determining they can no longer meet the needs of a resident, and subsequently taking the drastic step of evicting them. To prevent this, our legislation contains a "soft landing" provision, which requires a transition outline with advanced assessment, planning, and notification to ensure the resident can locate a suitable replacement location.

Many facilities work with outside providers to provide specialized services and care. Previously there was no requirement for a person at a facility to oversee a resident's care plan. This can lead to oversights and mistakes, especially when a resident is working with many different care providers. Our legislation requires

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Neurodevelopmental disabilities

Supporting children and families

BY ANDY BARNES, MD, MPH, FAAP, AND BETH FONDELL

Neurodevelopmental disabilities (NDDs) are a group of disorders that are often first detected and diagnosed in childhood. Associated primarily with the functioning of the neurological system and brain, they may affect the steady development of emotions, motor skills, learning abilities, self-control, and memory. Three or more of these factors in a young child typically characterize diagnosis of an NDD.

The most commonly recognized of these disorders are autism spectrum disorder, Down syndrome, attention deficit and hyperactivity disorder, and cerebral palsy. At this time, all NDDs present life-long challenges, often addressed with the help of health care professionals in multiple fields. While some NDDs may change or evolve as a child grows older, others are permanent.

Serving patients with neurodevelopmental disabilities

Leadership Education in Neurodevelopmental and Related Disabilities (MN LEND) is an interdisciplinary training program that launched on the Twin Cities campus of the University of Minnesota in 2009. With federal funding provided by the Maternal Child Health Bureau through the Autism Collaboration and the Accountability, Research, Education, and Support Act (Autism Cares Act), the program was established with the University's Institute on Community Integration to develop the next generation of leaders and practitioners within health and social science-related fields who have specialized knowledge and experience in the long-term support of children and youth with NDDs to live healthy, meaningful, and inclusive lives with their families and communities.

Individuals with an NDD and the practitioners who engage with them have the opportunity for challenging and rewarding interactions with one another from infancy into adulthood, as well as with the family members who provide day-to-day support. Ensuring the availability and competence of both practitioners and caregivers to meet the present and future health, education, and quality of life needs for these individuals is the primary charge of the 50+ similar LEND programs based within University settings across the United States.

A cohort of future LEND fellows in Minnesota is selected annually, representing the fields of medicine, nursing, dentistry, occupational and physical therapy, speech pathology, behavior therapy and special education, social work, public health, public policy and law, neuropsychology, and genetics. LEND fellows come from all walks of life: graduate students, post-doctoral trainees, and professionals based within academic departments or research centers. Many other fellows are self-advocates, family advocates, or community-based professionals.

This interdisciplinary cohort is essential to ensure that a collaborative understanding of the lifelong implications for a person living with an NDD diagnosis emerges. Contributing to this outcome are:

- A shared commitment to convene weekly for didactic seminars centered on the long-term supports and services children with NDDs need to live healthy lives with their families. Specific focus is placed upon understanding the relevance of the federal Medicaid program, special education services, comprehensively coordinated care planning, and familiarity with evidence-based practices that exist across disciplines.
- Individualized clinical and/or community experiences designed for future practitioners to effectively support families and individuals with navigating systems of reimbursable services and utilizing resources that can positively impact the child's development, functional capacity, and quality of life.
- Accessibility to organizational partnerships that focus efforts on academic research, non-profit advocacy, educational curricula, and healthy lifestyle. These partnerships provide opportunities for fellows to receive extensive mentoring, observation of interventions, and development of leadership skills. MN LEND maintains connections and ongoing partnerships with Gillette Lifetime Specialty Healthcare, The Arc Minnesota, Institute on Community Integration, University of Minnesota Autism Spectrum and Neurodevelopmental Disorders Clinic, Family Voices of Minnesota, and the Minneapolis Public Schools' Department of Early Childhood Screening.

Collectively the LEND programs in the United States provided interdisciplinary diagnostic evaluations for more than 109,000 infants and children in 2016-2017. By continuing to meet the growing demand for these services, LEND programs are reducing wait times for diagnostic evaluation and entry into early intervention services and lifespan transition support. LEND fellows have also been instrumental in the creation of welcoming environments for comprehensive clinical evaluations and interventions that yield effective results. These efforts are being recognized and integrated as best practices across multiple settings.

Challenges of autism spectrum disorder

Of particular importance is the reality of the public health challenge that autism spectrum disorders (ASD) pose as the prevalence of this neurodevelopmental disability diagnosis continues to rise. With one in 68 children now being affected by ASD, addressing the shortage of well-trained medical and allied health professionals, educators, and therapists requires continual focus. LEND programs are uniquely designed to address the multi-faceted collaboration necessary to tackle this national challenge. Growing partnerships with MN LEND continually adds breadth and depth both to our state's health care workforce, and to the array of services and supports available in our state and beyond.

All NDDs present life-long challenges.

Training for all health care professionals

Complex medical needs and developmental concerns present a challenge to both practicing pediatricians and to the next generation of pediatricians. In addition to clinical best practices, health care professionals may struggle to ensure that they treat patients and their families respectfully and communicate effectively.

MN LEND can be a valuable resource for physicians to consult or to suggest to parents, and specific University of Minnesota programs also offer training and education for all health care professionals. These include:

Disability Policies and Services Certificate. Available through the College of Education and Human Development, this 12-credit program allows graduate students and community professionals to study policies and services that affect the lives of children, youth, and adults with disabilities. The certificate program covers existing policies and community services that can affect the lives of children, youth, and adults with disabilities to reduce the incidence of secondary conditions, improve access to services, and eliminate health, social, and economic disparities. The program examines the spectrum of education, employment, community living, and health policies affecting individuals with disabilities and their families, and surveys the public and private networks of disability services from an interdisciplinary perspective. While the program addresses the needs of people with all types of disabilities, it emphasizes intellectual and related developmental disabilities across the lifespan.

This certificate program is a collaborative effort of the Department of Organizational Leadership, Policy, and Development and the Institute on Community Integration (ICI) in the College of Education and Human Development (CEHD). Learn more at https://tinyurl.com/mp-certificate.

Pediatrics residency training in developmental disabilities. This training helps prepare pediatric residents at the University of Minnesota to take leadership roles in the practice of family-centered, collaborative care based on the concepts of the Medical Home model when caring for children with special health care needs.

The program recognizes that future pediatricians are being educated with the technical skills to address the biomedical and psychosocial needs of their patients and families, but are not routinely taught about or given the opportunity to develop that same expertise in the practice of family-centered, collaborative models of care. Collaboration among physicians, allied health professionals, school and community service providers, and families is a cornerstone of the Medical Home model of care. Like technical skills, leadership skills in family-centered and collaborative care can and should be taught in residency training. Furthermore, training the Medical Home model is likely to be enhanced by non-clinically based learning experiences.

Program components include sessions on:

- "Community Resources: Understanding and Working With Community-Based Supports," which focuses on participants' own experiences with accessing and utilizing community-based resources and supports for families and children with disability/ chronic illness. Community service providers present descriptions

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of and mechanisms for accessing a variety of government and non-government agency-based programs. Opportunities, barriers, and expectations of physicians to refer to and participate in these programs are explored from the perspectives of families, service providers, and physicians.

- "Moving-On: When Children with Disabilities and/or Chronic Illness Grow Up," which presents real-life experiences of people caring for adolescents and young adults with disability/chronic illness. Discussions address developmental milestones and transition issues that arise with respect to education, employment, community living, emerging sexuality, health care transitions, and autonomy.
- "Putting It All Together," in which participants discuss their own experiences during the rotation with respect to the concepts of the medical home model, with a particular focus on the key elements of family-centered care and collaboration. Facilitators draw upon the residents' own experiences to help them gain a sense of willingness, confidence, and competence in their abilities to continually improve the care they provide.

Learn more at https://tinyurl.com/mp-residency.

MN LEND can be a valuable resource for physicians to consult or to suggest to parents.

Andy Barnes, MD, MPH, FAAP, is a Developmental-Behavioral Pediatrician and Assistant Professor of Pediatrics at the University of Minnesota Medical School, where he is the fellowship director for Developmental-Behavioral Pediatrics and the clinical director for MN LEND. Dr. Barnes is also on the faculty at the University's Institute of Child Development; the Institute for Translational Research in Children's Mental Health; the Center for Spirituality and Healing; and the Center for Neurobehavioral Development.

Beth Fondell is a Program Coordinator at the University of Minnesota's Institute on Community Integration within the College of Education and Human Development. She directs the College's graduate-level Certificate program in Disability Policy and Services. With three decades of experience in the public policy arena, Beth maintains a continual focus on facilitating collaboration between policymakers, families, and community leaders.

The MN LEND program welcomes Fellows from a variety of different professional, academic, and experiential backgrounds. Apply at https://tinyurl.com/mp-lend-apply.

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facilities to designate a single individual to provide oversight of care plans to ensure residents aren't on their own in keeping track of the care they receive.

Challenges and hope

The legislation, which we enacted on a bipartisan basis last session, will leave a lasting impact as we work to strengthen protections for older adults. Reaching consensus not just on concepts, but on actual language for an entire new section of law was not easy. Additionally, lawmakers invested $30 million over two years to make these new systems operational.

> A cornerstone of our bipartisan legislation created an Assisted Living Bill of Rights.

Still, there are significant challenges facing us as we work to ensure our elders can maintain a strong quality of life in their later years. Pressure in the labor market will result in continued difficulty to recruit and retain qualified workers to provide care, both in care facilities and in home-based settings.

In Minnesota, demographics are quickly changing. There are now more Minnesotans age 65 or older than there are children under the age of 18. Older adults have unique needs and our state and local communities will face ongoing challenges regarding health care, housing, transportation, and other critical services.

Our 2019 elder care legislation can serve as an example for future Legislatures and Governors as a blueprint to craft complex legislation. While input from all parties involved was meaningful, I truly worked to put the perspectives of residents and their families first. Our legislation reflects this and I'm confident these reforms will help ensure Minnesota seniors can live with the dignity they deserve.

I thank the following organizations for their work on passing this important legislation: AARP Minnesota, Elder Voice Family Advocates, Mid-Minnesota Legal Aid, Minnesota Elder Justice Center, Alzheimer's Association, Office of the Ombudsman for Long-Term Care, Minnesota Department of Health, Leading Age Minnesota, and Care Providers of Minnesota.

Jennifer Schultz, PhD, MA, represents District 7A—the eastern portion of Duluth—in the Minnesota House of Representatives and serves as chair of the House Long Term Care Division. Outside the Legislature, she is a professor of health care economics at the University of Minnesota–Duluth. She earned her MA in economics from Washington State University and her PhD in economics and health services research from the University of Minnesota.

Gambling disorder

Diagnosing the "hidden addiction"

BY BILL STEIN AND RANDY STINCHFIELD, PHD, LP

When you meet with a patient, the topic of addiction is not typically top-of-mind. And on the rare occasions when you suspect that an addiction is playing a role in your patient's condition, you're probably thinking about drug or alcohol addiction. However, other, less obvious addictions can be causing distress and poor health. One such lesser-known addiction is gambling disorder.

Sometimes referred to as the "hidden addiction" because it has no visible symptoms, such as those associated with drug or substance use disorder, it's estimated that two million Americans suffer from gambling disorder. In Minnesota, approximately one to two percent of the population meets the diagnostic criteria for gambling disorder while another one to two percent experience problems related to their gambling behaviors.

Gambling disorder as defined in DSM-5

According to DSM-5 diagnostic criteria, gambling disorder is defined as persistent and recurrent problematic gambling behavior leading to clinically significant impairment or distress. An individual with gambling disorder exhibits four or more of the following behaviors over the course of a 12-month period:

- The need to gamble with increasing amounts of money to achieve the desired excitement
- Restlessness or irritability when attempting to cut down or stop gambling
- Repeated, unsuccessful efforts to control, cut back, or stop gambling
- Preoccupation with gambling
- Frequent gambling when feeling distressed
- Repeat gambling after losing money in an attempt to get even ("chasing" losses)
- Lying to conceal the extent of involvement with gambling
- Jeopardizing or losing a significant relationship, job, or educational or career opportunity because of gambling
- Relying on others to provide money to relieve desperate financial situations caused by gambling

Gambling behavior that is not associated with a manic episode can be classified as episodic, persistent, or in remission. The disorder can be further specified as mild (when 4–5 criteria are met), moderate (when 6–7 criteria are met), or severe (when 8–9 criteria are met).

Consequences of gambling disorder

Gambling disorder can result in social, emotional, and financial devastation, including loss of relationships, residence, emotional or physical health, and career or educational opportunities.

Some individuals with a gambling disorder commit illegal acts to support their gambling or to pay off gambling-related debts. Some ultimately go to prison or are admitted to psychiatric institutions.

Sadly, it is not uncommon to hear about compulsive gamblers who attempt or commit suicide. In fact, studies have shown that the rate of suicide is higher among those with gambling addiction than for many other addictions.

Populations at risk

Anyone is at risk for developing a gambling problem, regardless of sex, age, religion, race, or socio-economic background. Individuals can develop a gambling addiction from participating in any type of gambling pursuit, whether traditional gambling activities such as horse racing, slots, lottery, pull-tabs, cards, and bingo or newer games and venues available online.

However, while anyone can become addicted to gambling, there are risk factors that can increase the chance of developing this disorder. Some of these risk factors are detailed below:

Age. Individuals under the age of 35 may be at higher risk of developing a gambling addiction. This is because younger people are more likely

to act impulsively than older adults. The brains of young adults are less developed, leaving them predisposed to risk behavior. Younger people are also more likely to participate in the growing trend of online platforms and other venues.

A November 2018 National Gambling Attitudes and Experiences (NGAGE) study by the National Council on Problem Gambling found that admitted sports bettors and young men showed an elevated risk of gambling addiction compared to their peers who did not bet on sports. While this may not be a surprising find, it confirms that young men need more education about risk taking and that they be monitored for gambling disorder if they are exhibiting other mental health or addiction symptoms.

Anyone is at risk for developing a gambling problem.

Senior gamblers are also more likely to be vulnerable to gambling addiction. They may gamble as a way to relieve loneliness, depression, or anxiety. Dementia and other types of cognitive impairment may impact the ability of older seniors to make appropriate decisions when gambling. In fact, patients with Parkinson's disease have been known to show problem gambling behavior due to the class of drugs called dopamine agonists prescribed for treatment.

Mental health issues. Individuals who suffer from depression, bipolar disorder, anxiety disorder, or attention-deficit disorder are at higher risk for gambling addiction. People with bipolar disorder often engage in high-risk behaviors during manic or hypomanic episodes. Patients with depression may gamble as a form of distraction to escape painful emotions.

Existence of other addictions. Comorbidity with other addictions is common. "Addiction switching" is also not unusual among those in recovery from alcohol or drugs. In these cases, gambling can become the next addiction.

The use of drugs may also play a role in addiction. For example, some gamblers use meth to keep them awake for hours. And the recent legalization of recreational cannabis in several states has created concern with how it may be connected to gambling disorder. However, it's too soon to draw conclusions.

Those serving in the military. Several risk factors associated with members of the military may make them more vulnerable to develop gambling disorder. Some of these include a predisposition to take risk and act impulsively, involvement in extremely stressful situations that create anxiety, experiencing grief and loss, and substance use and abuse.

Warning signs

The vast majority of those who gamble do so responsibly. However, a small percentage develop problem behavior. While gambling addiction can be difficulty to identify, there are several warning signs physicians can watch for, including:

- Increased frequency of gambling activity
- Increased amount of money gambled
- Gambling for longer periods of time than originally planned
- Bragging about wins, but not talking about losses
- Pressuring others for money as financial problems arise
- Lying about how money is spent
- Escaping to other excesses
- Denying there is a problem

A misunderstood addiction

Gambling addiction is not well understood by the general public and in some areas within the medical community. Many people think it's an issue of willpower or a moral weakness. However, gambling addiction is a disease, and while nothing is ingested into the body when one gambles, there are still measurable changes in activity in the ventral striatum. In fact, images of brain activity in people with gambling disorder and substance addictions show similar activity in the reward centers.

Because gambling disorder is not well understood, there remains a significant stigma attached to the condition, which serves as an unnecessary obstacle to getting treatment. Patients are reluctant to self-report the condition and they may not understand that treatment is available and that it can help.

Gambling trends

Gambling—and gaming activities that have the essential characteristics of gambling—are evolving. Whereas gambling was once limited to

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Reducing Native American opioid deaths

Culture-based research

BY CARSON GARDNER, MD; CLINTON ALEXANDER, MPH; AND BRENNA GREENFIELD, PHD, LP

North America is struggling through an opioid overdose epidemic that has cut across all dividing lines: race, gender, age, socioeconomic status, and culture. Native American Nations suffer this grief and loss along with all other American communities. It is no secret that the Minnesota Native American drug overdose death rate in recent years is six times higher than the state's overall average. Medical providers who care about and treat Native American people need context and connection with the healing priorities that these individuals value.

Background and methodology

In 2019, the White Earth Ojibwe/Anishinaabe Nation, in Northern Minnesota, teamed with the University of Minnesota Medical School, Duluth Campus, on a culture-based research project to address this painful, needful issue. Their study, Reducing Opioid Overdose Deaths in Minnesota: Insights from One Tribal Nation (https://tinyurl.com/mp-opioid-research)—funded by the National Drug Early Warning System—was the first known Native American methodology opioid fatality review (OFR) study in North America. White Earth Nation participants considered the process as much a healing ceremony as a scientific data collection initiative.

In the spring of that year, White Earth Nation's Overdose Response Committee, under the leadership of Clinton Alexander, MPH, an enrolled White Earth Nation member, teamed with a University of Minnesota Medical School, Duluth Campus research group headed by Dr. Brenna Greenfield, an assistant professor and licensed clinical psychologist. Their project explored White Earth Reservation Ojibwe citizen views on healing the wounds of the opioid epidemic. The White Earth Nation study was conceived as part of the White Earth Ojibwe opioid crisis response Tribal Action Plan, and was built on a national review model established by the work of Erin Russell, Chief of Maryland's Center for Harm Reduction Services.

The research team chose to expand the public health fatality review model into an indigenous methodology research, inviting participating White Earth Nation community members to set their own healing research agenda in a culturally and spiritually informed manner. The work respected the lives, stories, positive community contributions, and cultural/spiritual identities of community members lost to opioid overdose—not merely treating them as "fatality statistics." The research team formed community

focus talking-circle groups, comprised of White Earth citizens from all walks of life, to discuss their impressions of the OFR methodology, risk, and protective factors for opioid overdose losses in White Earth Nation.

Also, an OFR team, comprised of White Earth Nation healing professionals from multiple disciplines, shared in talking-circle reviews of emergency care records, hospital records, autopsy records, behavioral health and human services issues, social media posts, and personal perspectives regarding five individuals who died of opioid overdose in White Earth communities over the previous several years. Each of the lost community members was known to one or more of the review team members. The privacy, confidentiality, and grief work of White Earth families and communities were respected. The team placed cultural, historical trauma, and spiritual input at the center of their review process.

"The richness of the White Earth team's results is due to the infusion of the case review process with respect, dignity, and a strengths-based approach unique from any other team I have worked with," said Russell, who has supported the launch of OFR in Maryland and across the nation. "The work respected the lives, stories, positive community contributions, and cultural/spiritual identities of community members lost to opioid overdose—not merely treating them as 'fatality statistics.'"

The opioid fatality review project was about one tribal nation's creative and innovative strategies to address the opioid crisis at the local level. The goal of the study was to identify factors that may contribute to these deaths and provide recommendations about ways to address them, with the ultimate goal of reducing opioid overdose deaths and health inequities. The White Earth Nation focus groups and fatality review team found it was not adequate to simply share autopsy and post-mortem drug-testing statistics.

In their own words

To understand the meaning of this research study, one must hear the incisive, practical, and compassionate thoughts of focus group participants, which may reflect misconceptions regarding Native Americans:

What are the circumstances that are actually around their death? They just didn't OD and die ... so I would say you need to investigate their actual deaths ... (not) just assuming that oh, it's just another Indian with a needle in their arm, OD. And not bother. [Community focus group participant]

There's that whole laundry list of things, adverse childhood experiences, lack of social economic status, multi-generational dysfunction, behaviors, you go through all those. I think one of the deeper issues is ... I don't think we've done enough to strengthen cultural identity and draw on cultural resiliency of our families. [OFR team member focus group participant]

The death certificates say that these people died of overdoses, but ... I'd say 90% died of broken hearts. ... [I]t's the trauma that our people go through. [Community focus group participant]

How many times have they reached out for services? Follow up on how they were treated. When we first started doing the harm reduction of clean needle exchange, I had a woman who brought in another woman... And she goes ... "You were right. She is different." "What do you mean?" "You don't shame me." ... We

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need to stop shaming our people. They've been shamed enough. [Community focus group participant]

I think that we will probably see some version of something a patient once said to me that made me smile and then shocked the hell out of me. The patient said, you know, you really helped me ... but not on the days you thought you were helping me. So, I think that we will see that shelter, food, respect, and compassion are going to turn out to be very important factors ... helping them to trust in the help you're offering. [OFR team member focus group participant]

The Minnesota Native American drug overdose death rate ... is six times higher than the state's overall average.

While the opioid epidemic has magnified grief and tragedy among communities throughout the United States, resilience and hope were clearly braided among the comments of the Native community and fatality review members:

There's a lot of community strengths and the fact that we're actually still here, we survived genocide, we are very much a resilient people. We are intelligent, we are caring, and we are loving, and we're always coming up with solutions to find what's going on and try to respond to what's happening within our communities. [Community focus group participant]

Helping break the stigma ... The police department is implementing community policing and getting familiar with Good Samaritan laws. Programs are hosting community picnics while offering services. Having an overdose prevention officer that goes out on calls and offers services is unique and shows what kind of direction we are taking on substance abuse ... five years ago that idea would seem crazy. When programs started reaching out to the community the number of overdoses decreased significantly. [Community focus group participant]

We have our culture. We have our revitalization and restoration of our language, our ceremonial practices. ... and the other part is our humor. It is the cornerstone of healing. [Community focus group participant]

Findings

Key findings identified by the overdose fatality review team members through their review of five Native American overdose deaths included: 1) hesitation or refusal to call for assistance, 2) lack of coordination with other substance use disorder treatment programs, 3) unaddressed medical and mental health needs, 4) movement between reservations and to urban areas, and 5) poor data accuracy and availability.

The focus group members identified the following risk factors for overdose deaths among Native American study participants: 1) implications of historical loss, 2) historical and contemporary trauma, 3) shame and stigma, 4) effects on children, and 5) jurisdictional issues and rurality.

Protective factors identified from the focus groups: 1) innovative solutions, 2) naloxone availability, 3) community collaborations, and 4) culture.

Interventions and hope

Opioid overdose death inequities among American Indians in Minnesota and the participating tribal nation have multiple contributing factors that offer an opportunity for intervention. There is a particular need for community involvement, multidisciplinary collaboration, continued naloxone outreach, additional funding for multiple services (e.g., recovery-based housing, mental health treatment, cultural programming, and transitional reentry support services), and improving reliability and access of pertinent data.

The White Earth Ojibwe Nation and the University of Minnesota Medical School, Duluth Campus research team hope that the release of their published research report will inspire other communities—including other North American Native Nations/Tribes—to take up the challenge, in their own cultural/spiritual context, of thinking and talking about opioid fatality losses and ways to find meaningful healing wisdom and balance from and for each other.

Carson Gardner, MD, is a board-certified family physician with over 40 years of rural Minnesota family practice experience, including 20 years working with the White Earth Indian Health Service clinic and as medical director of the White Earth Nation Tribal Health Department.

Clinton Alexander, MPH, is a public health professional with the White Earth Health and Behavioral Health Divisions with over a decade of experience in developing harm reduction programming that includes being a founding member of the White Earth Harm Reduction Coalition. He previously played an instrumental role in developing a community-driven harm reduction program with peer-delivered syringe exchange and overdose prevention services.

Brenna Greenfield, PhD, LP, is a licensed clinical psychologist and assistant professor in the Department of Family Medicine and Biobehavioral Health on the Duluth Campus of the University of Minnesota Medical School. Her research focuses on substance use disorder treatment and recovery, prevention of opioid overdose deaths, behavioral health interventions, and American Indian health equity.

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named chief clinical risk management officer. In her position, Dr. Gold bridges the gap between these two organizations, permitting greater collaboration and goal alignment. Dr. Gold will be responsible for building the training and peer support structures necessary for the response model to thrive now and into the future and for systematizing the response model into the cultures of the practice and the Medical School.

"As a practice, we have had a transparent, proactive mindset toward addressing adverse events for some time. Now, we are putting the structures and training in place to systematize the process to better support providers and leverage this for the benefit of the larger clinical mission," said Dr. Gold.

> The response model requires transparency and honesty about all outcomes—good and bad.

By implementing the response model and its underlying philosophy directly into the curriculum, they have the ability to introduce this risk management approach to the next generation of physicians. By so doing, the academic physician practice is shepherding a shift in organizational and professional culture that will benefit physicians and patients not only now, but also in the years to come.

"This model will create a very supportive learning environment for our residents and fellows," said Susan G. Kratz, academic health center counsel. "The earlier physicians can learn how to have these conversations, the better prepared they will be when they begin their practice."

Applying the lessons

But this model should not be limited to academic health care facilities. All medical facilities could benefit from a proactive and transparent approach to adverse medical events, which in turn benefits the whole medical community as trust continues to grow. There is no doubt that change can be hard and is often met with resistance, and adverse medical outcomes are rarely simple black and white issues.

"Our response to adverse events needs to be congruent with our mission as physicians—showing compassion and aspiring to heal," said Dr. Gold. "It will be a challenge, but our honest and collaborative approach will ultimately lead to better outcomes for our patients and providers."

Marissa K. Linden, JD, is an attorney with the law firm of Gislason & Hunter, LLP. As a member of the firm's Medical Malpractice Group, Marissa focuses much of her legal expertise on medical malpractice defense, representing health care providers including hospitals, clinics, nursing homes, and medical professionals.

Ruth E. Flynn, JD, is Associate General Counsel and Vice President of Enterprise Risk Management for M Physicians, where she concentrates her practice on inhouse medical malpractice defense.

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traditional forms, newer forms have emerged as technology has become more sophisticated.

Social casinos, which are apps or websites where people play popular casino games with friends, are experiencing rapid growth. Experts are concerned that these games can trigger desires to gamble with real money for vulnerable problem gamblers.

In some social casino games, players compete for virtual prizes, often using real money to make purchases of "loot boxes," which may or may not have the "prize" they are seeking to help them advance in the game. Players don't know the odds of receiving these prizes when they make a purchase, thus meeting the traditional definition of gambling: wagering money or something of value on an event with an uncertain outcome, with the primary intent of winning something of value.

Gambling addiction is a disease.

The growth in video gaming is another trend. Compulsive use of video games, an impulse control disorder that's similar to gambling disorder, can occur for those susceptible to addiction. Currently, these games are not regulated, making those who may be vulnerable to addiction even greater targets for gambling disorder.

We are also watching carefully to see if addiction to sports gambling increases as more states legalize this activity. Although it's uncertain if Minnesota will legalize sports gambling, individuals seeking to gamble on sports have many other options, including online, that don't involve the state.

Resources

If you suspect your patient may have a gambling problem, there are several things you can do. The first is to administer a simple two-question gambling screen that will provide a quick read on whether a gambling problem might exist. The two questions ("Have you ever had to lie to people important to you about how much you gambled?" and "Have you ever felt the need to bet more and more money?") trigger links to online resources. Look for it at www.NorthstarProblemGambling.org/quiz-results/. General information about problem gambling in Minnesota can be found at www.NorthstarProblemGambling.org.

This site also features a list of state-certified problem gambling treatment providers who specialize in both assessment and treatment for gambling addiction. In Minnesota, treatment for gambling addiction is available at no charge, making it easy for anyone to obtain access. Many patients are still reluctant to enter treatment due to perceived stigma, while others fail to seek help until they have exhausted financial resources.

Treatment programs range from traditional one-to-one counseling to intense week-long programming to residential treatment. It's important to understand that gambling treatment works and has turned lives around for many Minnesotans.

Addressing the problem

Ensuring that individuals with gambling disorder are properly diagnosed and treated is a responsibility that falls to a lot of people. It includes a variety of efforts, including those in education and public policy, prevention, consumer protection, research, and, of course, treatment.

Those working in health care, including physicians, have an important role to play. By asking the right questions, looking beyond the surface, and simply being aware that gambling disorder is real, you have the opportunity to spot a problem gambler. If you're able to direct them to the help they need, you can make a significant impact on their lives.

Bill Stein is communications manager for Northstar Problem Gambling Alliance (NPGA), Minnesota's state affiliate to the National Council on Problem Gambling.

Randy Stinchfield, PhD, LP, is a clinical psychologist, retired from the Department of Psychiatry at the University of Minnesota, and a member of the NPGA Board of Directors. Dr. Stinchfield conducted some of the earliest and most significant research on youth gambling, including the first youth gambling survey in the United States.

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forum spanning the three-year program; c) biannual MN-LHS retreats; and d) additional coursework at the University of Minnesota to ensure scholars achieve mastery in areas related to their research.

3. A research practicum for experiential learning embedded within clinical practice.
4. Strong program oversight and evaluation tailored to the program competencies and milestones that we expect each scholar to achieve.

The scholars. The MN-LHS Program is open to individuals engaged in innovative work who are U.S. citizens or non-citizen nationals, or individuals lawfully admitted for permanent residence with an earned clinical or research doctorate (e.g., PhD, ScD, DrPH, MD, DO, DC, ND, DDS, DMD, DNS, DVM, OD, DPM, EngD, DPT, OTD, PharmD, DSW, PsyD, or equivalent doctoral degree) and hold a full-time appointment at his or her respective institution. Candidates must be able to commit a minimum of nine person-months (75% of full-time professional effort) conducting research career development activities associated with this award for a two- or three-year period.

Other qualifications include having:

- Approximately 10+ publications or a plan to pivot into a new area of research requiring additional training;
- An intense interest in pursuing a career in research in LHS;
- Demonstrated dedicated research time and departmental support; and
- An identified mentor within the MN-LHS network who has relevant training and experience aligned with the scholar's overall area of interest.

Other factors that will be taken into consideration include balancing the racial/ethnic, sexual, scientific, geographic, and patient population diversity of the scholar profiles.

The payoff. Through established partnerships and abundant success with past training experiences, the MN-LHS Program is poised to develop scholars who will be preeminent LHS researchers. The program attracts and selects the highest-quality scholars from among the deepest of talent pools and subjects them to an unparalleled and intensively mentored educational experience composed of appropriately phased coursework and experiential learning. The MN-LHS is designed to contribute significantly to the scientific development of scholars, including their embeddedness potential and success.

More information about the program and its application process can be found at https://tinyurl.com/mp-mn-lhs.

Timothy Beebe, PhD, is Mayo Professor and the Head of the Division of Health Policy and Management in the University of Minnesota School of Public Health. Dr. Beebe is also Co-Director of the Minnesota Learning Health System Mentored Career Development Program (MN-LHS).

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