

# minnesota MEDICINE

## 10 bright ideas

How innovative physicians improved their practices

ALSO INSIDE:

Understanding GERD

Mayo Trainees Walk the Fitness Talk

An Insider's Guide to Clinical Guidelines



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# APRIL 2012

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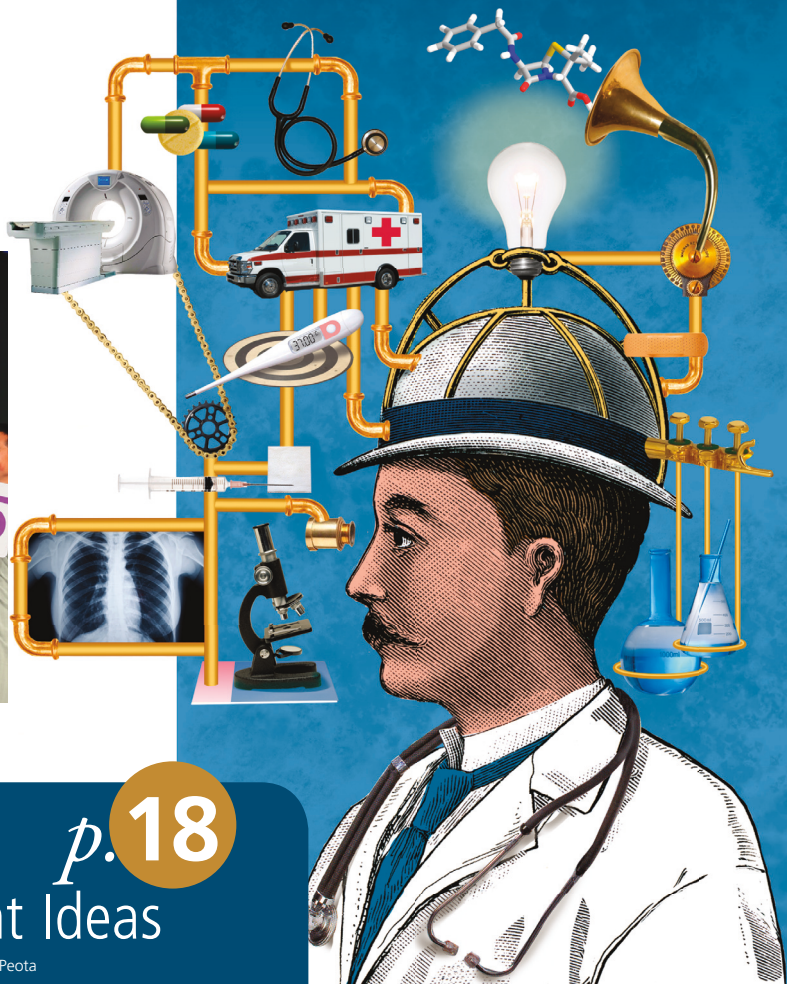


Illustration by Andree Tracey

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Photo by Scott Walker

The wise among us do examine the hum-drum and ask how we can do better.

# Good Practice

“So, doc, when are you going to stop practicing and start playing the game?” After I realized that my patient wasn’t talking about retirement and golf, I caught the connection to the reference I had just made to the “practice of medicine.” I had heard similar quips—“When are you going to stop practicing and get it right?”—and each time pictured myself in the gym at the free throw line, shooting free throw after free throw trying to get it right. Yet I know that the phrase the “practice of medicine” refers to “practice” in a different sense, meaning habitual or customary performance of a task.

Many of us travel to our medical practice daily to do those habitual and customary tasks. We talk to and examine patients. We order tests. We perform surgery. We do what we’ve come to find works, habits that evolve from what we learned in medical school, residency, and on the job. Each day is the game we’ve been practicing for years. It all has a bit of the hum-drum about it, a plodding repetition of well-learned skills that not many of us revisit after we’re through with training. When was the last time you listened to your auscultation tapes?

But the wise among us do examine the hum-drum and ask how we can do better. “Quality improvement” has been a catch phrase for as long as I’ve been in practice, sporting a variety of monikers but always invoking “quality” as its goal. Many of its iterations have involved use of guidelines that specify how we should practice medicine, recipes devised by experts that are suppose to define best practice. Guidelines are still with us, some of them mere suggestions posted on sites such as the Cochrane Reviews, others hammered out

in clinic conference rooms and put into practice. More and more, however, guidelines are inveigling their way into payment mechanisms. Payers from Medicare to Medica are saying they won’t pay just for the performance of a task; they want a quality performance, which means toeing the guidelines.

The whole movement of pay for performance has fueled a buying frenzy as hospitals and physician groups, large and small, realize they need integration to respond to the demands of the marketplace. This is not the first round of physician-hospital integration; the earlier ones were driven by failing physician groups or physicians who were tired of the stresses of private practice. Quality is driving the current flurry, and the flurrying hasn’t ended.

Blemished by a patchwork history and a soporific reputation, quality now has an apparent successor, innovation. Featuring a glitzier patina, innovation evokes visions of Thomas Edison spinning out his inventions in the wee hours at Menlo Park. And indeed innovation does seem more tangible, more defined than some of the hazier renditions of quality. Looking for a better idea, whether it’s a new hospital gown or a system to help chronically ill patients, seems destined to move medicine forward even with baby steps.

What the innovation movement will do for the practice of medicine remains to be seen. Certainly, it has limits in solving the woes of the health care system, and it certainly won’t help my free-throw shooting.

.....  
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## ■ From Our Readers

### A Proposal for Eliminating Medical Errors

The recent American Medical Association report “Research in Ambulatory Patient Safety 2000–2010: A Ten-Year Review,” which called for more research on patient safety in the ambulatory setting, discussed the increase in the number of common outpatient errors. Although the report included a list of the top six errors, it provided very little data about the frequency of those errors and even less information about the causes or how they can be prevented.

In the lay press, we see reports about medical errors, usually as part of a story about a lawsuit. Although these articles typically identify the error, they provide no information about the frequency and causes of such errors, or ways to avoid them. Medical journals and the popular press occasionally publish articles about a practice that has been implemented at one institution to overcome a perceived faulty process and to prevent some medical error; but again, these stories rarely provide data about the frequency of such errors or the effectiveness of the implemented changes.

Although some of the modifications that health care teams make in their attempts to reduce errors appear to be no-brainers, they may, in fact, not be. For example, since the American Academy of Orthopaedic Surgeons has advocated that surgeons “sign the site” (the surgeon initials the operative site before the surgery), the incidence of “wrong site” surgeries and surgeries on wrong patients has increased.<sup>1</sup>

In an article in the *Minneapolis Star Tribune* about the use of time-out procedures (when surgical staff take a moment before starting the surgery to run through a list of safety checks), Kathleen Harder, director of the Center for Design in Health at the University of Minnesota, was quoted as saying that some surgical centers actually had too many steps in their time-out process.<sup>2</sup>

Kate Ledger’s article “Safety First,” which appeared in the March 2011 issue of *Minnesota Medicine*, detailed how the Anesthesia Patient Safety Foundation modeled its efforts to reduce medical errors on an approach used by the aviation industry. It involves identifying the root causes of errors. Doing this requires conducting an in-depth analysis of each error. When a plane crashes or even when it is involved in a near-miss, it triggers a National Transportation Safety Board investigation—every time.

Minnesota has taken the first step in reducing errors in medicine by forming the Minnesota Alliance for Patient Safety (MAPS). Representatives from the Minnesota Medical Association, the Minnesota Hospital Association, and the Minnesota Department of Health have made reducing medical errors and improving patient safety a priority. MAPS now requires all hospitals in the state to report the occurrences of 28 different adverse events. Although this is important, it will not take us all the way to our goal of eliminating medical errors. This is because we have no mechanism for performing root-cause analyses of these events.

Merely counting errors will not lead to significant changes

in medicine. Expecting each hospital or clinic to conduct such analyses and find solutions, as is now the case, is not a good solution either. Even when an institution identifies the root cause of an incident, findings are not shared among institutions, and we can’t avoid redundancy. Worse, when institutions fail to identify the root cause of an error, they often implement procedures that are counterproductive.

I propose that the Minnesota Medical Association (MMA) develop a program for analyzing the adverse events that occur in medical centers in our state, that the MMA develop root-cause analysis procedures, evaluate methods to improve patient care, and, perhaps most important, educate physicians about the findings.

Such an effort will take considerable time and commitment. One of the first requirements would be to work with the Legislature and insurance companies to exempt information about medical errors from malpractice cases. I suspect the biggest hurdle to overcome will be our own reluctance to admit our errors and subject our decisions and patient care practices to review. But it is essential that physicians put pride, ego, and fear aside if we are to improve the care of all patients. One of my wise professors once said that anyone who says they have never had a bad outcome has not done many of the procedures in question, has a poor memory or does poor patient follow up, or is not on intimate terms with the truth.

Doctors need to lead the state in taking the next step in reducing errors by helping build the infrastructure needed to conduct root-cause analyses of the ones that occur. We have the resources and skill to figure this out. We just need the will to do it.

Dennis Callahan, M.D.  
Orthopedic surgeon  
Member, MMA Quality Committee

#### REFERENCES

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2. Crosby J. Hospitals work at getting it right (or left). *Minneapolis Star Tribune*. June 23, 2011.

## WHAT’S ON YOUR MIND?

Health care reform? An article you’ve read in a recent issue? A problem in your practice?

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WE WANT TO HEAR FROM YOU!



## Provide the Details

From reading the February issue of *Minnesota Medicine* and based on my work with the MMA Independent Practice Committee, I understand the MMA Board of Trustees (chaired by Dr. David Thorson) has outlined six areas of concentration, one of which is payment reform. This is both good and bad news. The MMA must be involved in discussions about new methods of payment; but Dr. Thorson's editorial stated the MMA will be "promoting new and innovative payment and delivery models."

As always, the devil is in the details. I'd like to know more about what the MMA will be promoting. My strong feeling, which is shared by many physicians, is that capitation (global payment) is unethical. It makes physicians agents for payers and for their own wallets, rather than for patients. It pits primary care doctors against specialists and thus divides our profession. Capitation by any name will undermine the fifth and sixth stated goals of the MMA: "Promoting high professional standards" and "promoting physician collegiality." The drawbacks also become apparent to the public, which then distrusts the entire medical profession. These are the hard lessons from the 1990s; I don't think there is debate about that. The MMA should publicly oppose global payments, currently a highlighted feature of ACOs.

Payment for "value" is also problematic. As you know, value is quality divided by cost. Both elements of that ratio are difficult or impossible to measure. Is the MMA going to promote payment for value before "quality" can be reliably measured? Before "cost" is rigorously defined and adjusted for risk and attribution?

Just what is it that the MMA will be promoting? I hope Dr. Thorson will enlighten us.

Richard J. Morris, M.D.  
Allergy and Asthma Care, P.A.

## Response

I want to thank Dr. Morris for sharing his comments and questions about the MMA's recently defined strategic priorities. As he noted, one of those priorities is to "promote the development and adoption of new and innovative payment and delivery models that improve care delivery and the practice of medicine by promoting models that recognize the value of care more than the volume of care."

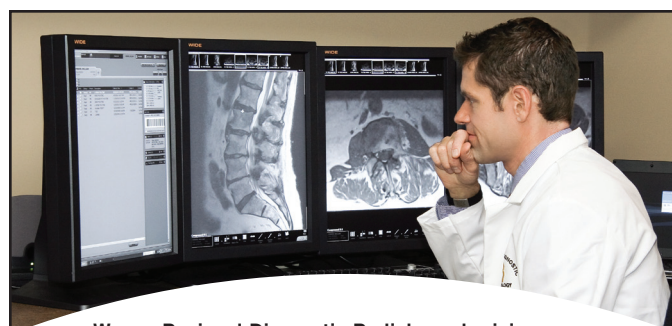
I appreciate that this phrase may be a bit vague and a source of anxiety for some physicians; but work is underway to refine it. Current MMA policies address some of the concerns articulated by Dr. Morris. In the MMA's widely supported health care reform plan, *Physicians' Plan for a Healthy Minnesota*, the MMA clearly outlined support for payment models that focus financial incentives on quality and value of care delivery over volume of services delivered. Subsequent MMA policy acknowledged the importance of maintaining multiple payment models to support the various types and locations of care delivery, the importance of the

need for ongoing innovation in the design of payment models, and the limitations associated with a one-size-fits-all approach to payment reform. The MMA does not support a singular, capitation-style payment model for all physician services.

If one considers a continuum of payment models with fee for service on one end and capitation on the other, many would agree that both extremes have the potential to create conflicts and ethical challenges. But there are myriad options along that continuum that warrant consideration and examination. The goal is to find the best ideas that take into account the needs of the various types of medical practices within Minnesota.

There is no doubt that payment policy affects the delivery of care. Physicians need to stand up for policies that will support high-quality, affordable health care for their patients. I look forward to sharing more details about our strategic plan in upcoming issues of *Minnesota Medicine* and welcome input from members at any time.

David Thorson, M.D.  
Chair, MMA Board of Trustees



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The winning entry in Park Nicollet's hospital gown design contest.

signed with the caregiver in mind,” says Gregg Strathy, M.D., medical director for development in orthopedic surgery at Park Nicollet. “It provides access but doesn’t take into account patients’ needs for privacy, modesty, and a few little comforts.”

Strathy, who says he’s become more attuned to patient needs after having nine spinal surgeries in seven years, modeled the existing hospital gown at the Project Better Gown runway show at Park Nicollet’s annual fall gala last October. “The old gown has become a standing a joke,” he says. “When I modeled the gown, I had to wear shorts underneath or it would have been inappropriate.”

### Origins of a Competition

The idea for the competition came about for two reasons: patient feedback and serendipity. In an effort to gauge patient satisfaction, Park Nicollet conducted 22 focus groups throughout the Twin Cities in the fall of 2010 and early 2011. Specifically, Park Nicollet wanted guidance on improving the overall experience at its hospitals and clinics. In every single focus group, participants brought up hospital gowns and how embarrassing and uncomfortable they are, says Christa Getchell, president of the Park Nicollet Foundation.

Then in March of last year, the honorary chair of the Foundation’s 2011 gala withdrew and Park Nicollet was left scrambling to find a

replacement and a theme for the event. With talk about the patient feedback about gowns in the air, Melissa Schoenherr, senior director of marketing, suggested staging a student design competition to improve the hospital gown. In addition to potentially remedying a sore spot for patients, the runway show would provide a new theme for the gala.

Enthusiasm for the hospital gown design competition grew. “It was a no-brainer. Our number-one strategic focus is the patient and family experience, and this was really relevant to our strategic plan,” Getchell says. “Patients are most vulnerable when they come to the clinic or hospital, and we wanted to eliminate those barriers so that the patient comes first. We also wanted the best design that would work with what nurses or doctors need.”

Over the summer, Park Nicollet got the word out to design professors at several universities, including the University of Minnesota, Minneapolis College of Art and Design, and the University of Wisconsin–Stout and River Falls. It also publicized the competition on Facebook, attracting entrants from Purdue University in Indiana and the Rhode Island School of Design. Students had about six weeks to design a new gown.

### Designed to Win

Park Nicollet held a three-hour meeting with participating students to lay out the criteria for what it wanted in a gown. (Out-of-town competitors participated via video conference.) Three patients shared their experiences with

#### ■ Inpatient Care

## Project Better Gown

*Park Nicollet aims to give the dreaded hospital cover-up an extreme makeover.* | BY SUZY FRISCH

Having to wear a patient gown is one of the most universally despised aspects of being in the hospital or visiting the doctor. Thin and overly revealing, the gown hasn’t evolved much since its beginnings as a Victorian nightshirt 100 years ago—and it often adds insult to injury during a medical event.

Park Nicollet Health Services decided to do something about it. The St. Louis Park-based network of hospitals and clinics sponsored Project Better Gown last fall, offering prize money to design students

from across the country who could come up with improved hospital garb.

Redesigning the gown was no small task. Hospital attire needs to hold up through dozens of launderings. It also must be easy to put on patients who can’t move, while still providing quick access for doctors or nurses to do procedures or dispense medicine. But it seemed there was plenty of room for improvement such as adding pockets, using cozier fabrics, or creating a backside that doesn’t flap open.

“Like so many things in medicine, the gown was de-

hospital gowns, and two clinicians explained what caregivers need from such a garment. Participants also heard presentations from hospital staff who specialize in laundering gowns.

“The whole point is not to do the same old, same old. We wanted them to be innovative,” Getchell says.

Fifteen teams of students from five schools submitted

also features a kangaroo pouch in the front for patients’ hands as well as a pocket for personal items such as a phone or glasses. A tab in the back allows patients or clinicians to quickly and easily open the snaps to access a patient’s front or backside.

Guttman and Gordon aimed to find a balance between meeting both patients’

“The old gown has become a standing joke.”

—Gregg Strathy, M.D.

entries for the competition, in pursuit of the \$25,000 first prize. There also was a \$10,000 award for second place, a \$5,000 third-place award, and a \$5,000 People’s Choice Award determined by the 1,000 people who attended the gala.

The judging panel—composed of experts in design, fashion, manufacturing, nursing, and other areas of health care, as well as patients—narrowed the field to nine finalists.

The judging panel—composed of experts in design, fashion, manufacturing, nursing, and other areas of health care, as well as patients—narrowed the field to nine finalists.

Their wrap-style garment provides openings for clinicians to access a patient’s front or back while providing more coverage of the entire body. The short-sleeved gown has ties that easily accommodate patients of different sizes. It

and providers’ needs while keeping costs low. They also wanted to make sure the gown would be easy to manufacture and would stand up to numerous washings.

“I think it’s a successful garment because it addresses the modesty issue and donning and doffing the gown with the pull-tab opening. It’s practical yet well-designed,” says Gordon, who is thrilled that hospital patients might be wearing her and Guttman’s design in the near future.

The second- and third- place gowns featured fasteners in the front so patient can get in and out of the garment easily. Another entry had a drawstring. Different materials including flannel and Dri-lex, an anti-bacterial fabric, were also used.

### Next Steps

Park Nicollet is now working with the winning teams to incorporate the best elements of each design into a new gown. It also may integrate ideas from the other entries. One caveat

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of the competition was that Park Nicollet owns the intellectual property rights to all of the designs, Getchell says.

The new gown will be scrutinized by clinicians, patients, and others at the hospital to make sure it meets everyone's needs. Nurses especially will be asked to give the gown a thorough look-over. They can point out things that can be a hazard for patients such as long ties and make sure the gown can accommodate tubes and other devices, says Terri Bowman Cloyd, Park Nicollet's director of professional nursing practice and a member of the competition's judging panel. "It's still a work in progress, and we're not there yet," she says.

Park Nicollet aims to introduce the new gown in its hospitals and clinics by next spring. Eventually, it will sell the redesigned gown to other health care organizations across the country.

The design competition has been such a success, that Park Nicollet might do another in the future. One idea that has come up is redesigning the wheelchair.

"The competition was amazing on so many fronts," Getchell says. "It really shows that the patient and family experience is a key paradigm we're not just talking about. We're moving forward within our own culture, and our staff are very excited about it." ■

■ Medical Education

## Still Strong

The state's medical schools fared well in the latest national rankings from *U.S. News & World Report*. Mayo Medical School ranked 27th among the nation's medical schools and earned the 31st spot for primary care education. The University of Minnesota Medical School ranked 39th among medical schools overall and 17th among public institutions and earned even higher marks for specific efforts. It was named No. 8 in primary care education, No. 3 in rural medicine, and No. 10 in family medicine.

Other University of Minnesota health sciences programs fared even better. The University of Minnesota's College of Pharmacy, School of Public Health, and College of Veterinary Medicine all made their respective top-10 lists.

The *U.S. News & World Report* annual ranking of schools is based on the quality of training in both research and clinical care and takes into account acceptance rates, faculty resources, and the number of graduates. Research activity also is measured by funding from the National Institutes of Health. ■

■ Hospital Beds

## A Smarter Bed

*A Fargo hospital installs talking beds.* | BY KIM KISER

Just like cell phones, hospital beds are getting smarter. Last year, Essentia Health-Fargo installed two "smart beds" in its critical care unit.

The computerized beds, which are manufactured by Stryker, can do such things as weigh patients when they are lying down and calculate their body mass index, play soothing music to help them relax, and warn those who are at risk of falling to wait for the nurse to help them get out of bed.

The beds "speak" 24 languages. A nurse can select a patient's preferred language and then have the bed ask one of a number of questions commonly asked in hospitals. For example, the bed can ask the patient whether he or she would like a drink of water or to rate their pain.

The bed also can be programmed to remind staff to perform functions such as turning patients to prevent pressure ulcers. And with a touch of a button, a nurse can raise the head of the bed exactly 30 degrees (the proper angle for pre-



Photo courtesy of Essentia Health-Fargo

A nurse enters information into one of the smart beds at Essentia Health-Fargo.

venting ventilator-associated pneumonia). "You don't have to eyeball it," says Sheila Hermanson, R.N., lead nurse for critical care.

Essentia is currently studying whether the beds have improved patient safety by decreasing falls or preventing pressure ulcers. Hermanson believes, however, they have made a difference in employee safety, as a motorized drive system allows staff to simply guide the beds, rather than push them, to transport patients. "There's less demand on the body," she says. ■

Wellness contest organizers printed badges that residents and fellows can wear during "walking meetings."



#### ■ Wellness Challenge

## Walking the Talk

*For Mayo Clinic residents and fellows, getting fit spurs healthy competition.*

| BY JEANNE METTNER

Two years ago, Christopher Weight, M.D., a urologic oncology fellow at Mayo Clinic attempted to get residents involved in a local football league. As a member of the Mayo Fellows Association's (MFA's) Executive Council, he organized several teams that could take part in city of Rochester leagues. There was just one problem: finding a time when he and his colleagues could regularly get together to play.

Many of the fellows and residents who wanted to were unable to commit to

a team sport because of their erratic schedules. "I realized we had to sit down and figure out a plan for reaching out to all the others who wanted to be fit but didn't want to be on a team—or couldn't because time or schedule would not permit it," Weight says.

### Practicing What They Preach

After months of discussion, Weight and several colleagues landed on a solution that many businesses use to motivate their employees to improve their health:

a wellness challenge. In January 2011, they kicked off the 12-week MFA Wellness Contest, offering top points earners the chance to win a hefty grand prize—a trip for two to the 2012 Summer Olympic games in London. Residents could earn points by working out at a fitness center or keeping count of the steps they took while running, walking, or participating in activities that could be more easily integrated into a crazy schedule than playing in an athletic league.

Says Weight: "The longstanding tradition in medical training is that you forego any consideration of your health for the benefit of your patients and your training, and so we end up keeping terrible hours, not sleeping, and eating poorly." Given the Accreditation Council for Graduate Medical Education's recent limit on the number of hours residents can work, Weight thought it was a good time to introduce a wellness program that allowed trainees to be better examples for their patients.

To recruit participants, Weight and a group of volunteers sent out emails to residents and fellows at Mayo. By the end of the sign-up period, 230—about 20 percent of the entire medical trainee population—had signed up.

### Taking Steps for the Team

Each participant was required to be part of a team of five individuals. (Those who signed up individually were assigned to a team.) Participants started the challenge by completing a survey about their health and lifestyle habits and having their body mass index, maximal oxygen uptake, ability to bench and leg press, blood pressure, and resting heart rate measured. Each received a pedometer.

Participants accrued points for themselves and their team by going to the gym, accumulating steps on their pedometers, taking the health and lifestyle evaluation at the beginning and end of the competi-





One way residents and fellows earned points was by taking part in “Climb the Clinic,” an event in which they climbed the stairs to the top of four buildings on the Mayo campus.

## Another Year, Another Challenge

Because of the success of the first event, So and colleagues launched the second annual MFA Wellness Contest on December 1, 2011. The competition is much the same as last year’s, with two exceptions: It will last 16 weeks instead of 12, and participants will have two additional opportunities to earn points: by interacting with each other on the contest’s Facebook page and by holding “walking meetings.” Instead of sitting at a table, meeting attendees grab their clipboard, notepad, or iPad and take to the halls to walk while they talk. They wear badges that read: “Walking meeting in progress; please do not disturb,” so passersby won’t interrupt them. “My hope is that the walking meeting becomes part of Mayo culture,” So says.

So, who is co-chairing the second contest, wants to compare the starting metrics of participants who took part in both the first competition and second one to determine whether they have sustained their improved fitness levels.

Schneider and his team are among those who are participating again. After last year’s contest, he and his team members continued working out. Last fall, each competed in either a marathon or a triathlon. This year, they have a new moniker—Pirates of the Perineum—for which they have already earned a prize for the best team name. But defending their title as the top points-earning team is proving challenging. “Three of us have children on the way, and the other two are trying to sell their houses and relocate to other parts of the country,” he says. “The time we have to dedicate may be decreased, but it’s still a priority, and we will do the best we can.” ■

Participants logged 171 million steps—roughly enough for them to take an equatorial walk around the world 3.5 times.

tion, and improving their scores on various health and fitness measurements.

Steven Schneider, M.D., a third-year urology resident and member of last year’s top points-earning team, Sack Attack, appreciated the “healthy peer pressure” the team dynamic generated. “We created a spread sheet, and every morning, we would report to each other; everyone would look on the spreadsheet to see the results posted that day,” he recalls. “If someone didn’t go to the gym or take many steps, we would playfully rip on him or give him encouragement. We realized that we were responsible for the team’s performance as well as our own.”

The friendly competition produced

some impressive results. Noel So, M.D., a resident in the department of physical medicine and rehabilitation at Mayo has been crunching numbers from last year’s challenge. She notes that participants logged 171 million steps—roughly enough for them to take an equatorial walk around the world 3.5 times. They also made nearly 10,000 visits to the gym. “The majority of participants had better metrics on their exit evaluations compared with their entrance evaluations,” So says. “They also reported that they had an overall improved quality of life.”

■ Practice Guidelines

# An Insider's Guide to Clinical Guidelines

Minnesota physicians who have helped write national clinical practice guidelines provide a behind-the-scenes look at the process. | BY HOWARD BELL

Clinical practice guidelines are like boat rudders. They steer physicians in the right direction—toward best practices for screening for diseases, treating patients, and managing those with chronic conditions. But how are those recommendations established, and by whom?

The largest organization that writes guidelines is the United States Preventive Services Task Force (USPSTF). Minnesota physicians and researchers have been well-represented on this and other national guideline-writing committees in recent years. For example, Timothy Wilt, M.D., M.P.H., a professor of medicine at the

University of Minnesota and an investigator at the Minneapolis VA Center for Chronic Disease Outcomes Research, has served on the USPSTF for the last five years. During that time, he has helped write its 2009 mammography screening guidelines and its draft 2011 prostate-specific antigen (PSA) screening guidelines.

Olmsted Clinic family physician and researcher Barbara Yawn, M.D., MSPH, helped develop USPSTF screening guidelines for scoliosis, cardiovascular disease, obesity, depression, and vision testing for toddlers between 2004 and 2008. Yawn has also served on the National Heart,

Lung, and Blood Institute's national guideline panels for asthma and Von Willebrand disease. She is currently co-chairing the institute's national sickle cell disease guideline panel. In addition, she has served on a food allergies guideline panel for the National Institute of Allergies and Infectious Diseases. "Besides analyzing the evidence used to develop guidelines," Yawn says, "I'm there to provide the primary care perspective and make sure guidelines are concise and useful in daily practice."

### A Scientific Process

It takes the USPSTF six to 18 months on average to develop a set of clinical practice guidelines. Work groups tackle specific issues such as mammography screening and come up with three to six questions that must be researched through an exhaustive evidence review. The reviews are typically done by one of 14 AHRQ-funded Evidence-based Practice Centers (EPCs). Minnesota has had

The advertisement is split into two vertical panels. The left panel has a light beige background and features a white envelope icon with a red notification bubble containing the number '1'. Below the icon is the word 'INBOX' in a large, white, serif font. The right panel features a photograph of a woman with dark hair, smiling. Overlaid on the bottom of the photo is a white icon of a person with arms raised, followed by the words 'IN PERSON' in a large, white, serif font.

When changes in the local health care landscape promised a major influx of new UCare members coming through metro-area clinics and hospitals, we made sure those providers were prepared. In a span of just two weeks, May Ly was among the UCare staff that personally visited 449 unique health care locations to offer a heads-up and explain the impacts. Because being responsive to our partners' needs isn't just talk—it's what we mean by health care that starts with you.



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## Serving on the Task Force

Funded and staffed by the Agency for Healthcare Quality and Research, the Washington, D.C.-based United States Preventive Services Task Force (USPSTF) issues national guidelines on a range of primary care topics. Minnesota physician Timothy Wilt, M.D., M.P.H., is among 16 experts, not all of whom are physicians, who currently are serving four- to six-year terms on the USPSTF. (Members are nominated by various individuals and organizations.)

Task Force members meet three times a year in Washington, and exchange many phone calls and e-mails in between. They're reimbursed for travel but otherwise are not paid for their work.

The time commitment is considerable. Task Force members spend four to six hours per week on Task Force business, according to HealthPartners' Senior Advisor George Isham, M.D., who from 2006 through 2011 served on work groups for specific guidelines and on the work group that decides which guidelines the USPSTF will tackle. Isham, who has also served on a number of other national guideline committees, calls USPSTF guideline development "an intense process." "It takes lots of time and lots of questions and discussion. It's a rigorous scientific experience," he says.—H.B.

an EPC since 2002; it is a collaboration between the Minneapolis VA and the University of Minnesota School of Public Health.

"It's a scientific process for the USPSTF to turn an evidence summary done by an EPC into guidelines that determine clinical best practices and insurance coverage," Yawn says. The work groups analyze the evidence review to determine the "net benefit" (the benefits versus the harms) of a particular intervention. Members' certainty about the benefit is graded as high, moderate, or low depending on how solid they feel the "chain of evidence" is. The groups then determine the "magnitude of benefits and harms" that would likely occur in a population if a recommendation was widely implemented. For example, how effectively would routine PSA screening prevent death from prostate cancer? And what harms would be associated with PSA screening and subsequent treatment?

The work group then assigns its recommendations a letter grade, "A" through "D," to indicate how strongly the evidence supports the intervention. Colorectal cancer screening for adults 50 to 75 years of age received an "A" because there is a high certainty that the net benefit is substantial. PSA screening, however,



got a "D," so the work group's draft 2011 guidelines recommend against PSA screening for all men. "The new draft guidelines," explains Wilt, "reflect new scientific evidence from screening and treatment studies that there is moderate certainty that the harms exceed the benefits." The 2009 mammography recommendation to start biennial screenings before age 50 got a "C," which means screening should be offered to some but not all women younger than 50 years of age.

The mammography guideline is a good example of how science doesn't always offer clear-cut answers, according to Wilt. The Task Force concluded that for women 40 to 50 years of age, the balance of benefits and harms was close. "This creates an opportunity for informed decision-making between the doctor and the patient, rather than just ordering the test," Wilt says. "It's the doctor's duty to explain the harms and benefits of an intervention, but then you have to listen to the patient."

## Many Means to the Same End

Some specialty groups and organizations do their own evidence reviews using their own processes. Others pay an EPC to do it. Mayo Clinic otolaryngologist Laura Orvidas, M.D., who helped write the 2008 guidelines for screening and treating paroxysmal positional vertigo, an inner ear disorder common in adults, for the Academy of Otolaryngology-Head and Neck Surgery, says academy staff did the initial evidence reviews. A diverse group of experts, including Orvidas, wrote the guidelines. The process took a bit more than six months, during which time Orvidas had to keep up with her clinic practice while reviewing articles and the work of others on the committee. She explains that they worked through disagreements by vetting the evidence.

University of Minnesota epidemiologist Shalini Kulasingam, Ph.D., recently worked on two sets of cervical cancer screening guidelines almost simultaneously—one for the American Cancer Society (ACS) along with the American Society for Colposcopy and Cervical Pathology and the American Society for Clinical Pathology, and the other for the USPSTF. The ACS-led group created six work groups. Each was asked to gather and analyze evidence to answer a specific question. Kulasingam's question was

How frequently should women younger and older than 30 years of age have a Pap smear? Whereas the ACS-led group did its own evidence review and analysis, the USPSTF contracted with Oregon's EPC to conduct the review.

Both groups tried to determine whether there was enough evidence to support a screening recommendation but used different processes to arrive at the same conclusion—that women ages 21 to 65 should have a Pap screening once every three years. “This was the first time both groups agreed on this,” Kulasingham says, adding that the systematic reviews helped table all politics. “It was an intellectual challenge reaching consensus on how to minimize women having to undergo unnecessary procedures, but still maximize cancer detection.”

Wilt believes it's best when guideline groups contract with an independent evidence review group like an EPC because it helps ensure scientific integrity. “There's good scientific evidence,” he says, “that many guideline groups have significant financial and professional conflicts of interest, which an outside evidence review helps minimize.”

Contracting with an outside group also helps groups overcome the problem of members lacking experience with evidence reviews, according to Yawn. “Everyone on these panels is an expert in their field,” she says, “but sometimes they know little about evidence summaries or evidence grading.”

Regardless of who reviews the evidence and how, guide-



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line groups differ in how they weigh those findings. For example, Wilt says “some consider the cost of implementing a particular recommendation. The USPSTF doesn’t.” Groups also vary in how rigorous their process is, what quality of evidence they consider, how well they balance harms and benefits, and how transparent their process is (the USPSTF publishes its evidence review and solicits public comment; some groups do not).

Groups also differ in their conflict-of-interest policies, according to Wilt. The USPSTF and the American College of Physicians, for example, both look for financial and intellectual conflicts. If there is a significant conflict, members may be required to recuse themselves from leading a group working on certain guidelines or from voting on proposed guidelines.

### Agreeing to Disagree

Groups writing guidelines for the same condition don’t always agree. For example, Orvidas’ specialty society guidelines for pediatric polysomnography don’t mesh with those of the American Academy of Pediatrics. “For the time being, we’ll be living with two sets of guidelines,” she says.

That’s not unusual. A number of groups write guidelines, and many of them conflict. To help physicians sort through the recommendations, HealthPartners’ Senior Advisor George Isham, M.D., who served on USPSTF work groups from 2006

through 2011, helped create the National Guideline Clearinghouse ([www.guideline.gov](http://www.guideline.gov)). Instead of just displaying all guidelines, the clearinghouse summarizes how two sets of guidelines are similar and different.

Isham says practice guidelines have improved medicine—especially primary care—and saved lives. “They clarify what science says works best,” he says. “But doctors are the real heroes because they’re the ones who deploy the guidelines. The most important thing about guidelines is the physician’s devotion to following them and being faithful to the science behind them.” ■

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## ■ Medication Therapy Management

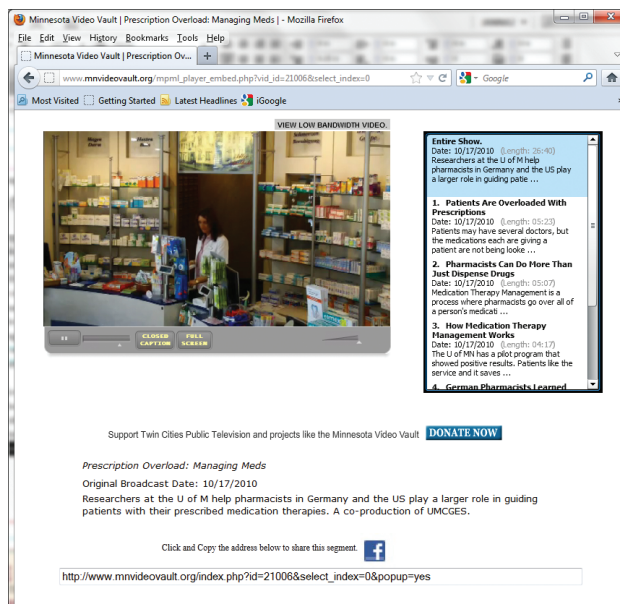
# A Minnesota Export

Minnesota recently began exporting a new product to Germany: lessons about how to make sure patients who take multiple medications get the best care possible.

Instructors and students from the University of Minnesota College of Pharmacy traveled to Germany in 2009 and 2010 to learn about the German health care system and to expose German pharmacists to the concept of medication therapy management.

Medication therapy management was invented in Minnesota as a way to help make sure patients—especially those who see more than one physician and are prescribed multiple medications—get the right outcome from the drugs they take. The patient, their physicians, and the pharmacist work together to make sure the medications don't interfere with each other and that daily habits and other factors don't prevent a patient from taking them.

Twin Cities Public Television and the Center for German and European Studies at the University of Minnesota co-produced a 30-minute program that features interviews with the pharmacists, researchers, health insurance managers, patients, and students who traveled to Germany. To watch go to [www.mnvideovault.org/mpml\\_player\\_embed.php?vid\\_id=21006&select\\_index=0](http://www.mnvideovault.org/mpml_player_embed.php?vid_id=21006&select_index=0)



"Prescription Overload: Managing Meds" tells the story of how Minnesota pharmacy faculty introduced medication therapy management to German pharmacists.

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# 10 bright ideas

By Kim Kiser  
and Carmen Peota

Doctors need to be innovators. It's that simple, at least to David Moen, M.D., an emergency medicine specialist turned champion of innovation for Fairview Health Services. "The best solutions lie in the minds of clinicians and patients," says Moen, whose title is medical director of care model innovation. Moen wants physicians to understand that health care needs to change, that they and other clinicians need to figure out how, and that they should expect successes and failures along the way.

Directing ERs for years, Moen saw plenty that was wrong with health care delivery, and he's now embarked on a mission to change things. He's convinced Fairview administrators and third-party payers to experiment with new approaches to old problems, having realized that the way doctors, clinics, and hospitals are paid contributes to the way they approach caring for patients. Currently, he's figuring out how to get one group of patients—Fairview's employees—to become more involved in their health care.

"Health care demands a higher degree of engagement on behalf of the community," Moen says. But he admits patients haven't always been interested in or willing to make the kind of changes that can make

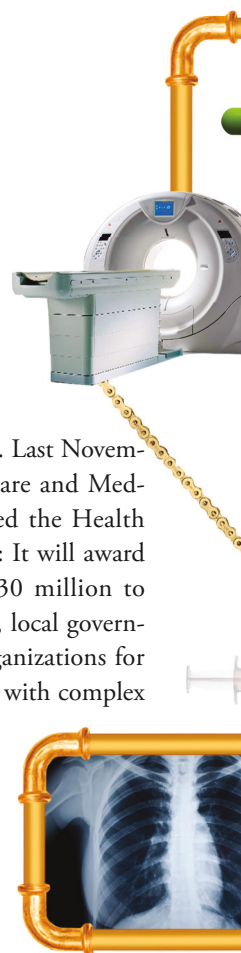
them healthier—and save dollars. So last year, Fairview embedded incentives for making certain choices within the organization's benefits packages. For example, they reduced the copays for medications needed to manage costly conditions such as diabetes. Moen's thinking is that if people actually took the drugs their doctors prescribe, they might stay healthier in the long run and actually spend less on health care over time. "It's the opposite of what some places have done in increasing the copay required for people to buy their medications," Moen explains.

Moen says Fairview has yet to learn whether its benefit redesign will improve employees' health or reduce the company's spending on health care. But he's optimistic. "In general, we've seen a reduction in total spending. And overall, we've seen an improvement in quality metrics," he says. "But there are multiple variables at play. It's difficult to tease out cause and effect entirely at this stage."

Moen is hardly the only one talking about innovation in health care these days. "Innovation" seems to be the name of the game nearly everywhere. In Minnesota, Mayo Clinic, which has a full-fledged Center for Innovation, now offers a research fellowship in health care innova-

tion. Mayo is also sponsoring a national conference on the topic in September. Nationally, innovation has become one of the watchwords of health care reform. Last November, the Centers for Medicare and Medicaid Innovation announced the Health Care Innovation Challenge: It will award grants of \$1 million to \$30 million to health professionals, payers, local governments, and community organizations for proposals targeting patients with complex medical needs.

Of course, physicians without "innovation" in their titles are still innovators. They see problems at work and figure out ways to solve them. Some have grand ideas for sweeping changes. Others make tiny tweaks in systems that generally are working. Whether big or small, their efforts can yield important results—like healthier, happier patients. *Minnesota Medicine* asked a few physician innovators to share their good ideas. Here are their stories.



# Innovative physicians tell how they improved their practices.

Illustration by Andree Tracey



## Have Patients Help Patients

Start a chronic disease self-management program

### The Problem

As the diabetes champion for Cambridge Medical Center, family physician Carolyn Kampa, M.D., was well-aware that patients with chronic diseases often struggle to do the many tasks required to manage their illness. “A lot of times people who are struggling with chronic illness are overwhelmed,” she says. “They might lack confidence or they might lack knowledge to be able to solve small problems and be able to feel a sense of accomplishment.”

She knew the doctors she worked with were wrestling with how best to help those patients. “They’re scheduled a lot, they’re in our clinic a lot, they make a lot of phone calls to us. There’s a lot of need,” she says of patients with problems such as cardiovascular disease, diabetes, even cancer. Kampa thought that was especially the case in Cambridge, which is about an hour north of the Twin Cities metro area and home to a large population of seniors. “Many people who live in our area might not have the resources or have a lot of



ideas or help managing their illness other than coming to the doctor,” she says.

She noticed that they often brought up too many issues to cover during a routine office visit. “As we get through the visit, as I’m wrapping up, that’s when they bring up the fact that they’ve been having chest pain,” she says. “That’s a hard position to put everybody in.”

### The Solution

Through her work with the Minnesota Academy of Family Physicians Foundation, Kampa learned about the chronic disease self-management curriculum de-

veloped by Stanford University’s Patient Education Research Center and proposed instituting a chronic conditions management class in Cambridge. The Stanford approach involves patients attending workshops led by trained lay leaders who have chronic health problems of their own. The goal is to help people gain confidence in their ability to control their symptoms and manage their health problems.

“We are the only clinic in Cambridge, so most of the patients who live in the area come to our clinic. I thought it would be a really nice community resource for patients with any chronic illness,” Kampa

says. After working through administrative challenges and obtaining a grant from the local Wal-Mart store, the clinic launched its first class in 2010. It now offers two concurrent six-week sessions each spring and fall. Patients are either referred to the program by a physician or find it on their own.

Kampa explains that the session leaders go through three days of training offered by the Minnesota Department of Health and use a text developed by Stanford to teach lessons about such things as goal setting or how to break big tasks into smaller, more doable ones.

## Segment Surgical Teams

Use a dedicated surgical team to more quickly meet the needs of nontrauma patients

### The Problem

As a surgeon with HealthPartners Medical Group, Gary Collins, M.D., noticed that patients who came to the ER with a bowel obstruction, diverticulosis attack, or some other concern that was acute but not life-threatening sometimes waited days for surgery. “These were lower-priority patients because they weren’t bleeding or dying,” he says.

Collins, who today serves as chief of surgery and medical director for quality and safety for surgical services at Regions Hospital in St. Paul, began thinking about how to get these patients into surgery faster.

### The Solution

Rather than have one surgical team handle all comers, he wondered if they could create two—one dedi-

cated to treating trauma patients and one for acute surgical patients. And could the hospital set aside certain hours in the OR for nontrauma cases each day? “This was sort of out of left field because for 20 years, we had always had one service,” he says.

Collins started talking up the idea with the hospital’s administration, with staff from the ER, and with his fellow surgeons. “The ER docs were more eager because it meant we would be more available to them,” he says. But the surgeons weren’t so quick to buy in, as it could mean longer days for those on call. To convince them, Collins got them thinking like patients—people with jobs and families who were just going about their day when they experienced pain that became so severe it brought them to the ER. How would they feel if they had to put their lives on hold while they sat around and waited for surgery?

In July 2011, Regions created an acute care surgery service that is

staffed with surgeons, including Collins, who are available 24/7. Now, when nontrauma surgical patients come to the ER, a staff member calls the acute care surgery service, and a surgeon sees the patient immediately. In many cases, surgery takes place that same day.

### The Results

Between July and December 2011, the acute care surgical service saw about 350 patients. Those patients spent an average of three days—rather than four or five—in the hospital (gallbladder or appendectomy patients are usually discharged within 24 hours; patients with bowel obstructions stay an average of five days). The change also resulted in a savings to the hospital during that period of nearly \$350,000.

“The take-home point is that we’ve shaved at least a day off the average length of stay, and that’s a big deal for patients,” Collins says.

Although not technically a support group, the classes provide participants with a chance to meet other people in situations similar to their own. “It’s helpful for people who are isolated, for people who don’t have a lot of ability to socialize,” Kampa says.

## The Results

Although the program is fairly new, the Cambridge clinic has seen steady growth in interest. About 30 people enroll twice a year, and about two dozen of them complete the training. Kampa says research on the program has shown that patients who take the classes and who are able to implement the skills taught in them have fewer emergency room visits, fewer clinic visits, and fewer unwell days than patients who don’t take the classes.

Both doctors and the patients who go through the classes have noticed improvements. Kampa says the class helped one of her patients who was unable to work figure out her next step, which was to become a lay leader herself. Kampa also has noticed that some of the patients who have taken the classes are better able to deal with issues that they once might have asked her about. In addition, patients are more organized when they come in for their visit. “So not only does it help patients,” she says. “It also helps doctors.”

## Call Multiple Time Outs

Make sure the patient is on track for the right surgery long before he or she arrives in the OR

### The Problem

The idea of taking a “time out”—pausing before doing a surgery to make sure the right patient is getting the right procedure on the right body part—is now standard practice at many hospitals in the United States. But it usually is done only once, just minutes before surgery. Gary Collins, M.D., chief of surgery at Regions Hospital, wondered if it could be done not only in the OR but also before patients got there.

### The Solution

Working with colleagues at Regions, he decided to improve on their process to prevent wrong surgeries by having staff run through some of the time-out questions when a patient arrives in the pre-op area. Before patients are taken to surgery, staff now ask: What is the name of the patient? What procedure is he or she scheduled to have? Which side of the body will be operated on?

Collins and his team also created an abbreviated list of questions they needed to ask during time-outs and created large, colorful posters that now hang in all of the ORs at Regions. The posters not only serve as a reminder of what to ask before surgery but simplify what was initially a lengthy list of questions developed by the World Health Organization. “We took the most crucial safety components that were most relevant and important and most applicable to our patients,” Collins says.

Now when a patient arrives in the OR, everyone in the room—even the medical students—introduces himself. Then a formal time-out is called, and the anesthesiologist, surgeon, circulating nurse, and scrub nurse run through the questions listed on the poster: Is the patient indeed the correct patient? Is the procedure correct? Do the X-rays match with the stated procedure? Is the appropriate body part exposed? Is the correct type of blood available? Does the patient have any allergies that could affect the outcome, etc.?

All members of the team are encouraged to speak up if they see a potential problem. Collins recalls how a medical student once stopped the process and questioned a surgeon. “They stopped and checked and it turned out everything was OK, but they thanked her for questioning it. I don’t know what it would have been like when I was a medical student to challenge an attending surgeon and be wrong about it. But now we’re appreciative of it,” he says.

Once the team finishes going through the checklist, they remove a white towel with the words “Time Out” printed in red (a backup reminder not to forget to call time out) from the surgical tray and begin the procedure.



## The Results

Since hanging posters in the ORs last summer and instituting the double-check, Regions has changed its culture surrounding the prevention of near misses. “There have been a few times when we have had to check the chart and confirm something but it turned out everything was fine,” Collins says. The hospital has not had any wrong-site surgeries.

His goal is to expand this concept of checking and double checking beyond surgery. “We would like to make sure things are consistent all the way back to the patient’s visit in clinic. If something is wrong in clinic, it can get scheduled wrong and the patient may not even know.”

# Prevent Pressure Ulcers

## Reduce the incidence of a preventable complication

## The Problem

When Gary Collins, M.D., went through his surgical training 10

years ago, pressure ulcers were viewed as a routine part of a hospitalization for many patients. Slowly, his thinking changed. “Pressure ulcers are a painful complication, they’re a patient experience problem, and they’re a total cost-of-care issue,” says Collins, who is now chief of surgery at Regions Hospital.

Not only do pressure ulcers affect patients who lay in one position for long periods, they affect those who use a neck immobilizer, a feeding tube, an oxygen mask or cannula—any device that places pressure on the skin. Those who are elderly and have thin skin or who are malnourished are at even greater risk for developing them. Collins also noticed he was seeing more pressure ulcers among patients with traumatic head injuries.

## The Solution

He started asking everyone who came in contact with patients—the OR staff, respiratory therapists, nursing staff, nutritionists, surgeons, and other physicians—for ideas on how to prevent pressure ulcers and came up with a plan to implement many of those suggestions. “We took a multipronged approach, which is I think how you always have to approach these complex problems,” he says. Some of the changes have involved equipment: removing trauma patients’ neck immobilizers as soon as it’s safe; taking patients off hard backboards and placing them on more comfortable padded cots immediately after the EMTs bring them in; and purchasing gel-based padding for OR tables and having stick-on padding that can be applied to shoulders, hips, heels—any body part that comes into contact with a hard surface.

Others involved building awareness. Although nurses typically change a patient’s position every two hours, the surgical team also makes a point of turning each patient during daily rounds and making sure all pressure points are padded. “We make it a priority, even if the nurse just repositioned them,” Collins says. “We even involve families if they want to help.” Respiratory therapists also know to switch the position of breathing tubes every two hours. In addition, a skin team that includes a nurse specialist, charge nurse, and bedside nurse does a weekly inspection in addition to the other checks. “The idea is to catch anything early,” Collins says.

## The Results

From 2010 to the end of 2011, Regions saw a 30 percent reduction in the number of reportable pressure ulcers (from eight to five).

## Redo Rounds

Include everyone—physicians, nurses, patients, family members—in bedside rounding

### The Problem

When many specialists care for a hospitalized patient, communication is often like that in a game of telephone, with many conversations taking place among many different members of the care team with no one, not even the patient, getting the full story. “A physician may have decided to order a test that required the patient not to eat anything beforehand. They placed the order, but others involved in the patient’s care weren’t always aware of it. Then the food cart would show up, the patient would eat, and the test would have to be to be rescheduled,” says Ben Baechler, M.D., an assistant professor and inpatient faculty lead for Smiley’s Family Medicine Residency Program at the University of Minnesota. The process often resulted in confusion, redundancy, delays in care, and ultimately, higher costs.

### The Solution

As part of a larger initiative to make care more patient- and family-centered at the University of Minnesota Medical Center, Fairview, Baechler joined a team last July that decided to focus on improving the way daily hospital rounds were conducted in order to improve communication among staff and patients. The group, which included representatives from a number of departments, wanted to get everyone involved in a patient’s care—the attending physician, the resident caring for the patient, the senior resident, the junior residents, the patient’s

nurse, and the patient and his or her caregivers—together at the bedside for a daily meeting.

They knew that involving the patient’s nurse would be critical to the effort. “The nurse knows the patient best,” Baechler says. So the first thing they did was devise a way to let the medical staff know how to contact the patient’s nurse. All nurses wear phones on their belts, so they made sure that number was posted for the physicians to see in the medical record and in the patient listing. And they made sure the whiteboard in each patient’s room was continuously updated with the name of the doctor, the resident in charge, the nurse (and his or her phone number), the patient and what he or she wants to be called, and a contact person.

With the new rounding system, the team works much like an orchestra—everyone knows their part and works in concert. The residents involved in the patient’s care and the attending physician begin by contacting the nurse and arrange to meet just outside the patient’s room. Before entering, the attending asks the resident in charge whether there are acute concerns or events the team may not know about and whether there is anything that the resident would be uncomfortable discussing in the patient’s presence. Once the resident is ready, he or she leads the team into the room and stands next to the bed, near the patient’s shoulder. The faculty physician stands next to the resident, and the nurse is at the foot of the bed. The patient’s family is usually positioned on the other side of the bed, with the remaining residents in between.

The resident who cares for the pa-

tient greets the patient and introduces the team. He or she then asks the patient and the nurse if they have any concerns or questions. “It’s the patient first, then nursing, then after we’ve heard about any concerns, the resident starts telling how the patient did overnight. Then they systematically walk through pertinent vitals, labs, and physical exam findings,” Baechler says. The team also runs through a checklist to make sure everyone knows such things as whether the patient’s IV or Foley catheter can come out, whether there are any special instructions related to nutrition, and whether there is anyone else with whom they need to communicate. The patient and family are encouraged to ask questions or express concerns at any time.

“The big change is having everyone present, soliciting their input, and making sure that everyone is in agreement and that we’re avoiding having multiple conversations,” Baechler says.

### The Results

Since implementing its version of “patient- and family-centered rounding” last fall, Smiley’s inpatient service has been tracking the number of times the nurse is contacted before rounding begins and the number of times the entire team rounds together. Baechler says both contact with the nurse and rounding as a team are happening more than 70 percent of the time. “The feedback we’ve had thus far from colleagues, in nursing specifically, is that they love it,” he says.



## Try Telepsychiatry with Kids

Do psychiatric consultations from a distance

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### The Problem

Adolescent psychiatrist Timothy Gibbs, M.D., had long been aware of the shortage of adolescent and child psychiatrists in Minnesota, especially in smaller communities. Family physicians and pediatricians could often handle more routine issues—such as prescribing a first-line medication for a child with ADHD. But if a patient didn't respond to the medications, or had tics or other unusual and concerning behaviors that might signal a more serious illness, the only option was to refer that patient to a child psychiatrist in a metro area, which was often hours away.

### The Solution

About 10 years ago, Gibbs ran into a former colleague who was practicing telemedicine four days a week from his office in Sacramento, California. Curious, Gibbs picked his brain about what kind of equipment he used and how it worked. A few years later, Gibbs learned that Allina was beginning to do telemedicine evaluations for stroke care. Allina had invested in equipment that provided a secure audio and video link between the staff in the emergency rooms at Abbott Northwestern Hospital in Minneapolis and its hospital in Buffalo, about 40 miles west. Shortly after that, Gibbs learned that nurses in the ER at Abbott were doing psychiatric evaluations of adult patients in Buffalo using the same equipment.

Gibbs, somewhat of a technophile himself—he had developed his own elec-

tronic medical record system when he had been in independent practice—thought he was ready to attempt it and approached Allina administrators about trying telepsychiatry with children and adolescents. They liked the idea and chose to pilot it at the Allina clinic in New Ulm. Allina purchased and set up the equipment in both locations and trained staff in New Ulm to run it. Gibbs had to get credentialed at the New Ulm Medical Center “because a physician who does telemedicine has to be credentialed at both ends of the telemedicine connection,” he explains.

Gibbs also worked on the protocol for the consultation, addressing not only how the visit would work but also how to avoid confusion (for example, he made it clear that the patient's local primary care provider would be responsible for writing prescriptions and doing follow-up after the telemedicine consultation). Gibbs says he relied heavily on guidance from the American Academy of Child and Adolescent Psychiatry.

Last October, physicians in New Ulm began referring pediatric patients for telepsychiatry. On the day of the appointment, the patient and his or her parents go to a conference room in New Ulm that is equipped with the telepsychiatry robot—a pole on wheels with a camera and screen attached. A New Ulm staff person notifies Gibbs by email or telephone that the patient has arrived. Gibbs then logs onto the telemedicine application on his laptop computer, which allows him to control the camera in New Ulm, zooming in on the child's face or pulling back to see their whole body or even panning across the room. The patient can see Gibbs on the screen as well as an inset of

what Gibbs sees.

Gibbs talks first with the patient and then with the parents. After the visit, he writes detailed recommendations about treatment and follow-up in the electronic medical record, which both he and the physician in New Ulm can access. If the patient needs to be seen by a specialist, he'll refer the child to the Twin Cities. “Most often, they're taken care of by their local MD with input that I give them,” he says.

### The Results

Gibbs says patients seem to be comfortable with the telepsychiatry consults—he's seen children as young as 5 years of age—and it works well for him, too. He says the video display is clear enough and the camera responsive enough that little is lost visually. “I've had patients whose chief complaint was muscle tics, and I'm able to see all of the twitches and tics and everything that's going on with their face and arms. It's a very clear picture.” He admits the video and audio have dropped out on occasion, and that in one case, the system failed altogether during the interview.

He says Allina plans to expand the service, adding another two hours a week of his time in addition to the two he already spends with patients in New Ulm, and training two additional child psychiatrists, who will be available at least two hours per week each, to use the system. But the expansion plans don't stop in New Ulm. “We have a unique situation,” he says. “One of our child psychiatrists is an Italian citizen and is planning to move back to Italy but continue to do telemedicine for Allina in the United States.”

## Put Kidney Stone Patients on the Fast Track

Get kidney stone patients the right treatment in the ER

### Use Plain Language

Avoid medical jargon whenever possible

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a family physician at Raiter Clinic in Cloquet and medical director for Integrity Health Network, which consists of 45 primary care and specialty clinics in northern and central Minnesota. “And if they don’t understand what we’re saying, we can’t expect they’ll be able to adhere to our recommendations,” he says.

#### The Solution

About eight months ago, the clinic gave all of its physicians and nurses a list of common medical phrases that were translated into plain English with instructions to think about the way they speak to patients. The idea was to get all staff using words everyone understands. “Instead of using ‘wound’ or ‘laceration,’ we use the word ‘cut,’” he says. “And we stitch it up, rather than suture it.” They also may ask about pain in the belly rather than pain the abdomen.

#### The Results

The clinic isn’t measuring this particular initiative; but Luehr says it is one of many ways he and others there are trying to make care more patient-centered.

#### The Problem

Many of the medical phrases and terms doctors use are foreign to patients, says David Luehr, M.D.,

#### The Problem

Andrew Portis, M.D., a urologist who specializes in treatment of kidney stones at HealthEast, noticed that while the majority of people who came to the ER with stones received appropriate and effective care, some made return trips to the ER. He saw three reoccurring scenarios: patients who had a good prognosis for passing the stone but who weren’t being “solidly managed” as outpatients “bouncing back” to the ER and undergoing unneeded surgery; patients who had a poor prognosis for spontaneous passage but responded well to initial symptom control returning to the ER if they had been discharged without a plan for follow-up care; and even more serious, patients who had subtle signs of infection returning to the ER after developing serious sepsis. “Repeated emergency room encounters are not the path to efficient care,” he says.

Portis, who heads HealthEast’s Kidney Stone Institute in St. Paul, says the challenge for emergency physicians is that they need to be able to address a vast number of problems. “Kidney stone patients arrive amidst heart attacks, strokes, broken bones, viral coughs, and every other kind of problem,” he says.



## The Solution

Portis, who joined HealthEast in 2009, talked with the ER physicians both informally and at their department meetings and offered the expertise of the Kidney Stone Institute. He encouraged them to call any time, for any reason, but particularly if they wanted immediate support when caring for an atypical kidney stone patient. He assured them that the institute would offer patients outpatient clinic appointments that day or the following day so that ER physicians wouldn't feel they had to admit patients to a hospital to receive specialty care.

## The Results

More than 2,000 kidney stone patients have received what Portis calls "rapid expert care" since 2009. Because staff at the Kidney Stone Institute now monitor all kidney stone patients who come through HealthEast's three hospitals, he has been able to track "virtually everyone." Before institute staff got involved in the ER cases, 23 percent of kidney stone patients were admitted to the hospital; now 10 percent are admitted. Previously, of those who were discharged from the hospital, 8 percent came back to the ER within the calendar month; now 3 percent do. When patients did come back to the ER, 30 percent were admitted; now 10 percent are.

The changes also saved an estimated \$1,000 per patient per emergency department visit. As for patient satisfaction, "we're well into the 95th percentile on every measure," Portis says. He has been recognized by Medica and HealthPartners for this innovative work.

# Standardize Specialty Referrals

Make sure referrals are appropriate and that specialists have the information they need

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## The Problem

At a recent meeting of the leaders of the 45 clinics and facilities that make up Integrity Health Network, one of the neurologists brought up the fact

that patients often came to him without the right imaging studies. He also pointed out that nearly all of the headache patients who came to him had had either a CT or MRI study but that fewer than 10 percent of patients with severe headache actually require one. Other specialty physicians indicated that they, too, were seeing patients who could have been helped by their primary care physician.

## The Solution

That information got the network's medical directors, David Luehr, M.D., a family physician at Raiter Clinic, and David McKee, M.D., a Duluth neurologist, thinking. They asked specialists to name two or three of the most common reasons patients were referred to them and to come up with brief, to-the-point recommendations for what they would like to see happen before a patient was sent to them: Which tests need to be done for patients with renal failure, and what level of renal failure necessitates a nephrology consult? What can a primary care physician do for a patient with eczema before referring to a dermatologist? And what basic medications could be tried for a patient with migraine headaches before sending him or her to a neurologist?

Luehr says they are developing about 25 half-page-long guidelines and plan to compile them and give them to primary care physicians. The specialist lists things the primary care physician should do, and several family physicians go over those recommendations. "We then have a conference to decide how to make it more clear and informative," Luehr says. For example, when a dermatologist recommended first treating a patient with eczema with a "mid-strength steroid with an emollient cream," the family physicians asked him to be specific about drug names, the dosage to prescribe, and the amount the patient should use.

## The Results

Luehr says they have written guidelines on about 20 issues so far. He has been testing them informally with his own patients. "It has been a very good reference, very useful," he says. "Many times, I have not needed to do a referral." He says the network eventually will track the number of referrals.

## Send Joint Patients to Camp

Improve the experience for people undergoing joint replacement

### The Problem

More and more patients were coming to Douglas County Hospital in Alexandria, Minnesota, for total knee or hip replacement surgery. “Joint replacement is probably the most frequent thing we do here, and with our population aging, the number of joint replacements will continue to skyrocket,” says Paul Dale, M.D., an orthopedic surgeon with Heartland Orthopedic Specialists, who performs joint replacement procedures at the hospital.

But the way the OR schedule was set up, the surgeons could do only four cases a day. In addition, patients who came in for joint replacements usually found themselves sharing a room with those recovering from any number of procedures. “If a joint replacement patient was around a patient who may have had an infected gallbladder, there was high potential for bacterial contamination,” Dale says. “The same nurses were taking care of orthopedic and general surgery patients, and no matter how hard you try to prevent transmissions, there is potential.”

And because a number of different nurses and therapists were working with joint patients, those patients were receiving inconsistent information about what to expect in terms of their procedure and their rehabilitation. “People have different ways of telling a story, they have different ways of presenting exercise routines and describing the frequency and

intensity,” he says. “That can lead to confusion.”

### The Solution

When the hospital began planning an addition, Dale and his colleagues worked with the administration to dedicate one end of the old surgical floor to joint replacement patients. They also got them to set aside certain days in the OR for joint cases and reconfigure a couple of patient rooms into a separate rehab facility for joint patients. Thus, the idea for “Joint Camp” was born.

Now, when patients come for a knee or hip replacement, they meet with the joint care coordinator, who describes how they’re going to progress through surgery and therapy. Dale says they developed a binder that everyone gets before surgery. “It tells you what to expect day to day, lists the exercises you will do, and has pictures so you can look at them and understand what you need to do and how many sets you have to do how many times a day.” In addition, they are seen by a dedicated team of nurses and therapists.

After surgery, patients go through “group therapy” in a setting that looks more like a resort than a gym. “Moaning and groaning together, and knowing you’re not the only one experiencing the pain makes it easier to tolerate, and patients like that,” Dale says. In addition, therapists encourage friendly competition among the patients over how far they walk. Footprint markings in the hall allow patients to monitor how many steps they take. (The floors are made of a material that not only is easier to walk on but also cuts down on the

potential for infection.) On the second day of therapy, patients’ families get involved and learn how to help their loved one after they go home. The idea is that a family member becomes the patient’s coach.

### The Results

Since they started making the changes in 2008, Dale says the infection rate for total knee and total hip patients has fallen from 0.5 percent to 0.2 percent.

Efficiency also improved. Most joint surgeries now happen on Mondays and Thursdays, when the surgeons not only have dedicated ORs but also help from a core group of nurses. As a result, the surgeons are now able to do six to eight cases in a day, rather than four.

Perhaps most important, Dale says, the patients’ experience has improved. Patients better understand what they will go through. “The number of questions patients have has been drastically reduced,” he says. In addition, they now spend three to four days in the hospital, rather than four or five. Satisfaction scores stand at 99 percent, and of those patients who had one joint replaced under the old system and have returned for a second, 100 percent say they preferred the new system. In fact, many former patients have become Joint Camp volunteers. “Patients love having peers around. They think, ‘If you can go through this, I can go through it,’” says Dale, who received the MMA’s 2011 quality improvement award for his efforts. **MM**

Kim Kiser and Carmen Peota are editors of *Minnesota Medicine*.

# NO ACUTE DISTRESS

What the notes in patient records don't tell us.

By Timothy Ebel, M.D.

A thin manila folder sits in the chart rack on the door to Room 10. In the lower margin are colored squares—a secret code of identifiers decipherable solely by the clerical staff. When I'm in a philosophical mood, I view the folder and the chart it contains as the icon of a life. It is most poignant when one comes across my desk with the word DECEASED written boldly on the cover. I pause for a moment to reflect on the person, recalling a particular clinic visit or hospitalization or story shared. I wonder: What stories will I never know about this person's life? But today is a busy day—I haven't even had time to look at the schedule, and the Sumatran dark-roast I drank earlier is pulsing through my veins. "Carpe Diem!" I think—at least until the coffee wears off. By afternoon, however, my motto is likely to become "Diem Carpe," or whatever the Latin equivalent is of "I've been seized by the day."

Standing in front of Room 10, I'm curious about the person who sits behind the door. The crisp, unblemished file tells me this is a new patient. There are a number of reasons why a new person visits the clinic on a given day: a newborn having his or her first well-child visit, an aging parent failing at home, a narcotic seeker looking for a fix, a clinic-avoiding soul no longer able to ignore worrisome symptoms, or a disgruntled patient looking for a new doctor.

I knock—a courtesy that if not extended during my clinical training resulted in a tarnished grade. I turn the well-worn handle and enter the room.

Clinical medicine is demanding. In my haste, I often fail



to appreciate the black-box flight recorders operating in my subconscious. They dutifully record the altitude, pitch, and yaws of behavior and appearance to help me understand the patient in front of me. Heavy perfume and chewing gum, for example, often suggest alcohol and tobacco use. The vacant stare of an elder could connote dementia or perhaps the burnout felt by a caregiver. Edgy impatience lurking like a crocodile ready to snap its jaws might hint at a potential showdown over narcotics.

I introduce myself with a firm handshake, making eye contact, and hoping to extend a Benedictine sense of welcome. This is not always easy. A bad night of call, teenage drama at home, or the telltale clunk of the clinic scale advising me that my next patient is ready to be seen (even though I haven't yet had the chance to talk with this one) can thwart my attempt at hospitality.

Recently, a new patient told me he had a borderline personality. "I'm a pain in the ass," he explained.

"Do people *say* you're a pain in the ass or are you *really* a pain in the ass?" I asked.

"I am a pain in the ass," he said solidly.

Taken aback, I began to consider how I might avoid becoming his personal physician, then burst out laughing. "Welcome to my practice," I said with a degree of conviction that surprised even me. At least this guy was honest.

The clinical encounter often operates on different levels. Discovering what a particular patient may need or want is not always easy. The formal template of a clinical evaluation—chief complaint, history of present illness, past medical history, current medications—is chiseled into the bedrock of our brains during our long hours of medical training. The electronic age has brought with it even more templates. The modern rendition of Frost, thus, might be, "Template leads on to template." In our quest for data to plug into a computer, however, we often fail to fully grasp the human in our midst who searches for wholeness, healing, and meaning. This was evident when a 93-year-old patient was recently hospitalized. I found warehoused among the data in her record that she was currently not breastfeeding.

Or take an encounter with a diabetic patient. It is often reduced to Jiffy Lube-esque efficiency:

Glucometer review	check
Daily aspirin	check
Annual eye exam	check
Drain plug	check
Oil filter	check

But the truth is, human nature never fits neatly into a check box.

Medication compliance	no check
Routine exercise	no check
Alcohol in moderation	no check
Life balance and satisfaction	no check

And so it goes.

## In our quest for data to plug into a computer, we often fail to fully grasp the human in our midst.

Sometimes I feel I don't have the time or the guts to dig deeper—to be a bit nosy and ask the hard questions: "Do you resent caring for your aged mom?" "What are the demons that lurk behind your addiction?" "Are you afraid you might die from cancer?" "Why did you fire your last doctor?"

"No acute distress" is standard medical language often found in our notes. Perhaps it originated from the swamps and hollows of defensive medicine. If I write, "The patient appeared in no acute distress," how can I be blamed for a bad outcome? If I state, "She appeared in no acute distress," I avoid soiling my hands with the messiness and vagaries of our human condition. But how many of us actually live lives of no acute distress? How much pain does one have to endure before we call it distress? How much human pathology flies under the radar of our medical templates?

It's another busy day. The flight recorders are lost at sea.  
"Carpe Diem!"

MM

Timothy Ebel is a family physician in Cold Spring, Minnesota.

### Call for Papers

*Minnesota Medicine* invites contributions (essays, poetry, commentaries, clinical updates, literature reviews, and original research) on these topics:

#### Medicine and the Arts

Articles due May 20

#### Infectious Diseases

Articles due June 20

#### Finding Common Ground: What Unites MDs in an Age of Specialization?

Articles due July 20

#### Genetics

Articles due August 20

#### Health Care Delivery

Articles due September 20

We are also seeking articles on health care reform and other topics.

Manuscripts and a cover letter can be sent to [cpeota@mnmed.org](mailto:cpeota@mnmed.org).

For more information, go to [www.minnesotamedicine.com](http://www.minnesotamedicine.com) or call Carmen Peota at 612/362-3724.

# The Wisdom of an Old Surgeon...

*Words to live by during good times and bad.*

By David R. Farley, M.D.

This past holiday season was a tough one for me and my family, my co-workers, and the good people of Minnesota. In a span of one week, we collectively lost a young cardiothoracic and transplant surgeon in a tragic helicopter crash, a caring cardiologist to the rages of metastatic pancreatic cancer, a young police officer to a bullet in the line of duty, and my wife's favorite aunt to a massive cerebral stroke.

Many of us were in shock after learning about these deaths and wondered who would be next. It is at times like this when those with faith in a higher being lean heavily on the belief that there is an ultimate plan for this chaotic existence. Those void of such faith lean heavily on family and friends, tightening the circle of love, and getting through one day at a time. I chose a combination of the two.

But one day shortly after these deaths, I lamented my own existence. I asked myself, What is the point in all of this? Why do I go to work? Why do I push my kids to perform well in school? Why do ill patients keep arriving for surgical care? And what good am I really doing?

As a general surgeon at Mayo Clinic for 18 years, I have had my share of ups and downs, and I have always persevered. But for those few minutes in my office, as I prepared to visit with 16 patients with a host of surgical issues, I really found myself wondering What is the point?

As I pondered infinite concepts with my finite mind, my eyes landed on the

corkboard behind my computer, where I had tacked a printout of an old email. It was from my then 80-year-old retired general surgeon uncle. Uncle Harrison's note that day, December 1, 2009, suggested that the keys to a respectable and fulfilling life as a surgeon were to 1) maintain a reverence for life, 2) commit to lifelong learning, and 3) always admit your errors.

It struck me as sound advice back then and, I have to admit, as I read it again more than three years later, it sounded like something I could believe in now.

**A reverence for life.** Physicians should and must keep working on their patients' behalf.

**A commitment to lifelong learning.** As physicians, we must keep learning. New ways to diagnose and treat cancer are around the corner, methods to decrease the risk of stroke are evolving, and researchers are forever searching for better ways to accomplish good things for good people.

**A willingness to admit your mistakes.** Honesty remains the best policy, and being able to look a family member, co-worker, and fellow Minnesotan in the eye and admit you have committed an error is a good thing. There is something uplifting about realizing it is OK to make mistakes.

Thanks for sending the email, Uncle Harrison. Life is precious and sadness happens. None of us should hold back when it comes to saying "I love you"

*It struck me as sound advice back then and, I have to admit, as I read it again more than three years later, it sounded like something I could believe in now.*

or "I think I made a mistake" or "Here are some words to live by." Communicate your reverence for life. Commit to lifelong learning. And be humble enough to admit your mistakes. I should be good for another 18 years. **MM**

David Farley is a general surgeon at Mayo Clinic.



# THE PHYSICIAN ADVOCATE

News about Policy, People, and Politics

## BMP Bill: Balancing Solutions with Burdens

**T**he MMA is working with lawmakers to revise a bill currently moving through the House and Senate that would give the public online access to information about malpractice judgments, criminal convictions, and disciplinary actions for the 15,000-plus practicing physicians as well as other health professionals in Minnesota. The bill applies to all health licensing boards including the Minnesota Board of Medical Practice (BMP).

“We are proposing revisions that are intended to ensure that consumers are provided with helpful information. But if this is not done carefully, it will come with potential consequences,” says Dave Renner, MMA director of state and federal legislation. “First, we want to make sure that the information provided is a good measure of a practitioner’s competency. Second, we need to consider the burdens it may add to the licensing process.”

Lawmakers introduced the legislation in response to recent *Minneapolis Star Tribune* articles criticizing the BMP for its lack of transparency about physician disciplinary actions.

### Provisions of the Legislation

If the bill becomes law, the following information about physicians will be posted on the BMP website:

- Felony or gross misdemeanor convictions in the past 10 years;
- The number of malpractice judgments in the past 10 years; and
- Disciplinary or corrective actions taken against a doctor or restriction of privileges against his or her license in Minnesota or any other state.

In addition, licensing boards will be given the authority to conduct criminal background checks and require the submission of fingerprints at the practitioner’s expense, create new civil penalties for organizations that are required to report disciplinary actions to the licensing board and fail to do so, and review the state’s Medical Practice Act and suggest changes to ensure that it effectively protects the safety of citizens.

### The MMA’s Position

According to Renner, the MMA has worked with the bill’s authors, Sen. Terri Bonoff (DFL-Minnetonka) and Rep. Mary Kiffmeyer (R-Big Lake) to help



focus the legislation on providing more relevant information to assist consumers in making informed decisions. As a result of the MMA’s efforts, the authors agreed to eliminate a requirement to post malpractice settlements and impose civil penalties on licensees who fail to report infractions.

At press time, the MMA was continuing to work to eliminate language about the fingerprinting requirement and to limit the posting of disciplinary actions or restriction of privileges in other jurisdictions to only those taken by licensing boards.

The bill has passed several committees in the House and one in the Senate.



# VIEWPOINT

| by David Thorson, M.D.

## Working Together and Independently

In January, a group of physicians and practice managers from around the state gathered to discuss the future of medicine. They'd asked for the MMA's support in dealing with such issues as administrative burdens, fair reimbursement, investment in technology, and health care reform. Sound familiar?

**Nationally, about two-thirds of physicians are still in smaller practices. About one-third of Minnesota physicians are in independent practices.**

It should. These are issues faced by all physicians. But the professionals who gathered that night worked in independent practices and had

asked for MMA support as they work to survive in the rapidly changing health care environment.

Make no mistake, these physicians have chosen to practice independently. They enjoy making their own business decisions and are willing to take the financial risk that comes with doing that.

But they are bucking a trend. Nationally, about two-thirds of physicians are still in smaller practices; but that's changing. This message became clear as Jeremy Laza-



Photo by Steve Weverka

David Thorson, M.D.  
Chair, MMA Board of Trustees

rus, M.D., president-elect of the American Medical Association, gave his keynote address to the group. He explained that nearly 65 percent of graduating residents are opting to join hospitals or large-group practices instead of independent practices.

As usual, Minnesota is ahead of that

## Physicians Bring Health Care Concerns to Lawmakers

For more than 20 years, the MMA has played matchmaker to physicians and lawmakers at its Day at the Capitol event. The MMA created the February event to provide physicians the opportunity to meet lawmakers face to face and discuss

health-related concerns they and their patients face.

Minnesota Commissioner of Health Edward Ehlinger, M.D. commended physicians who attended this year's event for their involvement in the political process.

Along with Day at the Capitol, the MMA organizes District Dialogues in which lawmakers visit physicians in their communities.

Scenes from the MMA's 2012 Day at the Capitol.



curve. MMA data show only about one-third of Minnesota physicians are in independent practices, which is a significant change from when I went into practice.

Dr. Lazarus said physicians in independent practices don't have to feel they are alone. And he mentioned that both the AMA and the MMA offer resources to help physician practices regardless of size.

He suggested using AMA resources including information for competing in the marketplace, a managed care contracting kit, claims-processing ideas, and a claims workflow sheet. These are all available on the AMA website, [www.ama-assn.org](http://www.ama-assn.org) (click on Practice Management Center).

Through Member Advantage, the MMA offers an array of practice management and personal services that can help physicians in independent practice ([www.memberadvantagenow.com/About.aspx](http://www.memberadvantagenow.com/About.aspx)). In addition, MMA advocacy benefits all physicians. For example, we've recently worked to ensure that all information re-

leased to the public about physician performance and about disciplinary actions taken by our medical licensing board is meaningful and accurate.

The MMA will continue to work with physicians in independent practices to hear their ideas and determine how best to support this important part of our membership. At the same time, MMA leaders are traveling around the state talking with large physician groups such as those at Chil-

dren's, Mayo, Essentia, St. Luke's, ACOM, and HealthEast about their needs and how the MMA can better support them.

As MMA President Lyle Swenson has been saying at the independent practice group meetings, the medical profession has room for all kinds of practices. The MMA isn't here to say one kind is better than another or to divide medicine. We are here to try to improve the state of medicine for all of our members.

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## FROM THE **BLOG**

### "Medicare Reimbursement Policies"

| by Lyle Swenson, M.D.

In his most recent blog post, MMA President Lyle Swenson, M.D., discusses the Medicare Payment Advisory Commission's recommendation to equalize Medicare reimbursements to physicians regardless of setting. Read what he has to say at [mmapresident.blogspot.com](http://mmapresident.blogspot.com) and share your thoughts.

## Discuss End-of-Life Wishes on National Decisions Day

The MMA has endorsed National Healthcare Decisions Day (NHDD), which takes place on April 16. Events scheduled throughout the week are intended to educate individuals about the importance of planning and documenting their end-of-life wishes using health care directive and Provider Orders for Life Sustaining Treatment (POLST) forms.

"Decisions Day is a great reminder for physicians and patients to think about advance health care decision-making and what that means," says Robert Meiches, M.D., MMA CEO.

Although both health care directive and POLST forms assist providers with understanding a patient's wishes, they differ in several ways. Both forms are available on the MMA website ([www.mnmed.org](http://www.mnmed.org)) under Member Services/Resources for Your Patients.

A health care directive form can be filled out and signed by an adult patient at any point in his or her life, regardless of health status. It can be used to provide instructions to a provider or the patient's family when he or she is unable to speak for him or herself. The patient also can name an agent to speak on his or her behalf.

A POLST form is used by a provider when discussing specific treatment options with patients, who have been diagnosed with a serious illness and who are nearing the end of life, or their decision-maker. It is filled out and signed by the provider and becomes an order that can be followed in an emergency.

More information about upcoming NHDD educational events in Minnesota can be found at [www.mnhealthcaredecisions.info/](http://www.mnhealthcaredecisions.info/).



Photos by Steve Wewerka



## MEET A MEMBER

Tim Hernandez, M.D. | By Lisa Harden

MMA member Tim Hernandez, M.D., sees health care quality improvement from two distinct vantage points. As medical director for quality and safety at Family Health Services Minnesota, he ensures quality measures are met and properly reported. As a board member of MN Community Measurement, which publicly reports information about the performance of clinics and provider groups, and co-chair of its Measure and Reporting Committee, he approves some of the very metrics on which his practice group is evaluated.

Hernandez got involved with Community Measurement in 2011 and is one of nine MDs on the board. “Physicians bring the perspective of real-time struggles to help those developing quality-improvement measures understand how the metrics will work in clinics,” he says.

For instance, when Community Measurement was developing its c-section rate measure, Hernandez advised against making the total number of c-section deliveries performed at a facility public because the number of providers who do them can vary

so widely between facilities. He also identified problems with attributing deliveries when a woman’s care is transferred from one provider to another. Because of this, the total number of deliveries is not publicly reported and the issue of attribution is being addressed.

Although quality improvement is a key tenet of health care reform, getting physicians on board with the idea of being measured hasn’t been easy. “We’re not used to being evaluated that way. But we need a common set of metrics to improve care,” Hernandez says.

He’s seen how using those metrics can make a difference. Several years ago, his group was third from the bottom in HealthPartners’ ranking of clinics that provide children’s preventive services. Knowing that well-child care up to age 2 would soon become one of the areas on which the state would evaluate providers, Hernandez urged his group to work on improving its performance sooner rather than later. Within two years, the group moved to the top of HealthPartners’ ranking.

Hernandez also encouraged his group

to take part in DIAMOND, an initiative to improve management of depression in primary care settings. Although they saw improvements in remission rates, they struggled with the cost of providing such services. That experience prompted Hernandez to get involved in an MMA task force on integrating primary care and behavioral health. The task force, which met during the first quarter of 2012, will make recommendations about ways primary care and mental health providers can work together to better manage patients with concurrent mental health and/or substance-related disorders.

Hernandez says measurement must balance concern for quality improvement and cost reduction. As a member of the advisory group for Bridges to Excellence, a pay-for-performance initiative, he has seen how rewarding clinics for providing quality care can benefit employers. “We have finally gotten to the point where we can systematically do quality improvement on a population basis, which is important to employers who are looking to keep employees healthy and reduce costs.”

## Free Training on Working with Interpreters

The MMA and the Minnesota Academy of Family Physicians (MAFP) Foundation have teamed up to offer free training to physicians on how to effectively use interpreter services.

“We are offering this training to help clinics provide the best possible care to patients,” says Dionne Hart, M.D., chair of the MMA Minority and Cross-Cultural Affairs Committee.

The sessions will address such questions as: How can I feel more comfortable using interpreters? How do I know if my patient understands me? Should I be saying or doing something differently to ensure accuracy? Why is it better to use a professional interpreter than a family member?

Clinics can set up a training session by contacting Brian Strub at 612-362-3745 or [bstrub@mnmed.org](mailto:bstrub@mnmed.org) or Lynn Balfour at the MAFP Foundation at 952-542-0130 or [foundation@mafp.org](mailto:foundation@mafp.org). For more information on all of the MMA’s topical presentations, go to [www.mnmed.org](http://www.mnmed.org) and clinic on Advocacy and MMA Rounds.

## Call for MMA Officer Nominations

The deadline for submitting MMA officer nominations is May 1. Nominations are being accepted for president-elect, speaker of the House of Delegates, vice speaker, secretary/treasurer, and AMA delegation reps. Names submitted will be reviewed by the Nominations Committee and made public in July. Please submit nominations to Shari Nelson ([snelson@mnmed.org](mailto:snelson@mnmed.org)).





Tim Hernandez, M.D.

## AT A **GLANCE**

**MEDICAL SCHOOL**  
Mayo Medical School

**RESIDENCY**  
St. John's Hospital

**CURRENT PRACTICE**  
Family physician and medical director for quality and safety, Family Health Services Minnesota

**MMA INVOLVEMENT**  
Task Force on Consultation between Primary Care and Mental Health

**HOBBIES**  
Coaching high school football



Sen. Al Franken addressed the MMA Board of Trustees in March.

## Franken: Thank You, Minnesota MDs

Although he touched briefly on topics such as the Medicare sustainable growth rate formula and accountable care organizations, Sen. Al Franken focused much of his recent talk to the MMA Board of Trustees on how the state continues to lead the country in providing high-value care. He praised physicians for their leadership and asked, “How do we incentivize low-value states to act more like we do and learn from us?” The MMA is currently working with Franken’s staff on increasing the number of primary care providers in Minnesota and at the national level.

## Supreme Court Rules Favorably in Patent Case

Last month, the U.S. Supreme Court ruled in favor of physicians and researchers in the case of Mayo Collaborative Services v. Prometheus Laboratories. The MMA and others filed a joint amicus brief in support of Mayo last fall.

Initiated in 2004, the case stems from a dispute over an issue relating to patent infringement. Prometheus owns a patent on a test that measures metabolite levels in patients taking thiopurine drugs and determines the medications’ efficacy based on those levels. Mayo developed a test that also measures metabolites but uses different levels to determine toxicity. The issue

in the case was whether Mayo’s test violated federal patent laws or whether Prometheus’ patent was invalid because the correlations between metabolite levels and drug efficacy are derived from a natural body process and, therefore, are not patentable.

In a unanimous decision, the Court stated, “We conclude that the patent claims at issue here effectively claim the underlying laws of nature themselves. [Prometheus Laboratories’] claims are consequently invalid.” The Court also cited the policy argument made in the amicus brief that the MMA and others filed in

support of physicians and researchers.

The MMA became involved in the case because an adverse ruling could have had broad-reaching effects on Minnesota physicians who consider this therapeutic range for metabolites in treating patients; inform their patients about this range; or are conducting research to either refute or verify the therapeutic range in treating various diseases. These physicians could have been said to be infringing on the patent at issue, thereby opening themselves up to either lawsuits or royalty obligations.



## Health Plans' Opposition Alters Provider Peer Grouping Bill

The MMA continues to work with legislators to revise the state's Provider Peer Grouping (PPG) initiative despite opposition from the Minnesota Council of Health Plans (MCHP) to the proposed use of the state's all-payer claims database for quality-improvement and patient-safety efforts in Minnesota.

Established in 2008, the all-payer claims database is the principal source of data for PPG, which is intended to generate comparative analyses about the cost and quality performance of physician clinics and hospitals. Data, culled of patient-identifying information, comes from both public and private payers; it has the potential to inform physicians, researchers, and policymakers about care delivery, utilization, and other trends across Minnesota.

The MMA, in cooperation with the Minnesota Hospital Association and the Minnesota Department of Health, has advanced legislation to address concerns about the current implementation of PPG. These concerns include limited stakeholder input, unrealistic timelines, insufficient data verification by physicians and hospitals, and restrictions on the use of the all-payer claims database.

"The health plans' opposition to expanded use of the database has slowed progress with the bill," says Janet Silversmith, the MMA's director of health policy. "The MMA has long maintained that one of the greatest opportunities associated with Minnesota's PPG law is the wealth of information included in that database."

Silversmith notes that projects such as the RARE (Reducing Avoidable Readmissions Effectively) campaign are examples of the kind of work that could benefit from this rich data resource.

## New Services for MMA Members

Several new products and services have been added to the unique package of benefits offered to MMA members, their clinics, and their families through Member Advantage.

### Office Products and Medical/Surgical Supplies

One-stop shopping for office products and medical/surgical supplies through a new partnership with Innovative Office Solutions and Unimed.

### Vehicle Lease and Buy Services

Competitively priced new and used vehicles are available through a special partnership with Sears Motor Sales Plymouth Brokers. All makes and models of vehicles are available.

### Practice Management

A wide range of practice management services are available to members at discounted prices.

### Insurance Agency

A full-range of individual and practice insurance products are available.

### Credentialing

A one-stop shop when you use Minnesota Credentialing Collaborative. Learn more at [mncred.org](http://mncred.org).

### Collection Services

Increase collections while reducing labor costs through a new service offered through Transworld Systems. Transworld works with patients and insurance companies to help increase your cash flow. Preferred pricing is available.

### Physician Career Center

Take the next step in your career or find your new partner at the MMA Physician Career Center. Post jobs, post your resume, or search for jobs.



On the web...  
LEARN MORE AT [MEMBERADVANTAGENOW.COM](http://MEMBERADVANTAGENOW.COM)

## MMA IN ACTION

Happenings around the state.

Eric Dick, MMA manager of state legislative affairs, and Will Nicholson, M.D., an MMA member, attended “Policy Not Politics: A Dialogue about the Health Insurance Exchange,” a moderated discussion about Minnesota’s participation in an insurance exchange. Sponsored by the Minnesota Chamber of Commerce, Blue Cross and Blue Shield of Minnesota, and the American Cancer Society, the February event brought together speakers to share updates on the efforts to enact a Minnesota-based exchange. Nicholson, a family physician at St. John’s Hospital in Maplewood, presented a physician’s perspective on insurance exchanges.



Eric Dick

Dave Renner, MMA director of state and federal legislation, and Janet Silversmith, MMA director of health policy, provided background and recommendations for increasing the primary care workforce to staff from U.S. Sen. Al Franken’s office in early February. This is a priority issue for the MMA. Franken has expressed interest in working on the issue on a national level.



Dave Renner

Silversmith also attended Academy-Health’s National Health Policy Conference in Washington, D.C., in February. Topics discussed included: health insurance exchange implementation, Medicaid managed care, and quality measurement initiatives. She also represented the MMA at a March 7 Citizens League forum soliciting public input on health care reform. The forum was a test-run of the process that will be used to inform the Governor’s Health Care Reform Task Force.



Janet Silversmith

Karolyn Stirewalt, J.D., MMA policy counsel, gave a presentation on the MMA’s Provider Orders for Life Sustaining Treatment (POLST) form to providers and administrators at the Essentia

Institute of Rural Health in Duluth on March 2. The POLST form can be used by primary care providers (physicians, nurse practitioners, physician assistants) as they work with terminally ill patients or their decision makers to clarify end-of-life treatment preferences.



Karolyn Stirewalt

During the month of February, Stirewalt also represented the MMA at:

- A meeting of the Health Professional Services Program (HPSP) Advisory Committee, where she participated in a discussion on potential changes to the confidentiality provisions of the HPSP statutes;
- The POLST Paradigm Conference, where attendees from across the country shared ideas about disseminating the form in their states; and
- The American Bar Association’s Emerging Issues in Health Law Conference.

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## Resolutions Deadline is July 6

It’s time to begin developing resolutions for the MMA’s 2012 meeting of its House of Delegates. The deadline for submitting 2012 resolutions is July 6. Late resolutions will be considered only if they are considered urgent.

The Resolution Review Committee will review the proposed resolutions and decide whether they should be referred to a House of Delegates reference committee, referred to the MMA Board of Trustees, reaffirmed as existing MMA policy, or rejected. Send your resolutions to [am@mnmed.org](mailto:am@mnmed.org).

If you would like to recommend someone to serve on the committee, send the person’s name and the reason why he or she should serve to the MMA Annual Meeting mailbox at [am@mnmed.org](mailto:am@mnmed.org) by July 6.



# Build Open Communication for Better Patient Care

How we communicate with our peers and colleagues has direct implications for patient care.

By Dawn Ellison, M.D.

When the American Academy of Communications in Health Care was founded 30 years ago, its primary concern was improving communication between health care providers and patients. In recent years, as the concept of teamwork in health care has become more widely accepted, the emphasis has shifted to improving communication among the members of health care teams. The relational aspects of our work have become more important as the evidence about their effect on patient care has mounted. Research has shown that good communication among health care providers decreases patient mortality,<sup>1-3</sup> improves functional health outcomes,<sup>4,5</sup> shortens the length of hospital stays,<sup>4,6,7</sup> improves workplace morale,<sup>8</sup> and decreases staff turnover.<sup>1,5,9,10</sup>

When teams care for patients, multiple experts must work together to solve complex problems. That requires extensive communication. Physicians, who are trained to be content and technical experts, have often focused more on other skills and competencies than on how they communicate with their staff members and colleagues. As a result, we can inadvertently express things in ways that stifle rather than promote open communication among the people we work with and diminish the effectiveness of the care our teams provide.

Although many physicians graciously and gracefully interact with their colleagues, there are times when we physicians get it wrong. I share the following examples in hopes that they illustrate why communication is so fundamental to health care.

## Common Communication Missteps

### ■ Coming Off as Condescending

A dialysis patient comes into the ER where you are providing coverage. She is seizing and vomiting. Concerned that there could be a metabolic abnormality and remembering that the usual paralytic was contraindicated if the patient was hyperkalemic, you call an anesthesiologist for help. After describing the situation over the phone, she says, “You know, if you paralyze him and can’t intubate, he will die.”

As an emergency physician, you know that. You were asking for help because you had two patients to attend to at the same time.

The problem with this interaction is that the anesthesiologist never allowed you to explain the reason for the call. The anesthesiologist came off as patronizing (although she may not have intended to do so), and you feel demeaned. In the future, you will avoid that physician. You may even hesitate to ask for help from others as well. Who wants to risk being insulted?

People naturally avoid interacting with someone whom they feel may be condescending. This can have a direct impact on patient care. When we are reluctant to call or seek advice from a colleague, patient care can be delayed or the patient may not get the most appropriate care. In this case, it would have been better if the anesthesiologist had simply asked, “How can I help you?”

### ■ Taking Too Much Credit

A colleague is making a presentation about a performance-improvement project that nurses and other clinic staff have worked on. She fails to mention that others were involved in the effort. In fact, even as she is being congratulated on the success of the project, she still doesn't mention the work the others did.

Obviously, when group members aren't given credit for their efforts, they feel discounted. This leads people to disengage from the group. They become less willing to participate in future projects and less passionate about their work.

Physicians often lead teams. As team leaders, we need to be mindful about sharing credit with our staff for good patient outcomes and for successful process-improvement efforts. I recommend setting a goal of thanking three people a day and celebrating collaboration every chance you can. In our everyday clinical work, there are many opportunities to express gratitude toward our team members. Saying "Thank you" is a powerful way of building trust and engaging people.

### ■ Killing the Messenger

You have a critically ill patient in the ICU. You've managed to restore his blood pressure but have just discovered he needs surgery that your facility can't provide. The patient needs to be transferred to a tertiary care center to have the procedure. You have spoken with the patient's wife, received her consent to send the patient to a hospital in the Twin Cities, and completed all the discussions and paperwork needed to set the process in motion. Then a nurse approaches you with news: The patient's daughter has just arrived, and she wants her father to go elsewhere. Frustrated, you angrily tell the nurse, "That's the last thing I need to hear right now." The nurse backs away silently.

Many of us fail to appreciate the effect that our expressions of frustration can have on those we work with. Although we don't intend to shoot the messenger, we inadvertently do so by losing our cool in the moment. The effect in this case is that this nurse might hesitate to share information in the future, fearing that it might incite an outburst.

The trick to reacting differently in such stressful situations is to anticipate them. Think through the scenarios that might happen and how you can respond. Ask yourself, What are some possible situations in which you might have a reaction that could negatively affect team members? Then think of responses and rehearse the ones that are more positive. The more times you practice those kinds of responses, the more likely you are to use them when you again find yourself in a stressful situation.

Assume that your staff members are bringing you information that you need to know. And remind yourself that such situations are merely problems to solve and that the best thing you can bring to your team as you try to solve problems is positive energy.

### When Physicians Get it Right

Of course, physicians can be wonderful communicators. I used to watch with admiration as a colleague would lead meetings. He

would present all sides of an issue and then remind the group of the goal they were trying to achieve. Once the members reflected on the purpose and heard all of the arguments, they would then freely discuss them and decide on a strategy.

This colleague did not do what many of us do—advocate for one strategy. When you advocate hard for your position, someone is likely to push back. And then, everyone can start to lose sight of the purpose of the meeting. Pushing too hard for a position stifles communication, blocking ideas that might arise in a more open discussion. This can have an effect on decisions about patient care. When people feel their voices have been heard and that they aren't being pushed toward a particular position, they are more likely to buy into the decisions a leader or team makes.

As physicians, we need to recognize there is much we can do to encourage the kind of open communication that builds trust among team members and leads to better patient care. Without intending to, we can do much to stymie it. As leaders of patient-care teams, we set a tone for communication. As experts, we are respected not only by our patients but by our co-workers. If we fail to show our colleagues the respect they deserve, they will hesitate to speak up when situations demand it, they will avoid us, and patients may suffer. Physicians need to recognize that every interaction matters and that good communication is essential to providing high-quality patient care. **MM**

Dawn Ellison is an emergency medicine physician and president of Influencing Healthcare, LLC. She is co-directing the American Academy of Communications in Healthcare's 30th Annual ENRICH course in Minneapolis June 22 to 26 ([www.aachonline.org/events/event\\_details.asp?id=157211](http://www.aachonline.org/events/event_details.asp?id=157211)).

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# Measure Health, Not Care

Although well-intended, our approach to quality measurement is not yielding information that's useful for creating value in health care.

By Douglas L. Wood, M.D., FACC, FACP

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*Healthy citizens are the greatest asset any country can have.*

—Winston Churchill

*Everything should be made as simple as possible, but not one bit simpler.*

—Albert Einstein

In 2009, the United States spent more than \$8,000 per person on health care, or about \$2.5 trillion total—more than the economic output of almost all other nations in the world. This amount of spending might be acceptable if it made people healthy and facilitated productivity and economic growth. But unfortunately, our unrestrained spending on health care has not made us the healthiest nation, it threatens the economic viability of families, businesses, and governments. Medical costs have led too many individuals to declare bankruptcy, and workers are feeling increasingly squeezed as their employers ask them to pay more for health insurance plans that offer less coverage. In addition, Minnesota and other states are struggling to balance their budgets because of rapidly rising health care costs. Stated another way, we do not get value for the money we spend on health care. Therefore, it comes as no surprise that the federal government and others have announced their intent to purchase health care based on value.

But two decades of measuring clinical performance and accounting for costs have not produced any discernible improvement in the value of health care. We have neither improved the health of the nation nor have we reduced the cost of care. For that reason, it is time to change how we think about how we measure quality in health care.

The Affordable Care Act provides some direction at the national level. But even the concepts it proposes are not likely to move the country toward true value-based purchasing be-

cause they rely on measurement methods that have proved ineffective in the past along with changes in payment methods that, so far, have not reduced cost. The recent commitment by the Centers for Medicare and Medicaid Services to develop a national strategy based on the three-part aim of improving individual health, improving the health of the population, and reducing costs is a hopeful step. It provides us with a framework for changing our way of thinking to one in which we value health and are willing to pay a reasonable amount of money for it.

In Minnesota, we have already begun to change our thoughts about value. Under the leadership of Sanne Magnan, M.D., the Minnesota Department of Health in 2009 developed a strategy for health and health care in the state based on the Institute for Healthcare Improvement's triple aim. Earlier this year, the Governor's Health Care Reform Task Force developed principles that committed us to practice, payment, and benefit reforms that will move Minnesota farther toward achieving the goals of the triple aim. The Minnesota Medical Association is also emphasizing making Minnesotans the healthiest people in the nation and promoting the development and adoption of new and innovative payment and delivery models that recognize the value of care. These efforts will require new measures of health for individuals and populations, as well as of cost.

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## **The Past: Process and Patient Satisfaction Measures**

During the last two decades, we have spent considerable time, money, and effort developing measures of health care but very little developing measures of health. We have focused on developing risk-adjusted outcome measures for chronic conditions, process measures such as speed to percutaneous coronary interventions for patients having a heart attack, and patient satisfaction measures. These measures have been used to modify payments to physicians or hospitals; but the limits of this approach



have become clear. Doctors have insisted that measures relate to specific procedures or conditions such as those in the Medicare PQRI program; and hospitals have asked that they be used in relation to specific types of patients seen such as those having total knee replacement or heart surgery or services provided. This has resulted in the development of hundreds of measures for health care, and the race to develop very narrow and very precise ones has led to unnecessary complexity and, in many cases, diminished their utility.

A fundamental flaw in our current approach is failure to understand the perspective of the people who desire health and must pay for care. Although it is important that we are able to show that hospitals are safe (that they have low mortality rates and low complication rates, for example) and that care is provided when it should be (for instance, immunizations), we need to realize that these measures of *health care* do not measure *health*. None of the current outcomes or process measures address the health of an individual or population, and there is no consistent measure of cost. There is also some uncertainty about how we might measure patient experience and how patient experience may be related to health care costs. For those reasons, it is time now to consider a different, and simpler, approach.

### The Future: Patient-Reported Outcomes

The first step in improving the value of health care should be reconsidering the meaning of health from the consumer's perspective rather than from a disease or institutional perspective. In 2009, the Center for Innovation at Mayo Clinic undertook an effort to transform health care delivery and improve patients' health. We began this process by embedding researchers in a community to learn what health meant to its residents and about their attitudes toward the health care system. One of our fundamental findings was that health did not mean the absence of disease but rather the ability to function.<sup>1</sup> We also discovered that even people who had adequate insurance coverage avoided seeking care because they were put off by the complexity of the delivery system, the cost of care, and the uncertainty that a visit with a health care provider would actually improve their ability to function.

In other research, we found that health care costs are not related to a hospital's, clinic's, or provider group's performance on process measures. In our diabetic population, for example, achieving the best measures (A1c of 7% and LDL cholesterol less than 100, for example) did not correlate with lower costs. Indeed, the patients who had the highest costs also were associated with the best scores on the current measures. What's driving cost is not performance on quality or process measures but the number of patients who have multiple chronic conditions. It is with these patients where it is most difficult to reconcile process measures, especially composite process measures, with improving health. For example, in our experience, achieving higher performance on process measures did not reduce future cardiovascular risks for patients with diabetes.

It is time to take a simpler approach to measurement, one

that emphasizes health using patient-reported outcomes (also known as patient-reported measures or patient-reported outcome measures). These measures, which have been carefully developed and validated, better reflect health as being free from physical or emotional limitations and pain, and being able to function at home and in the community. The use of patient-reported measures is not new. In fact, for years research on the effectiveness of health care delivery has included measures of functional status and health-related quality of life.<sup>2</sup>

James Weinstein, M.D., and his colleagues at Dartmouth University have been using patient-reported outcomes measures since the early 1990s, when they started using them with patients undergoing spine surgery.<sup>3</sup> The Dartmouth group has steadily expanded its practice so that patient-reported measures are incorporated in routine clinical care and are regularly used to help improve clinical decision-making.<sup>4</sup> At Mayo, we incorporated patient-reported measures in our Southeastern Minnesota Beacon Community project, a communitywide effort to improve health that's focusing on childhood asthma and adult type 2 diabetes. We are now incorporating some of those measures (physical functioning, emotional functioning, pain, role functioning) in our clinical practice as part of the work we are doing with the High-Value Health Collaborative, a group of organizations from around the country that are working to identify best clinical practices for treating a number of common conditions, improve care, and lower costs.

These measures are simple to use; have broad application across geography, populations, and specialties; and, most important, are a more direct reflection of what health means to people. They can easily be incorporated into clinical practice as part of the process of gathering patient information and can be used with patients who have a variety of conditions and who are being seen by multiple specialists or subspecialists. These measures do not have to be modified when advances in clinical science render process measures invalid or when new treatment methods are incorporated into clinical practice. Finally, patients could actually use the results when choosing a physician, hospital, or care system.

The National Institutes of Health, in its Patient Reported Outcomes Measurement Information System, is creating more precise and useful measures that can be easily incorporated into clinical practice. It is likely that future patient-centered outcomes research will use these measures, which are in the public domain.

In addition, the National Quality Forum has endorsed a framework for integrating patient-reported measures into clinical practice in order to help patients and clinicians make better decisions and to assess the performance of new care models. This framework focuses on assessing patients' preferences, symptoms, and functional and emotional status over episodes of care and tracking risk-adjusted health outcomes (eg, mortality and functional status).<sup>5</sup>

MEASURE HEALTH continued on p. 45

# Understanding GERD

By Benjamin L. Mitlyng, M.D., and Robert A. Ganz, M.D.

■ Gastroesophageal reflux disease (GERD) is the most common gastrointestinal disorder in the United States. Without proper treatment, patients may be at risk for long-term complications including Barrett's esophagus and adenocarcinoma of the esophagus. Because reflux is a common complaint, clinicians need to know how to rule out causes other than GERD and how to treat patients suspected of having GERD. This article discusses how to diagnose GERD, the medical and surgical treatment options, and how to evaluate patients who are at risk for long-term complications.

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**G**astroesophageal reflux disease (GERD), which affects between 25% and 40% of U.S. adults, is the most common gastrointestinal disorder in the United States. It is also one of the most significant in terms of overall cost—GERD is associated with an estimated \$75 billion a year in lost productivity alone—and risk for long-term complications including Barrett's esophagus and adenocarcinoma of the esophagus.<sup>1</sup> The Montreal consensus definition describes GERD as a condition that develops when the reflux of stomach contents causes troublesome symptoms and/or complications.<sup>2</sup> Gastroesophageal reflux is further subcategorized into syndromes that 1) cause tissue injury and 2) are symptom-based. Tissue injury is endoscopically apparent and may or may not be associated with typical symptoms of reflux. Nonerosive reflux disease is the presence of typical reflux symptoms in the setting of normal upper endoscopy.

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## Diagnosis

A GERD diagnosis is initially based on a patient's clinical symptoms. Typical reflux symptoms that are highly specific for GERD are heartburn and regurgitation.<sup>3,5</sup> If a patient does not have classic symptoms of heartburn or regurgitation, an alternative diagnosis such as dyspepsia, biliary pain, another gastrointestinal disorder, or cardiovascular disease should be considered. If a careful history regarding the timing of symptoms, triggers, and alleviating factors does not point to an alternative

diagnosis, then a recommendation for lifestyle modification and/or empiric acid suppression with proton pump inhibitors (PPIs) or histamine-2 receptor antagonists (H2RAs) may be reasonable.

If patients do not respond to lifestyle modification and acid suppression, then upper endoscopy is often the next step. However, the sensitivity of endoscopy for GERD is relatively poor, and its primary role is to evaluate for other conditions, risk-stratify patients who are found to have erosive esophagitis or Barrett's esophagus, and evaluate for treatment failure. Also, if patients have concerns such as weight loss, anemia, dysphagia, or bleeding, or a history of ulcer or malignancy, then upper endoscopy rather than empiric acid suppression is appropriate.

Occasionally, patients who do not have GERD will have troublesome symptoms such as heartburn, chest pain, regurgitation, or dysphagia, despite normal endoscopy, pH studies, and manometry. These patients are generally believed to have hypersensitive esophagus or a functional syndrome. The symptoms of hypersensitive esophagus are believed to be secondary to physiologic reflux events, whereas in functional syndromes they are not.

Another challenging clinical scenario is a patient who has suspected extraesophageal manifestations of GERD such as chest pain, asthma, laryngitis, and chronic cough. For patients with chest pain, coronary artery disease first needs to be considered and excluded; if it is, GERD is the likely etiolo-

ogy of their pain. In those patients, a trial of acid-suppression therapy is reasonable.<sup>6-8</sup> Chronic cough, laryngitis, and asthma have been shown to have established associations with GERD in population-based studies.<sup>9,10</sup> However, these are very common conditions with numerous possible etiologies. Any causal relationship between these conditions and GERD in the absence of heartburn and reflux remains unproven.<sup>3</sup> Randomized controlled trials have shown that standard GERD therapies were effective only in those patients who have been diagnosed with GERD in addition to laryngitis or asthma. These suspected extraesophageal GERD syndromes are usually multifactorial, and data suggesting they benefit from treatment for reflux are very weak.<sup>9,10</sup> The routine practice of attributing these conditions to GERD without a confirmatory diagnosis has led to widespread overdiagnosis and overtreatment with long-term PPI therapy.

## Treatment

### ■ Lifestyle Modifications

Recommending lifestyle modifications is often the first step in treating patients who present with GERD and do not have other concerning symptoms. Lifestyle modifications generally involve 1) avoiding foods that may precipitate reflux such as coffee, alcohol, chocolate, and fatty foods; 2) avoiding acidic foods that may precipitate heartburn such as citrus fruit, spicy foods, and carbonated beverages; and 3) adopting behaviors that may reduce esophageal acid exposure such as losing weight, quitting smoking, raising the head of the bed, and avoiding recumbent positions for two to three hours after meals.<sup>3,11,12</sup> The problem with these recommendations is that they are broad and many patients find them too restrictive. However, if a patient's history suggests he or she will benefit from specific changes, then it may be appropriate to recommend them. It is appropriate to recommend weight loss to all patients who are overweight or obese. The prevalence of obesity in the United States is likely contributing to the prevalence of GERD, esophageal cancer, and other gastrointestinal disorders. Unfortunately, losing weight and making other lifestyle modifications is often challenging, and patients struggle to maintain such changes.

### ■ Medical Management

When GERD symptoms do not respond to lifestyle modifications, prescribing antisecretory agents is typically the next step. Empiric therapy with antisecretory agents is appropriate for patients with uncomplicated heartburn. There is strong evidence that PPIs are more effective than H2RAs, which are more effective than placebo for GERD.<sup>13</sup> Although there is no strong evidence to support it, clinical experience and expert opinion indicate that twice-daily dosing of PPIs, or a PPI and a nocturnal H2RA, is appropriate in patients with esophageal GERD that is not controlled with once-daily dosing. The second PPI dose should be given before the evening meal, not at bedtime. Patients whose GERD is not controlled with twice-daily PPI use should be considered treatment failures. There is no evidence that higher-dose

acid suppression is warranted in such cases.<sup>2,13,14</sup>

Histamine-2 receptor antagonists became available in the mid-1970s. Proton pump inhibitors were first introduced in the late 1980s after investigators realized that the hydrogen-potassium-ATPase was the final step of gastric acid secretion; they are now among the most commonly prescribed drugs in the world. Proton pump inhibitors are most effective when the gastric parietal cell is stimulated to secrete acid after eating. The amount of hydrogen-potassium ATPase is highest in parietal cells after a prolonged fast. Thus, PPIs are most effective when taken in the morning, 30 minutes before breakfast.<sup>15</sup>

Proton pump inhibitors and H2RAs are remarkably safe and generally are well-tolerated, but they may cause side effects or be associated with potential complications. Because they work by causing substantial acid suppression and reactive gastrin hypersecretion, there has been concern that they might increase the risk of gastric cancer. However, this never has been demonstrated in humans. There also has been concern about rebound acid hypersecretion after their withdrawal. However, the significance of this effect remains unclear. Some experts will gradually wean patients from acid suppression medication; but the necessity of doing so has not been proven.<sup>16</sup>

An association between PPI use and community-acquired pneumonia and *Clostridium difficile* infection also has been suggested; but the magnitude of risk appears to be quite small.<sup>3,4,17,18</sup> Recent studies have revealed some association between hypomagnesemia and continuous PPI use for more than a year. Experts are debating the significance of this association; some recommend checking a patient's magnesium level to establish a baseline before they are started on PPIs and rechecking it intermittently while they are taking them. In March 2011, the Food and Drug Administration (FDA) published a statement suggesting that providers check baseline serum magnesium in patients who are expected to be on PPIs for more than a year and in patients who are also taking other medications associated with hypomagnesemia. Recent data also suggest that PPIs may be associated with osteopenia and hip fractures in some patients. This risk may be dose-dependent, with patients who are on twice-daily therapy for many years being at greater risk. The most recent American Gastroenterology Association guidelines from 2008 state that there is insufficient evidence to support bone density studies and calcium supplementation in patients using PPIs long-term; however, more recent data suggest that in patients with other risk factors for osteopenia, this may be appropriate. It is also important to remember that PPIs are metabolized through a pathway also used by clopidogrel, warfarin, diazepam, phenytoin, and several other drugs, so their dosing may need to be adjusted. Finally, some have raised concern about long-term PPI use preventing vitamin B12 and iron absorption; this risk also appears to be minimal and clinically insignificant for most patients.<sup>3,4,17,18</sup>

Long-term PPI therapy is certainly warranted for some patients. The strongest case is for those with erosive esophagitis, as they have high rates of recurrence when continuous acid sup-



pressive therapy is not maintained. The subset of patients with typical nonerosive reflux often require long-term PPI therapy as well. Typically, if symptoms were bothersome enough to require PPI therapy in the first place, most people will need some type of maintenance therapy. This may be intermittent or daily PPI therapy. Generally, patients on long-term PPI therapy should be weaned to the lowest dose effective for controlling symptoms.

■ **Surgical Management**

Unfortunately, 30% to 40% of patients with GERD will not have their symptoms completely controlled with medical management.<sup>14</sup> In such cases, a careful history regarding the timing of the medication should be taken and other possible diagnoses considered. Upper endoscopy may be warranted to evaluate for peptic ulcer disease, esophageal cancer, or other causes of esophagitis such as infectious, eosinophilic, or caustic injuries. In patients with GERD who have not responded to an empiric trial of PPI therapy and have a normal upper endoscopy, ambulatory pH testing is often warranted. In patients who fail PPI therapy and have evidence of distal esophageal acid exposure on pH testing or clear esophagitis on upper endoscopy, fundoplication may be considered.

There is good evidence that patients with esophagitis or excessive distal esophageal acid exposure respond well to antireflux surgery (typically fundoplication).<sup>3,4</sup> However, atypical cases of esophageal spasm and achalasia can mimic GERD, and normal esophageal peristaltic function needs to be preserved for antireflux therapy to be effective. Therefore, esophageal manometry should be performed prior to antireflux surgery. A recent development in surgical management of GERD is the LINX System, a small flexible band of interlinked titanium beads with magnetic cores that can be used to augment the lower esophageal sphincter in resisting reflux while still allowing for normal swallowing. The device, which received FDA approval in March, can be placed during a laparoscopic procedure done in an outpatient setting.

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**Preventing Long-Term Complications**

The American College of Gastroenterology (ACG) suggests screening patients with multiple risk factors (male, Caucasian, have chronic GERD, are overweight, and have hiatal hernia), or who have GERD and a family history of esophageal cancer with upper endoscopy starting at age 50, as they are at greatest risk for esophageal cancer. Currently, there is insufficient evidence to recommend upper endoscopy for all patients with chronic GERD; but patients can be evaluated on a case-by-case basis. The odds ratio for Barrett's esophagus with GERD for one to five years is 3.0; for more than 10 years, it is 6.4.<sup>4,19</sup> The risk of patients with Barrett's esophagus developing esophageal carcinoma is generally estimated at 0.5% per year; thus, a patient diagnosed with Barrett's esophagus at age 40 has a 5% chance of developing esophageal cancer by the age of 50.

When Barrett's esophagus is found, further therapy is warranted, for this is recognized as a premalignant condition. The

length of Barrett's esophagus, patient preference, and the presence or absence of dysplasia should be considered when prescribing further therapy. Patients with dysplasia are at the greatest risk for progression to esophageal adenocarcinoma. Generally, they are candidates for radiofrequency ablation, which can normalize esophageal tissue in 80% to 95% of cases.<sup>20,21</sup> Patients with Barrett's esophagus without dysplasia have reported a poorer quality of life than individuals in the general population; it is unclear if this is because of anxiety about cancer, the discomfort of GERD symptoms, or other factors. Therefore, because of quality of life issues as well as risk of progression to esophageal adenocarcinoma in selected patients, the ACG states that radiofrequency ablation also can be considered in certain patients with nondysplastic Barrett's esophagus.<sup>4,19</sup>

Unfortunately, adenocarcinoma of the esophagus has the fastest-growing incidence rate of all cancers in the United States. The five-year survival rate of patients with esophageal adenocarcinoma is very poor; but an individual's outcome can be greatly improved through early detection.

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**Conclusion**

Gastroesophageal reflux is a common condition. Proton pump inhibitors are effective for treating erosive and nonerosive reflux but often are overprescribed for symptoms not typically associated with GERD. Chronic GERD can generally be controlled with long-term PPI therapy. Proton pump inhibitor therapy is extremely safe and well-tolerated; however, the smallest dose necessary to control symptoms is the most appropriate. A subset of patients with documented GERD who do not have success with medications may be considered for surgical therapy. Finally, it is imperative when evaluating patients with GERD symptoms to assess them for warning signs or risk factors for Barrett's esophagus. If they have worrisome symptoms or are at increased risk, they should be evaluated early on with endoscopy. **MM**

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## MEASURE HEALTH continued from p. 41

### Summary

Effective and meaningful measurement of health is vitally important if we are to improve the health and experience of patients and reduce costs. We need to take an entirely different approach to measurement than we have in the past. Patient-reported outcomes measures provide more meaningful information than process and patient satisfaction measures and are easier for researchers and clinicians to implement.

MM

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# Allocating Resources during a Crisis

## You Can't Always Get What You Want

By John L. Hick, M.D., Aaron S. DeVries, M.D., M.P.H., Paula Fink-Kocken, M.D., Jane E. Braun, M.S., MNCEM, and Judy Marchetti, M.P.H.

■ During a disaster or disease outbreak, health care providers may have to make difficult decisions about how to allocate scarce resources. A committee convened by the Minnesota Department of Health has recently focused on this issue as part of statewide disaster preparedness planning. This article presents the group's recommendation that health care facilities need to plan for shortages and introduces resources and strategies that can be used in planning. It also discusses ethical considerations that must be taken into account when shortages occur and decisions must be made about how to distribute equipment, supplies, or medications in short supply.

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*A novel strain of H3N2 erupts, causing a worldwide pandemic. It has a much higher mortality rate than the 2009 H1N1 virus. Vaccines, antiviral medications, and ventilators are in short supply.*

*As a blizzard sets in, a school bus is broadsided by a truck at a rural intersection, sending 20 children, many of whom are critically injured, to the local Critical Access Hospital.*

**D**uring crises, health care providers may be forced to make difficult decisions regarding allocation of resources and medications. But epidemics and crises of nature aren't the only times when physicians may find themselves having to make tough calls about who gets what. The lists of pharmaceuticals in short supply posted weekly in our hospitals and clinics remind us that there is a real possibility that we may not have access to key medical supplies and medicines when we need them. Clearly, planning for shortages is not only prudent but essential.

The Institute of Medicine (IOM) has issued guidance for states, health care facilities, and providers as they prepare for situations that require resource triage ([www.iom.edu/crisis-standardsframework](http://www.iom.edu/crisis-standardsframework)).<sup>1,2</sup> Others have recommended designating supplies for use during disasters, creating regional coalitions of hospitals,<sup>3</sup> and using the incident command system\* in preparedness planning.<sup>4</sup> Such guidance has been helpful to states as they have engaged in preparing for the unique situations they may one day face.

Minnesota has been working on preparedness planning for a number of years. The Minnesota Department of Health convened a Science Advisory Team (SAT) to examine issues related to preparing for bioterrorism-related events in 1999. The team consists of emergency medicine, infectious disease, critical care, pediatrics, and family medicine physicians as well as a respiratory therapist, ethicists, staff from the Minnesota Department Health's Office of Emergency Preparedness, legal counsel, and the state epidemiologist. Recently, the team has focused on developing strategies for systematically handling possible resource shortages. Its goal is to provide best-practice advice to Minnesota clinicians and health care facilities about how to prepare for and handle shortages so that decision making is informed and consistent across the state.

In addition, SAT members have served as advisors to the Minnesota Department of Health during incidents and outbreaks. During the 2009 H1N1 outbreak, for example, SAT members met with a broad range of stakeholders including occupational medicine specialists, Occupational Safety and Health Administration (OSHA) officials, hospital epidemiologists, and infection-prevention personnel to address conservation and reuse strategies for N95 respirator masks, which were in short supply. Recognizing that best practices must change to reflect the specifics of an incident, the SAT incorporates new information into the guidance it offers during such incidents.

The SAT recommends that clinics, hospitals, nursing homes, and other health care facilities plan for how they will handle shortages of medical equipment, medications, and other necessities during crisis times. Although Minnesota is a national leader in state disaster-preparedness planning and has built the regional response coalitions called for by the IOM,<sup>1,2,5</sup>

\*A standardized, structured approach to managing incidents that involves establishing objectives and organizing the necessary information, personnel, work, assets, and communications to achieve them.



much work still needs to be done if we are to ensure providers are organized and mentally prepared to cope with crisis situations.

**Preparing for the Worst**

A useful starting point is understanding that during a disaster, clinical care takes place along a spectrum that ranges from conventional to crisis (Table 1).<sup>6</sup> The goal is to stay in either conventional or contingency care mode as long as possible, as this presents the least risk to patients. Facilities that have the best surge capacity and preparedness plans should be able to operate longer in these modes than facilities that are not as well-prepared. During major disasters, crisis care strategies must be implemented. With these come an increased risk of poor outcomes for individuals, as available resources must be used strategically to benefit the population as a whole, rather than individual patients.

When shortages loom, a facility should seek to acquire resources as quickly as possible from partner hospitals and others to prevent having to go into crisis mode. When a whole region experiences shortages, hospitals and clinics will have to work together to ensure that care is consistent throughout the area and to optimally use resources, maintain public trust, and prevent patients from “hospital shopping.”

Whenever possible, providers should make use of a proactive triage process (one with formal decision criteria) rather than make decisions reactively on their own. Having a proactive triage approach, having designated triage personnel or teams, using decision tools, and integrating with the incident command system all will improve the quality of the decisions made.

When incidents happen without warning, such as a school bus accident in a rural area where transporting patients to other facilities is a challenge, proactive triage is not possible. In those situations, reactive triage is needed, and physicians will have to make rapid decisions based on their best judgment and knowledge of the victims’ underlying illnesses and injuries without a full understanding of the scope of the incident or a command structure to support their decisions.<sup>1,2,7,8</sup>

In Minnesota, when the governor declares a state of emergency and when the available resources cannot meet the demand, health care providers are protected legally as long as the decisions they make are in accordance with emergency plans. This makes planning by health care facilities in conjunction with state or federal guidance all the more important.<sup>9</sup>

As part of its mission to provide guidance to aid facilities in planning for resource shortages, the SAT has developed specific recommendations related to the following:<sup>1,2,10</sup>

- Decision-making and coping (prepare, conserve, substitute, adapt, re-use, and re-allocate)
- Oxygen,
- Staffing,
- Medications,
- Nutrition,
- Hemodynamic support and intravenous fluids,
- Mechanical ventilation and external oxygenation, and

Table 1

**Spectrum of Care**

	Conventional	Contingency	Crisis
<b>Standard of care</b>	Usual	Functionally equivalent	Sufficient for resources available
<b>Space</b>	Usual inpatient and outpatient spaces and beds	Adapted patient care areas – (eg, post-anesthesia care units, day surgery areas)	Use of non-patient areas for patient care (classrooms, lobbies, etc.)
<b>Staff</b>	Usual staff – may augment staffing or use cross-trained staff	Changes in staffing including ratios, shift duration, duties, or use of equivalent staff from another institution	Use of staff not normally trained for certain skills or positions (eg, use of subspecialty providers in acute care clinic)
<b>Supplies</b>	Usual or normally substituted supplies	Adapted supplies – (eg, conservation of oxygen use, using transport ventilators for longer-term ventilation)	Re-use or re-allocation (resource triage) of supplies

- Blood products.

Recently, it created a series of cards related to these topics designed to be used as references by health care administrators and providers as they plan for or encounter shortages. Pictured is the card showing a strategy for dealing with a shortage of oxygen (Figure). The cards are available at [www.health.state.mn.us/oeep/healthcare/standards.pdf](http://www.health.state.mn.us/oeep/healthcare/standards.pdf).

**Planning at the Facility Level**

A key component of an emergency plan at a health care facility is the clinical care committee, which should be able to provide the facility’s incident commander with recommendations on how the institution’s resources can best be used during an incident (such as closing subspecialty clinics to make additional space for acute care, modifying clinical policies or documentation requirements, and altering the length of shifts). There may also be a need for a “triage team” that can allocate life-saving resources such as ventilators, if required. The team may be composed of members from within the institution or include members from other institutions in the region or another region. Consideration should be given to using a blinded triage process or having a remote decision-maker to avoid having bedside providers make allocation decisions, which can be particularly difficult if they know the patients personally. The 2012 IOM report provides sample plans for triage decision-making.<sup>2</sup>

Figure

**Resource Card on Allocation of Oxygen**

**OXYGEN**  
**STRATEGIES FOR SCARCE RESOURCE SITUATIONS**

**MINNESOTA HEALTHCARE SYSTEM**  
**PREPAREDNESS PROGRAM**

<b>RECOMMENDATIONS</b>	<b>Strategy</b>	<b>Conventional</b>	<b>Contingency</b>	<b>Crisis</b>														
<b>Inhaled Medications</b> <ul style="list-style-type: none"> <li>Restrict the use of Small Volume Nebulizers when inhaler substitutes are available.</li> <li>Restrict continuous nebulization therapy.</li> <li>Minimize frequency through medication substitution that results in fewer treatments (6h-12h instead of 4h-6h applications).</li> </ul>	Substitute & Conserve																	
<b>High-Flow Applications</b> <ul style="list-style-type: none"> <li>Restrict the use of high-flow cannula systems as these can demand 12 to 40 LPM flows.</li> <li>Restrict the use of simple and partial rebreathing masks to 10 LPM maximum.</li> <li>Restrict use of Gas Injection Nebulizers as they generally require oxygen flows between 10 LPM and 75 LPM.</li> <li>Eliminate the use of oxygen-powered venturi suction systems as they may consume 15 to 50 LPM.</li> </ul>	Conserve																	
<b>Air-Oxygen Blenders</b> <ul style="list-style-type: none"> <li>Eliminate the low-flow reference bleed occurring with any low-flow metered oxygen blender use. This can amount to an additional 12 LPM. Reserve air-oxygen blender use for mechanical ventilators using high-flow non-metered outlets. (These do not utilize reference bleeds).</li> <li>Disconnect blenders when not in use.</li> </ul>	Conserve																	
<b>Oxygen Conservation Devices</b> <ul style="list-style-type: none"> <li>Use reservoir cannulas at 1/2 the flow setting of standard cannulas.</li> <li>Replace simple and partial rebreather mask use with reservoir cannulas at flowrates of 6-10 LPM.</li> </ul>	Substitute & Adapt																	
<b>Oxygen Concentrators if Electrical Power Is Present</b> <ul style="list-style-type: none"> <li>Use hospital-based or independent home medical equipment supplier oxygen concentrators if available to provide low-flow cannula oxygen for patients and preserve the primary oxygen supply for more critical applications.</li> </ul>	Substitute & Conserve																	
<b>Monitor Use and Revise Clinical Targets</b> <ul style="list-style-type: none"> <li>Employ oxygen titration protocols to optimize flow or % to match targets for SPO2 or PaO2.</li> <li>Minimize overall oxygen use by optimization of flow.</li> <li>Discontinue oxygen at earliest possible time.</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Starting Example</th> <th>Initiate O2</th> <th>O2 Target</th> <th></th> </tr> </thead> <tbody> <tr> <td>Normal Lung Adults</td> <td>SPO2 &lt;90%</td> <td>SPO2 90%</td> <td rowspan="3"><b>Note:</b> Targets may be adjusted further downward depending on resources available, the patient's clinical presentation, or measured PaO2 determination.</td> </tr> <tr> <td>Infants &amp; Peds</td> <td>SPO2 &lt;90%</td> <td>SPO2 90-95%</td> </tr> <tr> <td>Severe COPD History</td> <td>SPO2 &lt;85%</td> <td>SPO2 90%</td> </tr> </tbody> </table>	Starting Example	Initiate O2	O2 Target		Normal Lung Adults	SPO2 <90%	SPO2 90%	<b>Note:</b> Targets may be adjusted further downward depending on resources available, the patient's clinical presentation, or measured PaO2 determination.	Infants & Peds	SPO2 <90%	SPO2 90-95%	Severe COPD History	SPO2 <85%	SPO2 90%	Conserve			
Starting Example	Initiate O2	O2 Target																
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<b>Expendable Oxygen Appliances</b> <ul style="list-style-type: none"> <li>Use terminal sterilization or high-level disinfection procedures for oxygen appliances, small &amp; large-bore tubing, and ventilator circuits. Bleach concentrations of 1:10, high-level chemical disinfection, or irradiation may be suitable. Ethylene oxide gas sterilization is optimal, but requires a 12-hour aeration cycle to prevent ethylene chlorohydrin formation with polyvinyl chloride plastics.</li> </ul>	Re-use																	
<b>Oxygen Re-Allocation</b> <ul style="list-style-type: none"> <li>Prioritize patients for oxygen administration during severe resource limitations.</li> </ul>	Re-Allocate																	

MINNESOTA DEPARTMENT OF HEALTH  
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A Science Advisory Team (SAT) convened by the Minnesota Department of Health has created a series of reference cards designed to assist Minnesota health care providers in planning for shortages of medical resources. The cards, as well as strategies for resource allocation planning and additional information, are available at [www.health.state.mn.us/oep/healthcare/standards.pdf](http://www.health.state.mn.us/oep/healthcare/standards.pdf). This card on oxygen allocation illustrates the approach the SAT is recommending to facilities and providers as they develop plans for coping with shortages.

Each health care facility has a role to play in a regional response to a crisis, and the actions of one facility must be closely coordinated with those of others in the region, as well as the efforts of public health entities, emergency medical services, and other emergency management entities.<sup>1,2,3,5</sup> Minnesota has eight health care planning regions. Through its Regional Healthcare Resource Center, each region may develop policy and guidance to assure a consistent standard of care and optimal use of resources.<sup>5</sup> Decisions about setting up alternate systems of electronic, ambulatory, or nonambulatory care in order to meet the needs of a community must involve a variety of stakeholders. For example, state and local health officials worked closely with Minnesota

health care systems during the 2009 H1N1 influenza pandemic to develop a nurse triage line that provided clinical evaluation, referral to the appropriate level of care, and anti-viral prescriptions when indicated.<sup>11</sup> In some parts of the country, health care facilities have set up alternate care sites or “flu centers” to assist with demand when a large number of people seek care.

**The Ethical Framework for Decision Making**

In emergency situations, decision-makers must use a sound ethical framework as they shift from trying to achieve the maximum benefit for individual patients to trying to achieve the maximum benefit for the community as a whole. Their decisions should be

based on the following principles:<sup>1,2,12,13</sup>

- Fairness. Decision-makers need to be inherently just and treat all individuals equally, recognizing that their needs are equally important.
- Duty to care. They should care as best as they are able for all victims.
- Duty to stewardship of resources. They need to attempt to achieve the best outcome for the greatest number of people with the resources available. This does not specifically translate to saving the most lives because a comfortable death may be a good outcome for some patients.<sup>14</sup> Also inherent is the need for health care providers and facilities to prepare so they have the resources, structure, and a plan to optimize their response to an incident and, thus, minimize the chance of a situation becoming a crisis in the first place.
- Transparency. The process and criteria for decision-making should be as transparent as possible.
- Consistency. Decision-makers should be consistent in their approach to treating patients affected by a crisis; in addition, care throughout the affected area should be as uniform as possible.
- Proportionality. The degree of resource restriction should be proportional to the demands.
- Accountability. Triage officers and others should be able to defend their decisions. They may need to document their actions and expect potential review of them by the institution or outside entities.

Criteria for triage of supplies and medicines should be based on those developed by the American Medical Association for allocation of transplant organs (Table 2).<sup>15</sup> One factor that is not noted in the AMA's recommendations is a person's age. Although age may have bearing on disease prognosis, patient prognosis is usually more dependent on underlying organ or system impairments or disease-specific factors (eg, burn injury, influenza subtype mortality) than age. Thus, age alone is generally not a useful variable, except in the case of very elderly people, which is somewhat irrelevant as only 1.5% of the U.S. population is older than 85 years of age.<sup>16</sup> Apart from clinical prognosis, an ethical argument can be made for giving younger patients priority in terms of receiving resources in order to allow them a fair number of "innings" in the game of life.<sup>17</sup> Age is not a medical as much as a social factor in decision-making and is substantially influenced by culture. Clinicians should be aware when making triage decisions that they are not consciously or unconsciously biased by a patient's age.

### Managing Expectations

Managing expectations about access to resources is a critical part of planning for and executing the response. With education and through exercises such as disaster drills held prior to a real event, staff are likely to be more comfortable with resource allocation plans and decisions made during an event. At the community level, conversations about resource allocation can be extremely difficult. Promoting understanding of the limitations on the

Table 2

### Ethical Considerations for Resource Allocation

Consider	Do NOT Consider
Likelihood of benefit	Sex
Change in the quality of life	Race
Duration of benefit	Ability to pay
Urgency of need	Social worth
Amount of resources required	Perceived obstacles to treatment
	Patient contribution to illness
	Past resource use

health care system may be helpful.

In 2007, the Minnesota Department of Health contracted with the Minnesota Center for Healthcare Ethics and the University of Minnesota Center for Bioethics to convene a group to examine the assumptions around resource allocation during an influenza pandemic and hold discussions with members of the community. That effort yielded a number of findings:<sup>18</sup>

- Community members understood the concept of resource scarcity and arrived at similar conclusions and priorities as the medical community;
- Community members had trust in medical providers;
- Participants generally wanted to offer priority access to vaccines and other medications to health care workers because of their increased risk and the need for them to return them to work as soon as possible. There was divergence of opinion about whether health care workers should receive priority access to ventilators and other treatments that did not contribute to their returning to work during the crisis; and
- Although there was general consensus that younger people should have priority access to resources, there was no agreement on any specific age at which triage decisions would differ in the case of an influenza pandemic.

These findings suggest that those involved in resource allocation planning or who make decisions about how to allocate scarce resources during times of crisis should be confident that their decisions will be supported by the community. The public understands that a health care facility may not have enough resources to meet demands during a major disaster or incident, and usually, there is agreement about the basis for triage decisions.

### Conclusion

Health care facilities should plan for resource allocation during public health crises. The resource cards developed by the Minnesota Department of Health's Science Advisory Team can support these efforts. In addition, health care facilities need to consider how they can further discussions about allocation of limited medical resources not only with their staffs but also with the patients they serve. These conversations need to be ongoing so that



we all can approach these situations with confidence, knowing that we are well-prepared to make difficult decisions using the best information available and in a way that fosters trust and is transparent.

MM

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Ken Covey in 1937, the year he received his amateur radio station license. He operated a 30-watt station out of Bagley, Minnesota, before studying medicine at the University of Minnesota. An article about him appeared in the June 17, 1937, *Farmers Independent*.

# PAGING DR. COVEY

A rural doctor's bright idea involving Marconi and an Oldsmobile. | By Thomas Day, M.D.

Doctors who enter practice in small communities realize quickly that their distance from the big city places increased value on their ability to innovate. Finding ways to access diagnostic resources, effective treatment modalities, and adequate pharmaceuticals has always been a challenge for rural physicians. Although cellular technology and the Internet now bring sophisticated services to patients and practitioners in remote areas, it wasn't long ago that communication was one of the greatest challenges for medical providers in rural America.

In 1952, family doctors in Greater Minnesota were practicing “off the grid” much of the time. Telephones were mostly a big-city technology. When residents of Mahnomon County in northwestern Minnesota were sick or injured, they had to get themselves to the town of Mahnomon for help. Covering 563 square miles, the county was served by a single family doctor, Ken Covey, M.D., who was based in town. The local hospital was operated out of a former mansion by the Sisters of St. Benedict.

Dr. Covey saw patients in the hospital for major illnesses, childbirth, trauma stabilization, and surgery. He also went to patients' homes to provide end-of-life care, to follow up after hospitalization, and to keep contagious diseases contained. Unfortunately, when he was out making community “rounds,” the Sisters at the hospital could not easily contact him to report the arrival of a woman in labor or any other emergency; they could only wait nervously for him to return, unless he was visiting patients along the highway running south from town. The houses along that road were linked by a private phone company that was operated from a switchboard in the Paske family home in Waubun. The Benedictine Sisters would call the Paskes, who could ring their

subscribers along the 15-mile-long party line to ask if they had seen Dr. Covey's car go by and in which direction he was going.

Having held a ham radio license since 1937, Dr. Covey tapped his knowledge of electronics to provide the Sisters with a more reliable way to contact him during emergencies. In the fall of 1952, he bought a two-way radio system and hooked up the base station at the hospital. The Sisters could key the radio, which sent a signal to a relay he had wired to his car battery causing the horn to honk. The radio had an effective radius of 40 miles and worked so well that the county sheriff, who saw this “beeper” in operation during a coroner's call, requisitioned one for himself from the county board. Dr. Covey says that the radio worked superbly for its intended purpose and serendipitously gave him more freedom than he had enjoyed previously.

It is likely that Dr. Covey's invention was the first medical pager used in Minnesota. The Federal Communications Commission did not approve the concept of a pager for public use until 1958, prompting Motorola to introduce their first personal radio pager the following year. Although Motorola's product was considerably smaller than Dr. Covey's Oldsmobile, it seems clear that in his desire to improve medical care for his rural patients, he bested the technology giant by seven years.

Dr. Covey still broadcasts from Moorhead using the same call sign he used in 1952—WØZQJ. **MM**

Thomas Day was director of the Duluth Family Medicine residency from 1987 until 2009. He currently does locum tenens and urgent care work.

Source: Mary Bellis. History of pagers and beepers. About.com Guide. Available at: <http://inventors.about.com/od/pstartinventions/a/pager.htm>. Accessed March 7, 2012.