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IMPROVING PATIENT CARE THROUGH INCREASED PRACTICE EFFICIENCY

July 2004

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Preparing for the Patient Empowerment Era

The evidence is mounting that a new era in medicine has arrived. It goes by various names: consumerism, consumer-driven health care, patient-centered care, consumer empowerment, patient empowerment, defined contribution, and the health savings imperative.

Some of the largest health plans are marketing consumer-driven plans; the nation's largest employers are fostering the movement by offering defined contribution plans; and the federal government has developed health savings accounts to support patients enrolled in these plans. The federal Agency for Healthcare Research and Quality, in Rockville, Md., is developing questionnaires to help patients ask the right questions when visiting doctors, entering hospitals, or having surgery.

In *Consumer-Driven Health Care: Implications for Providers, Players, and Policy-Makers* (San Francisco: Jossey-Bass, 2004), editor Regina Herzlinger, a Harvard Business School professor, explains that the babyboom generation is getting older and as patients, these consumers are more demanding than those of any previous generation.

For physicians, this new health care movement means answering to patients, rather than to remote bureaucrats, a positive step in what many physicians argue is an otherwise gloomy medical practice environment, says James Rodgers, the AMA's vice president of policy.

This movement is also good for patients. Having patients engaged in continuous self-monitoring and self-care can be a more effective way to improve health than having patients visit doctors episodically. American Telecare, in Eden Prairie, Minn., offers a good example. It has developed two-way telemetry units for patients with chronic disease to use at home. The audio and video capacities of these units allow doctors to see and talk with their patients and to collect such information as weight, blood pressure, and blood glucose and oxygen levels. Using this technology, the company has reduced readmissions to hospitals, emergency rooms, and intensive care units by more than 50% and has cut mortality rates and costs as well.

To prepare for empowered patients, some physicians have developed a pre-visit preparation sheet. Patients come to the office with this information listed on a form: their chief complaint, three questions they would like answered, all the medications (including over-the-counter and herbal drugs) that they are taking, and allergies. Patients with specific suspected conditions, such as diabetes, back pain, or cataracts, list their symptoms so that triage goes more quickly.

By empowering patients, physicians will empower themselves and establish conditions for a more interactive partnership with patients.



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Combination of ST Segment Depression, LVH: A Potent Predictor of Mortality Risk

Two cardiac diagnostic tests used in combination are superior than either one alone in predicting the risk of dying of cardiovascular disease or any cause. A new study shows that patients with both a finding of ST segment depression on an electrocardiogram (ECG) and an echocardiogram that reveals the presence of left ventricular hypertrophy (LVH) are more than three times as likely to die of cardiovascular disease than are patients who have an abnormal finding on either one of the tests.

Electrocardiography is performed on almost all patients with suspected cardiovascular disease and routinely in adults as a screening test. Like the ECG, the echocardiogram is used widely to assess the structure and function of the heart in patients with known or suspected cardiovascular disease. An echocardiogram can reveal the presence of LVH (increased mass of the heart relative to body size), a strong predictor of mortality risk.

Increased Value

Prior to this study, researchers had not examined the combined value of these two tests, even though they are routinely prescribed together, according to Peter M. Okin, MD, professor of medicine and director of clinical

affairs in the Division of Cardiology at Cornell University's Weill Medical College, in New York. "These two tests are frequently performed at the same time on the same patients," he explains. "Cardiologists commonly have access to the results of both types of tests. It is almost routine for a new patient to see a cardiologist and to have an ECG as part of an assessment, and there is a high likelihood that the patient will also get an echocardiogram—if not at that visit then certainly at a subsequent visit—to further assess cardiac structure and function. Because the tests can provide complementary information, it makes sense to consider whether the combination of findings can provide added value to the cardiologist in assessing a patient's risk of death."

Although ST segment depression is somewhat more common in patients with LVH, these two conditions are not necessarily related to one another in many patients, Okin continues. "We thought that combining these two very simple, easily performed techniques could readily enhance our ability to more accurately detect patients who are at an extremely high risk of having an adverse event within a short period of time," he says. "Reviewing results of both tests in conjunction may help

clinicians identify individuals who are at the greatest risk of mortality and therefore who may benefit the most from aggressive therapy and monitoring."

Assessing Risk

The study was published in the April issue of *Hypertension* and is part of a larger body of research, the Strong Heart Study, which has been led by researchers at Cornell since 1988. The Strong Heart Study examines the risk of cardiovascular disease and the relationship of cardiovascular outcomes to traditional and novel risk factors in Native American Indians in 13 communities in Arizona, Oklahoma, and North and South Dakota. The study focuses on the Native American population because it has many risk factors for cardiovascular disease, including obesity, diabetes, hypertension, and smoking.

Okin and his colleagues examined the ECGs and echocardiograms of 2,193 Strong Heart Study participants. ECGs were performed with digital ECG systems, and absolute ST segment deviation was measured by computer; ST segment depression of ≥ 50 μ V (microvolt) in any lead was considered abnormal. Echocardiography was performed to determine

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"Because the tests can provide complementary information, it makes sense to consider whether the combination of findings can provide added value to the cardiologist in assessing a patient's risk of death."

—Peter M. Okin, MD, Weill Medical College

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left ventricular mass; LVH was considered to be present if the left ventricular mass index was $>104 \text{ g/m}^2$ (grams per meter squared) in women or $>116 \text{ g/m}^2$ in men.

“For our analysis, we initially determined whether each test individually was predictive of outcome in these participants,” Okin explains. In a univariate analysis, in which researchers analyzed ST segment depression and echocardiographic LVH separately, each of these two variables was a strong predictor of both cardiovascular and all-cause mortality.

Subsequently, the two variables were included in a multivariate analysis, which also adjusted for other risk factors known to be predictive of heart disease (such as age, body mass index, diastolic and systolic blood pressure, HDL and LDL cholesterol levels, triglyceride levels, fasting glucose, albuminuria, prevalent coronary heart disease, diabetes, alcohol use, and history of smoking). The multivariate analysis showed that ST segment depression and LVH each was associated independently with a twofold increased risk of all-cause and cardiovascular mortality.

Seeing Results

“The fact that these variables were found to provide complementary information allowed us to take the next step: determine what happens if we look at the combined predictive value of both variables together,” Okin says. The researchers stratified patients into three groups: one in which both tests were normal, one in which both

tests were abnormal, and one in which either test was abnormal.

The analysis indicated that the risk of mortality due to cardiovascular disease within the three-year follow-up period was 20.4% in patients with abnormal results for both tests, compared with 6.5% in patients with one abnormal test, and only 1.4% in patients who had normal findings for both tests. The risk of death from any cause during this period was 35.7% in patients with abnormal results for both tests, compared with 12% in patients with one abnormal test result, and 5.5% in patients who had normal test results.

Okin believes that the study findings can be applied to the United States population as a whole. “The Native American Indian population is one in which the risk of dying from cardiovascular disease is higher than it is in the general population,” he notes. “However, both ST segment depression and echocardiographic LVH have been shown to be very strong predictors of mortality in numerous other populations, including in the United States population as a whole, other ethnic groups residing in the United States, and ethnic groups in other parts of the world. Therefore, I would strongly expect that these findings will be reproducible in the general population. The overall mortality rates will be lower, but we are likely to see similar trends and similar concentrations of risk.”

Aggressive Monitoring

Since the research is not a treatment study, it is difficult to know whether

changes in treatment patterns based on these findings would lead to an actual improvement in outcomes, Okin explains. “We do not provide data showing that if cardiologists can detect people with these abnormalities and then treat them more aggressively, these patients will exhibit lower mortality rates,” he says.

Still, Okin believes that such a prediction is likely to be valid. “The cost-effectiveness of medical care can be improved if we can identify the patients who are most likely to benefit from resources that can have a positive impact on their risk of dying or suffering other adverse outcomes,” he says. “It is becoming increasingly evident that our best bet for improving outcomes is for clinicians to focus on primary and secondary prevention. Therefore, patients with both ST segment depression and LVH, because they are at higher risk, probably deserve more aggressive risk factor modification and therapy.”

According to Okin, the implication for cardiologists of the study’s findings is that they can evaluate the results of both tests to identify the patients—even asymptomatic patients—who are at a higher risk of suffering cardiovascular mortality over the short term. “Then, the cardiologists can examine such high-risk patients carefully for all other known risk factors for cardiovascular disease,” he adds.

For example, cardiologists could aggressively modify these patients’ lipids through treatment of hypercholesterolemia, maintain patients on aspirin therapy if they are of appropriate age, address and treat

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these patients' obesity, and aggressively treat their high blood pressure.

Even though high-risk patients may look healthy, cardiologists should not be deterred from aggressively addressing their risk factors, Okin cautions. "These may not be the sickest people sitting across from the cardiologist, but they are still at the highest risk of having a bad outcome over the following three or four years," he asserts. "As such, they deserve a lot of attention and follow-up compared with people who may be at lower risk and therefore do not require such careful follow-up and modification of all of their risk factors."

Another key strategy is to note the presence of both of these abnormalities and to make sure that this information is sent to referring primary care physicians or general internists, along with the recommendation that these patients need more careful follow-up. "Whether that follow-up is actually performed by the cardiologist or by the primary care physician with the assistance of a cardiologist depends on the practice patterns of a community," Okin says, adding that referral of a high-risk patient to a cardiologist would be the common expectation.

Careful Measurement

An important feature of the study was the use of digital electrocardiography, which generates computerized measurements that are highly accurate and reproducible. Only through such quantitative measurement can cardiologists be sure that ST segment depression on an ECG is being defined accurately. In contrast, the finding that an ECG is abnormal can be questionable if that finding is based on qualitative assessment only.

"In my laboratory, we are particularly interested in discovering ways to

use the ECG to help improve risk stratification in patient populations," says Okin, who is a cardiologist and an electrocardiographer. "We want to try to identify people who may benefit from more aggressive therapy, the reduction of risk factors, and the treatment of underlying issues that may promote cardiovascular disease and lead to poor outcomes. Toward that end, we have been working on developing novel electrocardiographic techniques for identifying high-risk patients. We are also trying to improve the use of more quantifiable measures from the ECG as compared with the typical qualitative assessments that are used in routine applications of the ECG in clinical practice today."

Even previous research studies demonstrating that ST segment depression can identify those people who are at increased risk of mortality and myocardial infarction have usually been based on a visual assessment of the ECG, Okin says. "Typically, in both research and clinical practice, physicians will simply look at the ECG and report that there are some minor or nonspecific abnormalities on it," he says. "However, the problem is that two different clinicians examining the same ECG might have different ways of performing this qualitative assessment. Therefore, the interpretation is extremely subjective and can be highly variable from clinician to clinician. These subjective analyses, while accurate in the aggregate, are not highly reproducible and therefore may be questionable in individual cases."

The ability of digital electrocardiography to generate accurate and reproducible measurements is particularly important when considering that the degree of abnormality that

might be seen on an ECG may be quite small. "ECG findings must be actually measured," Okin asserts. "No clinician would consider looking at an echocardiogram and estimating a patient's LV mass and using that estimate to calculate whether or not the patient has LVH. No one would estimate a patient's cholesterol level by looking at a vial of blood and eyeballing the lipid content. We measure those things because we know that precise measurements can help us track risk in patients. The ECG is a very powerful tool for detecting patients at high risk or at low risk, and we can track risk if we apply quantifiable measurements to ECG results. However, it is fairly routine clinical practice for clinicians to look at the ECG and not carefully measure the amplitudes and intervals."

Even when amplitudes and intervals are measured by the computer, ST depression findings are not routinely printed out or reported in any way. "Cardiologists have to manually access the electrocardiographic computer system in order to collect that data," Okin says. "Because these measurements are important in predicting mortality risk, cardiologists should access these data. They can also encourage manufacturers to provide this measurement in their reporting format. These computerized systems are capable of measuring ST segment depression quite accurately. If this information is printed on the ECG, it will be brought to the attention of the clinicians who are interpreting the ECG and will make it more likely that they will act on this information."

—Reported and written by Deborah J. Neveleff, in North Potomac, Md. More information on physician practice strategies is available on our Web site (see page 16).

"Our best bet for improving outcomes is for clinicians to focus on primary and secondary prevention," Okin says.

New Stark Rules Offer Flexibility

This month, new rules regarding referrals go into effect. Lawyers advise physicians not only to understand the rules, but also to focus on compliance. Violations, even if unintentional, can result in severe penalties, including expulsion from the Medicare program, cautions Kevin McAnaney, an attorney in Washington, D.C., specializing in health care law. Physicians can no longer justify noncompliance by saying that they lack guidance from the Centers for Medicare & Medicaid Services.

Phase II Regulations

The new regulations, called Phase II of the Stark II regulations ("Medicare Program; Physicians' Referrals to Health Care Entities," 42 CFR Parts 411 and 424), were published on March 26 in the *Federal Register* (at www.gpoaccess.gov/fr/index.html) and total 93 pages. This second phase followed up on the Phase I regulations, which were published in 2001. The Phase II regulations have been released as an interim final rule and are designed to implement the federal physician self-referral law, known as the Stark law. The rules become effective July 26.

The Stark law regulates financial arrangements between physicians and organizations that furnish designated health services (DHS) and seek reimbursement from Medicare. The law, named after its chief proponent, Rep. Pete Stark (D-Calif.), generally prohibits physicians from

referring patients for any Medicare-paid DHS in which the referring physician, or any family member, has a financial relationship with the referred-to organization. Medicare will not reimburse any claims that violate the law. In addition, violators may be subject to both civil and criminal penalties and could be excluded from Medicare.

The original Stark law prohibited referrals only for laboratory services. In 1993, the law was expanded, known as Stark II, to add 10 additional prohibited areas. Congress enacted the law in response to studies showing that when a physician had an ownership interest in a facility, the physician-owner referred more patients to his or her own facility than to its competitors.

Proposed regulations for Stark II were published in 1998, and physicians responded with an overwhelming number of negative comments, often aimed at the regulations' complexity. As a result, CMS officials believed it would be easier to issue final regulations in two phases. The first phase became effective in January 2002.

Oversight Provisions

The long gap between the passage of the law and the publication of the regulations stems from the inability of CMS to address its oversight role under the law, says McAnaney. CMS's primary role is overseeing payment for Medicare and Medicaid. Since the law is not about payment,

CMS officials faced a steep learning curve when crafting the precise regulations, he explains. "CMS has never known what to do with the Stark law, and hoped it would just go away," McAnaney says.

The 93 pages of detail cover such areas as compensation arrangements for physicians, recruiting new physicians, and providing services to patients in rural areas.

Reducing the Burden

The main goals of the new regulations are to clarify the Phase I rules, address some areas that were not part of the prior regulations, and reduce the regulatory burden the law places on physicians. "We have attempted to preserve the core statutory prohibition while providing sufficient flexibility to minimize the impact of the rule on many common business arrangements," the new regulations state.

Overall, the rules focus on relationships that physicians and physician groups maintain with outside organizations, says Robert Saner, II, a principal with Powers, Pyles, Sutter & Verville, PC, lawyers in Washington, D.C. In contrast, the Phase I regulations placed greater emphasis on relationships within a physician group, he notes.

"There is a lot that is new in Part II with respect to how a group and its members have referral relationships," Saner comments. "This is one area that groups really have to pay attention to."

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New Compensation Rules

An important change in the Phase II regulations concerns the use of percentage-based compensation. Under the law, percentage-based compensation was flatly prohibited. But CMS was wary of enforcing such a law, and continually postponed the date for its enforcement. The new regulations permit percentage-based compensation, provided that the method for calculating the compensation is set in advance. The regulations also state that the compensation arrangement must be established with specificity in advance, must be objectively verifiable, and cannot change over the course of the agreement.

The new regulations also clarify what constitutes fair market value for payment for physician services. The regulations have created a safe-harbor provision that sets forth two methods of determining a physician's hourly rate. If a physician is paid at or below this rate, it is presumed to be fair market value.

The first method caps the hourly payment at no greater than the average hourly rate for emergency room physician services in the physician's market, provided at least three hospitals in the market have emergency rooms. The second method involves finding the 50th percentile pay rate for the physician's specialty, as determined by four national salary surveys, and setting the rate at or below the 50th percentile.

"DHS entities that choose to use either of the two safe-harbor methodologies will be assured that their compensation rates will be deemed fair market value," the regulations state.

The problem with the second

method is that hospitals might use it to drive down payments to physicians, Saner contends. Hospitals will cite the regulations to justify paying no more than the 50th percentile rate, he says. Over time, the regulation will lower prices paid between group practices and their external partners, he predicts.

Few Exceptions Allowed

Like the Phase I regulations, much of the Phase II regulations concern exceptions. A key exception introduced in Phase II involves the situation in which a physician organization temporarily falls out of compliance with the law due to events beyond its control. The exception applies only when a change of circumstances places the entity or referral outside the scope of an exception that was previously met, as long as the entity or referral was in compliance with the exception for at least 180 days. This new exception lasts for 90 days, during which time "parties must take steps to rectify their noncompliance or otherwise comply with the statute as expeditiously as possible under the circumstances," the regulations state. It's important to note, however, that a physician may use this exception only once every three years.

Another key provision concerns changing the in-office ancillary services exception. "It is possibly the most important exception for doctor and doctor groups," McAnaney says. Under this exception, a physician is permitted to make a referral to services within his or her own medical group that are furnished in the same building

or at another building used for these types of services.

Generally, the Phase II regulations kept most of the earlier regulations in this area. A notable change was made, however, in determining whether the services were made in the same building. To qualify, the use of the building must pass one of three newly created tests, designed to allow more referrals to qualify for the exception than under the first set of regulations.

The first test requires that the building be the principal place of practice for the physician group by having its doors open to the public at least 35 hours a week with at least some of the services being unrelated to DHS. The second test requires the referring physician to practice at least one day per week in the office and that the office be the primary place the physician's patients get treatment. The third test requires that the referring physician work at least one day per week at the office and that the DHS was ordered during a patient visit to the referring physician or was performed while the physician or a member of his or her group is present.

Despite the detailed analysis of the Phase II regulations, CMS is not finished. It plans to publish Phase III sometime in the future, and this phase will address rules governing Medicaid claims. For those who seek further clarification of the new rules, CMS will issue advisory opinion letters to physicians who request them to determine the legality of a specific transaction.

—Reported and written by Michael Prince, JD, in New York. More information on physician practice strategies is available on our Web site (see page 16).

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EMRs Help Transform Processes of Care for HealthPartners' Physicians



In its ground-breaking report, *Crossing the Quality Chasm: A New Health System for the 21st Century*, the Institute of Medicine challenged stakeholders to

transform care systems to ensure that care is safe, effective, patient-centered, timely, efficient, and equitable. In regard to information technology and electronic medical record (EMR) systems, IOM concluded that to refashion care systems and achieve major improvements in quality, health care organizations must develop comprehensive information technology systems to support care process reengineering that puts patients at the center of multidisciplinary care teams, manages today's exploding clinical knowledge base, and empowers patients.

HealthPartners in Minneapolis is a family of nonprofit, consumer-governed health care organizations focused on improving the health of its members, patients, and the community. The organizations include a 671,000-member health plan, a 427-bed teaching hospital, and the HealthPartners Medical Group, which has 600 physicians practicing in 35 medical and surgical specialties. Today, 3,800 users, including all Medical Group physicians and nurses at 24 locations, use an EMR from Epic Systems Corp. in Madison, Wis.

In this interview, editor-in-chief Richard L. Reece, MD, discusses EMR systems with Kevin J. Palattao, vice president, patient care systems, at HealthPartners. Palattao explains that the EMR at HealthPartners supports clinical process transformation and a model of care with multidisciplinary practice teams. HealthPartners is implementing these systems under its Pursuing Perfection quality improvement initiative.

Q: To cross the quality chasm, physician groups need IT sup-

port to put evidence-based standards of best practice into effect. How does your EMR address this issue?

A: Our prepared practice teams use care guidelines formulated by the Institute for Clinical Systems Improvement, in Minneapolis. ICSI is an independent, nonprofit organization that engineers collaboration on quality improvement by 45 medical groups in Minnesota. A basic set of ICSI guidelines is now automated to support evidenced-based, best-practice care. Based on the patient's

them to identify patients with conditions such as diabetes and cardiovascular disease. But patients with multiple diagnoses were listed separately on different lists, making it cumbersome to determine who had multiple conditions. Now, the EMR provides a patient-centered data structure. Physicians can treat the patient as a whole person rather than disease by disease.

Q: One of the benefits of EMRs is improving patient safety. Can you provide any examples?

“Caregivers have told us that timely access to information, easy navigation, safety alerts, best-practice reminders, and simple documentation and coding features are their main desires.”

signs and symptoms, the EMR presents a best-practice alert with a checklist summary of the guideline and recommended care steps.

Q: How does the EMR affect order entry?

A: If the physician chooses the guideline, order entry takes just a couple of mouse clicks. Physicians can also point and click to modify an order set.

Q: For physicians to apply relevant guidelines, they have to be able to quickly access a clinical overview of the patient. Right?

A: Absolutely. Patient registries have long been important at HealthPartners for clinical decision support. Previously, we provided clinics with paper reports of diagnosis-specific patient lists. Clinicians used

A: Sure. The system provides real-time medication interaction alerts when physicians enter orders for medications. And just having real-time access to the complete record improves safety.

Q: Do you agree that sharing information during office visits to engage and empower patients is a critical function of EMRs, as IOM suggests?

A: Putting the patient at the center is a key design objective of our care process transformation efforts under Pursuing Perfection. That's why relevant patient education materials can be printed, based on best-practice guidelines. It is also why we invested in large monitors so physicians and patients can see and discuss information together. In addition, visit summaries for patients

explain their conditions, document the care provided that day, and summarize follow-up care steps. Providing these summaries to our patients facilitates patient responsibility and supports a continuous healing relationship with the patients. Our physicians and nurses find that patients value this information.

Q: *What other features and functions aim to empower patients?*

A: We're moving forward on an e-Care initiative with our EMR. e-Care is a secure system of Web-based health information and self-service tools that empower patients to take an active role in their health and enhance their relationships with their physicians. It's the logical next step to build on our EMR and an opportunity to link even more effectively with patients. It supports our business strategy to take on the IOM challenge and narrow the gap between what patients expect and deserve and what they currently get from the care system.

Our first e-Care initiatives went live in March 2004, and include direct, online appointment scheduling. For primary care, patients pick their preferred site, physician, and visit date and time. Online requests for specialty care appointments are arranged by HealthPartners' call center. And appointment confirmations and other one-way communications to patients (such as pretest instructions) make office visits more effective and focused on patient needs.

Q: *How many patients could use these e-care features?*

A: About 350,000 patients. We expected maybe 5% to do so initially. In the first six weeks, about

3,000 signed up for online scheduling.

Many health care organizations have toyed with direct, online appointment scheduling. We are one of a few medical groups of our size and complexity to get it done. Our physician and scheduling staff worked diligently to implement same-day appointments as a precursor to direct scheduling. To be successful, direct scheduling takes a tremendous amount of process simplification, and physicians must embrace a commitment to patient-centeredness and compromise a bit on their individual autonomy.

Q: *Is it difficult to ask physicians to compromise on their autonomy?*

A: We are attempting to move beyond some old rules that have contributed to the chasm between the quality of care we now have and the quality of care we want and could have. An old rule is that health care is centered on providers; the new rule is that the patient is at the center. An old rule is that care is based on office visits; the new rule is that it should be based on continuous healing relationships. Under the old rules, health professionals control information; the new rule is to embrace transparency, share knowledge, and make information flow more freely, including allowing patients to have access to their own medical records.

Q: *These are lofty goals, but how do you win physician support?*

A: We enable them to see and experience the benefits. Our caregivers have told us that timely access to information, easy navigation, safety alerts, best-practice reminders, and simple documenta-

tion and coding features are their main desires. When they see these needs met, they support the EMR.

I credit one of our physician leaders, Leif Solberg, MD, for a watershed moment in our EMR evolution at HealthPartners. He created a survey, "Physician Time-Value." It was eye-popping. The survey solicited opinions on the things that waste physicians' time as they try to deliver high-quality care. Six out of the top eight time-wasters were related to the shortcomings of the paper record and its inefficient work flows. The situation dramatically improved with new work flows supported by information technology in the EMR.

Q: *How has your EMR improved documentation and coding?*

A: We take advantage of the patterns of repetition physicians establish in their work routines. The EMR presents templates for entire standard visits (such as for preventive care) and high-volume procedures (such as flexible sigmoidoscopy). These make documentation a snap. To document more complex care, we have a dictionary of key phrases that can be strung together to complete documentation. We haven't completely eliminated dictation yet, but we're working on it.

Q: *I assume your path to success was not steady and easy.*

A: No. Anything but. Work on electronic records dates back to the late 1980s, when we created a homegrown, read-only application, the Patient Profile System. It made lab results, appointment and billing information, and summary progress notes available online. This established the foundation for a clinical

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INTERVIEW

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data repository. In the 1990s, we conducted an EMR pilot project with a small number of physicians and entered into what became known in our folklore as “the long valley of despair.”

The pilot project never progressed to full implementation. We then turned our focus to implementing individual modules from Epic for registration, scheduling, and billing. Under Pursuing Perfection, HealthPartners dedicated resources to accelerate EMR implementation.

Q: Once a group practice adopts an EMR, how long can it expect to use paper records as well? Must paper records coexist with an EMR?

A: Simple questions, but complex. It depends on a group's business plan, determination, will, and, perhaps most important, its available patient record history.

Q: Let's talk about the effect of having a patient record history.

A: It's obvious but often overlooked that an EMR is not terribly useful until it has a critical mass of historical patient information in it. Each group practice must decide how much history is enough to effectively support the physician-patient relationship and the delivery of high-quality care.

In our case, as I said, we started by building a clinical data repository. So, we had undertaken internal pre-EMR development. By the time we started our organizationwide EMR implementation, we had more than 12 years of clinical history.

Q: Explain what you mean by business plan and will.

A: You must decide what your cost-benefit goals are and if you have the determination to challenge the status quo. To make

progress, an enormous amount of workflow redesign is required, and old artifacts must be removed. For instance, the paper chart is an old artifact. If left in place, it will be a strong deterrent to progress. So, HealthPartners decided to simply stop filing records in the paper charts. In effect, this made the paper record less and less useful each day, while making the electronic record more and more relevant. With our large electronic history, and a paper record diminishing in value, our caregivers made the logical choice: Use the EMR.

Q: How intense is user training for the EMR?

A: Very intense, and in a perfect world it never ends. The hours and intensity of initial implementation vary. We spend the most time with physicians. They see the most dramatic changes in their daily work flow and tools, as nearly everything changes in the way they deliver care and in the tools they use to do so. Nursing staff is next. They have nearly as many changes in their work flow and tools, but they seem more adaptable on the whole. Next is the ancillary staff, who really have the least number of changes.

For initial implementation, our physicians and other providers receive about 17 to 20 hours of training, nurses receive about 13 to 16 hours, and ancillary and clerical staff about two hours.

Q: In general, how long does it take medical records staff to adjust to an EMR? How about physicians?

A: For clerical staff, it's fast. They get it almost immediately. With physicians, there's a spectrum. We see about a third of our physicians get it immediately and want

to move ahead quickly. They become our EMR champions who help us with work flow design, distilling the most important issues from the minutia and helping others acclimate to the tools. There's a solid middle ground of physicians who are interested and willing to learn, but need full training and then additional support. This is probably 60%.

Q: The Wall Street Journal reported that less than 5% of physicians use EMRs today. A Harris Interactive survey conducted in 2001 suggested, for primary care, that less than 20% of physicians do so. Any comments?

A: Patients want and deserve more control over the decisions that affect their health, safety must be dramatically improved, and the enormous amount of information available on evidence-based best practices must be leveraged so every patient receives exactly the care they need, no more and no less. We are kidding ourselves if we think that manual, paper-based systems can enable us to deliver on today's demands. And, the daily endurance run that physicians suffer through just to get the information they need from paper records is nonsensical.

That said, EMRs do not magically make everything easier overnight. Implementing an EMR requires fundamental process and cultural change. It can be tough going, and it's not for the faint of heart. HealthPartners hasn't yet achieved an ideal synthesis of process and technology, but we're on the right rail as we pursue perfection.

—More information on physician practice strategies is available on our Web site (see page 16).

“About a third of our physicians get it immediately and want to move ahead quickly. They become our EMR champions.”

Lessons for Implementing an EMR

Implementing an electronic medical record system can be a challenge for both small and large group practices. Kevin J. Palattao, the vice president of patient care systems at HealthPartners, a nonprofit health care organization in Minneapolis, characterizes EMR implementation at HP as one of the longest and most difficult projects of any health care organization. Based on hard-won success, he offers the following comments, suggestions, and lessons for group practices striving to implement EMRs:

Build the business case. Develop the business case for investing in EMR technology based on real savings, such as cost reductions from retiring redundant legacy systems and decreased staffing based on improved workflows.

Establish a clinical data repository first. Physicians cannot use an EMR without medical record content. Get started with a clinical data repository. Having historical information to initially populate electronic records contributes to success.

Redesign care processes before introducing EMR software. It is essential to redesign care processes and standardize workflow before bringing an EMR into a group practice. Otherwise, an EMR just delivers bad processes faster. Communicating lab results to patients illustrates the problem: If one clinic sends patients a simple message that their lab results are normal, and another provides results along with a range of normal values, and yet a third provides a detailed explanation, the organiza-

tion has multiple, individual approaches to one task that no one system can efficiently and cost-effectively support. Focus attention first on basic workflow redesign.

Standardize and simplify. No system can cost-effectively support widespread variations in practice. For example, HealthPartners had some 8,000 different types of appointments for registration and scheduling. It was critical to consolidate these definitions to improve the efficiency and effectiveness of registration and optimize scheduling before moving ahead with online appointment scheduling based on the EMR.

Build physician understanding and support. Involve physicians, advanced nurse practitioners, and nursing staff in decisions on process reengineering that will affect them. No system is perfect. All paths to implementation will have bumps along the way. The more fully clinicians understand the goals, the possibilities, and the limitations, the more likely they will be to embrace decisions, even difficult ones. Remember that there is no more powerful force than engaged physicians and nurses stepping forward to lead the charge to implement and advance information system technology to improve the quality of care.

Bite the bullet. Eliminate legacy systems, both software and paper systems. It is too expensive to support redundant systems. Closing them down is the only way to get to complete EMR implementation and fully realize potential cost savings.

Don't forget basic computer skills. Today, using a keyboard and a mouse effectively are clinical skills. It would be a mistake to assume that problems with these skills are age-specific. Do not wait until implementation day. Find out early who needs help so that they have time to improve their basic personal computer skills.

Acknowledge awkwardness as an adoption barrier. An EMR introduces a new tool into the exam room. Physicians must learn to be savvy and facile in using EMR software while they converse with patients, something they are typically asked to do rather quickly. This learning curve can be awkward and difficult for many physicians, so technology professionals should be sensitive to the issue and invest in training and retraining.

Commit for the long haul. Embrace continuous quality improvement. Establish clinic user groups as a forum for ongoing efforts to improve EMR features and functions.

Always return to business strategy. An EMR is a tool to support business strategy. Under Pursuing Perfection, the strategy at HealthPartners is to take on the IOM's challenge to cross the quality chasm. Thus, the benchmark question for evaluating the utility and value of any aspect of the EMR is "How does it affect the patient?"

—Reported and written by editor in chief Richard L. Reece, MD. More information on physician practice strategies is available on our Web site (see page 16).

There is no more powerful force than engaged physicians and nurses stepping forward to lead the charge to implement and advance information technology to improve the quality of care.

Specialty Societies Mobilize to Enact National Malpractice Reform

By Richard L. Reece, MD, editor in chief

Physicians in high-risk medical specialties need to work together to address the need for medical liability reform, says Stewart Dunsker, MD, cofounder of Doctors for Medical Liability Reform, in Washington, D.C. "We knew we had to try something that hadn't been done before," Dunsker says. "Just complaining about high premiums wasn't going to be enough."

In the spring of last year, Dunsker and neurosurgeon Stan Pelofsky, MD, of Neuroscience Specialists, in Oklahoma City, Okla., started to work together on medical liability reform. "We couldn't see any organization working for physicians that was adequately addressing the problem," Dunsker explains. "So we called the presidents of high-risk specialty groups, including groups involving orthopedics, obstetrics and gynecology, emergency rooms, and thoracic surgery. We represented neurosurgery. We decided if those five high-risk groups couldn't find common ground, we weren't going very far."

Reaching Agreement

Indeed, the representatives of the five specialty groups found common ground, agreeing that new measures were needed, Dunsker says. But they also decided that they would be stronger working together rather than working separately, that they

would need perhaps millions of dollars to launch a campaign to change liability laws, and that they would need professional help to get their side of the story out to the public and to those who could help enact reform.

Over the next few months, Dunsker and Pelofsky invited other societies to join the fledgling group. "Over the course of nine months, we brought on board a total of 10 specialty organizations and raised \$7 million," says Dunsker, a neurosurgeon at the Mayfield Clinic in Cincinnati.

Some of the money went to contracting with a commercial public relations firm, the Mercury Group, in Alexandria, Va., to educate the public. With the help of that firm, the group produced a video about the malpractice crisis and, in February launched a national campaign in Washington, D.C., and local campaigns in Washington State and North Carolina. "We seek to inform the public and the media about what is happening," Dunsker says. DMLR also is spending money to advertise in national editions of the *Wall Street Journal* and *USA Today* and in newspapers in the two target states.

Washington and North Carolina were chosen because senate races in those states are hotly contested, and, as Dunsker explains, "We want the

public to know malpractice reform is a major issue." U.S. Senator Patty Murray, (D-Wash.) is up for reelection, and Sen. John Edwards (D-N.C.), who withdrew from the race for reelection in March, is currently running as the Democratic vice presidential candidate.

"In Washington, 500 specialists have left the state over the last four years because of rising premiums for professional liability insurance," Dunsker says. "The same thing is happening in Illinois and West Virginia, and a similar exodus of specialists is occurring in other states. What's more, physicians are restricting high-risk procedures in their practices and aren't covering emergency rooms because they simply can't afford to pay the premiums."

Access to Care

Problems such as those in North Carolina and Washington are not uncommon in other states as well. The AMA lists 20 states in crisis and 24 states showing problem signs. "The public is not aware of these problems, except in a few places," Dunsker says. "Access to medical care is shrinking, but most people are unaware of that."

Because of unaffordable insurance premiums, doctors are being forced to leave medicine, to change the way they practice medicine, or to relo-

This problem is affecting physicians in every specialty. Doctors are going to have to take part in this fight, and doctors are going to have to contribute."

—Stewart Dunsker, MD, Doctors for Medical Liability Reform

DMLR Members

The member organizations of Doctors for Medical Liability Reform, in Washington, D.C. (at www.ProtectPatientsNow.org), include the following:

- The American Academy of Dermatology
- The American Association of Orthopaedic Surgeons
- The American College of Cardiology
- The American College of Emergency Physicians
- The American College of Obstetricians and Gynecologists
- The American College of Surgeons Professional Association
- The American Urological Association
- The National Association of Spine Specialists
- The Neurosurgeons to Preserve Health Care Access
- The Society of Thoracic Surgeons

cate, Dunsker contends. Many physicians are retiring early; many are restricting their practices so they no longer care for high-risk patients, including those entering emergency rooms; and many physicians are moving to states where insurance premiums are more affordable, he points out. Last spring, at least one newspaper in Illinois reported that many obstetricians in Chicago had moved to Milwaukee to escape unaffordable premiums and that as a result, Illinois needed to enact liability reform, he adds. Wisconsin is one of six states that the AMA says is currently doing okay in terms of the insurance crisis.

Emergency Restrictions

Although the insurance problem is being addressed in some regions of the country, other areas are in serious trouble. In West Virginia, for example, several cities have lost all of their neurosurgeons, Dunsker notes. In Palm Beach, Fla., newspapers report that 22 patients were transferred to other hospitals in South Florida because neurosurgeons in Palm Beach were no longer available to treat them there. But the referral hospitals are struggling to cope with patient backlogs and so there are more delays, Dunsker says. "Patients think they will have care in the

emergency room when they show up, but they do not," he adds.

What's more, some hospitals are having trouble persuading medical staff specialists to cover the emergency room, in part because many of the patients who go to the ER are high-risk patients for malpractice cases and are uninsured. "But it goes beyond that," Dunsker notes. "In Chicago, if you perform brain surgery, you have to pay an additional \$60,000 a year in liability insurance. If that neurosurgeon doesn't pay, he or she isn't available to take care of stroke emergencies or a child with a soccer injury. So the problem isn't restricted to the uninsured. This liability crisis affects 250 million Americans, who have health insurance but who may not have health care waiting for them in the hospital.

"One of the main reasons many people are not aware of this problem is that only 5% of the populace is sick at any one time," Dunsker adds. "Therefore, unless you or one of your loved ones need that care and can't get it, you won't know about it."

Political Motivation

Dunsker admits that the issue has become political, since Republicans and Democrats tend to take firm partisan positions on the issue. In

Washington State, many Democrats have been dismissive of DMLR's efforts, contending that the group's proposal will not result in a reduction in premiums, Dunsker says. Many Democrats believe it is important to oppose liability reform measures, claiming such measures will restrict access to the courts for those who are injured in medical malpractice cases. "They take refuge behind the mask that the lawyers are protecting the people, while the infrastructure of medical care is being destroyed by this abusive tort system," he explains. "Meanwhile, it's been our position that this issue is about saving lives, not depriving lawyers of fees."

In fact, the DMLR supports patients' rights, Dunsker adds. "We want to emphasize that no patient injured by a doctor by malpractice should go uncompensated," he explains. "Every doctor should be responsible for good patient care. We are simply looking for an equitable way to deal with the problem."

DMLR believes that one way to protect patients and to limit medical liability premiums is to support measures that are similar to the Medical Injury Compensation Reform Act that is in place in California. That law sets a limit of \$250,000 on damages from pain and suffering. "Let me emphasize that this law does not limit the award to \$250,000," Dunsker says. "All economic and medical costs are paid. In the past few years, about 68% of jury awards are for pain and suffering, not for economic losses or the cost of actual care. The problem with pain and suffering is that it's totally subjective and not quantifiable. On the other hand, we believe patients should be paid for economic losses and medical costs."

In addition, the liability system should not let patients collect twice for the same injury, Dunsker explains. "Suppose, for example, you had a terrible illness and your insurance company paid for the hospital

(Continued on page 14)

AMA Lists Crisis States

The 20 states in which a crisis exists because liability insurance for physicians is either too costly or unavailable, according to the AMA, are

- Arkansas
- Connecticut
- Florida
- Georgia
- Illinois
- Kentucky
- Massachusetts
- Mississippi
- Missouri
- Nevada
- New Jersey
- New York
- North Carolina
- Ohio
- Oregon
- Pennsylvania
- Texas
- Washington
- West Virginia
- Wyoming

In 24 other states, the AMA sees signs that there are problems that could lead to a crisis, the AMA says. Six states (California, Colorado, Indiana, Louisiana, New Mexico, and Wisconsin) are currently okay, the AMA says.

(Continued from page 13)

bill of \$500,000," Dunsker says. "Assume further that you later won a suit for malpractice and were reimbursed that \$500,000 as though the insurance company didn't pay it. That's a double payment: The insurance company paid for the care the first time and you received an amount that includes those dollars the second time, even though it was not an economic loss to you. The payment in this example is a collateral source of funds, and this issue is referred to as a collateral source of payment." Such payments should be eliminated, Dunsker argues.

"We also believe that every patient who requires long-term medical care as a result of malpractice should receive the money necessary for that care," Dunsker explains. "However, that care should be paid for as it is needed, not as a lump sum on the day of settlement. If the patient were to live for 90 years, the payment should go on for 90 years; but if the patient dies in five years, the payment for medical care should stop when the patient dies. It should not be a windfall for the family and the lawyer."

Dunsker sees many problems with the current medical liability system,

but there are three aspects of the system that he says are particularly in need of reform: There should be caps on pain and suffering, double collecting on medical expenses should be disallowed, and periodic payments in which a patient receives a lump sum should be discontinued, he contends. "Addressing all of these will help to reduce insurance premiums," he notes.

A National Crisis

But rather than address the medical liability issue state by state, it is more important that it be addressed on a nationwide basis, according to Dunsker. The current system in which liability issues are fought in each state is inefficient, he argues. "There is such state-by-state variation that it allows physicians to move from state to state, so that some states will be without physicians," Dunsker says. "This is a national problem, and we need to have national standards. We need medical care in all our states and all our cities. People need medical care wherever they are. As strong as the plaintiffs' bar is nationally, it is even stronger in

many states."

Since the liability issue is national, DMLR seeks to attract medical societies, the national media, and physicians in a variety of markets. "This problem is affecting physicians in every specialty," Dunsker says. "There are huge increases in premiums across the board in every specialty, and often malpractice insurance simply isn't even available. Doctors are going to have to take part in this fight, and doctors are going to have to contribute."

A survey done by the Medical Group Management Association, in Englewood, Colo., earlier this year showed that for the average physician, premiums increased 40% in 2002, and 37% in 2003. This year, premiums already have risen by 51% for primary care physicians and by 40% for specialists, according to the MGMA.

In 2002, the newsletter *Medical Liability Monitor* estimated that premiums in the top 10 high-risk states averaged \$85,000 for obstetrician-gynecologists and \$17,000 for internists. In many areas, premiums are rising by 20% to 35% per year, Dunsker says. What's more, recent surveys have shown that about half of all physicians over age 50 say they do not plan to be practicing in three years.

The issue of access to care becomes more important as liability premiums rise, says Dunsker. "A survey just completed in Ohio showed that 34% of responding physicians said they would be out of practice in two years, and 40% of doctors over age 50 said they would be retiring within five years," he comments. "So, lack of access is developing rapidly. It's important for doctors to stand together on medical liability reform and to protect patients against lack of access and lack of care when they need it the most."

—Edited by Joseph Burns. More information on physician practice strategies is available on our Web site (see page 16).

Author Offers Insights Into History

By Regina E. Herzlinger

Reporting from the health care battlefield, Richard L. Reece, MD, gives us fascinating action views of its massive transformation. Beginning with Minnesota's embrace of managed care in 1983, Reece presents blow-by-blow accounts of its subsequent fall and the rise of consumer-driven health care by 2003. If anybody should write this important historical account it is he: a physician whose ardent support of his profession and the people it serves has never wavered; an economic historian who skillfully analyzes the strategies underlying the restructuring of the sector; and an objective, engrossing reporter with a nose for the telling anecdote.

Managed Law?

Reece's topic is fascinating. How did managed care, an economically aberrant concept, take hold in our great health care sector? After all, in no other sector of our economy does a third-party manage the work of independent professionals. No managed lawyers. No managed consultants. No managed contactors. But, yes, managed health care.

The voyage begins with former President Richard Nixon, who in the early 1970s saw health managed organizations (HMOs) as the solution to U.S. health care cost problems. His administration sponsored legislation that required employers to offer HMOs and supported them with massive subsidies. One of the Nixon administration's key advisers,

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At a Glance

Managed Care Memoir: A Physician's Whistle-Stop Journey, by Richard L. Reece, MD, was published in 2003 by Infinity Publishing (at www.infinitypublishing.com). Reece is the editor in chief of the *Practice Options* newsletters. This book (383 pages, ISBN 0-7414-1405-8) is available at 877-buy-book, www.buybooksontheweb.com, and www.amazon.com.

Paul Ellwood, MD, a Minneapolis pediatrician, convinced Park Nicollet Clinic to begin its own HMO in that market in 1983. HMOs exploded, taking out the University of Minnesota Hospital along the way.

A chorus of Cassandras, supportive of the status quo, worried about managed care from its conception. But it turns out that the object of their concern, the academic medical center, took care of itself very well. The predictions of the health economists, dryly quoted by Reece, were especially notable for being stunningly wrong. While, in 1985, Columbia University's Eli Ginsberg grimly warned that academic medical centers "are much more vulnerable than assumed" and Harvard's Rashi Fein opined that "there is no way they can compete on price," by the mid-1990s most of these institutions had become oligopolistic giants whose market dominance enabled them to enforce massive increases in costs.

Much more vulnerable, and far less bemoaned, were the fragmented physicians who felt bullied and stripped of professional autonomy by managed care technocrats. Virtually alone, Reece foresaw this problem early. And in one telling essay after another, he details the failures of the systems that harmed these physicians.

Instead of managing care, many of the organizations formed to do so died from the twin illnesses of incom-

petence and greed. These ills caused the collapse of Oxford Health Care in New York, the integrated delivery systems nationwide, the Nashville area's hapless physician practice management systems, and Med-Unite, a consortium of large insurers created to achieve its eponymous goal. Along the way, Reece rails against the hundreds of millions of dollars that the CEOs of these failed firms pulled out of the medical system to line their pockets.

Finally, Reece turns to new hopes in the rise of computerization and self-care by interviewing some quirky innovators, such as Ed Roberts, the inventor of the first PC, who in his late 30s decided to become a physician. He also turns to consumer-driven health care in two interviews with me.

This book is not without flaws. As a self-published manuscript, it has distracting typographical errors. And, as a chronology, some of its information is repetitious. Last, Reece does not explain that consumer-driven health care inevitably requires risk adjustment of prices to protect the sick. But these are mere quibbles.

Reece has a fascinating story to tell. He tells it well. And how can one fail to admire a man who dedicates his book to the American physicians "for holding on to their principles in changing times?"

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