

The Quality Indicator™

Physician Resource

QUALITY IMPROVEMENT STRATEGIES TO ENHANCE PATIENT OUTCOMES

Chronic Pain Programs Help to Improve Quality of Care

Focused pain management programs help to improve the quality of care delivered in hospitals to patients who have chronic intractable pain, experts say. Also called disease management (DM) initiatives, these programs can be used in ambulatory settings and large medical groups as well, although such programs in these settings are rare, the experts add.

"Pain is viewed by most physicians and payers as a symptom of a disease rather than a disease itself," says Russell Portenoy, MD. "So, DM programs for the treatment of chronic pain remain rare." Portenoy is chairman of the Beth Israel Medical Center Department of Pain Medicine and Palliative Care in New York.

It is unfortunate that these programs are rare, experts say. "The DM model is based on the premise that the health of individuals with chronic diseases can be successfully managed and the cost of the required health care resources can be reduced if all individuals with a particular chronic disease are viewed as a separate population," says Al Lewis. "Chronic pain fits that premise." Lewis is executive director of the Disease Management Purchasing Consortium and Advisory Council in Boston.

Increased Quality

Fred Davis, MD, president of ProCare Systems, in Grand Rapids, Mich., agrees. Chronic pain is a recurring

condition that, like other chronic conditions (such as asthma, diabetes, and congestive heart failure), affects many patients and therefore can be costly, says Davis. He adds that because chronic pain causes significant functional impairment and is incurable, managing it should go beyond providing episodic care. "Managing chronic pain should include long-term active monitoring and continuous care, as is common in DM programs," he notes. ProCare develops and operates pain management programs.

Unlike traditional pain management programs, which treat the pain associated with a specific medical condition (such as low back pain), chronic pain DM programs require a multidisciplinary team committed solely to treating patients in pain. The most effective DM programs include professionals from many departments, such as pharmacy, nursing, and various medical specialties.

The diseases that can be successfully managed in a DM program are those

that are long term, affect many people, and can cause expensive complications if treated improperly, DM professionals say. Treatment usually involves drug therapy and following medical protocols. Patients and physicians are encouraged to abide by specific guidelines, sometimes through economic incentives. The basic premise of these programs is that chronic pain, such as the pain many cancer patients experience, can be treated successfully if it is addressed as a disease, not a symptom.

Reduced Cost

Effective DM programs not only help to improve quality, they can also assist payers and providers in controlling costs, say Davis and others. "Pain has an impact on many other chronic diseases and adds to treatment costs," Davis explains. "It also affects the patient's level of satisfaction with his or her medical treatment, which can reflect on the payer."

(Continued on page 11)

IN THIS ISSUE

Editorial

New Systems Needed to Improve Use of Guidelines2

Quality Improvement

Pursuing Perfection to Advance Quality3

Strategy

Initiatives Should Focus on Physician-Patient Relationship6

Technology

EMRs Help Improve Care Quality9

New Systems Needed to Improve Use of Guidelines

A few years ago, researchers writing in the *Archives of Internal Medicine* estimated that it takes 17 years for clinical practices to accept quality standards. And although the medical literature shows numerous examples of how treatment recommendations go unheeded, in reality many physicians are delivering appropriate care and following the recommendations of best practice guidelines, but they are simply failing to record their steps for a wide variety of reasons. Often, health care information systems are not designed to collect the right information at the point of care. After all, physicians are being asked to treat more patients than ever before, leaving less time for documentation.

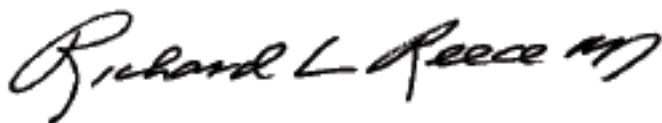
But there are other shortcomings in the system as well. Each year, researchers conduct more than 10,000 clinical trials, and while not all of these result in new best practice guidelines, it is still impossible for practicing physicians to keep up with the torrent of ensuing data and recommendations.

Also, unwieldy administrative systems make it difficult for physicians to track clinical advances, to know what's happening in other parts of the health care system, and to collaborate with colleagues.

In a recent report, Molly Joel Coye, MD, president and CEO of the Health Technology Center in San Francisco, said that health care information systems are archaic. The report, *Spending Our Money Wisely: Improving America's Healthcare System by Investing in Healthcare Information Technology*, recommends establishing a health technology loan program modeled after federal programs used to provide states with money for transportation and environmental initiatives. The report, which is available online at www.healthtech.org, was issued by HTC and Manatt, Phelps & Phillips, LLP.

Claude Lenfant, MD, former director of the National Heart, Lung, and Blood Institute, also offers suggestions on how to address this problem in the Aug. 28 *NEJM*. In "Clinical Research to Clinical Practice—Lost in Translation?" he recommends increasing the level of accountability of physicians in private practice, following the benchmarks established by the National Committee of Quality Assurance, and encouraging professional organizations and specialty societies to develop practice recommendations to close the gap between what we know is the best care and what gets delivered and recorded in physicians' offices.

It will take professional exhortations to do what's right and economic support from the federal government to make it economically feasible for health systems and physicians to implement the systems they need.



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Pursuing Perfection to Advance Quality

By George J. Isham, MD

In 2001, the Institute of Medicine issued a landmark report, *Crossing the Quality Chasm: A New Health System for the 21st Century*. The report described not just a gap but a chasm between the quality of care we provide and the quality of care we want for our patients and could deliver to them. The authors concluded that poor quality is not due to the absence of effective treatments or to any lack of knowledge about them. The report confirmed my clinical and medical management experience: The quality chasm is a systems problem.

Disjointed care systems and ineffective processes impede physicians by erecting barriers to putting best science standards of care into practice. IOM called for fundamental change in the nation's ailing health care system. It challenged stakeholders to transform care systems in order to fulfill six goals: health care that is safe, effective, patient-centered, timely, efficient, and equitable.

Based in Minneapolis, HealthPartners is a family of nonprofit, consumer-governed health care organizations consisting of a 671,000-member health plan, a 427-bed teaching hospital, and the HealthPartners Medical Group. The medical group has 32 primary care and specialty clinics with 600 physicians practicing in 35 medical and surgical specialties.

Our opportunity to dramatically improve patient care opened up in 2001, when the Robert Wood Johnson Foundation, in Princeton, N.J., selected HealthPartners to take part in the Pursuing Perfection program. With a grant of \$1.9 million, HealthPartners set out to make essential changes, all aimed toward meeting IOM's six goals.

Today, Pursuing Perfection at HealthPartners includes hundreds of

initiatives. We are transforming our delivery of care through projects that center on the basic care process, the culture and structure of the organization, and the environment of the health care system.

Process Transformation

The focal point of efforts to reconfigure the care process is a new planned care model with prepared practice teams. Teams—which include physicians, registered nurses, licensed practical nurses, and clerical staff—collaborate in the care of patients and involve patients in managing their own health.

“Disjointed care systems and ineffective processes impede physicians by erecting barriers to putting best science standards into practice.”

The core of the planned care model is to have prepared practice teams work together with activated, informed patients in continuous healing relationships that are supported by the ongoing availability of health information for interactive, real-time application, and sharing of knowledge. Teams build relationships with patients and coordinate care across all settings in a structured process that encompasses four continuous phases of engagement with their patients:

1. Previsit: the time when health risk

or a need for services is first recognized and the patient contacts a clinic

2. Visit: the time from the patient's check-in to departure
3. Postvisit: the time from departure to the completion of the care plan established during the visit
4. Between visits: the time from completion of the care plan to the next previsit.

The teams put the patient at the center. They formulate care plans to ensure that the right team member completes the right task at the right time at the right stage of an ongoing care process that keeps the patient

fully informed and actively engaged.

The teams follow a simple set of rules. First: Patient care is designed to meet individual patient's needs and respond to that patient's values, preferences, and choices. Second: Teams provide proactive care, not just reactive assistance. Third: Teams implement best-practice guidelines to apply the best science in patient care. HealthPartners uses guidelines developed by the Institute for Clinical Systems Improvement, a nonprofit

(Continued on page 4)

George J. Isham, MD, is the medical director and chief health officer for HealthPartners, an integrated care delivery organization in Minneapolis.

(Continued from page 3)

organization that supports collaboration on QI among 45 Minnesota medical groups. Fourth: A team's work is organized around the processes of pre-visit, visit, postvisit, and between visits. Fifth: Team members cooperate and coordinate their work fully with one another and the patient.

In 2002, HealthPartners undertook a pilot project to test the new model at three medical group clinics. In April and October 2003, we conducted Care Design Collaborative sessions to roll out the model and prepared practice teams beyond the pilot sites. Today, 87% of all PCPs are in prepared practice teams, and all potential 208 teams are in place at 32 clinics.

Prepared practice teams are converting best-science guidelines into practical protocols. For example, the

only patients and their families but also health professionals.

Leadership training is an integral component of Pursuing Perfection. We initiated an enterprisewide campaign and training program to build leadership skills, foster respect in employee interactions with patients and members, and develop respectful workplace interactions among staff. In 2005, in response to ongoing employee surveys, more resources were devoted to internal communication throughout the entire organization.

The structure of the organization includes information systems that support change, especially in care processes. Therefore, under Pursuing Perfection, HealthPartners accelerated electronic medical record imple-

mentary patient registries are patient-centered and comprehensive.

Fourth, visit summaries for patients explain their conditions, document the care provided that day, and summarize follow-up care steps. The EMR thereby supports patient involvement in their care plans. Physicians report that these summaries are among the most useful tools provided by the EMR to improve communication and increase the efficiency and effectiveness of office visits.

In March, HealthPartners launched e-care initiatives, enabling patients to do online appointment scheduling and to pick their clinic, physician, and date and time of appointments for primary care. Usage is increasing markedly, with a 71% jump between March and April.

Total cost savings have been greater than anticipated. Moving paper charts around between PCPs and specialists was a \$3 million annual expense, which the EMR essentially eliminated.

“Deep-seated, lasting change calls for shared vision and commitment.”

interdisciplinary behavioral health team at HealthPartners West Clinic, one of the first pilot sites, introduced evidence-based guidelines for the diagnosis and treatment of depression into primary care. The revamped workflow has achieved significant results. Patients with depression have experienced an average one-third decrease in symptom severity, and half of those with major depression have experienced a 50% reduction.

Culture Change

To be successful in transforming HealthPartners, it is essential to engage all of our 9,800 employees. To raise awareness, understanding, and support, HealthPartners commissioned Minneapolis playwright Syl Jones to develop *Fire in the Bones*, a theater-based training program presented to all employees. The performance dramatizes the ways in which the current health system fails not

only patients and their families but also health professionals. Today, 3,800 users, including all HealthPartners Medical Group physicians and nurses, have EMR access.

The EMR supports clinical process transformation and the new care model in several significant ways. First, most guidelines are now automated for evidenced-based, best-practice care. Based on the patient's signs and symptoms, the EMR presents a best-practice alert with a summary of the guideline and an explanation that physicians can discuss with patients.

Second, to improve patient safety, the EMR provides real-time medication interaction alerts when physicians enter orders for medications. Third, HealthPartners had produced separate data files with diagnosis-specific patient registries so that clinicians could identify patients with certain conditions, but patients with multiple diagnoses were listed separately on different registries. Today,

Environment Change

No one health care organization can transform itself without addressing the broader health system environment. Thus, HealthPartners supports external change, particularly in the area of provider reimbursement. Reimbursement is a basic barrier to quality improvement. Traditionally, health plans pay for a process of care consisting of units of service, and there is not a direct relationship between what providers are paid and improving care processes, ensuring implementation of best practices, or achieving specific health outcomes.

HealthPartners structures financial rewards for quality through Pay for Performance, which includes two main elements: the Outcomes Recognition Program (ORP), and Payment for Quality (PFQ).

To improve clinical processes and achieve better outcomes, the commitment of PCPs is essential, in part because they are on the front lines of care delivery. ORP, started in 1997, offers bonus awards to primary care clinics that achieve superior results in promoting health and preventing disease, based on HealthPartners' quality goals. Yearly financial bonuses are tied to targets that HealthPartners reviews and adjusts annually to keep incentives aligned and sustain continuous progress toward priority health goals for our members. Since 1997, ORP bonus awards have totaled some \$2.9 million.

To complement ORP, HealthPartners launched PFQ in 2001. PFQ pays providers for quality through standard reimbursement agreements. PFQ blends two elements—payment for quality and payment for process—into market-based reimbursement rates for PCPs, specialists, and hospitals. In 2006, HealthPartners paid about \$8.5 million under PFQ, and that is projected to top \$10 million this year.

Minnesota Orthopaedic Specialists PA, a 10-physician group practice in the Twin Cities, illustrates how PFQ works. In negotiation with HealthPartners in 2002, the group decided to concentrate primarily on best practice for meniscotomy arthroscopy. The group set a goal of increasing the number of patients meeting care guidelines (appropriate symptoms and findings, a trial of conservative therapy before a decision to perform surgery, and postsurgical documentation of findings and outcomes) from 67% at baseline in 2002 to 80% in 2003. The group reached 83% in 2004 and received the full amount negotiated for payment for quality. In 2005, the group continued to strive for even more improvement.

Support for Pursuing Perfection

The authors of *Crossing the Quality Chasm: A New Health System for the 21st Century* partnered with the Robert Wood Johnson Foundation and the Institute for Healthcare Improvement to support provider organizations in transforming themselves based on IOM principles. In 2001, the foundation and IHI announced Pursuing Perfection, a \$20.9 million initiative. The first phase began in 2001, with distribution of \$50,000 planning grants to 12 organizations. In 2005, seven finalists, including HealthPartners, each received two-year, \$1.9 million grants to implement restructuring plans and to share their work with health care organizations across the nation.

In addition to our own reimbursement innovation endeavors, HealthPartners is engaging other payers in discussions about restructuring reimbursement. The discussion involves efforts to recognize and reward measurable improvements in health outcomes, such as our own programs, as well as alternative payment methods for new types of care, including group visits and e-care.

Lessons Learned

HealthPartners has been learning important lessons as we transform the delivery of care to cross the quality chasm. First: Transformation efforts must be undertaken at multiple levels within health care organizations and address the external environment as well as internal systems and processes.

Second: The challenges are daunting in their complexity. Transformation is an ongoing process that requires new models of care delivery and fundamental cultural and organizational changes. Therefore, sustained, long-term commitment is essential.

Third: Specific transformation initiatives, such as the HealthPartners planned care model, often begin with pilot projects. Moving from pilots to organizationwide rollout is complicated. Rollout requires education and full participation from management

and staff at new sites so that everyone understands the rationale for change, the action steps required, the specific responsibilities of all involved, and the methods for monitoring progress and evaluating results.

Fourth: Care guidelines summarize best science but must be translated into protocols in specific care settings. Our prepared practice teams work diligently to define logical care steps to implement guidelines in their workflow.

Fifth: Transparency is essential. In the transformation process, transparency must be a basic goal and a fundamental value. Deep-seated, lasting change calls for shared vision and commitment that can come only from trust. In turn, trust requires openness within the organization. Senior leadership must embrace transparency as an objective and a value.

Sixth: In planning, implementing, and evaluating any change undertaken to transform health care, patients must be at the center. One essential question must be the touchstone: How does it affect the patient? Transformation efforts to reshape health care will be successful to the extent that they improve patients' experience, care, and outcomes.

—More information on quality improvement is available on our Web site (see page 12).

Initiatives Should Focus on Physician-Patient Relationship

Many physician consultants hail the growth of pay-for-performance initiatives, saying that such initiatives help to focus attention on improving quality of care. But some experts who have studied the business case for quality care argue that these initiatives may be missing the big picture. Instead of focusing on pay for performance, they argue, all quality initiatives should be based on recognition of and support for the physician-patient relationship.

"The most significant reason that quality health care has lagged in America is the failure of systems to acknowledge the critical and unique role physicians play in making quality initiatives real," says Alice Gosfield, a health care attorney in Philadelphia. "Current discussions about pay for performance miss some essential points, particularly whether the efforts necessary to earn the additional money are sufficiently rewarded by the amount of payment received." Gosfield, a former chairman of the board of directors of the National Committee for Quality Assurance (NCQA) in Washington, D.C., has written extensively about enhancing the quality of care through incentive systems.

Net Results

Under most current pay-for-performance (called P4P) initiatives, hospitals and physicians are paid an additional sum of money for rendering services that further quality, Gosfield says. Yet the net result of most P4P initiatives is that they will have little effect on some of the most difficult problems the health care system faces, particularly the problem of overuse of services, says James Reinertsen, MD, a rheumatologist and CEO of The Reinertsen Group, a consulting firm in Alta, Wyo. He is also a senior fellow in the Institute for Healthcare Improvement, in Boston. Reinertsen and Gosfield have collaborated on

several studies and have cowritten articles about the physician's role in providing quality care.

P4P payment methodologies, including those of the federal Centers for Medicare & Medicaid Services (CMS), fall into one of three categories, Gosfield says. Under one category, the programs pay a bonus when a physician meets a certain threshold of behavior. For example, a physician who meets the NCQA Diabetes

compared with a control group, such as the Medicare Physician Group Practice Demonstration.

"There's no question that in P4P, where additional payments are made on top of other monies they are already receiving, physicians will experience increased revenue in return for some measure of demonstrated quality," says Gosfield in "The Doctor-Patient Relationship as the Business Case for Quality: Doing

The result of most P4P initiatives is that they have little effect on such difficult problems as overuse of services, says James Reinertsen, MD, of The Reinertsen Group.

Physician Recognition Program standards gets paid \$100 per diabetic patient per year in a program called Bridges to Excellence.

In the second category, a pool of providers is arrayed normatively and each one is compared against the others. The best performers get paid a premium based on their relative status with respect to the performance of others, as in the newly formed CMS Premier Hospital Quality Incentive Demonstration Project.

In the third category, physicians or other providers are offered a potential pool of money that they can receive only if they meet certain thresholds and provide savings when

Well by Doing Right," an article published in the spring issue of the *Journal of Health Law*. "The real question, however, is whether the efforts necessary to earn the additional money are sufficiently rewarded by the amount of payment received."

Regulatory Environment

Many P4P programs make payments based on data produced by health plans, Gosfield explains. But reports show that physicians are so concerned about inaccuracies in the data that health plans produce (and upon which their bonuses are based) that they have their staff check the data. In other words, physicians are

Five Principles for Improving Quality

One way to improve the quality of health care is to adopt five principles that would improve how care is delivered, says Alice Gosfield, a health law attorney in Philadelphia. Each principle is important for organizations seeking to foster quality improvement in the health care system, she says. "Bringing all five of these principles together would revolutionize health care delivery in this country," she adds. Those five principles are

1. Standardizing, or encouraging the use of, evidence-based medicine, as well as standardizing forms for documentation.
2. Simplifying: "The wide variety of financial incentives, contractual obligations, documentation requirements, utilization review systems, medical management programs in managed care entities, and administrative burdens that have no relevance to the delivery of evidence-based medicine should be removed from the physician practice environment," says Gosfield.
3. Making all physician activities clinically relevant, including payment methodologies, documentation requirements, design of information technology support mechanisms, manpower resource planning, and recruiting.
4. Engaging the patient (in treatment choices for example).
5. Fixing public accountability at the locus of control.

—MS

expected to respond to the incentives of the payment systems in order to render quality services to their patients, but these incentives do not necessarily produce the desired result, Gosfield notes.

In fact, most approaches to quality improvement occur in a regulatory and punitive environment, Gosfield charges. "Quality is now unequivocally a fraud and abuse issue and is increasingly a focus of enforcement attention," she says in her article. The Stark and federal antikickback laws and regulations can be viewed as quality related because they address the issue of utilization, she adds. Many states have laws that mirror the federal antireferral laws.

"Despite the detail and broad sweep of these quality-focused regulations, they have not improved health care," Gosfield continues. "They have not engaged physicians or persuaded them that quality initiatives

merit their attention. Physicians see most of these penalties, regulations, sanctions, and disincentives as enormous hassles aimed at the miscreant few among whom they do not number themselves. Indeed, if these laws and programs had engaged physicians, we would not be considering today whether there is a business case for quality."

Straight Talk

Increasingly, health plan CEOs are aware of the strong business case that exists for improving the quality of health care, say Gosfield and Reinertsen. Earlier this year, Reinertsen coauthored a report by Ernst & Young, CPAs in New York, *Straight Talk About Clinical Quality From Health Care CEOs*. The report concluded that health care leaders are clear that clinical quality has moved to the forefront of their organizational strategic agendas. "In many instances,

these organizations have always had a significant focus on quality, but it has sharpened and intensified, at least as seen by the CEOs, during the past year or two," the report says.

Ernst & Young conducted a one-day discussion that included about two dozen health plan CEOs. Although pay-for-performance models have received a lot of attention, the CEOs had several concerns, according to the report. One of their primary concerns was that the focus of virtually all P4P programs is on the subset of problems characterized by underuse of health care services (for example, foot exams for patients with diabetes, appropriate medications for congestive heart failure, and various preventive services).

The participants in the discussion viewed the problems of overuse and misuse as more difficult to address. It is extremely difficult to pay physicians bonuses for not delivering a service, for example, even if the current practice of overuse is clearly harmful. On the issue of misuse, current measurement methods for determining that a procedure or treatment was delivered badly are underdeveloped, says the report.

Cost of Bonuses

As bonuses are paid out in P4P programs, the payments for all other services hospitals and doctors provide may have to be reduced. The CEOs echoed Gosfield's concern that there are considerable costs associated with achieving the bonuses, ranging from investment in quality infrastructure for training and information systems to the staffing and supply costs of delivering services not now being delivered. For all those reasons, the CEOs concluded that the effect on current P4P programs is on the margins of health care delivery.

"The net effect of the overuse focus
(Continued on page 8)

(Continued from page 7)

is that these pay-for-performance models will likely have little influence on some of the biggest quality challenges we face," concludes the Ernst & Young report.

To address these concerns, Gosfield and Reinertsen have proposed a model that they call the "unified field theory applied." The core of their UFT-A model lies in improving quality by enhancing the ability of physicians to spend more and better time with patients. Gosfield and Reinertsen have established a Web site that explains their efforts in more detail (at www.uft-a.com).

Applying Science

"The fundamental policy challenges to improve quality are to eliminate those aspects of the current environment that steal touch time from the doctor-patient relationship and to support those measures that enhance optimized time and touch," Gosfield says. "Time and touch are critical to a physician's approach and treatment of a patient. They affect a physician's ability to grasp the subtleties in each patient's situation and are significant when fashioning an effective approach to the patient. Time and touch are essential to optimal communication, which implements appropriate treatment. To customize the application of science, the physician must listen, explain, examine, comfort, teach, treat, perform procedures or surgery, and otherwise address the specific and variable needs of the individual patient. This touch time is what defines the art of medicine."

In working with physicians, Gosfield says she found that they were angry "all the time about everything." In fact, they were so angry that they were unable to help themselves, she adds. "Physician anxiety does not turn on a perceived loss of autonomy alone," Gosfield recounts.

Nine Elements to Improve Care

The "locus of control" in the health care system is at the heart of the physician-patient relationship, says Alice Gosfield, a health law attorney in Philadelphia. During a patient visit, physicians are capable of controlling only two fundamental aspects of care, she says: the application of the science that is appropriate to their patient's needs and the quality of their doctor-patient interactions. Seeking to improve the quality of the relationship between physicians and patients, Gosfield and James Reinertsen, MD, identified the following nine elements that can enhance these two aspects of care:

1. Payers and physicians should select clinical practice guidelines.
2. Clinical practice guidelines should be translated into applicable ICD-9 and CPT codes. Payers should foster the use of clinically relevant documentation systems that support the medical necessity of the services provided and enumerate the care actually provided to each patient.
3. Note standards should be in easily accessible templates. Claims reporting can be standardized into documentation templates that reflect evidence-based medicine and that save time by virtue of standardization.
4. The full pathway of care, not just care administered by physicians, should be documented. Considering the full pathway implied by guidelines can add greater strength and scope to its application.
5. Appropriate deviation should be accommodated. This element addresses the frequent resistance to the application of guidelines as cookbook medicine, Gosfield says. For example, the typical patient with congestive heart failure may also have diabetes and hypertension. A physician might follow one preferred regimen in the absence of those exacerbating factors, but would have to follow a different branch if those other conditions exist.
6. Patients should be engaged.
7. Services should be priced according to an analysis of the cost of providing those services. This step can aid in constructing a budget for delivering care, says Gosfield.
8. Compliance should be measured.
9. Analyze and refine.

—MS

"Rather, there is a very complex confluence of disparate policy, legal, and market forces that whipsaw physicians in their daily lives, to which they respond as if these forces are unrelated to each other. What was needed, I thought, was a unitary platform upon which more of their activities could be based."

To improve quality systemwide, physicians must play an aggressive role in promoting quality, concludes

Reinertsen. "The early efforts to channel the attention of physicians to the quality of care are transitional models," he says. "Physicians must work with payers and purchasers on payment systems that drive a comprehensive agenda and make a better business case for high quality."

—Reported and written by Martin Sipkoff, in Gettysburg, Pa. More information on quality improvement is available on our Web site (see page 12).

EMRs Help Improve Care Quality

By Richard L. Reece, MD, contributing editor

Electronic medical record systems can greatly enhance the quality and efficiency of family practice, says Charles Zelnick, MD, assistant director of the Cedar Rapids Medical Education Foundation in Iowa. The foundation runs a program that trains residents in a three-year family practice program, and Zelnick calls the program "an electronic family practice residency" because it emphasizes the use of computer systems at the point of care. Some 20 residents have been trained and have worked in the program's Family Practice Center and at local hospitals and physician offices.

"Just as the development of the CAT scan, the MRI, and the laparoscope have improved patient outcomes, information technology will enhance the quality of care provided by primary care physicians," Zelnick comments. "That's why the program heavily emphasizes the appropriate use of IT in its training."

Improving Proficiency

"Ten years ago, we had residents and faculty who were uncomfortable with the computer," Zelnick says. "Some did not even know how to type. So we had to start teaching basic computer skills." But that situation has

"Because the residents have this laptop to use as their own, training is expedited," Zelnick explains. "They become very comfortable with this tool in a short time. They learn how to use it, how to repair it, and how to call the technical personnel if there is a problem. They take it home and use it to send e-mail, play games, surf the Internet, and look up medical references. This leads to a general proficiency that helps them become more comfortable accessing our EMR system and the patient education resources we provide.

"We can also get our rotating medical students up and running on our

The residents who were trained in 1998 to use the computer in the exam room to educate patients and print out customized handouts were later able to adapt quickly when the program added the EMR in 1999, Zelnick explains.

Thorough Care

During his first 10 years in private family practice, Zelnick recognized the power of computer technology. "Even the simplest billing program can give physicians some information that can help them understand their practices better," he notes. "In the 1980s, we installed a simple billing system on a personal computer. After about three or four months of using the system, I realized that the system could run a report analyzing the types of conditions the practice was treating. To my amazement, the most common chronic disease that we were billing for was diabetes. I knew we had patients with diabetes, of course, but I did not realize that they comprised our most common office visit for a chronic disease.

"The computer enabled us to quickly assess our disease mix and prompted us to provide patient education and otherwise focus on the needs of this patient population," Zelnick continues. "In fact, we trained a nurse to become a diabetes educator. Given that we were located

(Continued on page 10)

"Physicians spend 80% of their time doing about 20 things," says Charles Zelnick, MD, of the Cedar Rapids Medical Education Foundation.

changed. In fact, fostering comfort with computer usage becomes easier each year as younger residents join the program, he adds. "The residents entering our program now are comfortable with e-mail and other computer functions," Zelnick says. "But still, everyone is at a different skill level with regard to computer proficiency." To facilitate learning, the program provides all residents with a laptop computer to use during their three years in Cedar Rapids.

computer system in a day or so," Zelnick continues. "We lend them a laptop for the month, and they go right to work seeing patients."

Each faculty member has a laptop as well. "It was cheaper for us to give everyone his or her own laptop and put the laptops on a wireless network than it was to put a computer in every examination room," says Zelnick. The notebooks use a wireless network that was installed in 1998 and that Zelnick believes was the first in the state.

(Continued from page 9)

in a rural area, our patients would have had to travel 180 miles to diabetes classes. So we started offering teaching in our office because the data revealed that diabetes was a big problem in our practice.

"So arming a physician with powerful information at the point of care is key to providing high-quality care in an efficient manner," Zelnick says. "Physicians spend 80% of their time doing about 20 things. It makes sense to examine those 20 things from an industrial engineering point of view and strive to perform them well. For a family physician, activities involved in a well-child visit, a visit for an ear infection, a hypertension visit, and a diabetes visit should be well engineered as far as work flow."

Enhancing Care

To enhance their ability to provide thorough care efficiently, physicians can build prompts and reminders into the EMR. "For example, immediately prior to a visit with a patient who has diabetes, I can call up the electronic record and instantly find out the date of that patient's last A_{1C} test, last eye exam, and last urinalysis," Zelnick offers. "The system also prompts me as to what drugs the patient should be taking. I find that the system not only helps me ensure that I am providing high-quality care, but it actually speeds up the visit. When I look at the record before I enter the exam room, I know what needs to be done."

The EMR also enhances both practice efficiency and care quality by issuing reminders for flu shots, vaccines, Pap smears, colon-cancer screenings, and other preventive care measures that physicians in a busy practice may forget. "There is no doubt that prompting the physician at the point of care to provide these services is key to ensuring that high-quality care is provided at a time when it is doable

and efficient," Zelnick comments.

While facilitating high-quality care is often the most compelling reason to adopt an EMR, Zelnick points out that EMRs also offer a financial return on investment. "One of the easiest ways to achieve some return on investment involves the elimination of dictation," he says. "During the first year we had our EMR, we saved \$40,000 on transcription costs alone."

Physicians also have an opportunity to use the EMR to improve documentation. "With better documentation and system feedback with regard

"Any chance to avoid doing the same work over again is an opportunity to save time," says Zelnick.

to proper coding, it is easier to code a visit properly," Zelnick says. "Because of more thorough documentation, undercoding is no longer a problem. We are able to substantiate the extra work that we are doing to provide thorough care, and thus recapture some of our investment that way."

To maximize both care quality and return on investment, physicians must aggressively seek opportunities to use the EMR effectively. "If physicians have a great system but do not use it correctly, it will not improve productivity," Zelnick says. "Therefore, physicians must be aware of opportunities to use the tool and to take advantage of those opportunities. They have to look at how they can use this tool to offer higher quality medicine and to see patients more efficiently. Any chance to avoid doing the same work over again is an opportunity to save time. As an example, we can now access our office's electronic charts from emergency rooms and home, which tremendously speeds up hospital admissions after hours and avoids errors."

One of the often-promised goals of EMRs is the paperless office, and

Zelnick believes these systems offer such potential. "We are getting close to having a paperless office," he says. "We are even scanning in all of our referral letters and other papers that come in from outside our practice. As a result, the amount of paper flow back and forth has diminished tremendously. In fact, we were able to cut our mailbox sizes in half. We had a record room that was full of big racks of records; we took all of the big shelves out and now the room is a lounge for the physicians. We've got couches and furniture in there and we put a big desk in the cen-

ter with computer terminals and people can sit down, answer their phone calls, read mail, check flags and charts, and most important, talk with each other. It's probably the best teaching environment in the whole office."

Looking Ahead

The next goal for Zelnick and his colleagues is to incorporate some of the new challenges of medicine into the training they offer. "We now have a tremendous body of knowledge about what constitutes high-quality, cost-effective medicine, along with optimal care guidelines for many conditions," Zelnick points out. "The challenges are to be able to apply that knowledge effectively in a 15-minute office visit, and to keep up with new knowledge as it is developed. To meet these challenges effectively, it is essential that computer technology be properly incorporated into health delivery systems to efficiently improve both patient care and outcomes."

—Edited by Deborah J. Neveleff, in *North Potomac, Md. More information on quality improvement is available on our Web site (see page 12).*

(Continued from page 1)

An example of an effective DM program that addresses a single aspect of pain is a program for patients with low back pain at Lovelace Health Systems, a managed care organization in Albuquerque, N.M. The program controls costs for surgical interventions and for repeated imaging. In the program, Lovelace developed a clinic for patients with low back pain and established treatment guidelines and an education program for primary care physicians, two elements that are important to the success of a DM program.

Lovelace studied the rates of diagnostic imaging and specialty referral rates for low back pain for nine months before and nine months after the PCP education program was introduced. After Lovelace implemented a nonsurgical spine clinic, officials monitored spine surgery rates.

"Large reductions in rates of imaging and specialty referrals for low back pain were achieved after PCP education," says Ben Klein, PhD, a pain management specialist at Lovelace. "After spine clinic implementation, visits to spine surgeons dropped by about 50%, and spine surgery rates per 1,000 health plan members were reduced by 35%."

Klein and colleagues concluded that "PCP education regarding low back pain management can reduce the use of imaging and specialty referrals without reductions in patient satisfaction, and implementation of a nonsurgical spine clinic for complex or chronic spine patients can significantly reduce spine surgery consultations and spine surgery rates."

The Lovelace experience shows that one barrier to effective pain management is the fact that first-line caregivers generally receive little training specifically in pain management, Klein says. Therefore, these physicians and other providers have difficulty cat-

Guidelines Stress Communication

Since disease management programs vary among health care organizations and disease entities, it is difficult for disease management experts to prescribe a treatment approach that would work for each setting, says Richard Chapman, PhD, a professor of anesthesiology in the School of Medicine at the University of Utah in Salt Lake City. Various treatment options have been developed for patients in pain because the nature of the problem differs according to the patient populations a particular institution serves and the types of pain these patients experience, he says.

"Such diversity makes it impossible to specify a single model for implementing and sustaining pain management in all institutions," Chapman explains. But certain basic principles should apply to all DM programs for patients with chronic pain, Chapman says.

In an article, "Pain Control in Healthcare Organizations: Developing Effective Disease Management Programs," in *Disease Management* (September 2001), Chapman and colleagues outline what they consider to be the key elements of a successful program. They recommend that medical groups and other organizations developing pain treatment programs do the following:

- Minimize the effect of a program to improve pain management on other practice patterns and other elements of health care delivery
- Build a strong information management system and use it to evaluate patient outcomes
- Place medical and financial decisionmaking in the hands of clinicians
- Integrate pain management with other DM programs, and recognize that pain is often a comorbidity
- Invest in outcomes research (including clinical pathway analysis and pharmacoeconomics), and analyze the cost-benefit ratio of pain management.

A pain DM program can thrive in almost any setting if these principles become an integral part of daily practice throughout the organization, Chapman believes. —MS

egorizing a patient's pain to facilitate treatment. What's more, they do not have much training in the types of treatments available at the primary care level. Education programs for PCPs address the use of medications for pain, the appropriate use of narcotics, how to categorize pain in patients, and basic office procedures that can be used to treat pain.

As a result of the education program, PCPs and other providers learn to evaluate quickly and provide conservative care for most patients with acute low back pain, Klein adds. They rarely order diagnostic imaging or refer to specialists. For

the minority of patients who develop chronic or complex low back pain, nonsurgeon spine specialists can use reasonable efforts to alleviate pain and to improve function by relying heavily on patient education approaches to help patients improve the quality of their lives despite ongoing pain, he explains.

"Spine specialists can also serve as the sole source of referrals to spine surgeons, except in emergencies, thereby reducing the overall likelihood that surgery will be used as a last resort for patients who have ongoing pain," Klein says.

(Continued on page 12)

(Continued from page 11)

"In many medical settings, physicians whose patients have low back pain frequently order diagnostic imaging and refer for specialty consultations and therapies, although there is no evidence to support these practice patterns," Klein continues. "Unjustifiable variation exists among providers in their approaches to managing this condition."

Reducing variation in practice is an element of any effective DM program for pain treatment, says Richard Deyo, MD, a professor of medicine at the University of Washington in Seattle. "Sound evidence indicates that bed rest is generally ineffective, imaging tests should be highly selective, and an early return to normal activities is optimal," he explains. These steps help to reduce costs.

Improved Performance

Despite a well-established consensus based on hundreds of studies, a substantial gap exists between the scien-

tific evidence regarding back pain and actual practice. Pain management approaches like the Lovelace experience are the exception, says Deyo. As a first step in improving care for patients with low back pain, large medical groups and health plans should develop treatment standards and educate physicians about the most effective ways to treat this condition, he adds.

These large groups and health plans should set specific goals, monitor progress, and institute changes quickly, Deyo adds. Then, they should refine treatment protocols and disseminate these changes widely. "Rather than identifying bad apples, the intent is to improve the performance of all providers in a system," he explains.

The principles developed in the Lovelace program can be applied to DM programs for treating all chronic pain, some experts say. "A pain DM program can thrive in almost any setting if these principles become an

integral part of daily practice throughout the organization," says Richard Chapman, PhD, a professor of anesthesiology at the School of Medicine at the University of Utah in Salt Lake City.

A successful DM program for the treatment of chronic pain within an institutional setting "must be complete, extend to all levels of the institution, and encompass all facets of patient care, including organizational policies and procedures, practice standards, clinical documentation, and provider education," Chapman adds. "Improved pain management is a win-win situation for patients and providers alike. While patients and their families benefit from a reduction in suffering, health care institutions can offer more cost-effective care to patients."

—Reported and written by Martin Sipkoff, in Gettysburg, Pa. More information on pain management is available on our Web site (at www.QualityIndicator.com).

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