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EDITORIAL

Experts Outline the Need for Health Reform

During the recent Unified Health Alliance Conference in Washington, D.C., the keynote speaker, Brian Klepper, PhD, president of the Center for Practical Health Reform, warned that rising health care costs are pricing individual, corporate, and government purchasers out of the market.

Klepper predicted that growing numbers of uninsured and underinsured Americans would overwhelm public hospitals. He and other speakers said the private sector needed to reduce costs by standardizing procedures to reduce variation in medical practice; by fostering quality ratings of hospitals and medical groups; and by offering financial incentives for implementing electronic health records in physician offices.

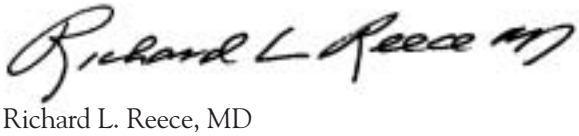
One suggestion involved offering hospitals and medical groups pay-for-performance programs based on risk-adjusted outcomes data. In January, the federal Centers for Medicare & Medicaid Services (CMS) announced the start of a demonstration project that would give bonuses to physician practices that improve care and lower costs.

CMS has selected 10 physician groups to participate in the project, said Administrator Mark McClellan. The initiative is designed to encourage physicians to undertake efforts to prevent illness by anticipating patients' needs, especially for those with chronic diseases, and by intervening before expensive procedures and hospitalizations are required.

In the demonstration project, physician groups will continue to be paid on a fee-for-service basis. Those groups that implement care management strategies designed to anticipate patient needs, prevent chronic disease complications, avoid hospitalizations, and improve quality of care will be eligible for performance payments.

"Effective performance-based payments have shown results in the private sector, and CMS has already started programs and demonstrations to reward quality improvement in hospitals," McClellan explained. "By bringing the same kind of enhanced support for better quality to physicians, we are reaching the providers that have the greatest impact on decisions about patient care. This approach has great potential for improving care for our beneficiaries and strengthening the Medicare program." If the program is successful, it could be expanded to other physician groups, according to published reports.

While physicians participating in the program said they expect the payments to barely cover the cost of investing in the extra services, the program is a step in the right direction. When the nation's largest health care buyer pays a bonus for quality care, other buyers will begin to do so as well. While this one small step will not reform the health care system, it is a significant step nonetheless and one those calling for health reform say is long overdue.



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CHF Study Raises Questions

Proponents of disease management programs say significant clinical improvements and cost savings can result from these programs. Data from a large randomized clinical trial indicate that patients with congestive heart failure, especially those with advanced disease, may benefit clinically from disease management programs. However, these programs do not reduce health care utilization or costs. The analysis was published in *Circulation*.

"CHF disease management is a concept that has great value and can be a cost-effective way to prolong life," says Gregory L. Freeman, MD, lead investigator of the study, and professor and chief of the division of cardiology at the University of Texas Health Science Center in San Antonio. "However, its application clearly should be tailored to populations that can benefit from the intervention. Understanding how to tailor the application will require considerable study."

Applying Results

The goal of the study was to provide a rigorous assessment of CHF disease management outcomes, including clinical improvement, health care utilization, and cost-benefit. "Initially, the concept of disease management was tested in a variety of relatively small studies that were performed on high-risk populations with uniform demographics," Freeman explains. "Because of the successes demonstrated in those studies, the notion emerged that it would be useful to apply disease management to large populations of patients. Our research team hypothesized that when these programs were applied to large, unselected populations, outcomes might be less favorable and cost savings would not be as great as those demonstrated by earlier studies."

"It is important to continue to do outcomes research," says Autumn Dawn Galbreath, MD, project director and associate chair for clinical programs at the University of Texas Health Science Center in San Antonio. "The impact of disease management programs on health outcomes and cost of care has never been effectively or comprehensively studied," she explains. "Public and private payers are investing time, money, and energy in disease management programs, but the evidence on which they are basing those investment decisions is insufficient.

"The existing body of research on disease management suffers from several limitations," Galbreath adds. "One limitation of many previous studies is the lack of an effective control group, limiting the ability of investigators to make relevant comparisons and draw accurate conclusions about whether the program had an effect on health outcomes and costs," she notes.

Another limitation involves the lack of diversity among patients studied. "The studies with better control groups were implemented in managed care settings," Galbreath notes. "But results from a relatively homogeneous group of insured patients may not be generalizable to underprivileged or Medicare or Medicaid beneficiaries."

A third limitation inherent in previous studies is the lack of information about what the disease management intervention entailed. "Most studies of disease management programs are industry funded," Galbreath observes. "The investigators may reveal the name of the program and the program's vendor, but do not describe the actual protocols, citing the proprietary nature of the programs. Consequently, these studies may not provide a transparent description of what is actually involved in disease management. As a result, health care decision makers find it difficult to assess whether a particular program will apply to their own organizations.

"The University of Texas Study is unusual in that it is the largest disease management research done to date, and is one of only a few studies of the effectiveness of disease management that includes a prospectively randomized control group," Galbreath explains. "Ours is one of the only studies that was performed in an academic setting without any industry funding," she says. "So, theoretically, its findings should be more objective. There is no conflict of interest inherit in the design or the performance of the study."

Another distinctive feature of the University of Texas study is that it was regional rather than local. "Our patients came from a catchment area of 50,000 square miles—about half of Texas," Galbreath explains. "This huge region encompasses rural as well as suburban and metropolitan areas.

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"Public and private payers are investing time, money, and energy in disease management programs, but the evidence on which they are basing those investment decisions is insufficient."

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The diversity of the patient population in terms of demographics and socio-economic characteristics adds to the uniqueness of the study."

Study Methodology

The study, called the South Texas Congestive Heart Failure Disease Management Project, was a randomized trial conducted between 1999 and 2003 involving 1,069 male and female patients (aged 70.9 ±10.3 years) with either systolic heart failure (ejection fraction 35 ±9%) or echocardiogram-confirmed diastolic heart failure.

Study participants were randomized by a ratio of 2:1 into a disease management group and a control group. Participants were enrolled for a period of 18 months. All participants underwent an echocardiogram at baseline and at 18 months and were assessed at six- month intervals.

The participants in the control group received customary medical care from the physicians in the study. The two-thirds of the study population in the intervention group received additional services from an established disease management company. Registered nurses with specialized cardiac training administered the disease management program telephonically.

Each participant in the intervention group was given a bathroom scale to monitor daily weight fluctuations. After the initial assessment, each participant was sent educational materials about heart failure. Participants also were given a toll-free telephone number they could call at any time to ask questions or get immediate help, if needed. Nurses provided information on medications, diet, and the importance of weight monitoring. Participants were called weekly and later monthly for the duration of the study period.

The nurses provided information about each participants' health status to his or her physician, including recommendations regarding appropriate therapy under the ACC/AHA guidelines for the treatment of CHF. "For example, if guidelines indicated that a patient should be on a particular class of medication, the nurses would suggest to that patient's physician that a prescription be written, or would suggest titration of medication in an upward direction if patients were receiving suboptimal doses," explains Galbreath.

The investigators separately analyzed participants with diastolic heart failure and participants with systolic heart failure. "Systolic heart failure and diastolic heart failure are two different diseases," says Galbreath. "The symptomatology of the two diseases is similar, but the causes and the treatment of the two diseases are quite different. Still, our original hypothesis was that disease management would improve outcomes in both systolic and diastolic heart failure."

At 18 months, 54.4% of the intervention patients were on guideline-based medications versus 43.3% of the control group participants.

Systolic Dysfunction

The primary outcome studied was all-cause mortality. Three secondary outcomes—including performance on a 6-minute walk test, improvement in functional therapeutic class, and total health care costs—were recorded for all participants. Two additional outcomes were tracked for the subgroup of participants with systolic heart failure: improvement in ejection fraction and adherence to guideline-based medication regimens.

The study documented a significant improvement in survival in participants who received the disease management intervention: a 76-day mortality benefit over 18 months (mean survival of 527 days versus 451 days). "Extending the life of a patient with CHF by two and a half months every 18 months is a significant clinical improvement," Galbreath says. Another measure, cardiac event-free survival (time to a cardiac event, usually myocardial infarction) improved as well, although not as significantly as overall mortality.

The study also documented improvements in functional capacity for participants of the intervention group. "The NYHA (New York Heart Association) functional class was more likely to improve for those patients who participated in the disease management program," Galbreath points out. At 18 months, almost 25% of the disease management participants had documented improvement of their NYHA functional class from baseline, while only 12.6% of the control group had improvement.

For participants with systolic heart failure, the researchers found a difference in compliance with guideline-recommended medications between the disease management group and the control group. "At baseline, a smaller percentage of the disease management group were taking guideline-based medications, but by six months this percentage had exceeded that of the control group," Galbreath states. At 18 months, 54.4% of the intervention participants were on guideline-based medications compared with 43.3% of the control group participants.

The researchers found no statistically significant difference in ejection fraction between participants with systolic heart failure in the intervention group and those in the control group. "An improvement in the ejection fraction would have shown that disease management actually led to progress in curing the underlying physiologic problem that

negatively impacts heart function," Galbreath says. "In this set of patients, disease management did not lead to physiologic improvements in the heart function. Still, despite that lack of improvement in heart function, functional capacity and mortality both improved."

Clinical improvements were not equal across participants. Sicker participants were significantly more likely to experience a benefit from the disease management intervention. "The NYHA functional class III and IV patients really drove the overall benefit that we demonstrated," Galbreath explains. "The class I and II patients did not benefit much from the intervention."

Comparative Findings

For participants with diastolic heart failure, there was no difference in mortality or in cardiac event-free survival between the disease management intervention group and the control group. "Stated simply, the patients with diastolic dysfunction did not improve at all, while those with systolic dysfunction improved dramatically," Galbreath summarizes. "The systolic patients drove the entire benefit that we demonstrated and the diastolic patients really achieved no benefit as a result of the disease management program.

"The difference stems from the fact that systolic and diastolic heart failure are fundamentally different diseases," Galbreath says. "Diastolic dysfunction is a disease of aging, of high blood pressure, and of thickening ventricular wall mass, whereas systolic dysfunction is a disease of ventricular dilatation due to some damage to the ventricular muscle, usually a myocardial infarction," she explains. "Our study indicates that the dilated ventricle of systolic heart failure causes a disease syndrome that can be critically improved using disease management modalities such as patient education, self-monitoring, and medication management. The thickened wall mass caused by diastolic dysfunction does not respond to those types of disease management interventions."

Freeman agrees, saying diastolic heart failure is often the result of hypertension that is treated insufficiently. "Outcomes can improve considerably if patients are treated with appropriate medical therapy," he says. "In contrast, except for heart transplantation, all current therapies for systolic heart failure are palliative: improvement in clinical status does not prevent people from ultimately succumbing to the disease. Because systolic heart patients experience inexorable decay, they are better targets for a disease management intervention."

A surprising outcome of the study was that health care utilization and health care costs were not reduced in the disease management intervention group. Total health care utilization and CHF-related health care utilization—including use of medications, office and emergency department visits, procedures, or hospitalization—was largely the same between the intervention group and the control group. (The cost of administering the disease management intervention was not included in the analysis.) The study documented that utilization and cost were not significantly different even in patients with a higher NYHA class.

While Galbreath asserts that this finding should not overshadow the significant clinical benefits associated with disease management, she does emphasize its importance for health care decision-makers. "Disease management has been pushed by proponents as the silver bullet that will cure all the ills of the health care system," she says. "Unfortunately, our study and several other recent studies indicate that the cost and utilization reductions touted by disease management proponents are overly optimistic. Disease management does provide better care through more frequent contact with patients, but this better care requires the expenditure of health care resources." Galbreath and her colleagues hope to publish further analysis of the data to assess whether the clinical benefits are worth the cost of the disease management interventions.

Implications for Physicians

Interestingly, researchers found a number of physicians in the study counseled their patients against participating. "Physicians may perceive disease management as a threat of someone else assuming management of their patients," Galbreath says. "The whole point of disease management is to reduce utilization—office visits, hospitalizations, procedures. For a community physician, reducing utilization means reducing business. So physicians may perceive a financial threat inherent in disease management."

Researchers hope to publish another analysis of the data that will assess whether the clinical benefits are worth the cost.

Furthermore, physicians may resent nurses telling them, in effect, that they are not doing a good job of managing their patients. Also, Galbreath says, "Physicians were concerned that disease management generates non-reimbursable work." The study did demonstrate a significant quality benefit for the sickest participants and those with systolic dysfunction.

—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 8).

Taking EMRs to the Next Level

Neil Baum, MD

Physicians have three options: They can work harder and earn less, they can retire, or they can embrace information technology, says C. Everett Koop, MD, former U.S. Surgeon General.

Recognizing the need to embrace information technology, many of us will have electronic medical records in place in 2005. Also, a lot of medical practices will be using document scanners to help manage reports, images, and other paperwork. But most practices have not taken advantage of the true power and benefits of a document imaging and management system (DIMS).

Benefits of a DIMS

Practices that have taken full advantage of a DIMS have scanned reports, images (such as x-rays), and other documents (such as letters from referring physicians, insurance companies, and attorneys) and converted them for electronic filing. Today, physicians need to know the main components of a DIMS, and how to implement a DIMS with an EMR.

Scanning converts the image of a physical document into an electronic image. Scanning can be done one document at a time or in batches. Practices can scan patients' insurance cards, consent forms, chart notes, referral letters, and other clinical forms. Scanned documents may include word-processed text, X-rays, EKGs, and even reports from your lab.

A DIMS also includes an indexing feature. Indexing includes the identification of various pieces of information in a document, such as document type, date created, physician, patient, diagnosis, treatment type, or medications prescribed. The DIMS then transfers that information into a database for search and retrieval.

The electronic storage component of a DIMS needs to accommodate your document processing volume, be expandable over time, and be reliable. For long-term archiving, physicians have multiple options for storage, including magnetic media, such as hard drives, optical disks, CDs and DVDs. Most DIMS vendors will make recommendations appropriate for your storage needs.

Retrieving documents involves the ability of the DIMS to recover requested files. Document retrieval depends on the indexing methods used and the quality of the indexing. Physicians will want a system that can find items quickly and accurately.

A DIMS is only as good as its ability to provide access to information. Your DIMS program should include password security, accessibility from remote locations (such as satellite offices, home, and other computers) on a 24/7 basis, and the ability to share information through other means of communication, such as print, fax, and e-mail.

Getting Started

As one should do before making any significant expenditure, it is important to identify the need for and the purpose behind adding a DIMS, including a budget and a set of system expectations. Taking these steps will help you achieve the desired outcome. The extent of your requirements for the DMIS software will have a significant effect on the amount and type of your hardware.

Software expenses will depend on the number of users, practice requirements, and hardware. The one-time cost to purchase a DIMS can be several hundred dollars to $1,500 per user. In addition, you can also expect to pay 20% annually in maintenance and support costs.

I suggest taking the DIMS plunge in incremental steps by getting a software application composed of modules that you can purchase and add to over time.

Digital scanning applications are not unique to health care and you can shop for them online or in technology stores. Keep in mind, however, that turnkey applications built specifically for physicians' offices include prebuilt medical indexing, common medical forms, and the ability to integrate with other financial and clinical systems you may already be using such as billing, laboratory, and scheduling. Also, vendors of turnkey DIMS systems can provide references from other physician users.

An effective DIMS program automatically will index any of your existing documents that are in a digital format, including Microsoft Word, e-mail, PDF, audio, and even video. This means you can have instant access to your information, regardless of the format of the original document.

Even if your DIMS program can handle existing digital documents, you will need to import other text (such as X-ray reports, notes from consultants, and operative reports) into your records. Using a scanner

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and an optical character recognition (OCR) program to convert text on those pages to text in your EMR will save an enormous amount of physical storage space, and lets you access the information much more easily. But be sure you're comfortable with the process of OCR. Ask your vendor if additional hardware and software is required for this task. It is very important for you to know what text formats the DIMS software can read.

Retain and Reuse

Health care professionals know the value of the reams of paperwork they generate on their patients' behalf each year. Insurance forms generated by patients take a great deal of time to process, expedite, and file. But physicians' offices also know they can reuse insurance documents generated for one matter to speed execution of another, allowing them to bill insurers more efficiently and accurately.

Such documents contain a very real, albeit potential, value in the form of time that can be applied to managing paper flow and accessing forms quickly. Managing an effective system for insurance billing not only increases the physicians' office productivity, it generates additional revenue as well.

Every minute physicians and staff waste looking for information reduces time spent with patients. In fact, since it is often office staff that are looking for documents, less searching could mean fewer staff hours and lower operating costs. In a perfect world, necessary files would be consistently and immediately accessible, enabling physicians to maximize the time they spend with patients.

However, nearly every physician has encountered the "missing file" syndrome. When critical information is not in the file cabinet, it could be stored among archives in a back office, on an assistant's desk, or buried in stacks of paper in your office.

For health care professionals, imaging and document management technologies address these issues, providing physicians with fast access to necessary information. Imaging is the process of scanning a document to create an electronic file, which can then be manipulated and stored. Document management is the indexing, routing, annotating, archiving, and retrieval of electronic documents, which can include scanned pages, Web pages, e-mail messages, spreadsheets, slide presentations, and word processor files.

Your DIMS should have password security and be accessible from remote locations.

Here's how the technologies work together in a medical practice setting. First, clerical personnel can use a scanner to create an electronic version of the original hard copy, just as they would use a photocopier. The original can be sent to permanent storage while the new electronic image of the document can be stored and available for a variety of uses.

For example, the image can be "cleaned up" to eliminate unnecessary objects such as speckles that sometimes appear on photocopies. In addition, OCR technology can translate characters contained in the document's image into meaningful text that can be cut and pasted into a word-processed file or an EMR.

Document management solutions allow health care professionals to enter information about the electronic document, such as its title, author, creation date, and key words. Upon formation, the file can be archived (perhaps in a folder of items pertinent to a particular subject) in a network storage device, such as a tape drive, hard drive, CD, or DVD.

Some document management systems enable physician users to route the file to several associates, just as they would route a hard-copy original. Documents can be faxed or e-mailed to patients, insurers, or other physicians' offices. In addition, some DIMS systems let users annotate documents by adding notes in the margins, and tracking changes to identify the name of users who added the comments. Some systems provide information security features that restrict confidential annotations, documents, or entire files for exclusive access by specific users, such as physicians only.

Imaging and document management technologies promise dramatic timesaving benefits for physicians, which can boost the productivity and efficiency of the entire practice. However, physicians must carefully consider the requirements, benefits, and usability of each system in order to calculate their total costs and return on investment. If the point of an imaging and document management solution is to create value, the total investment should produce a return quickly, while ensuring the accessibility of mission-critical information for years to come.

Many of us will be making the EMR plunge in 2005. The next step will be DIMS, which will make the EMR even more useful, practical, and economical.

—More information on physician practice strategies is available on our Web site (see page 8).

Resources

The following Internet sites offer more information on document imaging and management system (DIMS):

- www.anydocsoftware.com
- www.laserfiche.com/basics
- www.docfinity.com

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