

## The ABCs of CPRs and EMRs

**Definitions, semantics, product differences and the need for demonstrated results hinder wide-scale adoption.**

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What differentiates an electronic medical record (EMR) from a computer-based patient record (CPR)? Those distinctions, coupled with some clinicians' reluctance to forsake their tried and true ways for technologies that lack a proven track record, make it hard for this particular technology to gain wide-scale acceptance among physicians.

For some in the industry, the terms EMR and CPR are used interchangeably, says Peter Waegemann, CEO of the Boston-based Medical Records Institute. "There is no consensus as to what an EMR or CPR is," he notes.

But not for all. "We just use the term EMR," says William F. Jessee, M.D., president and CEO of the Denver-based Medical Group Management Association (MGMA), the largest group practice association in America.

Larry Dolin, president and CEO of Mayfield Heights, OH-based Noteworthy Medical Systems Inc., says there is also confusion surrounding what constitutes an EMR, let alone a CPR. Dolin, whose company has developed a total system for medical data management, views an EMR as a total computer-based medical record that does not rely on paper charts, transcription or dictation, yet includes all doctors' notes and prescription orders. He believes a true EMR requires physicians to do their own clinical documentation by entering data as they examine patients. Waegemann agrees, saying that you really don't have an EMR unless the physician is using a computer in the examining room.

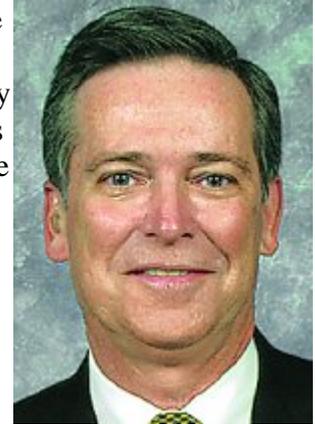


But Matthew Morgan, M.D., sees a clear-cut difference between EMRs and CPRs. As an assistant professor in the Department of Medicine at the University of Toronto, and director of healthcare informatics for Atlanta, GA-based Per-Se Technologies, Morgan says an EMR is a confined medical record offering little integration with other systems and is "much more restricted in its scope." A CPR, on the other hand, "provides a longitudinal patient record over time" that goes beyond the walls of one organization or physician's practice, he says. Because a CPR cuts across the entire spectrum of healthcare delivery, clinicians are provided with a total view of a patient's medical history.

The CPR is not a new concept, Morgan says, citing work done by the Institute of Medicine in 1991, which called for the adoption of CPRs by 2001. Other influential groups including the Agency for Healthcare Research and Quality and the Leapfrog Group are recommending implementation of CPRs as a way to reduce medical errors. But Waegemann says that attempts to compile a comprehensive, prenatal to postmortem medical record have shown few real benefits. “This specific vision has not been implemented and probably won’t be in the next couple of years,” he predicts.

## Privacy Issues

One of the biggest barriers to implementing a life-long medical record is the issue of privacy. “It has too many ‘Big Brother’ overtones,” says Jessee, adding that having all that information in a single database, accessible to any number of caregivers during a lifetime, frightens most patients. It also raises the question of who owns that data and where it will reside. Nevertheless, he believes the kind of longitudinal patient record that has been debated since 1991 eventually will consist of “multiple electronic repositories of different data,” coupled with a linking mechanism, which will still allow for the exchange of specific information.



Morgan agrees that a single database can increase the risk of breaches in security, but says there are more potential breaches to patient privacy in a paper-based world. Dolin agrees. He says his company’s EMR, for example, helps ensure patient privacy because access to patient records is electronically restricted to those who have a need for access, and that user access levels can be defined on an individual or group basis.

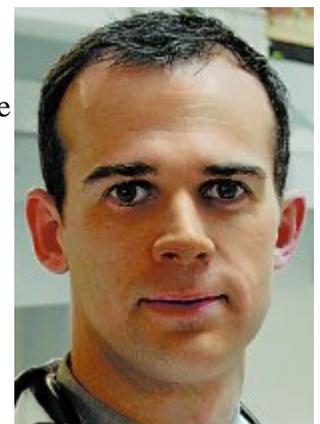
Pointing to the ever-growing role of the Internet, Waegemann says, “The future medical record will be a record accessible on the Web.” But he raises the issue of what information patients may want included or excluded from their records. While many patients with chronic illnesses would feel secure knowing that their past histories are available in case of emergency, others may argue their “rights of anonymous care.”

Some people, for example, may not want it known that they experimented with drugs at the age of 15 or had an abortion at 18, he says. Dolin, however, retorts: “We’re not interested in everything that’s happened to you in the world.” Adds Morgan: “As a physician, I have the duty to protect the privacy of my patient.”

## Slow but Steady Gains

Whether it’s called an EMR or CPR, physicians have been slow to fully adopt this technology. But that may be changing. “Physicians, by nature, are not opposed to change,” says Morgan. “They will adopt it if it can improve patient care.”

Morgan says physicians have perfected their use of paper over time and are reluctant to give up their methods until something better comes along. But



now they're finding that a computer-based record is better, he says. "In a paper-based world you don't get real-time clinical decision support."

Dolin says many physicians have been slow to jump on the EMR bandwagon because they need solutions that can boost their efficiency. "Where EMRs have failed is when physicians have been slowed down. Doctors are reluctant because they're already behind in seeing patients. A technology solution must make them as efficient or more efficient than they were."

Yet inefficient practices may benefit most from an EMR. Imagine, suggests Dolin, how you would feel having to wait five hours to get money from an ATM machine. That's the amount of time some patients wait for their doctor to call in a prescription refill order. In addition, an EMR needs to interface with the billing system so gains are real and visible. "What really sells the physician is the bottom line," Dolin says.

Return on investment (ROI) is actually an important factor in a physician's decision to implement any kind of computer-based record system, says Morgan. If a nurse can save five minutes here and five minutes there, or technology can reduce the nursing staff's overtime, that's a savings. Also, hospitals can use electronic records as a competitive advantage or when contracting with managed care companies, he says, adding that most hospitals currently "are spending a heck of a lot of money filing, storing and retrieving paper records."

## Real-life Utilization

But an EMR must offer more than black ink to a bottom line. Dolin says it should also allow the physician to ask better questions because he's able to document more, and this ultimately leads to a better doctor/patient relationship.

Also, user reluctance to implement EMRs involves problems in the underlying technology. Waegemann says there are still no standards in place, which makes deciding between systems more difficult. There's also the problem of integrating an EMR with other existing systems already in place. Since vendors do not appear to be working toward a common platform, some EMRs are designed for Windows NT, some for UNIX and some are Web-based, he says.

Jessee agrees that integration is a major barrier to adoption, but also says lack of provider support, lack of resources to invest in IT, the time and effort it takes to prepare an organization for an EMR, and difficulty in establishing a good ROI are also major factors.



If the results of a recent survey are any indication, physicians' reluctance to add an EMR to their practice may be waning. Announced in October 2001, a survey conducted by MGMA's Center for Research in conjunction with Pfizer Health Solutions Inc., showed that of 593 group medical practices that responded, 21.6 percent had already implemented an EMR, while 67.9 percent said they were considering it.

Of those considering an EMR, 33.2 percent said it will be a priority within the next 12 months; 34.9 percent in the next 13 to 24 months; and 22.7 percent said it will be a priority in 24 months or more. Of the 43 practices that said they have already implemented an EMR, 35.7 percent reported seeing more patients, 44.2 percent reported greater patient satisfaction, and 34.9 percent said they have received increased reimbursements from payers.

Jessee admits that those surveyed were MGMA members and do not necessarily represent the general population. He also notes that the survey had a 40 percent response rate and a margin of error of plus or minus 3.73 percent. But he says that based on MGMA's membership, smaller group practices are more likely to spearhead EMR adoption efforts because they have fewer systems to integrate. Larger group practices with more than 10 physicians might take longer because they have to build a consensus among their members.

## **User Characteristics**

When it comes to bottom line impact, Jessee says 22.8 percent of respondents with operational EMRs reported a decrease in costs. Still, 49.6 percent said there was no change and 27.6 percent reported cost increases. To explain the high percentage that reported no change, he says, "Even if your costs stay the same, that's still a good ROI when your revenues increase and patient and provider satisfaction also increase."

One of the conclusions Jessee draws from the survey is that adoption of EMRs may now be reaching a critical mass with the balance shifting toward an even greater acceptance. "This study indicates that we're close to a tipping point," he says. He says that as physicians watch more of their colleagues sign on to EMR technology, they will follow. "Nobody wants to be first, but nobody wants to be last, either," he says. Additionally, he says application service providers (ASPs) may help accelerate the adoption of EMR solutions. Many ASPs already provide billing and accounting services, and are beginning to offer an EMR on a trial subscription basis.

Morgan also sees the tide beginning to turn, although he acknowledges there are still many more non-adopters than users. Organizations that have successfully implemented some form of CPR appear to share five characteristics, he says. They have steadfast support from the CEO and board of directors; they recognize it as a significant investment; they have the ability to achieve economies of scale; they have initial and ongoing physician leadership, especially in physician order entry; and they realize the need for health informatics professionals.

## **Vendors' Role**

Although Morgan admits there is "no real collaboration between vendors," he does say that they're starting to find common ground. For example, more systems now use HL7 and DICOM to facilitate systems integration, and there is now a significant interest in standard vocabularies such as SnomedCT. But he also says integration remains a major problem.

Speaking as the director of healthcare informatics for Per-Se Technologies, Morgan says that company's CPR, called Patient1®, not only uses HL7 but, "our front end is Java-based," he notes. By incorporating a graphical user interface that uses Java, Morgan says Patient1 allows clinicians to

quickly and easily navigate and review patient information, document notes, access enterprise and Internet-based knowledge sources, and enter clinical orders.

Not surprising, Dolin says his company, Noteworthy Medical Systems, incorporated both HL7 and Java into its EMR which the company claims “allows Noteworthy to quickly adapt its products to new standards and technologies as they emerge.”

Both systems also were designed with clinicians in mind. Noteworthy, which targets medical group practices and hospital ambulatory services, has stressed simplicity of design by employing only three screens to document a patient encounter: summary, history and physical exam and order entry. Because Per-Se Technologies targets large hospitals with 300 to several thousand beds, its system was designed as a “comprehensive admission/transfer/discharge, order entry and results review system with comprehensive clinical decision support functionalities,” Morgan says.

Both Dolin and Morgan stress the role of the clinician in the decision-making process. Dolin says Noteworthy project managers will perform detailed workflow analyses for each physician practice and then customize the system’s templates to match workflow requirements.

Morgan says Per-Se’s approach is to get the clinician involved right from the start. “We talk to chief medical officers and chief nursing officers as well as the CIOs. It can’t be an IT initiative with little clinician input.” Morgan also advises physicians who are contemplating the purchase of a CPR to talk to other users like themselves, who use similar products in a healthcare setting like their own.

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