



**KPMG ANALYSIS**

## Tech Companies Probing Health Care Sales

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By Dave Pelland, Managing Editor, Technology Insider

An electronic U.S. health care system appears to be an attractive market for technology companies, but creating the necessary infrastructure as hospitals, physicians and insurers shift away from paper-based records and invoices may prove complicated and expensive.

Technology companies see opportunities in selling storage and networking equipment -- as well as software -- that would allow health care providers and insurance companies to exchange clinical and billing data electronically.

"The need for IT in health care is firmly established and is going to continue to grow," said Raymond G. Falci, managing director at investment bank Cain Brothers, at an April meeting of the New York Software Industry Association.

One of the primary potential benefits is the potential for reducing medical errors caused by care providers who are unable to access a patient's medical history, or a practitioner misreading handwritten records or medication orders.

"If you can get information to the practitioner where it is needed, that's where a huge opportunity lies in providing services and software," said Christopher Reed, director of strategic health care projects for software provider InterSystems Corp.

Grace Tseng, director of business development and strategic alliances for IBM's health care and life sciences industry group, said electronic medical records can also allow facilities to share patients' clinical and financial data with other care providers, and also with insurance companies and government programs such as Medicaid and Medicare.

"Electronic health records cannot only improve efficiency, but also lead to faster reimbursements for care," Tseng said.

Cain Brothers estimates that health care-related IT spending grows between 8 and 12 percent annually. In 2006, the market reached \$31 billion. But of that total, electronic health records are providing a only small slice, with about 10 percent of U.S. doctors having shifted away from paper-based records.

One of the major hurdles hindering the adoption of electronic health records is the sheer complexity of changing not only how facilities generate and store records, but the redesign of clinical processes to accommodate the data-entry requirements of the health records technology.

Most large hospitals have a mixture of equipment and software designed for departments such as admissions, billing, ancillary departments and physician practices. Different vendors usually supply such hardware and software, and commonly store data in incompatible formats.

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"The focus is not just on the implementation of the electronic health record system, but also on its ability to interface and exchange data," says Eugene Cullen, a New York-based senior manager in KPMG's IT Advisory practice. "The issue with health care is that there is traditionally a variety of vendors and stand-alone systems throughout an organization, and there can be significant issues around system compatibility and interfacing."

A number of industry groups are collaborating with technology vendors to standardize data files to help promote interoperability between different vendors' systems and make it easier for providers to share information.

"This market is so big, we should collaborate," IBM's Tseng said. "We can compete later, but now we have to agree on standards and platforms for sharing data."

Security software providers also see attractive opportunities in the need to maintain the privacy of consumers' health care data, as well of the needs for providers to meet federal and state regulations mandating such information be stored safely.

Instead of storing a patient's complete medical history in a single database, providers are expected to rely on a federated approach in which regional organizations maintain, in effect, an electronic index of providers' patients.

For instance, if someone is admitted to a hospital, information from their other providers' visits can be assembled for the duration of their stay. When that patient is discharged, the hospital will only maintain the information that was generated within its facility.

"Trying to [maintain records in] one large, central database is very dangerous," says InterSystems' Reed. "The security aspects are horrendous. I think the federated model leaves the responsibility for the security with the owners or originators of the data. Information can be brought together without having it stored in a central fashion."

Another major hurdle to the adoption of electronic health records is the cost of the technology, which is expected to vary depending on the size and complexity of a system for a physician practice or medical facility.

In most instances, treatment providers are paying for electronic health technologies, but some efforts are under way to help alleviate the cost burden. For instance, Chicago-based Health Care Service Corp., which operates Blue Cross and Blue Shield plans in four states, plans to offer physicians free access to EHR technology as part of its efforts to reduce costs and improve treatment.

Ultimately, according to KPMG's Cullen, the cost of the transition to electronic health records will be borne by consumers facing higher care costs and insurance premiums.

The fact that electronic health record systems require clinicians to enter information into specific electronic templates also hinders adoption, Cullen says, because many facilities are reluctant to redesign the existing information flow.

Hospitals need to combine electronic health record implementations with change-management efforts and make a significant commitment to staff training during and after implementation.

"Not only do you have to implement the technology, establish the interfaces to the

various related applications, test the applications and train the staff you have to concurrently redesign processes and change behavior for the clinical and non-clinical staff," Cullen says.

Similarly, Cullen says facilities also have to examine whether their organization's infrastructure is able to support the hardware and new technology being rolled out.

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