



## **Patient Data Online and On Time**

**Delivery system uses emerging technology to service users with online patient data.**

By Bill Briggs, Senior Editor

(August 2003) Fed up with faxes, two years ago physicians affiliated with many of Health Management Associates Inc.'s hospitals started clamoring for online access to patient information.

Naples, Fla.-based HMA, which operates 44 hospitals in 14 states, implemented an application that did just that. But physicians gave the application lukewarm reviews, recalls Tim Prentis, manager of information systems programming and development.

The software did not allow users to manipulate data on-screen and had a "green screen" interface, technology that was deemed passé.

So HMA decided to go back to the future. It purchased an application from Compuflex International, Woodland Hills, Calif., that's based on "Web Services" technology, which is designed to take advantage of legacy information systems and enable rapid deployment of new applications. HMA and Compuflex then used the application, called WebAccel, to build the delivery system's online portal.

The Web portal provides physicians and their staffs real-time access to clinical, financial and demographic patient data. And the application's underlying architecture enabled HMA to implement the portal without redesigning its I.T. infrastructure or buying new databases or servers.

"We have a lot of proprietary information systems," including lab, radiology and emergency department," Prentis says. "This technology pulls them together."

For an organization that prides itself on its information system development skills, HMA's I.T. staff was at a loss when it began exploring Web-based technology, Prentis says. Prentis and his colleagues considered off-the-shelf applications, but decided to purchase Compuflex's WebAccel application so they could "get to the Web quickly and develop our own architecture and data content," he explains.

### **Web Services**

Web Services technology uses advanced programming languages and protocols, such as XML and simple object access protocol, or SOAP, to enable organizations to "re-use" functions from existing information systems on the Internet without redesigning their I.T. infrastructures.

Most Web applications are built by feeding data from disparate legacy systems into a Web server. Web Services technology is designed to help organizations skip that step. Using Web Services, organizations can create applications to pull data directly from legacy systems into a Web portal.

Proponents hope Web Services technology will make portal implementations faster and cheaper, and also enable business partners to seamlessly link their information systems. The technology is being developed by the Web Services Interoperability Organization, which has more than 160 software vendor members.

Web Services technology also will serve HMA in the future as more vendors move to open standards, Prentis predicts.

“We tried to plan ahead thinking that, as more Web-based systems are built, a lot of vendors would be designing software with Web Services in mind,” he explains. “We are looking at this to grow and become our electronic medical records system,” Prentis adds.

### **Clean delivery**

Users can access the portal via the delivery system’s corporate Web site. Once on the HMA site, they enter a user ID and password. A single-sign-on application then “tunnels” them to all the information systems and patient data they’re authorized to access. Encryption technology is used to scramble data being sent to the portal.

The portal has given HMA’s hospitals “a clean way to deliver information,” Prentis says, which in turn improves operating efficiency and patient care.

It’s also given them an opportunity to improve relations with affiliated physicians, he says. “We wanted to get some good ‘PR’ with physicians by helping them work at their convenience,” he adds.

The delivery system’s PR campaign has worked on Tahir Hussainy, M.D., a neurologist at 100-bed Sebastian (Fla.) River Medical Center. The Web-based system streamlines his access to his patients’ data, which helps him reduce errors because he can make decisions based on all data available on a patient, he says.

“Before, if a patient came in and said ‘I was in the hospital two weeks ago’ then I had to call to get the files,” Hussainy explains. “It was time consuming.”

In addition, the paper records of long-time patients often were stored offsite, so some searches took weeks instead of days. Now, Hussainy can look up patient information on a computer in his office and see all the information on his patients. In addition, he can access patient allergy information, data trending capabilities and data filtering and sorting tools.

### **Help at the office**

Like practice-based physicians, office administrators also see the benefits of access to patient information, says Pat Smith, office manager of Texas Gastrointestinal Associates, a four-physician practice based in Mesquite.

“When our physicians are on call at the hospital, I can get billing information,” she says. “The portal enables me to pull up a patient’s treatment record, and then code for billing. It also lets us access our patients’ records if they have an outpatient procedure or test, and pull up the information much quicker than when it’s mailed.”

More important, staff at any practice with physicians seeing HMA hospital patients can access lab and radiology test results. That means nurses can pull up results when the patient calls in, Smith says, which can produce peace of mind.

“Patients having a study done want to know if the tests showed cancer,” she says. “In the past, it took five to seven days for the hospital to print and mail us the results. This way, we can access test results as soon as they are entered in the system.”

Physicians are notified of positive cancer test results right away, Smith notes. But having ready access to negative results can prevent agonizing delays for patients.

### **Little pain, big gain**

Web Services technology enabled HMA to make data available online without straining its budget. Prentis estimates consulting fees of about \$100,000 for the enterprisewide project. The bill from Compuflex was “in the low five digits,” he adds.

The investment was minimal, excluding HMA’s development time, because the delivery system used its existing information systems and didn’t have to buy any servers or other hardware, Prentis notes.

This type of Web-based technology that enables access to online patient data benefits the health care industry as a whole, says Deborah Kohn, principal at DAK Systems Consulting in San Mateo, Calif. “We finally have technologies that can make this happen. It doesn’t take much to learn to use browser-based technology; it’s technology that physicians can use. Those benefits that have been extolled about Web technology are true.”

Kohn, however, cautions that security concerns swirling around the Internet are real. “People will find a way to sabotage a system if they want to,” she notes. “But security tools are better than ever. It boils down to how stringently policies and procedures are applied.”

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