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When urgency is a must

'Voice mail on steroids' enhances communication, productivity of radiologists'

Radiologists who discover an urgent medical problem with a patient are accustomed to picking up the phone to immediately contact the referring physician. But in today's busy world it may take several tries to get through to the other doctor, and occasionally the message may not be received at all.

A new computerized messaging system, which has been described by some as 'voice mail on steroids,' is using a full array of communications channels to ensure that a radiologist's urgent message is received in a timely manner. The system has the capability of routing messages to a phone, pager, e-mail, fax, or cell phone -- whichever the recipient prefers.

If the message is not received, the system will automatically try other devices, and notify the sender that the message so far hasn't gone through. When the message is finally received, the sender gets a confirmation.

Presbyterian Hospital of Dallas, a 900-bed facility, has been evaluating the VoiceLink communications system, operated by Vocada, Inc., of Dallas. About 200 of the hospital's 1,200 physicians have been using it in a pilot project.

The hospital has a standing objective to improve communication to ensure that critical diagnostic results are delivered in a timely manner, says **Terry Akin**, vice president of operations. Presbyterian signed up for the automated messaging system to make sure "that we've got the loop closed, in terms of knowing that it was delivered and the target party actually received it."

In the pilot project, the feedback from both referring physicians and interpreting physicians was positive, Akin says. The system helps improve the message delivery process, he says, because a radiologist can notify multiple physicians at once with a single phone call. But the real advantage of the system is knowing the information conveyed by a physician has actually been received.

If the message has not been received, the sender gets immediate feedback. "That's a good piece of mind, from a standpoint of patient care," says Akin.

The system keeps a record of messages and their

delivery confirmation for 10 years or longer. This helps to protect a hospital from lawsuits based on failure to communicate critical test results. "Any time you've got enhanced communication and improved processes, that's going to help minimize risk," says Akin.

Increased productivity

Using the automated system has allowed Presbyterian's physicians to increase their productivity, he says. "Because of the efficiency of the system and the ability to make one call and have that do all in terms of notifying multiple parties, it frees their time up and allows them to get more work done."

Have there been any negative comments from physicians about the system? Akin admits there have been a few with respect to its implementation. "One of the key pieces we learned is the importance of understanding which mode of communication a particular physician prefers. Some of them prefer cell phones, some prefer e-mail. Some may prefer fax," he says. The system can remember which mode of communication a referring physician prefers for receiving messages, he explains, but that preference should be determined before messages start being sent.

Other physicians at Presbyterian who weren't part of the pilot project are interested in using the messaging system, he says. There have been a few slow adopters too, he adds, but Vocada has been proactive in working with them, and for the most part those physicians have gotten over their concerns.

The hospital did not have a big communication problem before it began using the VoiceLink system, Akin says. The radiologists on the hospital's staff were very good about making sure critical test results were communicated, and likewise referring physicians were very diligent about checking their messages and returning calls. "But there would be times when we've got busy physicians and it takes a lot of time to make multiple phone calls to try to track people down. This is something that automates that process and notifies you when the loop is closed."

Eliminate communication gaps

Vocada's system is focused on solving the problem of eliminating communication gaps that exist between diagnostic physicians and referring physicians, says company CEO **Peter White**. "We felt that if we could develop some technology and some systems that made verbal communications manageable for the first time, that we could really tackle this big communication problem that exists when doctors are trying to communicate time-sensitive information among themselves."

Physicians are used to calling each other on the telephone to relay critical results, so Vocada's system does not try to change that workflow, he says. To use the system, a radiologist calls a toll-free number. An interactive computer system answers the call and asks the physician for the name of the doctor he or she is trying to reach. The computer recognizes the name and begins creating a message.

The system asks the caller several other questions, including who they are, what the finding is, and the name of the patient. Physicians are also prompted to give a brief description of the diagnosis.

When the call is complete, the message is routed to the referring physician based on the information the system has on file. Referring physicians are notified that an important finding is waiting for them. This notification can be delivered by pager, e-mail, fax, or cell phone.

"Whatever way they want to get notified of these results, they get notified in real time and the VoiceLink application actually manages and tracks this entire communication process. If the referring physician does not pick it up in a prescribed period of time, the messages are resent on a periodic basis until they are picked up," says White.

If the referring physician has chosen to receive test results via a numeric pager, he or she sees a toll-free number to call, plus a unique seven-digit ID number for the message. When the referring physician calls in, the voice message from the radiologist is played back. The referring physician can then reply to the radiologist if he or she has a question or needs clarification. The message is sent back to the radiologist in the same manner.

If the referring physician prefers e-mail, the notification arrives in his or her inbox. When the physician opens the e-mail, it includes a link that can be clicked on to play back the audio message via computer.

One of the benefits of the system, White says, is its ability to identify messages that have not been heard or opened by the intended recipients. A nurse or administrator in a radiology group can access a computer screen that shows which messages sent by the group's radiologists are still pending. Tracking messages this way lets the manager intervene and make other arrangements, such as sending a message to another doctor in a practice if the referring physician is out of town or off duty.

When physicians sign up for the service, they can specify if they want an assistant to also be notified of critical test results, says White. Physicians can change their contact information at any time, he adds.

If for some reason a message is not accepted by a pager, cell phone, or fax (for example, if the device is turned off), the system will automatically resend the message until it is accepted, White says. It will also start sending the message notification to alternative devices. Senders can specify how they will be alerted if a message hasn't been received after a certain period of time.

For example, White says, a radiologist might wish to be paged if the referring physician has not received a message after 10 minutes. If the message still hasn't been picked up after 30 minutes, an e-mail might be sent to the radiologist. "There are all these message escalation rules that exist in the system as well, to ensure those timely messages get there in the appropriate way and the appropriate time," he says.

The system is only intended for sending critical messages, White says, so a radiologist may only use it a few times a day. But it can still boost productivity because a communication process that took five or 10 minutes is reduced to one that takes only 30 seconds. That could save a busy radiologist 30 minutes to an hour per day, he says.

Physicians can save time

Referring physicians can also save time by using the system because it only takes a few seconds to interact with an incoming message, White points out. Previously, referring physicians returning a message might have to wait on hold for several minutes until the radiologist could come to the phone.

The system allows physicians to create and receive messages on their own time schedule, he says, so interruptions to their day are minimized. "It really complements the way they work, as opposed to disrupting the way they work."

While the system is currently being used for only radiology, it can work in any diagnostic environment, White says. The next natural extension is pathology, he says, and later he envisions it being used in specialties such as cardiology and endocrinology.

Vocada's VoiceLink is available on an application service provider basis, so there is no hardware or software to purchase and maintain. White says the service is priced depending on how many radiologists are in a group, with the cost starting around \$30,000 annually.

That investment could be returned within six months, he claims, if the system helps radiologists avoid just one failure-to-communicate malpractice case, which typically costs \$40,000 to defend. Savings from avoiding litigation can exceed the cost of the system, White says, "so all the productivity gains really are just gravy."

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