

HIT needs, cost factors drive speech recognition implementation

By: Jonathan S. Batchelor

The implementation of healthcare information technology (HIT) systems such as electronic medical record (EMR) applications, and the need to provide more efficient, cost-effective healthcare, are the primary drivers for the widespread adoption of speech recognition, according to Dr. Nick van Terheyden, chief medical officer at Laytonsville, MD-based Philips Speech Processing.

"Approximately 90% of healthcare in the U.S. is still managed by paper, be it mail, fax, or Post-It notes," van Terheyden said during a presentation at the 2006 American Healthcare Radiology Administrators (AHRA) conference in Las Vegas. "That particular situation is unsustainable."

According to van Terheyden, in the next 10 years we will develop more medical information than we have captured in the whole of medical history. The specialty of radiology is acutely aware of this oncoming information glut; the growing utilization of high-end imaging modalities such as MRI and multidetector-row CT has increased both the volume and complexity of studies over the past several years.

At the same time, the demand for turnaround of the radiology report within 24 hours, or much less, has also increased. In addition, many facilities now want the report, and corresponding images, available within a larger HIT infrastructure as part of a patient's EMR. And it's not just radiology reports -- the goal of any EMR system is to aggregate reports, documentation, and data from all medical specialties across the continuum of care.

"Everyone wants to access the data; no one wants to put it in," van Terheyden said.

The adoption of speech recognition technology can reduce costs associated with documentation by as much as 40%, he said. For example, approximately \$12 billion is spent annually in the U.S. on medical transcription, making it one of the top five line-item costs of hospitals and healthcare systems, van Terheyden said.

"I think the question for everybody is not if but when you should use speech recognition," he said.

The U.S. is the largest speech recognition user in the world, van Terheyden said. Approximately 40,000 active physician users generate about 18 million lines per month with speech recognition technology. And this user base will increase, according to a Healthcare Information and Management Systems Society (HIMSS) 2005 healthcare chief information officer (CIO) survey van Terheyden cited.

In the report, 59% of the respondents plan on installing speech recognition applications at their institutions within the next two years, a 6% increase in CIO adoption of the systems compared with 2004 survey data. Along with bar-code recognition and personal digital assistant (PDA) deployment, speech recognition is one of the top-three technologies most desired for implementation by U.S. healthcare CIOs.

"For the longest time I've been saying that speech recognition is two years away, and it's still two years away," van Terheyden said.

However, there are challenges to speech recognition technology, as most recently noted in a vigorous discussion of its limitations and benefits in the *AuntMinnie.com* General Radiology Forum. Many of the shortcomings bedeviling radiology adopters of speech recognition were noted by van Terheyden in his presentation. These include dictation quality, which is only as good as the input; background noise such as cell phones; physician education with the new systems and the learning period required for optimizing the applications; and the frequency of dictation by the user. "One of the challenges the industry faces is redressing the balance between what was overpromised in the past with what is available now," he said.