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Speech Recognition: Technology vs. Solution

BY TODD R. CHAREST, MBA,
AND LYNN J. KOSEGI, PMP

Amazing claims are made about speech-recognition technology. Some of them are true. There is no doubt that speech recognition can potentially boost transcription efficiency, reduce errors, increase turnaround times, and save money. However, not every hospital and healthcare organization is positioned to take advantage of this powerful tool.

The first thing healthcare facilities need to understand about speech recognition is that it is a useful technology and not a solution in and of itself. As a technology, it can be integrated into the transcription process, often with dramatic results. However, facilities expecting speech-recognition

technology to be the solution for all their transcription needs are likely to be sorely disappointed. In general, speech recognition is most effective when it is used to accelerate the medical report creation and review process, not replace the human element.

WHAT IT IS

There are two basic types of speech recognition available today: front-end (or active) and back-end (or passive). Front-end speech recognition requires physicians to make significant changes to their dictation habits and edit their own files as they dictate. Often this is met with

resistance by doctors who believe they are being burdened with additional work.

Back-end speech recognition requires minimal changes in physician behavior, relying instead on a medical language editor to edit the document after the speech-recognition software has produced a draft report.

Front-end speech recognition has shown promise in a small number of specialties with high turnaround time demands and limited medical terminology. These specialties include radiology, pathology, and cardiology. However, back-end speech recognition is much more widely accepted and successful in the healthcare industry. The reason is simple: Back-end speech recognition typically allows healthcare facilities to recognize the greatest gains in efficiency and quality because it integrates almost seamlessly into the traditional transcription or report creation process.

WHAT IT ISN'T

Successful deployment of back-end speech recognition begins with a realistic understanding of the technology and its capabilities. If you are evaluating the benefits of speech recognition for your facility, there are a number of common misconceptions you need to avoid. Speech recognition will not:

- eliminate the need for a knowledgeable medical transcription staff;
- correct poor dictation habits;
- remedy a poor dictation environment;
- typically produce 100% accuracy; and
- alert transcription staff to errors in recognition to within a high degree of accuracy.

No matter which form of speech recognition you are considering, there are some trade-offs your facility should be aware of if you are going to adopt and maximize the technology. Ask yourself whether your facility and your physicians are willing to accept each of the following:

- fewer customized instructions for document creation;
- more verbatim reports;
- compliance with appropriate dictation habits;

- potential turnaround time restraints during initial ramping period;
- limiting “normals” to group account standards; and
- tighter control of environmental factors that affect the quality of voice files.

These factors are among the most significant reasons why some facilities achieve great success with speech recognition while others minimize the technology’s potential benefits.

ACHIEVING SUCCESS

To achieve the most significant gains with speech recognition, it is important to carefully select which physicians will be using the new technology. Although it is possible to realize some benefits from speech recognition even if clinicians do not modify dictation habits, the best results will be achieved if you limit participation to physicians who are willing to modify their dictation habits, who generally obey dictation protocols and produce high-quality files, and who are willing to accept more verbatim transcription.

Also, if transcription is performed in house, close attention should be paid to the selection of which staff members will be editing speech recognition files. Although the jobs are closely related, an editor working with speech recognition uses different skills than a traditional medical transcriptionist (MT). The medical language editor must be detail-oriented and tech savvy to adapt to the new technology. Also, a healthcare facility may wish to keep its top-performing MTs assigned to their current tasks, while allowing average performers to train for editor positions since

they will generally see the highest gains in productivity when switching to speech-recognition technology.

A facility should not forget MTs who may have experienced health issues related to repetitive stress injuries. Speech recognition may be a way to retain valuable staff for whom traditional transcription and typing have become too difficult.

Speech recognition may also allow an MT to extend his or her career by years. Shifting from traditional typing to editing speech recognition may alleviate some physical stress that can be caused by long hours at the computer.

MEASURING RESULTS

When evaluating the success of speech-recognition technology, the most important measurement is the production ratio. In speech recognition, the production ratio is the number of minutes it takes a medical language editor to edit one minute of dictation. In traditional transcription, the production ratio is the number of minutes it takes an MT to transcribe and then edit one minute of dictation.

Using this as the key measure of success instead of lines per hour decreases the risk of inaccurate results due to individual work habits, long pauses, differences in how lines are counted, and other variables associated with measuring productivity by line counts.

In addition to increasing productivity, speech-recognition technology can provide a number of other benefits:

- improved turnaround time;
- reduction in minor errors;
- reduced need for proofreaders and quality assurance staff; and

- improved quality.

Because the speed and quality of medical transcription has a direct impact on the quality of patient care, the deployment of speech-recognition technology has the potential to improve a facility’s overall performance. Once a speech-recognition system is selected and deployed, the rollout period for fully implementing the new technology is typically between 10 and 24 weeks.

Be aware that it is not unusual to see a decrease in transcription productivity during the initial few weeks of the rollout. Productivity should begin to exceed previous performance between weeks three and six if adequate training and feedback is provided to the medical language editors.

Speech recognition can be an important tool in the creation of quality medical documents. It is, however, just one tool in an overall process improvement effort. Understanding the differences between the hype and the reality of speech recognition is necessary to take full advantage of the benefits of this advancing technology.

A speech recognition readiness assessment should be undertaken to evaluate whether the facility and its clinicians are ripe for change.

If you plan accordingly, involve the end users in the process, and are realistic about what this technology can do, success with speech recognition can be achieved.

— Todd R. Charest, MBA, is director of business development for Spheris.

— Lynn J. Kosegi, PMP, is project manager of business development for Spheris.



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