Voice Recognition Technology

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Voice recognition software has gotten more sophisticated and easier to use. Still, is it good enough yet to be worth the time and money it will cost you to use it?

In a perfect high-tech medical world, we would not have to mess with keyboards and typing when using computers; instead we would use the ultimate data input tool — our voices.

We are starting to get a bit closer to this vision. Voice recognition software has made huge strides in the past few years to the point where it can be considered a practical tool for many office-based physicians. The software now comes with sophisticated medical vocabularies, and accuracy rates exceed 95 percent. It supports continuous speech so you can speak at your normal cadence and tempo (at least up to about 160 words per minute). For those of you who have made or are making the transition to EHRs, many of the EHR vendors have integrated voice recognition into their products, meaning it can be readily used as you enter chart data.

As opposed to traditional dictation (which can easily exceed $12,000 a year per physician), voice recognition offers a nice financial return as well, combined with the elimination of turnaround times waiting for completed transcription. Voice recognition software costs roughly $1,000 to $1,500 per provider.

So how does it work? Using the software is pretty straightforward, requiring either a headset or handheld microphone that is plugged into a local workstation. Before use, the physician must establish a “voice profile,” meaning that he needs to train the software to recognize his voice. This training takes just a few minutes to get started, but the software continues to “learn” the physician’s voice over time — which means it gets better the more you use it (even for those of you with strong accents).

The pros and cons

Voice recognition is a bit like having a transcriptionist in a box — except that it gives you immediate feedback. As you speak, the words show up on the computer screen. If there is an error, you can use voice commands, such as “erase” or “correct” to make the fix. However, unlike using human transcriptionists, the full burden of correcting errors falls on you.

If you purchase an EHR that offers voice recognition as part of an integrated package, the program will also understand software commands specific to the EHR, such as “open chart” or “start progress note.”

For the typing-challenged docs or for those who have physical limitations that preclude easy use of the keyboard, voice recognition is a godsend — making it possible to use an EHR in a practical way. However, for those reasonably adept at standard computer navigation using a mouse or pointing device, using voice commands as a means of navigating the software is slower.

Also, because EHRs offer a variety of progress note creation tools, such as templates that allow a rapid point-and-click means of documenting, many doctors find that they use voice recognition with the EHR only for those difficult to template subjective portions of the encounter or those requiring additional nuance not found in your standard progress note template.

This is an interesting paradox about voice recognition; while it is a clearly high-tech tool, its true strength is its ability to create unstructured data — a stream of words representing subjective observations.

This is a somewhat low-tech concept in an era of meaningful use, pay for performance, and population and disease management, in which physicians are evaluated based on what can be measured and reported on (i.e. structured data). That’s not to say that subjective observations are going away; rather, there will be increasing emphasis in documenting these observations in a consistent, structured manner — not the traditional strong point for voice recognition.
Technical specs

There are also technical issues to consider regarding voice. Although it is offered as a network application (meaning that it is installed on a server and delivered over a network to individual workstations), it is more commonly installed on a local machine, in much the same way as a traditional word processing application. When used locally, you will want to ensure that your PC matches the specs of the program that you select. The key technical issues are amount of RAM (1 gigabyte is recommended), a compatible sound card, and the appropriate processor (i.e. Intel® Pentium® 4) and operating system. Don't assume that a new PC will meet the grade. When I shopped recently for the application, my semi-new laptop had the wrong processor, and a year-old desktop required the addition of more RAM and a sound card.

Microphone selection is important, as is the distance between your mouth and the microphone. The best bet is to select microphones with a USB connection and those that have been certified by the voice recognition software company. Ambient noise should be kept to a minimum, which means that you may need to be selective about where you use it (the voice recognition savvy doctors that I know feel most comfortable using it in the controlled environment of their office). Should you buy the standard consumer brand at your local office-supply store? Probably not. You are better off investing in a system that has built-in medical vocabulary. You will pay more for the medical version, but it is well worth the investment.

If your plan is to integrate voice with your EHR, you will want to purchase the voice recognition software directly from the EHR vendor. EHR vendors design their voice integration features around a specific supplier and a specific version. To take advantage of these features, you need to have compatible versions.

While voice recognition is very impressive, it is not for everyone. It requires a bit of patience during the training phase, demands a much more controlled environment in terms of microphone placement and ambient noise compared with traditional dictation, and requires the physician to correct mistakes made by the program. But, for right doc — particularly those who are keyboard challenged — it can be a great fit.

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