

2) How Will Speech Recognition Technology Affect the Medical Transcription Industry in the Future?

Speech recognition technology has the potential to break the biggest barrier to implement a completely computerized medical record capturing system i.e. to make an automatic system whereby the speech recognition software generates the medical records by capturing the dictations directly from the physicians. The introduction of speech recognition technology in the legacy medical transcription has been one of the controversial topics since the last several years. It is predicted that the speech recognition technology will eventually be replaced with the traditional method of medical transcription and thus the need for medical transcriptionists would be greatly reduced. However the facts about this new technology show that this is not the case, since there are many probable issues and barriers regarding the speech recognition technology. Certainly the use of speech recognition technology has increased in medical transcription industry, but it is not capable of replacing the traditional medical transcription system due to a number of problems that arise while using the new technology:

Some of the key technical problems in speech recognition include:

- Inter-speaker differences;
- resolution of ambiguity;
- the need to separate speech from background noise;
- Punctuation and grammar rules needed in final documents.

Most of the currently used speech recognition softwares perform literal interpretation of the dictation received by the physician. Although they produce 100 percent accurate results, but all they produce is an exact interpretation of the words dictated without any understanding of the context in which certain words are being used. The literal interpretation of the dictation produces the report, but in non-linear order and often including additional phrases and comments that must be edited out by the medical transcriptionists. This negatively impacts the potential efficiency gains.

Proper grammar and punctuation increases the problem. Written language requires punctuation—commas, periods and quotation marks—according to strict rules that are not obvious in speech and are difficult to infer. The speech recognition systems available today use the statistical language model. This is burdensome for the software because it requires enormous database to back it up and thus require extensive processing to calculate conditional probabilities which takes a lot of time. Therefore the need for medical transcriptionists would still be there in the future even if speech recognition technology is used by the physicians. Medical transcriptionist would still be required to check the quality (check punctuation, grammar, differentiate similar sounding words) of the medical reports produced. Thus speech recognition technology will affect the medical transcription industry in a way that the need for medical transcriptionists would not be eliminated but lessened.

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