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Transitioning to Paperless

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Transitioning from paper medical records to electronic one is a process with many challenges and complexities. Overcoming these will require a multitude of software and organizational solutions.

The Springfield Center for Family Medicine in Springfield, Ohio recently received Meaningful Use credit for an EHR the practice began implementing in 2003. Dr. Peter Muir, who works at the center, said "it can take up to a year to migrate information from paper charts into structured data," in a recent interview with emrandhipaa.com.

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"The first year was stressful but after that you would not go back to paper charts," he advised.

Several events at HIMSS were oriented around making this transition from paper to electronic records as smooth as possible.

One of the big demonstrations at HIMSS12 was held by Ricoh, which unveiled its Paperless Maturity Roadmap, an array of services that "helps providers visualize how the strategic reduction of paper and related paper-based systems can help address the operational inefficiencies," according to the company's press release.

A service that Ricoh cited as an example of one of the new services is a software program that can attach loose documents to a patient's medical file. The company said this program can send and receive medical data all in accordance with Health Level Seven (HL7) standards.

Artificial Intelligence and Image Analysis (A2iA) also debuted software at HIMSS12 that focuses on the transition from paper to electronic records. The company's A2iA DocumentReader lifts and indexes "printed and handwritten data from clinical documentation, patient charges, lab requisitions and forms," according a press release.

Some recent advances in information technology are aimed at solving other challenges faced by medical professionals looking to make the switch.

Many of these documents generated by programs like DocumentReader contain strings of notes and free text that are simultaneously indispensable and time consuming as this type of information must be reviewed manually. This presents a challenge, more specifically, to clinicians who must record and track this information, which is not easily quantifiable.

A recent algorithm developed in the United Kingdom could greatly decrease the amount of time an effort necessary to utilize this information.

A study of the algorithm, Semi-Supervised Set Covering machine (S3CM), published in the online journal PLoS One focused specifically on its ability to identify "unlabeled texts" coronary angiogram results and ovarian cancer diagnoses in their General Practice Research database. S3CM was able to positively predict that a record was either a coronary angiogram result or ovarian cancer diagnosis with over 60 percent accuracy. The algorithm was able to positively recall these previously identified results with over 85 percent accuracy.

These results can easily be put into context when compared to the accuracy of the internet's most popular search engine, Google. Last year, an Experian Hitwise study revealed Google to have an accuracy of about 65 percent. Incidentally, that same study said both Yahoo and Bing search engines returned an accuracy rate over 80 percent.

The authors of the PLoS One study said that they plan on refining the S3CM algorithm and adapting it to identify free texts related to other diseases.