

Grasp, connect, help: Amazon unveils service for tapping key medical information

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As the year draws to a close, Amazon is making more noise in the medical sector with software that lends meaning to seas of unharnessed medical data. This should not come as a surprise for those following

Amazon's interest in leveraging its talents focused on artificial intelligence and even cloud technology.

The news is that Amazon has announced it has software capable of mining medical records in ways that can help doctors, medical teams and hospitals. News reports on Tuesday said Amazon has software that can mine [patient medical records](#). The software can help make sense of information so that medical professionals can make better decisions.

As such, key data under this concept is extracted from patient records via its "reads" of items such as prescriptions, notes, audio interviews and test reports. All that is uploaded to the giant's Comprehend Medical.

Amazon is calling the machine-learning service "Amazon Comprehend Medical." The Comprehend Medical service, as it is called, uses natural language processing to decode the information in unstructured writing such as [medical records](#) or doctor's notes.

Speaking of the latter, Jacob Banas in *Futurism* said, "Most notably the software transcribes handwritten [notes](#), including medical jargon and abbreviations, saving doctors the time it takes to manually re-record their notes."

Clinical trial investigators, looking to recruit relevant candidates for their trials, could use this service.

The CIO at the Fred Hutchinson Cancer Research Center said when clinical trials are in the works, one has to connect with the right patients who have the specific characteristics that align with the study goals, but that normally involves sifting and sifting through unstructured medical record data to find the candidates who can serve the study goals.

"Amazon Comprehend Medical will reduce this time burden from hours per record to seconds."

The time-saving benefit is quite important in cancer research, in getting "rapid access to the information they need when they need it so they can find actionable insights to advance lifesaving therapies for patients," said Matthew Trunnell, the center's CIO.

The service was [unveiled](#) Tuesday during Amazon Web Services' re:Invent conference, said *GeekWire*. "Amazon Comprehend Medical has already been tested with partners including Seattle's Fred Hutchinson Cancer Research Center and pharmaceutical giant Roche."

"While other algorithms have been hampered by unstructured medical text, Amazon's software uses machine learning to recognize the ways doctors record their notes. Amazon said the software can extract data such as diagnosis, treatments and dosages, among other key data points," said CNET.

Not only at the event, but Dr. Taha A. Kass-Hout and Dr. Matt Wood had something to say about it in the AWS machine learning blog on Tuesday. "We are excited to [announce](#) Amazon Comprehend Medical, a new HIPAA-eligible machine learning service," they wrote.

A former U.S. FDA chief health informatics officer, Dr. Kass-Hout joined Amazon's experimental projects team. He is considered a leader in the fields of health informatics and analytics.

Dr. Wood is one of the team members at SWS entrusted with the mission of putting machine learning in the hands of more developers.

All in all, the software helps make sense of all the unstructured information—turning the information into information on tests, treatments, medications, etc. Amazon Comprehend Medical allows developers to identify the key common types of medical information automatically, and without the need for large numbers of custom rules.

Roche Diagnostics Information Solutions has also been previewing the service. For them, it would help quickly extract and structure information from medical documents, to build "a comprehensive, longitudinal view of patients, and enable both decision support and population analytics."

What about privacy? *Packt* said "Any sort of security attack might cause trouble as there is a chance of [data](#) breach."

According to CNET, "Amazon said the [software](#) will also better [address](#) privacy and protected health [information](#) requirements." No data processed by the service is stored or used for training.

In the bigger picture of Amazon, this was an observation from Clare McGrane, *Geek Wire*, that "Comprehend Medical may be the biggest homegrown healthcare [service](#) in the company's history...That may be a valuable clue as to Amazon's future ambitions in the field."

More information: aws.amazon.com/blogs/machine-learning/comprehend-medical/

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