Analyse Prédictive : IBM aide à détecter des patients à fort risque d'insuffisance cardiaque

Au sein de la clinique Carilion en Virginie, les solutions Big Data d'IBM permettent d'identifier 8500 patients à fort risque d'insuffisance cardiaque grâce à leurs dossiers médicaux électroniques

Paris, France - 20 févr. 2014: IBM (NYSE: IBM) today announced that Virginia health system Carilion Clinic has indentified 8,500 patients at risk for developing heart failure in a pilot project that could lead to early intervention and better care for these patients.

The pilot was completed in collaboration with IBM, Epic and Carilion Clinic. The results were achieved through predictive modeling of data in Carilion Clinic's electronic medical record (EMRs), including "unstructured" data such as clinicians' notes and discharge documents that are not often analyzed. Using IBM's natural language processing technology to analyze and understand these notes in the context of the EMR, the inclusion of unstructured data provides a more complete and accurate understanding of each patient. The pilot applied content analytics and predictive modeling to identify at-risk patients with an 85 percent accuracy rate. The model identified an additional 3500 patients that would have been missed with traditional methods. Each of these patients might benefit from targeted preventive care.

Heart failure currently afflicts more than five million U.S. adults, half of whom will not survive five years after diagnosis according to the Centers for Disease Control and Prevention. Often caused by other conditions such as hypertension or diabetes, heart failure deprives the body of blood and oxygen needed to support the vital organs. Heart failure is one of the most common causes of hospitalization for people age 65 and older, and costs the nation $32 billion each year.

Early detection and prevention of heart failure has proven difficult prior to the introduction of advanced analytics.

"*We've learned that predictive analytics insights from both structured and unstructured data is imperative to meet our goal of improving patient care at lower costs,*" said **Steve Morgan, MD, Chief Medical Information Officer, Carilion Clinic**. "*We were very impressed with the accuracy and usability of IBM's predictive modeling, which the IBM team developed and deployed in six weeks. These results and innovations are helping us move the needle on quality and the costs of care.*"

IBM's natural language processing technology – also used in the IBM Watson cognitive system – can understand information posed in natural language and uncover insights from vast amounts of data. Coupled with advanced predictive modeling, the pilot at Carilion Clinic using IBM Advanced Care Insights marks another example of IBM's leadership in advancing predictive care and prevention. IBM Advanced Care Insights combines predictive modeling with healthcare-specific content analysis.

"*Many predictive factors are included in structured data within today's EMR systems, but a lot of it is hidden in doctors' notes, discharge papers, and other sources of unstructured data,*" said **Sean Hogan, vice president of global healthcare, IBM**. "*By tapping into the unstructured data, our clients have more complete and accurate information that allows them to make targeted interventions when appropriate that can help prevent more severe and costly medical complications.*"

Patients identified in the pilot as being at-risk for heart failure were expected to develop the disease within one year and are candidates for care management and early interventions. Predictors included:

· Physiological data such as maximum systolic blood pressure

· Prescription drug use of alpha blockers, beta blockers, beta agonists, and others

· Previous diagnoses such as Chronic Obstructive Pulmonary Disease

· Obesity

· Lifestyle and environmental factors, such as occupation and marital status

IBM also announced today that its content analysis software now allows doctors using Epic's electronic medical record (EMR) software to accurately incorporate their notes into patient records to extract insights in real-time.

Learn more about IBM Smarter Care at ibm.com/smartercare.

Learn more about IBM Big Data at ibm.com/bigdatahub.

Learn more about Carilion Clinic at http://www.carilionclinic.org/.