Communiqués de presse

L'université MD Anderson utilise la solution Watson d'IBM pour sa mission « Moon Shots » de lutte contre le cancer, en commençant par la leucémie

Les analyses issues du Big Data permettent d'accélérer la mise en place de pratiques médicales de pointe pour lutter contre le cancer

Paris - 21 oct. 2013: IBM et MD Anderson annoncent aujourd'hui que le centre de cancérologie de l'université texane utilise Watson, le système informatique cognitif d'IBM, pour sa mission d'éradication du cancer. Après une année de collaboration, IBM et MD Anderson présenteront un prototype du MD Anderson's Oncology Expert AdvisorTM, qui fonctionne sur IBM Watson. Les deux organisations dévoileront leur projet commun pour tirer profit des capacités d'informatique cognitive de Watson, afin d'aider les patients. En effet, les cliniciens pourront obtenir de précieuses informations grâce à l'exploitation de la richesse des bases de données patients et recherche du centre de cancérologie.

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MD Anderson Taps IBM Watson to Power "Moon Shots" Mission Aimed at Ending Cancer, Starting with Leukemia

Big Data Insights to Help Accelerate Translation of Cancer-Fighting Knowledge to Cutting Edge Medical Practices

HOUSTON - 18 Oct 2013: The University of Texas MD Anderson Cancer Center and IBM (NYSE: IBM) today announced that MD Anderson is using the IBM Watson cognitive computing system for its mission to eradicate cancer. Following a year-long collaboration, IBM and MD Anderson will showcase a prototype of MD Anderson's Oncology Expert AdvisorTM powered by IBM Watson. The organizations will discuss their shared vision to leverage Watson's cognitive computing power to help patients by enabling clinicians to uncover valuable insights from the cancer center's rich patient and research databases.

MD Anderson's Oncology Expert Advisor powered by IBM Watson is designed to integrate the knowledge of MD Anderson's clinicians and researchers, and to advance the cancer center's goal of treating patients with the most effective, safe and evidence-based standard of care available. Starting with the fight against Leukemia, MD Anderson's Oncology Expert Advisor is expected to help MD Anderson clinicians develop, observe and fine-tune treatment plans for patients, while helping them recognize adverse events that may occur throughout the care continuum. The cognitive-powered technology is also expected to help researchers advance novel discoveries.

MD Anderson's Oncology Expert Advisor is expected to be accessible to the cancer center's network of clinicians through a computer interface or supported mobile devices. This provides clinicians – and in turn, patients – with immediate, worldwide access to MD Anderson's expertise and resources, and to IBM Watson's technology prowess in quickly extracting crucial insights from large volumes of complex data.

A new era of computing has emerged, in which cognitive systems "understand" the context within users' questions, uncover answers from Big Data, and improve in performance by continuously learning from

experiences. The need for these types of cognitive capabilities in the battle against cancer is clear. The American Cancer Society projects 1.6 million new cancer cases will be diagnosed in the U.S. this year. Within this global epidemic lies a lethal subset: leukemia, which causes nearly one-third of all cancer deaths in children and adolescents younger than 15 years, according to the Leukemia and Lymphoma Society.

Moon Shots and the Big Data Divide

With more than 100,000 patients cared for each year in Houston, and tens of thousands more throughout its regional and national network, MD Anderson has accumulated an unprecedented breadth and depth of clinical oncology data and knowledge. Extracting actionable insights from this information, however, poses a significant challenge. Valuable data from day-to-day patient care and clinical trials is often trapped in the minds and notes of clinicians and researchers, as well as in the remote databases and files of other providers who may have treated these same patients in the past.

Left unaddressed, this divide can cost precious time and resources, and prevent physicians from accessing all the information they might need in order to best treat a patient. It also blocks the pipeline through which clinical research can be completed, evaluated, approved and ultimately used in patient care. Case in point: $95 billion is spent annually on medical research in the United States, yet only six percent of clinical trials are completed on time.

"*IBM Watson represents a new era of computing, in which data no longer needs to be a challenge, but rather, a catalyst to more efficiently deploy new advances into patient care,"* says **Manoj Saxena, General Manager, IBM Watson Solutions**. *"By helping researchers and physicians understand the meaning behind each other's data, we can empower researchers with evidence to advance novel discoveries, while helping enable physicians to make the best treatment choices or place patients in the right clinical trials."*

Preparing Watson for Moon Shots

IBM's Watson technology is expected to play a key role within APOLLO, a technology driven "adaptive learning environment" that MD Anderson is developing as part of its Moon Shots program. APOLLO enables iterative and continued learning between clinical care and research by creating an environment that streamlines and standardizes the longitudinal collection, ingestion and integration of patient's medical and clinical history, laboratory data as well as research data into MD Anderson's centralized patient data warehouse. Once aggregated, this complex data is linked and made available for deep analyses by advanced analytics to extract novel insights that can lead to improved effectiveness of care and better patient outcomes.

One of the richest sources of valuable clinical insight trapped within this patient data is the unstructured medical and research notes, and test results, for each cancer patient Watson's cognitive capability has been shown to be powerful tool to extract valuable insight from such complex data and MD Anderson's Oncology Expert Advisor capability can generate a more comprehensive profile of each cancer patient. This will help physicians better understand the patient's data in the evaluation of a patient's condition.

By identifying and weighing data-driven connections between the attributes in a patient's profile and the knowledge corpus of published medical literature, guidelines in Watson, MD Anderson's Oncology Expert Advisor can provide evidence-based treatment and management options that are personalized to that patient,

to aid the physician's treatment and care decisions**.** These options can include not only standard approved therapies, but also appropriate investigational protocols.

"One unique aspect of the MD Anderson Oncology Expert Advisor is that it will not solely rely on established cancer care pathways to recommend appropriate treatment options," explained **Lynda Chin, M.D., professor and chair of Genomic Medicine and scientific director of the Institute for Applied Cancer Science at MD Anderson**. "*The system was built with the understanding that what we know today will not be enough for many patients. Therefore, our cancer patients will be automatically matched to appropriate clinical trials by the Oncology Expert Advisor. Based on evidence as well as experiences, our physicians can offer our patients a better chance to battle their cancers by participating in clinical trials on novel therapies."*

The MD Anderson Oncology Expert Advisor is expected to help physicians improve the future care of cancer patients by enabling comparison of patients based on a new range of data-driven attributes, previously unavailable for analysis. For example, MD Anderson's clinical care and research teams can compare groups of patients to identify those patients who responded differently to therapies and discover attributes that may account for their differences. This analysis will then inform the generation of testable hypotheses to help researchers and clinicians to advance cancer care continually.

IBM and MD Anderson will discuss Watson's role in the Moon Shots program during the Center's Moon Shots Annual Report event and news conference, on Friday, October 18. Click here to watch a live stream of the presentation, which will take place from 11:30 a.m. to 12:30 p.m. Central Time.

Watson: Then and Now

Two years after IBM Watson's triumph on the television quiz show Jeopardy!, Watson has evolved from a first-of-a-kind status, to a commercial cognitive computing system. Watson has gained a 240 percent improvement in system performance, and a reduction of 75 percent in the physical requirements needed to run the system which can now operate from a single Power 750 server with Linux and from a cloud computing environment.

The transformational technology, named after IBM founder Thomas J. Watson, was developed in IBM's Research Labs. Using advances in natural language processing and analytics, the Watson technology can process information similar to the way people think, representing a significant shift in the ability for organizations to quickly analyze, understand and respond to vast amounts of Big Data. The ability to use Watson to answer complex questions posed in natural language with speed, accuracy and confidence has enormous potential to improve decision making across a variety of industries from health care, to retail, telecommunications and financial services.

About Moon Shots

MD Anderson's Moon Shots Program is an unprecedented and highly concentrated assault against cancer. Launched in fall 2012, the initial moon shots target eight cancers: acute myeloid leukemia (AML) and myelodysplastic syndromes (MDS), chronic lymphocytic leukemia (CLL), lung cancer, melanoma, prostate cancer and triple-negative breast cancer and high-grade serous ovarian cancer — linked at the molecular level. These projects were selected based on knowledge, technology and proof of clinical concept that would significantly reduce cancer deaths rapidly. The ultimate goal is for all cancers to become

moon shots targets.

About MD Anderson

The University of Texas MD Anderson Cancer Center in Houston ranks as one of the world's most respected centers focused on cancer patient care, research, education and prevention. MD Anderson is one of only 41 comprehensive cancer centers designated by the National Cancer Institute (NCI). For nine of the past 11 years, including 2012, MD Anderson has ranked No. 1 in cancer care in “Best Hospitals,” a survey published annually in U.S. News & World Report. MD Anderson receives a cancer center support grant from the NCI of the National Institutes of Health (P30 CA016672).

About IBM

For more information on IBM Watson, please visit www.ibmwatson.com

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