At ASCO 2017 Clinicians Present New Evidence about Watson Cognitive Technology and Cancer Care

CAMBRIDGE - 01 Jun 2017: Mass: IBM Watson Health (NYSE: IBM) and its collaborators today unveiled data that will be presented at ASCO 2017, demonstrating the clinical utility of Watson for Oncology trained by Memorial Sloan Kettering as well as Watson for Clinical Trial Matching (CTM). IBM also announced the latest updates on adoption of Watson oncology offerings, which are now live or being implemented at dozens of hospitals and health organizations in Australia, Bangladesh, Brazil, China, India, Korea, Mexico, Slovakia, Spain, Taiwan, Thailand and the U.S. And, Watson for Oncology was released to support physician's treatment of prostate cancer.

Five ASCO studies on Watson oncology offerings were unveiled today:

- **Watson for Clinical Trials Matching cut the time required to screen patients for clinical trial eligibility by 78%** in a technology feasibility study with Highlands Oncology Group and Novartis. During a 16-week pilot, data from 2,620 lung and breast cancer patients were processed by the CTM system. Using natural language processing capabilities, CTM read the clinical trial protocols provided by Novartis and evaluated data from patient records and doctors notes against the protocols' inclusion and exclusion criteria to automatically exclude ineligible patients - 94% of patients overall. This reduced clinical trial screening time from 1 hour and 50 minutes to 24 minutes.
- **Watson for Oncology achieved a concordance rate of 96% for lung, 81% for colon and 93% for rectal cancer cases** compared to recommendations from the multi-disciplinary tumor board in a study at Manipal Comprehensive Cancer Centre in Bangalore, India.
- **Watson for Oncology achieved a concordance rate of 83% for multiple cancer types** compared to recommendations from oncologists in a study at Bumrungrad International Hospital, a multispecialty hospital in Bangkok, Thailand.
- **Watson for Oncology achieved a concordance rate of 73% for high risk colon cancer cases** when compared to the tumor board from Gachon University Gil Medical Centre in Incheon, South Korea.
- In a qualitative study, oncologists in Mexico found Watson for Oncology to be useful to help them identify potential treatment options for their patients, particularly in clinics that lack subspecialist expertise, and for training medical students and residents.

"These studies demonstrate that Watson technologies are doing what we expect them to do: helping

physicians augment their own experience and expertise to deliver evidence-based care," said Andrew Norden, MD, MPH, MBA, deputy chief health officer for oncology and genomics, IBM Watson Health. "As adoption of the technology grows globally, we are building on a growing body of data and evidence showing the value of Watson in cancer care."

Today, IBM also announced that Watson for Oncology is now available to support the multi-disciplinary care of prostate cancer patients. In Watson for Oncology's ongoing training with Memorial Sloan Kettering Cancer Center in New York, Watson has now been trained and released to help support physicians in their treatment of breast, lung, colorectal, cervical, ovarian, gastric and prostate cancers. By the end of the year, the technology will be available to support at least 12 cancer types, representing 80 percent of the global incidence of cancer.

"We are proud of MSK's role training Watson for Oncology, and putting an evidence-based, cognitive, clinical decision support tool in the hands of physicians around the world," said Mark G. Kris, MD, the William and Joy Ruane Chair in Thoracic Oncology at Memorial Sloan Kettering. "By coupling the power of Watson with the knowledge MSK physicians have gleaned from decades of experience treating cancers, we can help physicians probe the subtleties of each person's illness, better understand the ever-growing body of oncology data, and make evidence-based treatment decisions."

A Growing Body of Evidence for Watson

Data on Watson at ASCO 2017 builds on earlier studies that have documented the evolution of the technology and demonstrated that Watson can support treatment decisions and research breakthroughs. For example:

- A 2016 study found Watson for Oncology matched the recommendations of Manipal's multi-disciplinary tumor board in 90% of breast cancer cases.
- A 2016 ASCO study at the Victoria Comprehensive Cancer Center in Australia examined Watson's natural language processing capabilities.
- A 2015 ASCO study examined the recommendations of Watson for Oncology on historical patient cases at MSK.
- A 2014 ASCO study demonstrated that Watson for Oncology was able to achieve up to 100% precision in matching MSK training data.
- A 2014 Baylor College of Medicine study found Watson for Drug Discovery helped identify 6 new proteins to target in p53 cancer research in a matter of weeks.
- A 2015 study found Watson for Genomics helped clinicians analyze whole genome sequencing and uncover actionable insights in minutes.

Watson Adoption to Support Oncology Care

Today IBM announced 9 new adopters of Watson oncology offerings, which are now being used or implemented at more than 55 hospitals and health organizations around the globe. Doctors in India, China, Thailand, Korea, Taiwan, Japan, Bangladesh, Spain, Slovakia, Poland, Mexico, Brazil, Australia, Canada and the U.S. are now using or currently implementing the system to provide information to augment their decision making. Stories from early adopters reveal how Watson can provide hope and greater confidence in treatment decisions.

The latest Watson for Oncology users include Icon Group in Australia, Grupo Angeles Servicios de Salud in Mexico, Mãe de Deus in Brazil, Taipei Medical University in Taiwan, Daegu Catholic University Medical Center in South Korea, Keimyung University Dongsan Medical Center in South Korea, Pusan National University Hospital in South Korea and Svet zdravia in Slovakia and Poland. IBM has also signed a new channel partnership with RITES Solutions to bring Watson for Oncology to hospitals in Bangladesh, Nepal, Bhutan and Eastern India.

“Watson for Oncology is one example of the key technologies that will help clinicians harness the increasing amounts of data that is becoming available as both medicine and treatment become more personalized for each individual patient,” said Nan Chen, the Senior Director of Research & Development and Clinical Data at Bumrungrad International Hospital. “As we treat more than half a million from over 190 countries each year, these technologies are increasingly important to provide the level of care that our patients have come to expect. One example of this is at the BIH owned Mongolian UB Songdo Hospital where general doctors routinely care for cancer patients in the absence of clinical oncology specialists. These doctors can now confidently rely on Watson for Oncology for helping them select treatment options that are supported by the high concordance rates observed.”

Watson for Oncology is trained by oncologists at New York’s Memorial Sloan Kettering Cancer Center, and is a cognitive computing system that uses natural language processing to ingest patient data in structured and unstructured formats. The system provides physicians with treatment options for their consideration that are derived from established guidelines, the medical literature, and training from patient cases.

“Artificial Intelligence is coming of age in healthcare as technology suppliers, like IBM, make progress in the democratization of this technology,” said Cynthia Burghard, research director IDC Health Insights. “The application of AI will be a major disruptor in healthcare and move the industry closer to its goal of value-based health.”

In addition, at ASCO 2017 data will be presented from IBM Research and Truven Health Analytics®, part of the IBM Watson HealthTM business.

IBM Health Corps Tackles Chemo Supply Chain in Africa

IBM's oncology expertise was put to work recently for a pro bono IBM Health Corps consulting initiative to address chemotherapy shortages in sub Saharan Africa, helping health officials obtain more trusted medicine at lower costs. IBM's experts designed software called ChemoQuant, which will help planners and procurement personnel at ministries of health to make more precise chemotherapy forecasts, check medicine inventories, pinpoint available suppliers, determine costs, and place medicine orders that can qualify for volume pricing discounts.

About IBM Watson Health

Watson is the first commercially available cognitive computing capability representing a new era in computing. The system, delivered through the cloud, analyzes high volumes of data, understands complex questions posed in natural language, and proposes evidence-based answers. Watson continuously learns, gaining in

value and knowledge over time, from previous interactions. In April 2015, the company launched IBM Watson Health and the Watson Health Core cloud platform (now Watson Platform for Health). The new unit will help improve the ability of doctors, researchers and insurers to innovate by surfacing insights from the massive amount of personal health data being created and shared daily. The Watson Platform for Health can mask patient identities and allow for information to be shared and combined with a dynamic and constantly growing aggregated view of clinical, research and social health data. For more information on IBM Watson, visit: ibm.com/watson. For more information on IBM Watson Health, visit: ibm.com/watsonhealth.

Contact(s) information

Andrea Acton

External Relations 0429460327anacto@au1.ibm.com