


# Imagine Your World with Watson

Treatment and differential diagnosis insights for  
the physician's consideration in the moments  
that matter most



**Watson Health™**



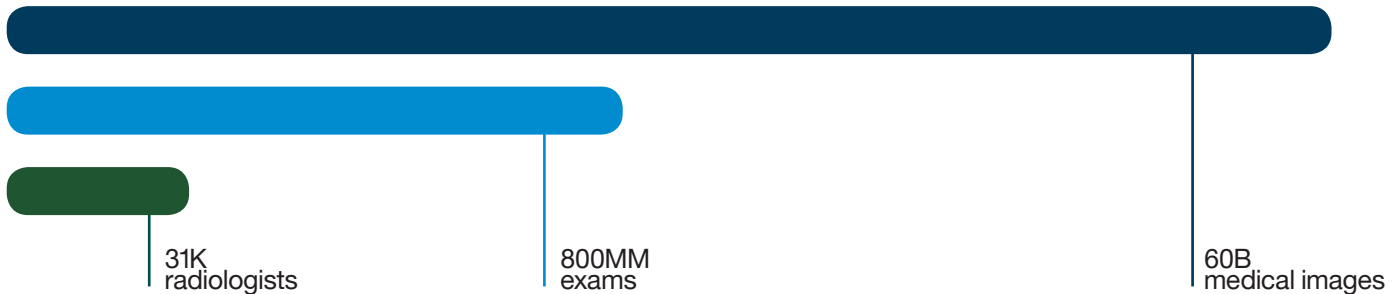
The role of medical imaging in global health systems is literally fundamental. Like labs, medical images are used at one point or another in almost every high cost, high value episode of care.

Echocardiograms, CT scans, mammograms, and x-rays, for example, “atlas” the body and help chart a course forward for a patient’s care team.

Imaging precision has improved as a result of technological advancements and breakthroughs in related medical research. Those advancements also bring with them exponential growth in medical imaging data.



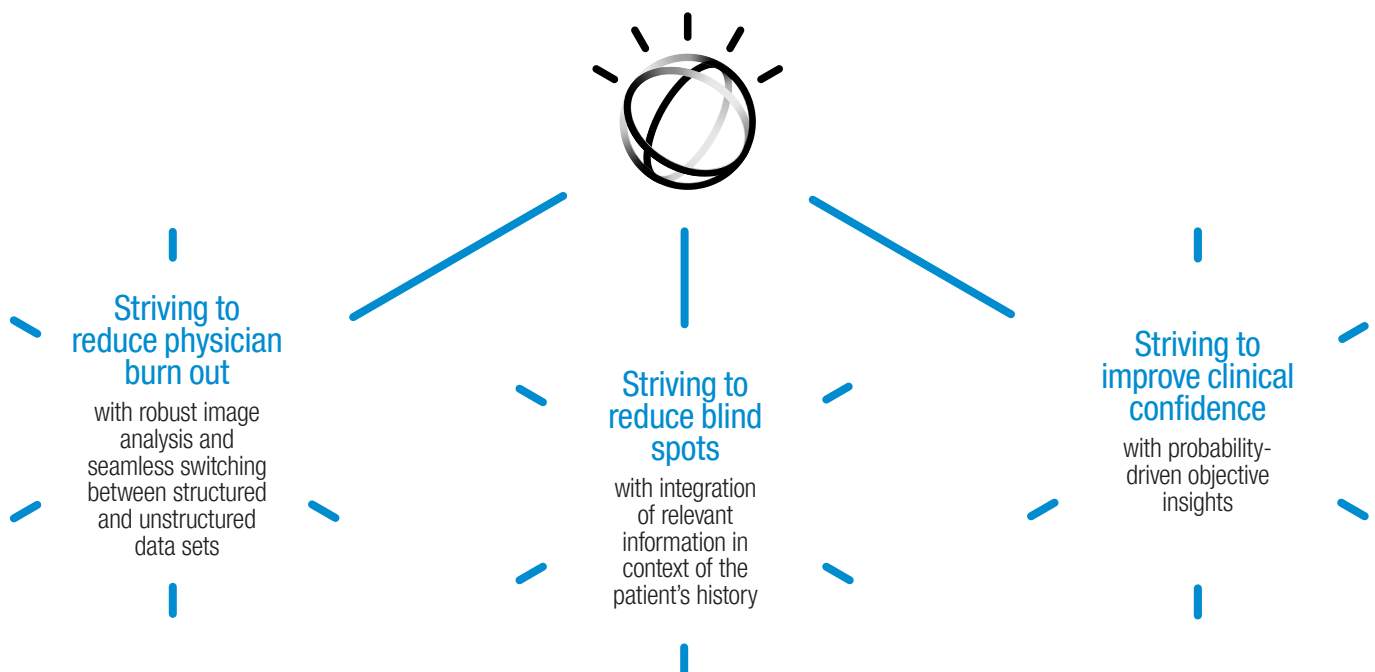
There were roughly 800 million multi-slice exams performed in the United States in 2015 alone. Those studies generated approximately 60 billion medical images. At those volumes, each of the roughly 31,000 radiologists in the U.S. would have to view an image every two seconds of every working day for an entire year in order to extract potentially life-saving information from a handful of images hidden in a sea of data.



What's worse, medical images remain largely disconnected from the rest of the relevant data (lab results, patient-similar cases, medical research) inside medical records (and beyond them), making it difficult for physicians to place medical imaging in the context of patient histories that may unlock clues to previously unconsidered treatment pathways.

Watson Health Imaging leverages a cognitive platform that seeks to extract value from ever-growing medical imaging data by analyzing structured and unstructured patient, population and medical research data residing within disconnected silos. The platform aspires to organize available information and present it in a contextually relevant, probability-driven manner to assist diagnostic specialists as well as treating physicians at the point of care.

Watson Health Imaging aims to bring the power of cognitive computing to healthcare to expand the physician's view so they have greater confidence in their diagnostic and treatment decisions for their patients.



# A Healthcare Revolution

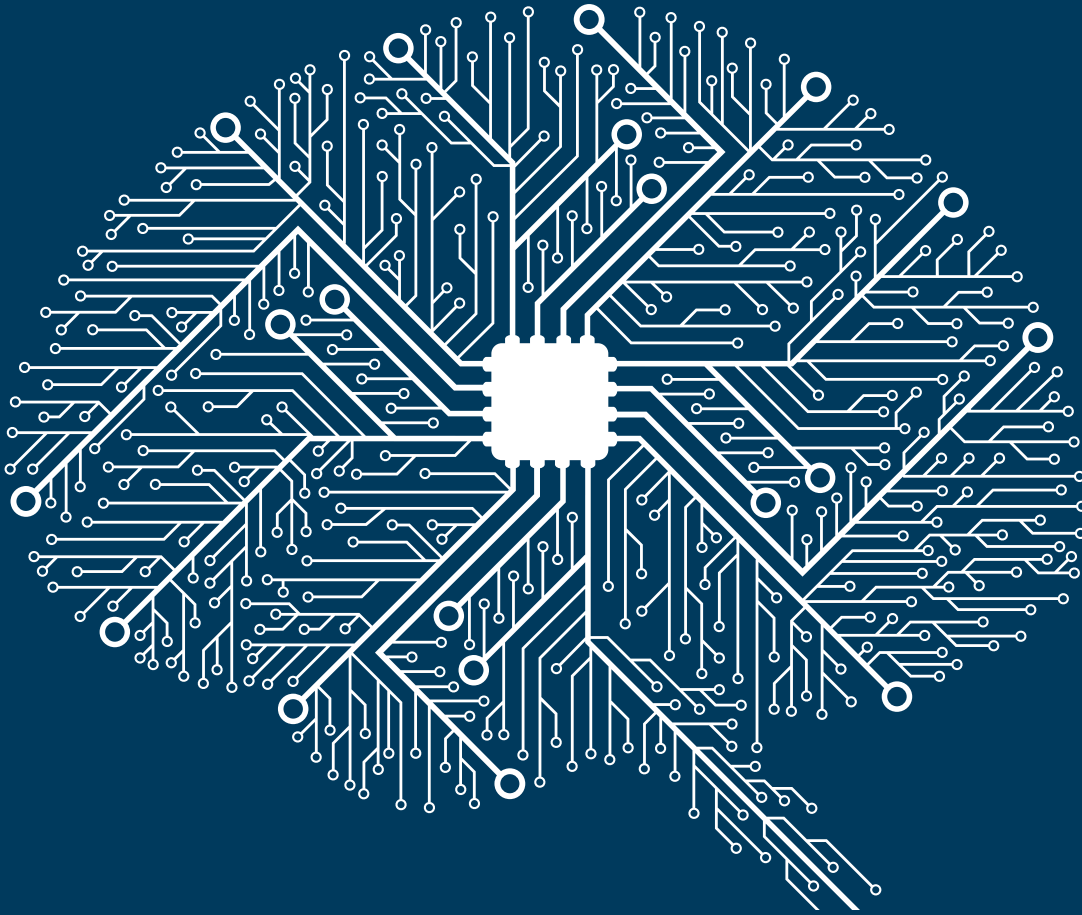
## 12 Years in the Making

Watson Health Imaging seeks to help physicians **see expansively** by harnessing massive cognitive power to expansively search and quickly interpret billions of data points - both text and image data - within the patient's EMR, across other patient similar cases, and across the most up-to-date medical research to identify contextually relevant information.

Watson Health Imaging seeks to help physicians **recognize reliably** by unlocking previously hidden information in disconnected data by presenting a wide variety of information within the context of patient history.

Watson Health Imaging seeks to help physicians **communicate objectively** by dynamically searching vast amounts of data, analyzing structured and unstructured patient, population, and research data, presenting unambiguous evidence, and assigning probability scores to aid consistency across physicians' diagnoses.





## Our Approach is Unprecedented

Unlike the handful of companies that are just beginning to dabble in “Artificial Intelligence” for healthcare, IBM Research has been working on cognitive healthcare applications for more than 12 years

Members of our established and growing medical imaging collaborative are training Watson with approximately 3,000-15,000 studies per modality and organ

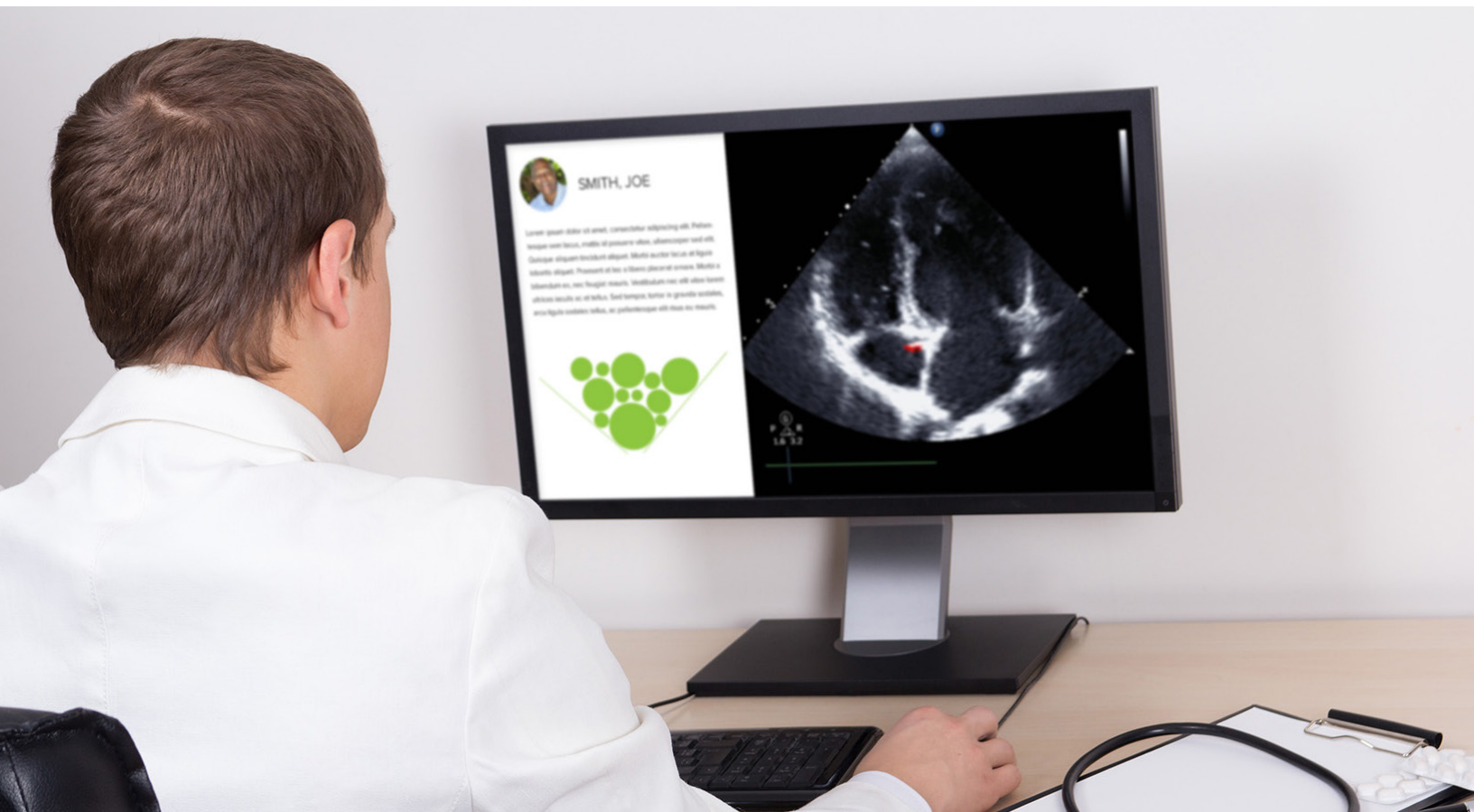
Watson training protocols leverage a diverse, multi-region network of both academic and private hospital systems, as well as ambulatory and acute healthcare settings to avoid the inherent limitations and bias of a one-system approach

We will seek FDA clearance when appropriate for the Watson Health Imaging platform

# The Journey We Intend to Take Together

The first wave of commercial offerings designed to reduce practice pattern variation and assist in EMR patient data summarization will be available soon to tackle some of the toughest problems in cardiology and oncology, with other medical specialty applications to follow.

Watson Health Imaging's cognitive peer-review tool strives to reduce practice pattern variation. It seeks to analyze imaging data, read diagnostic reports, and compare clinical information with the EMR problem list and billing record to find potential discrepancies worthy of a second look. Additionally, it aims to help hospital administrators efficiently monitor quality of care without specialized training, and design data-driven quality programs to standardize care consistency across locations and skill levels within an enterprise.



Watson Health Imaging's cognitive data summarization tool seeks to put imaging studies in context of EMR data to provide a full, 360° view of the patient. Our goal is that this tool will seamlessly integrate into providers' existing clinical imaging workflow and will allow customization of data presentation by the referring physician and imaging specialist.



To find out more about Watson Health Imaging or to inquire about membership in the Watson Health Medical Imaging Collaborative please contact Michael Klozotsky, Marketing Leader, Watson Health Imaging, at [mklozots@us.ibm.com](mailto:mklozots@us.ibm.com) or Steve Tolle, VP and Chief Strategy Officer, Watson Health Imaging, at [stolle@us.ibm.com](mailto:stolle@us.ibm.com)





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