

IBM to use ML and AI to DIAGNOSE ALZHEIMER'S

► **Trend Watch:** From drug development to diagnoses, pharma uses AI across the spectrum



IBM has discontinued the development and sales of its Watson for drug discovery product due to poor financial performance, however, it will continue to serve pharmaceutical companies already using the software.

In the meantime, the company is pursuing a framework to diagnose Alzheimer's without the need for spinal fluid extraction.

IBM's research describes a way to harness machine learning to predict the concentration of am-

yloid-beta in spinal fluid based on algorithms that are able to identify sets of proteins in the blood.

Developing ways to detect the disease in its earlier stages without the necessity of invasive tests could prove to be a catalyst for a new wave of clinical trials that do not rely on those involved in the later stages of the disease, in which brain tissue damage is already underway.

According to a report in Scientific Reports, ML-based models may one day be able to predict the risk of an individual developing full-blown Alzheimer's after showing mild signs of cognitive impairment through a simple blood test.

The IBM research team believes that the machine learning models may be able to predict risk factors in the future with an accuracy of up to 77%.

While the test is still in the early phases of research, according to IBM, it could potentially help improve the selection of individuals for clinical drug trials: individuals with mild cognitive impairment who were predicted to have an abnormal concentration of amyloid in their spinal fluid were found to be 2.5 times more likely to develop Alzheimer's disease.

AI Diagnoses PTSD by ANALYZING VOICES



A specially designed computer program can help diagnose post-traumatic stress disorder (PTSD) in veterans by analyzing their voices, a new study finds.

Published in the journal Depression and Anxiety, the study found that an AI tool can distinguish — with 89% accuracy — between the voices of those with or without PTSD.

"Our findings suggest that speech-based characteristics can be used to diagnose this disease, and with further refinement and validation, may be employed in the clinic in the near future," says senior study author Charles R. Marmar, M.D., the Lucius N. Littauer Professor and chair of the Department of Psychiatry at NYU School of Medicine.

The study authors say a PTSD diagnosis is most often determined by clinical interview or a self-report assessment, both inherently prone to biases. This has led to efforts to develop objective, measurable, physical markers of PTSD progression, much like laboratory values for medical conditions, but progress has been slow.

Concerto HealthAI Partner WITH PHARMA ON RWE AND AI

Concerto HealthAI will partner with Astellas to focus on using real-world evidence to improve understanding of responses among patients with acute myeloid leukemia (AML) whose disease carries mutations in the FLT3 gene. Astellas markets a drug for FLT3-positive AML, Xospata.

The companies will use the American Society of Clinical Oncology's CancerLinQ Discovery database of de-identified cancer patient records, under an existing licensing agreement with Concerto HealthAI.

"As treatment options expand for AML, it's more important than ever to understand how alternative approaches impact outcomes and how they might be improved," says Astellas' VP for Oncology in the Americas Halit Bander. "Identifying the real-world impact of existing treatments is an important complement to our work developing

Concerto HealthAI's EurekaHealth Platform for Oncology
Comprehensive end-to-end solutions spanning clinical and commercial use cases



innovative new cancer medicines for patients with urgent, unmet needs."

Concerto HealthAI has also partnered with drugmaker Pfizer to use its eurekaHealth product, artificial intelligence models and real-world clinical electronic medical record and healthcare claims to advance work in precision oncology. And another partnership for the company involves Bristol-Myers Squibb.

Mirada Medical Boosts INVESTMENT IN AI

UK-based Mirada Medical, developer of medical imaging software applications, has increased its funding for new AI-based imaging software in the hopes to increase the speed and accuracy of cancer treatment planning applications, while delivering a more personalized level of care to patients.

The investment will help to further the development of Mirada's state of the art software algorithms and imaging applications, which help clinicians to simplify technically complex image processing tasks, thus helping them use medical images more effectively and improve cancer care.

Mark Gooding, chief technology officer at the firm says, "We believe that AI can be rapidly applied to every-day laborious healthcare tasks such as contouring, enabling clinical staff to spend more of their valuable time working directly with their patients to deliver optimal healthcare outcomes."

Earlier this year, Mirada earned an industry first by receiving FDA clearance for its Deep Learning Contouring treatment planning solution, DLCExpert, which automates time-consuming critical structure contouring tasks, which are an essential part of the treatment planning process. **PV**