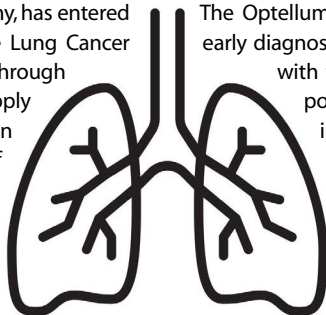


## Optellum and J&J Initiative Partner ON LUNG HEALTH AI-DRIVEN CLINICAL DECISION PLATFORM

► **Trend Watch:** AI Continues to Accelerate R&D Efforts Across Diseases States

Optellum, a lung-health AI company, has entered a strategic collaboration with the Lung Cancer Initiative at Johnson & Johnson. Through the collaboration, Optellum will apply its AI-powered clinical decision support platform with the goal of increasing lung cancer survival rates through early intervention and prevention. In a company statement, this partnership is called "a significant milestone for Optellum."

At the core of the collaboration is Optellum's commercial software, Virtual Nodule Clinic, including an AI-powered digital biomarker based on neural networks and imaging analytics. It identifies and tracks at-risk patients and assigns a Lung Cancer Prediction score to lung nodules; small lesions, frequently detected in chest Computed Tomography (CT) scans, that may or may not be cancerous.



The Optellum AI will be used to drive accurate early diagnosis and optimal treatment decisions with the aim of treating patients earlier, potentially at a pre-cancerous stage, increasing survival rates.

The Optellum software achieved FDA clearance in March 2021 and is being implemented in clinical care by leading hospitals initially across the United States, with rollouts in select Asia-Pacific and European markets to follow. The software was extensively validated in multi-center studies led by co-authors of clinical guidelines. In the clinical study underpinning the FDA clearance, all pulmonologists and radiologists in the study showed a statistically significant improvement in their diagnostic accuracy and consistency and made more optimal clinical management decisions.

## Ellipsis Health to Expand Voice Vital Sign to Assess BEHAVIORAL HEALTH

Ellipsis Health, pioneer of the first voice vital sign to quantify and manage depression and anxiety at scale, has raised \$26 million in Series A funding to further its measurement-based approach to identifying and quantifying behavioral health conditions. Through voice technology, Ellipsis Health empowers people to take control of their mental health and supports clinicians managing surging patient volumes. The Series A investment round brings Ellipsis Health's total funding to \$31 million.

With the funding, Ellipsis Health will continue to grow its customer base, expand global partnerships, build a multidisciplinary team, research, and develop new voice-based technology, and continue its work in dismantling the pervasive stigmas around behavioral health. Most importantly, the company will be expanding its voice vital sign to address the mental health of children and adolescents.

Ellipsis' models analyze both what is said (using natural language processing) and how it is said (acoustics, such as tone and timing) to better understand a person's emotional state. The

technology seamlessly integrates with mobile apps, patient portals and telehealth visits – easily enabling data-driven care, workflow efficiency and positive economics for providers, insurers, and employers. The company is closing the mental health screening gap by identifying people who need help sooner while also bridging the monitoring gap by gaining visibility into people's mental health over time and between appointments.

The company works with innovative payers, providers and employers including Cigna Corporation's international business, who are advancing mental health care and enabling the democratization of emotional wellbeing by increasing access to services and improving care. The Cigna StressWaves Test, created in partnership between the two companies, is an online tool that analyzes acoustic and semantic voice patterns to evaluate stress levels.



## New AI Technology Screens for COVID FASTER THAN LATERAL FLOW TESTS



Results of a three-month evaluation study at John Radcliffe Hospital found the CURIAL-Rapide test could screen emergency department patients at the bedside within 10 minutes, without needing a laboratory. Results were available 45 minutes after patients arrived at the ED – 26% faster than with lateral flow tests (LFTs).

When compared against PCR testing, the AI test was more likely to identify COVID patients than LFTs and correctly ruled out the infection 99.7% of the time. Collaborating with University Hospitals Birmingham NHS Foundation Trust, Portsmouth University Hospitals NHS Trust, and Bedfordshire Hospitals NHS Foundation trust, the study found CURIAL-Rapide performed consistently across 72,000 admissions to five UK hospitals. Another AI model named CURIAL-Lab, which uses routine blood tests performed in a laboratory alongside vital signs, was at least as effective as CURIAL-Rapide when tested at hospitals. CURIAL-Lab could be deployed rapidly at-scale without additional costs because the data required is collected within one hour as part of standard care.

## AI Breast Cancer Screening Not Accurate Enough to REPLACE RADIOLOGISTS

Researchers say there is currently a lack of good quality evidence to support replacing human radiologists with AI technology when screening for breast cancer, according to a review published in the BMJ.

Previous research has suggested that AI systems outperform humans and might soon be used instead of experienced radiologists. Yet a recent review of 23 studies highlighted evidence gaps and concerns about the methods used.

The UK National Screening Committee commissioned a team of researchers from the University of Warwick to examine the accuracy of AI for the detection of breast cancer in mammography screening practice.

The researchers reviewed 12 studies carried out since 2010 involving data for 131,822 screened women in Sweden, the United States, Germany, the Netherlands and Spain. Overall, the quality of the methods used in the 12 studies was poor and their applicability to European or UK breast cancer screening programs was low.

## IQVIA Launches AI-POWERED MEDICAL INFORMATION CONTACT CENTER

IQVIA has added new AI-powered technologies to enhance its existing Medical Information (MI) Contact Center services. Life science companies use IQVIA's MI Contact Center services to share information about new products and related therapeutic areas as well as to monitor product quality and safety. This is done through teams of skilled agents responding directly to inquiries from consumers, patients, and healthcare professionals around the world. These teams also capture information related to adverse events and other product complaints, routing these through the appropriate compliance processes. IQVIA's MI Contact Center services



now deploy AI-powered virtual agents alongside skilled human agents to triage and respond to inquiries. The combination of AI-powered agents and human agents creates faster response times and reporting of adverse events or quality concerns, IQVIA states. It also allows for rapid scalability to meet surges in demand and efficient 24/7/365 availability. "Adding new digital capabilities to our existing MI services marks a critical point in the industry as companies seek to balance the delivery of unbiased information to meet the needs of HCPs and patients," says Annette Williams, VP, IQVIA Lifecycle Safety.

## Insilico Medicine Enters Partnerships to ADVANCE SEVERAL DISEASE TREATMENTS



The end-to-end AI-driven drug discovery company Insilico Medicine has entered into several partnerships across multiple diseases including oncology, ALS and age-related cognitive decline.

Huadong Medicine and Insilico Medicine will partner to accelerate the discovery of breakthrough small-molecule therapeutics by leveraging an innovative approach to oncology.

The collaboration will leverage Huadong Medicine's advanced innovative drug discovery and screening characterization platform, in combination with Insilico's end-to-end AI-driven drug discovery platform, particularly the small molecule generation platform Chemistry42, in order to design and screen out potential first-in-class drug molecules with superior activity that may increase the druggability of targets. The project team will interfere with protein-protein interactions to hit undruggable targets that regulate tumor growth.

Insilico's self-developed small molecule generation platform Chemistry42 combines AI technology with computational and medicinal chemistry methods to efficiently generate novel molecular structures with desired properties for specific targets. This platform helps to screen and obtain potential therapeutic molecules, which are verified in vitro and in vivo, and delivers rapid comprehensive

solutions from hits to preclinical candidates.

Insilico has also partnered with 4B Technologies, a leading end-to-end innovative biopharmaceutical company focusing on nervous system diseases to advance the development of innovative small molecule therapies for amyotrophic lateral sclerosis (ALS) and other major neurological diseases.

This strategic collaboration will enable Insilico's AI technology to be widely applied in various stages of R&D to speed up novel drug discovery by combining 4B Technologies' breakthrough science and cutting-edge platform technologies in CNS drug discovery and development. Both companies will work together closely in an effort to discover novel treatment for ALS through identifying high quality targets and therapeutic agents with an aim of improving the efficiency and probability of success to benefit patients worldwide.

Insilico Medicine is also in an R&D collaboration with Gray Matter, a longevity biotechnology company focused on peptide-based interventions against cognitive decline, age-related CNS diseases, and aging. This strategic partnership is intended to speed up the discovery of new therapeutic targets for peptide therapy in the field of age-related cognitive decline and involve Insilico Medicine's AI-augmented platforms and close cooperation between the Gray Matter and Insilico Medicine scientists.

## OKRA.ai and AWS Collaborate on AI SOLUTIONS FOR PHARMA

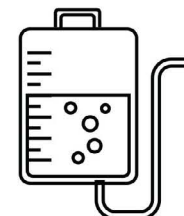


OKRA.ai, a company providing advanced AI solutions for pharmaceutical and life sciences executives, is collaborating with the AWS for Health initiative from Amazon Web Services (AWS) to help rapidly up-skill pharmaceutical companies that are looking to harness technology to engage with physicians and lower the costs of commercializing new treatments.

AWS for Health, an initiative featuring services and solutions from AWS and AWS Partners, is built specifically for healthcare, biopharma, and genomics. The initiative makes it easier for health customers to select the right tools and partners for their highest-priority workloads across the health communities. For customers looking to accelerate deployments with solution-specific support, AWS for Health also identifies dedicated AWS health industry specialists, AWS professional services teams, and leading AWS partners in each solution area.

The collaboration between OKRA.ai and AWS enables companies to roll out solutions quickly, internationally, and integrated within their existing infrastructure. The adoption of AWS has enabled these products to be set up in days rather than months.

## AI Pharma Startup Xtalpi to ACCELERATE DRUG DISCOVERY



AI pharmaceutical company XtalPi secured \$400 million in a Series D financing round led by OrbiMed and RRJ, with investors including Sequoia Capital, Sino Biopharmaceutical and 5Y Capital. This puts XtalPi at the top of the medtech funding game, as not many medtech companies have achieved that amount of funding. XtalPi achieved it twice, totaling a valuation of about \$2 billion in one year.

XtalPi is an AI drug R&D company that uses computational physics, quantum chemistry, and cloud computing to provide intelligent drug development for pharmaceutical companies. The company's ID4 platform can accurately predict the important characteristics for new drugs by measuring various chemical indicators, enhancing drug R&D efficiency. ID4's more than 100 predictive AI models span machine learning, deep learning and natural language processing. They scan the platform's library of tens of billions of molecules, calculating the ability of each one to address a specific aspect of a targeted condition or disease.