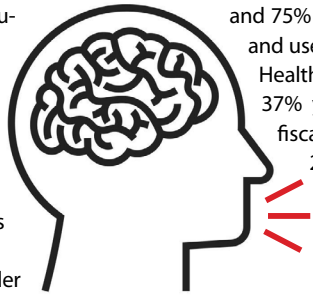
Microsoft Buys Conversational AI NUANCE

▶ *Trend Watch: Investments in AI Continuing by Major Players*



Last month, Microsoft acquired Nuance, a cloud and AI software leader with decades of accumulated healthcare and enterprise AI experience. Mark Benjamin will remain CEO of Nuance, reporting to Scott Guthrie, executive VP of Cloud & AI at Microsoft. The transaction is intended to close this calendar year.

Nuance is a pioneer and provider of conversational AI and cloud-based ambient clinical intelligence for healthcare providers. Nuance's products include the Dragon Ambient eXperience, Dragon Medical One, and PowerScribe One for radiology reporting, all leading clinical speech recognition SaaS offerings built on Microsoft Azure. Nuance's solutions work seamlessly with core healthcare systems, including longstanding relationships with electronic health records (EHRs), to alleviate the burden of clinical documentation and empower providers to deliver better patient experiences. Nuance solutions are currently used by more than 55% of physicians and 75% of radiologists in the United States, and used in 77% of U.S. hospitals. Nuance's Healthcare Cloud revenue experienced 37% year-over-year growth in Nuance's fiscal year 2020 (ended September 2020).

By augmenting the Microsoft Cloud for Healthcare with Nuance's solutions, as well as the benefit of Nuance's expertise and relationships with EHR systems providers, Microsoft will be better able to empower healthcare providers through the power of ambient clinical intelligence and other Microsoft cloud services.

Beyond healthcare, Nuance provides AI expertise and customer engagement solutions across interactive voice response (IVR), virtual assistants, and digital and biometric solutions to companies around the world across all industries. This expertise will come together with the breadth and depth of Microsoft's cloud, including Azure, Teams, and Dynamics 365, to deliver next-generation customer engagement and security solutions.

FDA Greenlights Medtronic's AI Tool That FINDS POLYPS DURING COLONOSCOPIES

The Food and Drug Administration has granted De Novo authorization to GI Genius, the first-of-its-kind device that uses artificial intelligence to help clinicians identify polyps in real time during colonoscopies.

Manufactured by Cosmo Pharmaceuticals and distributed by Medtronic, the GI Genius software and hardware can be applied to most colonoscopy videos to assist in the detection of precancerous lesions.

During a colonoscopy, the AI-enabled system places green squares around potential lesions and alerts clinicians with a low-volume sound signaling that further examination may be needed.

The system is not intended to diagnose or instruct clinicians on how to manage suspicious polyps, according to the FDA.

"It is up to the clinician to decide whether the identified region actually contains a suspected lesion, and how the lesion should be managed and processed per standard clinical practice and guidelines," the agency said in its announcement.

In addition to the United States, the GI Genius module is available in Europe and select markets in Asia, Australia, and the Middle East.

Studies show that about a quarter of adenomas are missed during colonoscopies. The GI Genius module is designed to act as a second observer during colonoscopies to help make sure potentially dangerous lesions aren't overlooked. In its clinical trial, the device identified lab-confirmed polyps in 55.1% of patients, compared to the 42% of patients who were identified with standard colonoscopy.

"With FDA De Novo clearance for the GI Genius and its AI capabilities, we expect to enhance and improve colonoscopies and polyp detection. By introducing AI technology into the colonoscopy market, we anticipate improving colonoscopy detection rates and reducing variability in patient outcomes," Giovanni Di Napoli, president of Medtronic's gastrointestinal business, said in a statement.

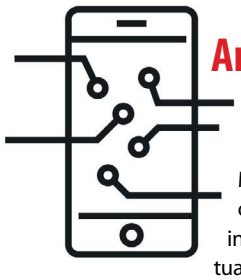
Iktos COLLABORATES WITH UCB IN AI FOR RETROSYNTHESIS

Iktos, a company specialized in AI for new drug design and UCB, a global biopharma company focusing on neurology and immunology, have entered into a software licensing agreement related to AI-based retrosynthesis analysis and planning tool Spaya, which will be used to empower synthetic and medicinal chemistry projects for drug design and discovery of new chemical entities within UCB. Under the agreement terms, Iktos will deploy a customized version of Spaya within UCB's IT infrastructure to incorporate their reactions and starting materials data. Luis Castro, UCB's Global Head of Discovery Chemistry says, "Embedding AI within our drug discovery processes is part of our digital transformation ambition and we are excited about deploying the power of this technology to help speed up drug design and discovery for the benefit of patients worldwide."

Closedloop.ai WINS CMS AI CHALLENGE

ClosedLoop.ai, healthcare's data science platform, has won the Centers for Medicare & Medicaid Services AI Health Outcomes Challenge, the largest healthcare-focused AI challenge in history. ClosedLoop beat out more than 300 of the world's leading technology, healthcare, and pharmaceutical organizations, including IBM, Mayo Clinic, Geisinger, Merck, Accenture, and Deloitte. The $1.6 million challenge prioritized creating "explainable artificial intelligence solutions to help front-line clinicians understand and trust AI-driven data feedback" to demonstrate how AI solutions could predict unplanned hospital admissions and adverse events — a $200 billion problem that impacts nearly 32% of Medicare beneficiaries.

ClosedLoop's explainable predictive models already positively impact more than 3 million patients daily. "Our Patient Health Forecasts (PHF) were key to winning the challenge. We reimagined the entire concept into a comprehensive and personalized risk forecast that could be delivered directly into a clinical workflow," says ClosedLoop CTO and Co-founder Dave DeCaprio. "Each forecast surfaces key variables and explains precisely how they contribute to a patient's specific risk." The forecasts integrate relevant clinical information and link to specific interventions that clinical teams use to prevent adverse events, improve outcomes, and reduce unnecessary costs.



Andreessen Horowitz Invests in VIRTUAL CARE MEMORA HEALTH

Memora Health, a technology company building an intelligent platform for virtual care delivery, patient navigation, and complex care management, has closed $10.5 million in financing led by Andreessen Horowitz. Additional investors including AlleyCorp, Martin Ventures, Kevin Durant and Rich Kleiman's Thirty Five Ventures, Sachin Jain, Operator Partners, Edward Elmhurst Health, B Capital, and Aaron Szekel also participated. As part of the financing, Andreessen Horowitz General Partner Vineeta Agarwala will join the Memora Health board.

Memora's platform helps organizations extend care beyond the four walls of the clinic and into settings such as the home, where patients spend most of their time. Memora Health's proprietary care delivery platform uses machine learning to convert fragmented healthcare messaging and workflow data into smart modules that enable clinicians to deliver care more continuously. Memora integrates seamlessly into electronic medical record and patient management systems, supercharging how existing tools are used to deliver care and enabling the automated collection of rich, actionable clinical data outside episodic visits. Memora's platform is built to create an always-learning health system around the entire workflow of modern care delivery: from patient communication, symptom triage, and remote monitoring, to evidence-based pathways, clinical documentation, and reimbursement.

Memora has already partnered with over 55 healthcare organizations, including leading systems such as the Mayo Clinic, Penn Medicine, Banner Health, and Dana Farber Cancer Institute. In each of these settings, the Memora platform has yielded impressive clinical results in guiding patients to the right level of care at the right time, including substantial improvements in 30-day readmissions, clinician burden, treatment adherence, remote data collection, and reimbursement.

TriHealth Invests in AI Workforce TO DRIVE ENTERPRISE-WIDE INNOVATION

TriHealth, the Cincinnati region's nationally recognized integrated health system, is partnering with AI company Olive to implement an on-site AI command center. The aim is to deploy artificial intelligence to create greater efficiencies and improved effectiveness allowing the automation of routine processes. Olive has started in TriHealth's revenue cycle department by optimizing processes like claims status checks. The system can be rapidly scaled to meet needs as they arise.

Olive is the only AI workforce solution designed specifically for healthcare. The AlphaSite program — the creation of an on-site AI command center — allows Olive to take a 360-degree approach to transform the entire healthcare enterprise by laying a foundation of interoperability to generate intelligence and outcomes. There are currently 22 Olive AlphaSites nationwide.

Working with Olive will bring immediate and long-term benefits to TriHealth, which in turn will impact the entire community it serves.

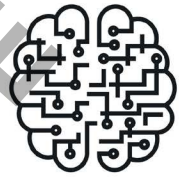
XCO and Atlazo Partner on NEXT GEN VIRTUAL HEALTH AI

XCO Tech and Atlazo have formed Recon Health, a joint venture to commercialize a portfolio of next-generation virtual healthcare products based on embedded AI edge computing and medical-based analytics.

The first product being developed by the joint venture is a novel medical device with embedded AI for continuous health monitoring. The device will provide clinical-grade, all-in-one multi-sensor remote patient monitoring of critical vital signs to address the growing need doctors and nurses have for objective patient data during telehealth appointments and while providing other digital health services. The device will also empower patients at home with medical-grade data and will provide essential analytics that will aid the clinical diagnosis and treatment of chronic health conditions such as cardiovascular, respiratory, and neurodegenerative diseases.

The device will be the first multi-vital sign medical device to passively measure blood oxygen saturation along with respiration rate, heart rate, heart rate variability, core body temperature, and activity levels. Future versions are expected to expand in functionality by adding blood pressure, ECG heart rhythms analysis, and audio for cough and speech-based cognition analysis.

CVS Health Launches CVS HEALTH VENTURES



CVS Health has launched CVS Health Ventures, a dedicated corporate venture capital fund that will invest in and partner with high-potential, early-stage companies focused on making healthcare more accessible, affordable, and simpler.

"Forming CVS Health Ventures will build on our successful track record of scaling innovation and driving change in healthcare," says Karen Lynch, president and CEO, CVS Health.

The fund will initially launch with $100 million allocated for investments and will focus on companies with the potential for technology-enabled innovation and disruption in digital healthcare that are anchored in CVS Health's core strategy. CVS Health Ventures will build relationships with early-stage companies via investment as well as by offering expertise and insights from CVS Health's unique perspective.

CVS Health has already made more than 20 direct investments through the CVS and Aetna businesses. These investments have delivered consistently strong returns and partnerships. Current investments include Unite Us, a technology platform that connects healthcare and social services providers, and LumiraDx, an innovative point-of-care diagnostic platform.

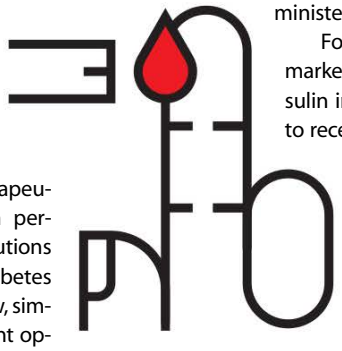
"We have deep experience investing in innovative companies," says Josh Flum, executive VP, enterprise strategy and business development, CVS Health. "We will build on this experience by providing capital to our start-up and venture partners and helping them scale more rapidly through commercial relationships with our business units. This is an exciting opportunity to accelerate innovation and effectively bring new solutions to the consumer health space."

BMS and Exscientia Partner in AI DRUG

Bristol Myers Squibb and Exscentia are applying AI to discover drug candidates across a number of therapeutic areas. The collaboration leverages Exscientia's AI technology to accelerate the discovery of small molecule therapeutic drug candidates, including oncology and immunology.

The deal builds on BMS' existing collaboration with Exscientia initiated in 2019. Exscientia will take responsibility for the AI-design and experimental work needed to discover the drug candidates, with the molecules to be designed using the company's AI-driven drug discovery platform.

BIOCORP and Diabeloop Partner in PERSONALIZED DIABETES MANAGEMENT



BIOCORP, a French company specialized in the development and manufacturing of medical devices and connected solutions in the health sector, and Diabeloop, a young company in therapeutic artificial intelligence with personalized and automated solutions for the management of diabetes treatment, join up to offer new, simple and personalized treatment options to people living with diabetes.

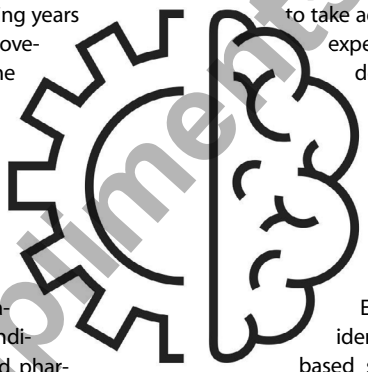
Diabeloop has developed Automated Insulin Delivery (AID) systems including a self-learning algorithm hosted in a dedicated handset and connected to a Continuous Glucose Monitoring (CGM) solution and an insulin pump. The artificial intelligence developed by Diabeloop analyzes glucose data, calculates the right dose of insulin to be administered and automatically administers it.

For its part, BIOCORP has developed and markets Mallya, an intelligent sensor for insulin injection pens, and the first in its class to receive CE marking (class IIb). Compatible with any disposable insulin pens, it enables reliable monitoring of doses selected for injection and offers patients with diabetes better compliance with their treatment.

Through this agreement and the integration of Mallya into Diabeloop's technological environment, patients equipped with insulin pens will benefit from a unique, easy-to-use and personalized solution to improve their quality of care and life on a daily-basis.

The disposable insulin pen market is estimated to be worth more than $9 billion by 2022 in the top 10 markets.

AI Listed as Having Greatest Impact on BIOPHARMACEUTICAL INDUSTRY



Artificial intelligence (AI) will transform the pharmaceutical industry in the coming years by delivering productivity improvements and efficiencies across the entire pharma value chain, says GlobalData. GlobalData's latest report, 'The State of the Biopharmaceutical Industry 2021,' reveals that AI is expected to be the emerging technology that will have the greatest impact on the pharmaceutical industry in 2021, as indicated by *36% of 198 surveyed pharmaceutical industry professionals.

"Compared to other industries, pharma has generally been slow to adopt this technology. Says Kitty Whitney, MSc, Director of Thematic Research. "However, the AI ecosystem in pharma has grown significantly over the past number of years, with this trend expected to continue as the benefits of the technology are realized. The urgent need for COVID-19 vaccines and treatments is thought to have hastened the adoption of AI in drug discovery and repurposing, and could be a tipping point for the widespread adoption of the technology across the pharmaceutical industry."

In drug discovery, many pharmaceutical companies have partnered with AI vendors or start-ups to take advantage of their technology and expertise. Examples of leading AI vendors operating in this space include Exscientia, Atomwise, Recursion Pharma, Insilico Medicine, and BenevolentAI. Pharma companies are also beginning to set up more in-house capabilities, as seen by GSK and Novartis. Additionally, in February 2020, Eli Lilly's Olumiant (baricitinib) was identified in just three days by UK-based start-up BenevolentAI as having the potential to treat COVID-19, and it received Emergency Use Authorization (EUA) by the Food and Drug Administration (FDA) in November.

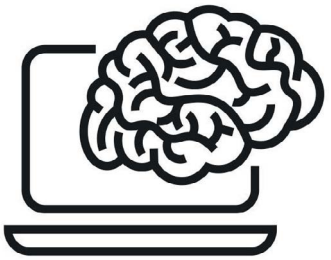
A recent analysis by GlobalData identified almost 100 partnerships between AI vendors and large pharma companies for drug discovery since 2015, with increasing numbers witnessed in recent years. Analysis shows that four partnerships were forged in 2015, which rose to 27 by 2020, an increase of 575% in just six years.

*A total of 198 GlobalData Pharma clients and prospects participated in the 10-minute survey, which was fielded from November 17, 2020 to December 11, 2020

Amalgam Rx ACQUIRES ADAPTIVE, CONVERSATIONAL, AI ASSETS

Amalgam Rx, a leader in connecting healthcare providers and life-sciences companies through a SaaS-enabled digital marketplace and product platform, has acquired the assets of Geetha, an adaptive, conversational AI company. The acquisition bolsters Amalgam's data science assets, which already include more than 6 billion longitudinal data points on millions of patients cared for across Amalgam's technology platforms. Geetha boasts a collection of AI models that target the psychosocial and behavioral understanding of stakeholders in the healthcare ecosystem.

AbSci Advances AI-Powered Synthetic Biology DRUG CREATION PLATFORM



AbSci, a pioneering synthetic biology company that unifies biologic drug discovery and development processes, recently earned a $125 million crossover financing. The round was co-led by existing investors Casdin Capital and Redmile Group, with participation from new investors Fidelity Management and Research Company LLC, D1 Capital Partners, Perceptive Advisors, aMoon Edge, and Irving Investors, as well as other existing investors, including ArrowMark Partners. Proceeds support AbSci's continued growth, including research and development activities and other strategic investments. Key areas of focus are integration and training of the Denovium Engine deep learning AI platform AbSci acquired in January 2021, and ongoing expansion of core discovery capabilities, including nonstandard amino acid technologies.

AbSci is a leading synthetic biology company that translates ideas into drugs with a revolutionary platform technology that reinvents the biopharmaceutical drug discovery process, for example, the SoluPro E. coli expression system and the Protein Printing platform, both driven by a deep learning Denovium Engine. These tools enable simultaneous creation of novel biotherapeutic drugs and the cell lines to manufacture them in a single efficient process.

PharmaVOICE 100

IGNITE

2021 PharmaVOICE 100 Celebration

VIRTUAL EVENT

SEPTEMBER 9, 2021

SCHEDULE OF EVENTS

▸ Fireside Chat Panels

Casual conversations with PharmaVOICE 100s whose passions are ignited by purpose and blazing new frontiers

- 9-10am ET - Sparks of Leadership
- 11-12pm ET - Sparks of Creative
- 1-2pm ET - Sparks of Innovation

▸ Igniting Change: The Red Jacket Panel

An in-depth conversation with our 2021 Red Jackets who shine their light on a transforming industry

- 3-4pm - A Panel of Red Jackets

▸ Light it Up Happy Hour

Meet the PharmaVOICE 100s during a fun-filled hour of trivia and prizes

- 4:30pm - Happy Hour with the PV100

(tentative schedule)

PharmaVOICE

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Celebrate their personal stories of success and learn what fuels their passion for the industry.

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- Company branding featured in an event wrap-up in the October issue of PharmaVOICE

For more details or to secure a sponsorship, contact Lisa Banket, Publisher, at 609-730-0196 or lbanket@pharmavoice.com; Suzanne Besse at 561-465-5102 or sbesse@pharmavoice.com; or Amy Bishop at 267-374-8891 or abishop@pharmavoice.com.

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