CBINSIGHTS

The future according to Mayo Clinic: How AI is transforming the hospital

We mined Mayo Clinic's investments to determine how AI is shaping the next generation of healthcare.

AI has the potential to reshape how modern hospitals function, from streamlining operational workflows to elevating patient care. However, the adoption threshold for new AI solutions in healthcare is very high: Patient safety concerns, stringent privacy rules, squeezed budgets for hospitals, and complex value propositions for improving patient care can all slow down adoption.

Nevertheless, AI activity from Mayo Clinic — which has a reputation for tech innovation, a frontline understanding of healthcare's complexities, and deep pockets — can serve as a bellwether for AI traction, indicating which tools are more likely to play key roles in the hospital of the future.

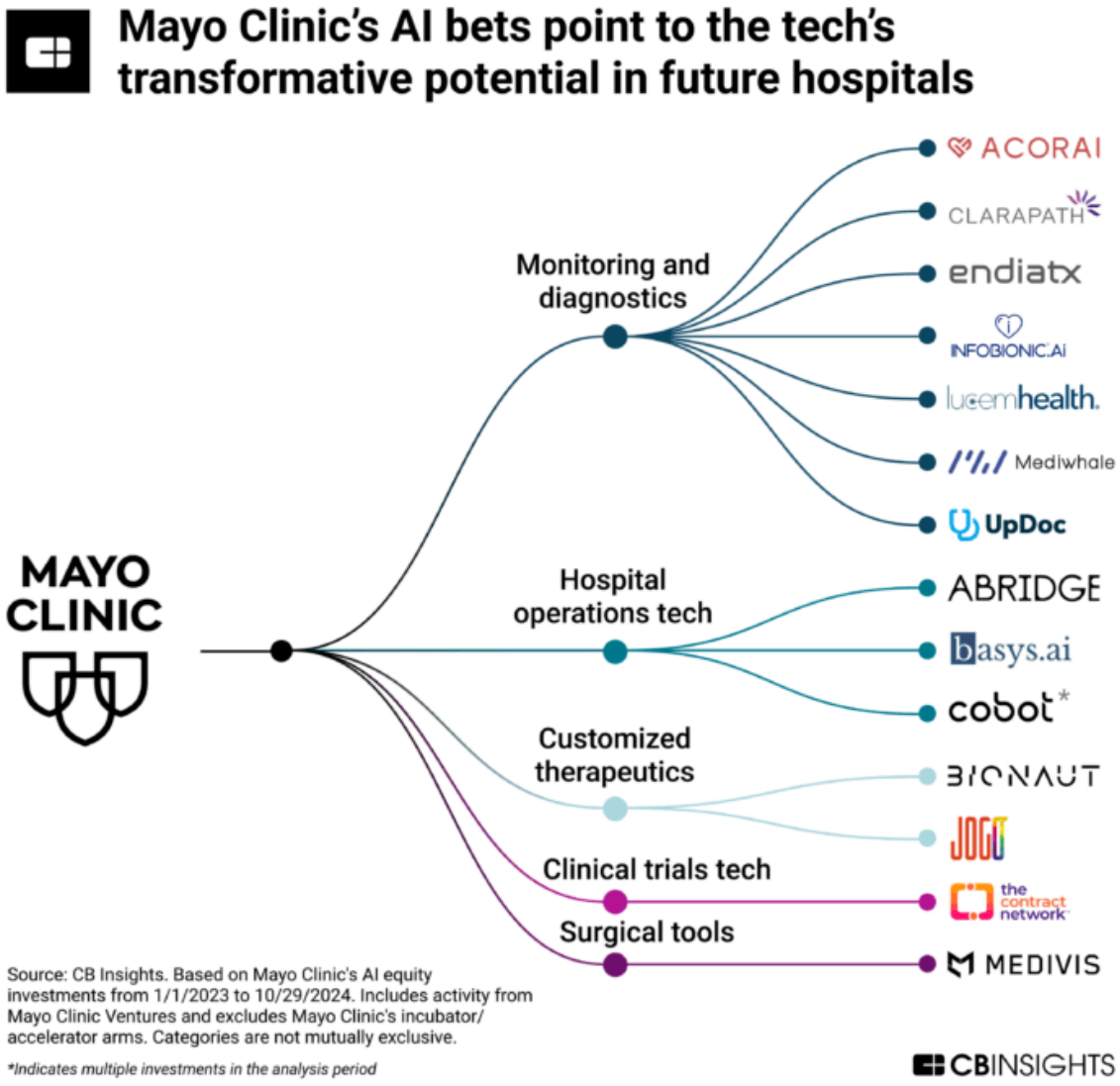
Mayo Clinic (which was ranked No. 1 in our Hospital AI Readiness Index) is also forging partnerships to provide other health systems with guidance on AI strategy and implementation — indicating that where Mayo goes, others will follow.

We dug into Mayo Clinic's AI investment activity since 2023 to see how AI is shaping the hospitals of the future and identify the AI use cases and solutions that should be on healthcare strategists' radars.

Here are 4 key takeaways from our analysis:

- **Mayo Clinic is betting on AI's staying power and long-term potential in healthcare,** with AI startups dominating its early-stage investment portfolio.

- **The health system is racing toward more predictive care** — which would save costs on treating diseases while improving patient outcomes — backing more deals to monitoring and diagnostics than any other AI category.
- **Robots are poised to expand their reach in hospitals, inside and outside of the operating room.** Mayo is backing microrobotics for gastrointestinal scans and drug delivery, as well as LLM-driven collaborative robots for operational tasks — saving on staffing costs and opening up new healthcare options for patients.
- **AI is helping Mayo Clinic move beyond a one-size-fits-all approach to treatment,** enabling customized cancer care, drug delivery, and physiotherapy. These efforts aim to expand access to precision medicine and improve the efficacy of treatments.



Customers: See all of Mayo Clinic's AI deals

1) Mayo Clinic is betting on AI's staying power and long-term potential in healthcare

Mayo Clinic's investment activity suggests that it expects AI to be a fundamental and enduring force in healthcare, influencing everything from patient engagement to assessment to treatment — and not just a passing fad.

The majority of its early-stage deals (63%) since 2023 have been focused on AI. Given that early-stage investments like these often take years to mature, this concentration of early-stage activity — representing a variety of AI applications — speaks to Mayo's expectation that there will be a long-term payoff from AI in healthcare.

Building on its investment efforts, Mayo is also helping other health systems understand where AI could add value and, as a result, create a more favorable environment for its AI portfolio companies. For example, Mayo is collaborating with the Digital Medicine Society and Google to tackle barriers to AI implementation in healthcare. They recently announced that they're working on a playbook to help health system decision-makers understand how to build an AI strategy, implement AI models in an impactful way, and calculate the ROI of their AI investments.

Source: CB Insights — Mayo Clinic Scouting Report

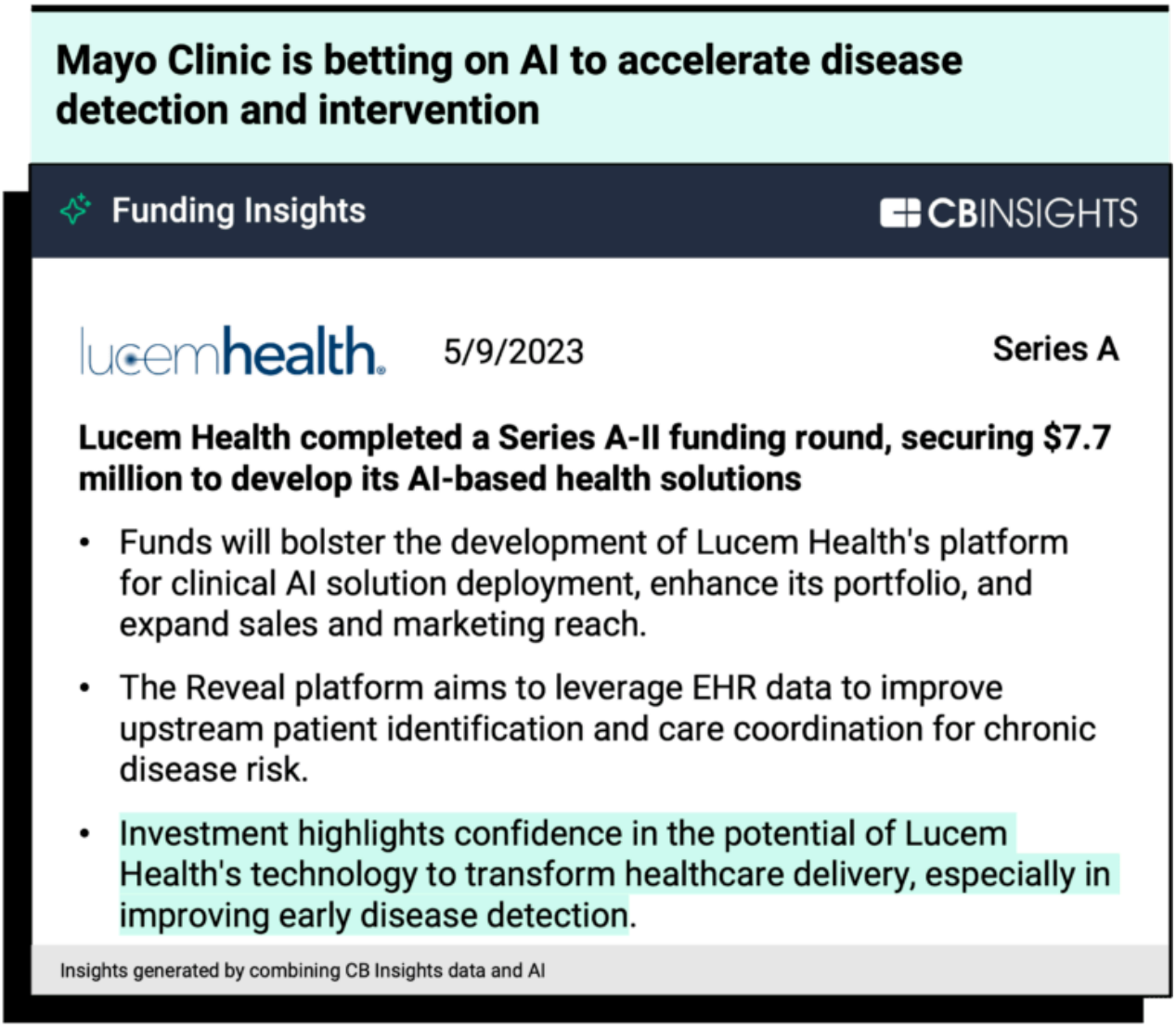
2) The health system is racing toward more predictive care

Mayo Clinic aims to move from diagnosis and treatment to prevention and cure. In other words, it wants to shift from managing symptoms and disease progression to eliminating diseases from the body or stopping them before they even start.

Reflecting this strategic aim, Mayo is focusing its AI bets on monitoring and diagnostics. Since the start of 2023, this category has drawn more of Mayo Clinic's AI investments

(47%) than any other. The infusion of AI into these tools could allow health systems like Mayo to unlock the potential of their vast stores of patient data. By enabling faster and more accurate data collection and analysis, these tools could drive earlier detection, more precise and less invasive diagnosis, and faster intervention.

For example, in May 2023, Mayo Clinic backed a Series A round for Lucem Health. By using AI to rapidly analyze EHR data at scale, the startup aims to help providers discover undiagnosed and undertreated patients, such as those living with atrial fibrillation (AFib) or atrial flutter. Its solutions also help providers identify patients at higher risk of diabetes, stroke, lung cancer, and lower gastrointestinal disorders — in some cases, before symptoms present themselves. By enabling more predictive and personalized care, solutions like these can allow patients to be treated before conditions progress into more complex and costly stages.



Source: CB Insights — Lucem Health Funding Insights

Similarly, Mayo Clinic invested in a Series A round for MediWhale — a startup that analyzes individual retinal scans to predict kidney, eye, and cardiovascular diseases before symptoms appear. By using retinal images as a biomarker, MediWhale provides a non-invasive alternative to traditional diagnostic approaches (like blood and urine tests) for these diseases.

Mayo Clinic isn't alone in its interest in these solutions. Most of the AI monitoring and diagnostics startups it has invested in since 2023 have at some point received backing from other healthcare players, such as pharma incumbents and other health systems.

For example, AstraZeneca provided a grant to MediWhale just 3 months after Mayo backed the startup's Series A. Meanwhile, Mayo and Mercy both participated in Lucem Health's Series A round. Mayo's other portfolio companies in this category have also received support from Cedars-Sinai, Northwell, and Bayer, among others.

3) Robots are poised to expand their reach in hospitals, inside and outside of the operating room

AI is helping robots transform from assistants to essential team members in patient care.

Mayo Clinic surgeons regularly use robotic platforms to perform a range of procedures, including abdominal, cardiovascular, and spine surgeries, among others. However, Mayo's AI bets indicate that it is also interested in more experimental robotics use cases inside and outside of the operating room.

For example, Mayo has backed 2 microrobotics startups since the beginning of 2023: Bionaut Labs and Endiatx.

Bionaut Labs is focused on precision drug delivery for brain disorders — such as hydrocephalus, brainstem tumors, and neurodegenerative conditions like Parkinson's and Huntington's disease. The company uses AI-driven planning software to automate the localized delivery of its bots — which are the size of a grain of rice and are administered via intrathecal injection — helping them travel to difficult-to-reach areas of the brain.

Meanwhile, Endiatx is developing a motorized, miniature robot that can be ingested like a pill and used by providers to remotely examine the gastrointestinal tract. The robotic pill is intended to function as a non-invasive alternative to a traditional upper endoscopy. To

differentiate itself in the market, the company is working on a version that leverages AI to autonomously scan the stomach and diagnose lesions.

Source: CB Insights — Endiatx Scouting Report

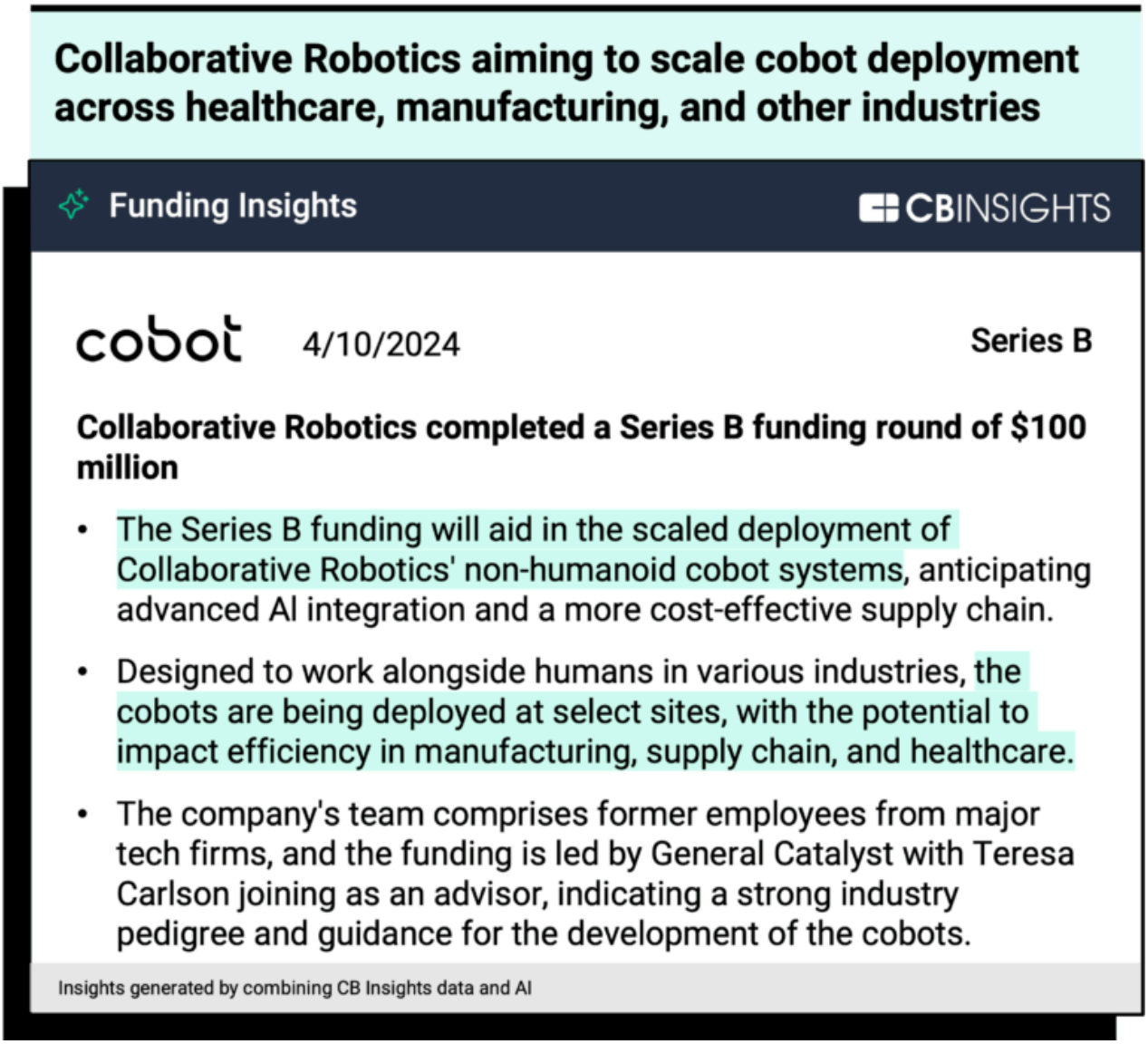
Beyond microrobots, Mayo Clinic is aiming to incorporate larger robots into human environments and use AI to make them more useful and adaptable.

Since 2023, Mayo Clinic has backed 2 rounds to Collaborative Robotics, which is developing LLM-powered collaborative robots that can autonomously navigate spaces to complete designated tasks, dynamically responding to the environment around them.

While specific healthcare use cases were not disclosed at the time of Mayo's investments, Collaborative Robotics' focus on manufacturing and logistics suggests that the company is likely pursuing hospital operational tasks as opposed to highly specialized healthcare applications like surgical intervention. For example, the company has demonstrated how its robots could autonomously navigate a simulated hospital setting to deliver supplies and clean up spills.

Mayo's willingness to invest in these solutions builds on its pre-existing robotic pilot programs. For example, Mayo has tested using robotic systems to complete simple ICU tasks — like turning a ventilator knob or turning off a nurse call button — as well as deliver supplies to nursing stations and help with food service. Additionally, it has enlisted a robot called "Sir Mix-A-Lot" to prepare chemotherapy infusions. The robot mixes treatments, scans barcodes, and weighs liquid volumes to ensure precise treatment.

As Collaborative Robotics' simulation highlights, using AI to help the robots adapt to different contexts could allow them to complete more complex tasks with less oversight, priming them for deployment at a greater scale and relieving pressure on hospital staff.



Source: CB Insights — Collaborative Robotics Funding Insights

4) AI is helping Mayo Clinic move beyond a one-size-fits-all approach to treatment

Patients can respond to the same treatment in starkly different ways — sometimes with life-or-death consequences. Mayo is betting that it can combine AI and precision medicine to make it easier to customize treatments to improve effectiveness, safety, and patient outcomes.

Precision medicine is a medical approach that tailors disease prevention and treatment based on an individual's genetic, environmental, and lifestyle information. For Mayo Clinic,

precision medicine isn't new — the health system has been focused on this approach for more than a decade, founding its Center for Individualized Medicine in 2011. However, it is turning its attention to AI to further these efforts, targeting safer drug therapies and uniquely customized treatment plans for patients. Precision medicine can also be resource-intensive, so higher degrees of automation could extend the service to more patients.

This shift is reflected in Mayo's work with AI startups, with the health system graduating Genomate and ImpriMed from its Platform_Accelerate program (an accelerator for early-stage, AI-focused digital health startups) over the past 2 years. To match cancer patients with the most suitable treatment, Genomate analyzes an individual's genetic alterations and biomarkers, while ImpriMed analyzes how a patient's tumor cells will respond to certain drugs.

Following their participation in Mayo's accelerator program, both companies have raised equity funding from additional investors since the start of 2023. ImpriMed plans to use the funding from its December 2023 Series A round to expand from canine to human oncology, targeting multiple myeloma, acute myeloid leukemia, and non-Hodgkin lymphoma. Genomate is going after FDA clearance following its latest funding round.

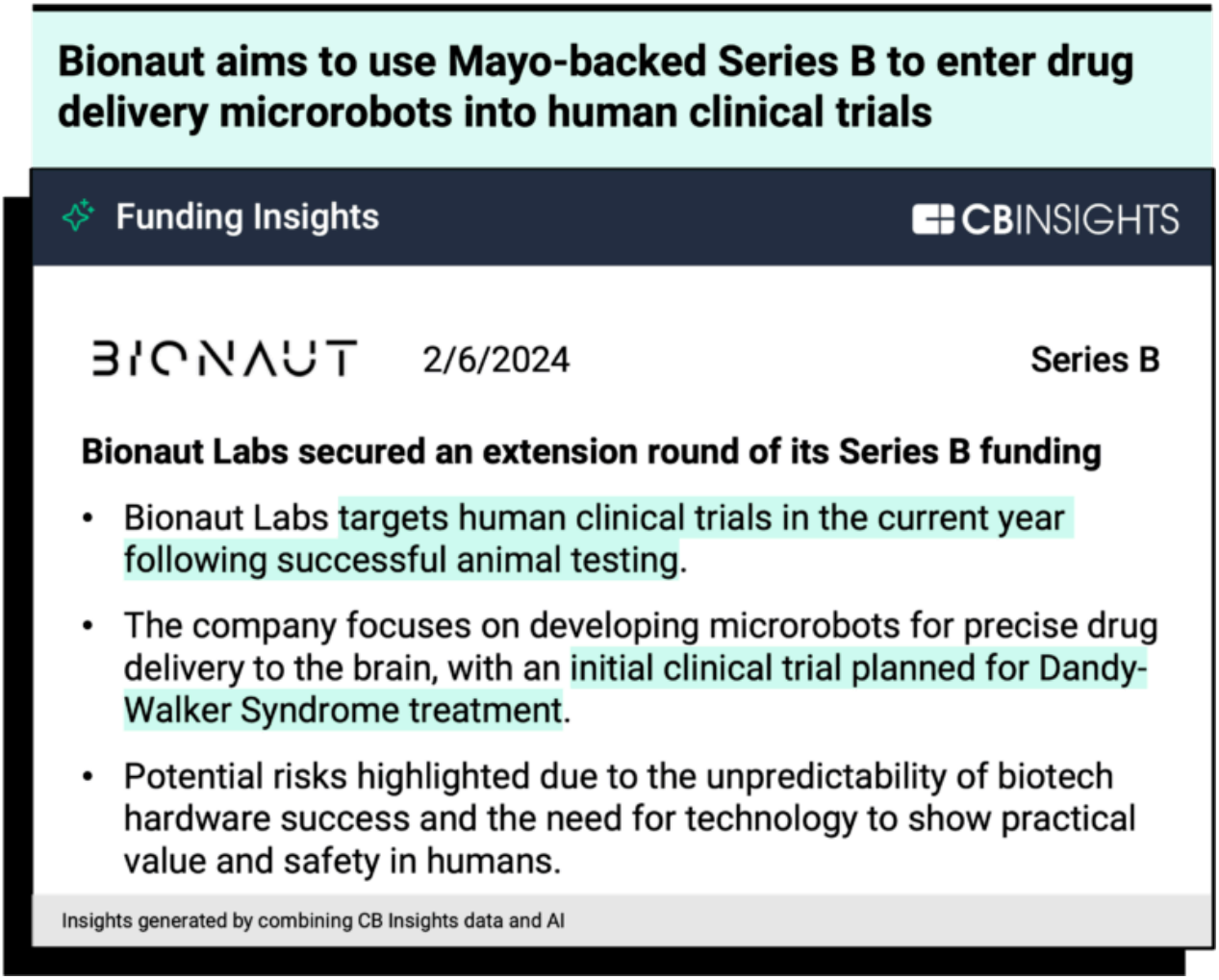
Genomate is pursuing FDA clearance for its precision oncology solution

Source: CB Insights — Genomate Scouting Report

Beyond this, Mayo Clinic has invested in equity rounds to AI startups that customize patient treatments in other ways. For example, in 2023, it backed Jogo, which offers an AI-enabled digital therapeutic focused on rehabilitation for chronic pain and neuromuscular disorders. The company uses wearable sensors and a mobile app to provide biofeedback-driven physiotherapy, which involves gaining information about an individual's body to tailor the treatment to their needs.

Meanwhile, Mayo's activity in microrobotics crosses into this space as well. Bionaut Labs is capable of customizing its drug delivery bots based on factors like the disease site being targeted, the type of therapeutic payload and dosage involved, and the route to the

target site. The startup plans to use the funding from its Mayo-backed Series B round to move from animal testing to human clinical trials.



Source: CB Insights — Bionaut Funding Insights

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