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# Artificial Intelligence Revolutionizing Early Detection of Diabetic Retinopathy Creating a Multi-Billion Dollar Revenue Opportunity

## *MarketNewsUpdates News Commentary*

NEW YORK, July 15, 2025 /CNW/ -- Artificial Intelligence (AI) algorithms are revolutionizing the way retina images are analyzed for detecting conditions such as age-related macular degeneration (AMD) and diabetic retinopathy. These advanced algorithms often achieve diagnostic accuracies that equal or surpass human experts, especially in complex cases. This capability not only enhances diagnostic precision but also supports clinicians in delivering more effective treatment strategies. AI systems that analyze retina images can spot early signs of diseases like age-related macular degeneration (AMD) and diabetic retinopathy. These conditions often develop unnoticed by patients and might not be detected during routine exams. By identifying these signs early, AI enhances the ability to initiate treatments promptly, significantly improving health outcomes. This proactive approach allows for timely intervention, which is crucial in preventing the progression of these eye diseases. AI enhances patient care by analyzing the risk of disease progression and the specifics of each patient's retinal condition. This analysis helps healthcare providers develop customized treatment plans, tailored to individual needs. AI can predict how diseases like AMD will progress and helps in optimizing treatment schedules. This personalized approach ensures that each patient receives the most effective care specific to their condition, potentially improving their quality of life. A [report](#) from Media.Market.us said that the Global AI-Powered Retina Image Analysis Market Size is projected to expand significantly, reaching approximately US\$ 9.4 billion by 2033, up from US\$ 2.65 billion in 2023. This growth, at a compound annual growth rate (CAGR) of 13.5% from 2024 to 2033, is fueled by several pivotal developments in the field of ophthalmology, driven by advances in artificial intelligence (AI). Active healthcare/tech companies active in the diabetes treatment industry include: **Avant Technologies Inc.** (OTCQB: AVAI), **Abbott** (NYSE: ABT), **DexCom, Inc.** (NASDAQ: DXCM), **iRhythm Technologies, Inc.** (NASDAQ: IRTC), **Tandem Diabetes Care, Inc.** (NASDAQ: TNDM).

Media.Market.us continued: "Enhanced Patient Monitoring through AI: AI-powered tools are revolutionizing the monitoring of retinal diseases. These tools enable continuous observation, allowing doctors to track disease progression over time. This ongoing monitoring is crucial for chronic conditions, where timely adjustments to treatment can lead to better management of the disease. Continuous data collection provided by AI tools offers a dynamic view of the patient's condition, facilitating more informed decision-making in clinical practice. Expanding Access to Care with AI in Ophthalmology: AI technology can significantly extend the reach of specialized eye care, especially to remote or underserved communities. Through AI, high-quality diagnostic and monitoring services can be delivered remotely, eliminating the need for patients to travel to specialist centers. This capability not only saves time and resources but also ensures that more patients have access to necessary care, improving eye health outcomes across diverse populations. Supporting

Research and Development in Ophthalmology: AI applications in retina image analysis contribute valuable data to the field of ophthalmology. This data aids in ongoing research, offering new insights into how retinal diseases develop and progress. Researchers can use this information to explore potential new treatments and understand disease mechanisms more deeply. AI's role in R&D not only accelerates scientific discovery but also opens up possibilities for innovative therapeutic approaches, enhancing patient care."

**Avant Technologies, Inc. (OTCQB: AVAI) and JV Partner, Ainnova, Complete Pivotal Meeting with U.S. FDA** - Avant Technologies, Inc. ("Avant" or the "Company") and its JV partner, Ainnova Tech, Inc., (Ainnova), a leading healthcare technology company focused on revolutionizing early disease detection using artificial intelligence (AI), today announced the completion of its milestone meeting with the U.S. Food and Drug Administration (FDA). The pre-submission meeting allowed Ainnova and its Contract Research Organization (CRO), Fortrea, to present and discuss Ainnova's planned clinical trial for its Vision AI platform in the early detection of diabetic retinopathy and receive critical feedback from the FDA.

Ainnova's clinical trial will be conducted exclusively in the United States and focus solely on diabetic retinopathy. The FDA has now provided the Company with valuable guidance on its clinical protocol, the number and type of clinics Ainnova will need to conduct a successful clinical trial, the number of retinologists required to examine the images generated by Ainnova's Vision AI, etc.

With the FDA's recommendations, the Company can now actively plan for the total cost of conducting this planned clinical trial through to completion. Data from Ainnova's trial will support the Company's FDA 510(k) submission to obtain clearance from the FDA to market the Vision AI technology in the United States.

Vinicio Vargas, Chief Executive Officer at Ainnova and a member of the Board of Directors of Ai-nova Acquisition Corp. (AAC), the company formed by the partnership between Avant and Ainnova to advance and commercialize Ainnova's technology portfolio, said, "We're truly excited about this next phase. We're getting ready to begin data collection across primary care clinics in the U.S. with a study that is simple, yet rigorousâ€"comparing our AI-based retinal screening to the readings of three retinologists.

"This milestone not only brings us closer to validating our platform in the world's largest healthcare market, but it also paves the way for the upcoming approval of our new automated retinal camera, which we believe will be a game changerâ€"making diabetic retinal screenings faster, more accessible, and available from virtually any point of care."

AAC has the worldwide licensing rights for Ainnova's technology portfolio. The licensing rights include the U.S., where the FDA regulates drug and medical device development, so the success of Ainnova's clinical trial is paramount to marketing the technology portfolio in the United States. Entering the U.S. market will unlock significant commercial potential, and this early engagement with the FDA ensures AAC can do so with speed, credibility, and a validated product. **Â CONTINUEDâ€**

**Read this and more news for Avant Technologies at:**

<https://finance.yahoo.com/quote/AVAI/news/>

*In other diabetes developments and happenings in the biotech market include:*

**Abbott (NYSE: ABT)** recently [announced](#) that its latest generation of sensor-based glucose monitoring technology, the FreeStyle Libre 3 Plus\* sensor, is now available to Canadians living with diabetes. This innovative product features the world's smallest<sup>1,2</sup> glucose sensor.

Glucose monitoring is key to effective diabetes management as it helps people living with diabetes understand how their body responds to food, exercise, and medications<sup>3</sup>. It empowers them to take an active role in managing their condition, which can ultimately increase confidence<sup>4</sup> and improve health outcomes.

**DexCom, Inc. (NASDAQ: DXCM)**, the global leader in glucose biosensing, recently [released](#) its "Dexcom State of Type 2 Report: Access and Attitudes Across the United States" ahead of the 85th Scientific Sessions of the American Diabetes Association (ADA) in Chicago. The findings provide valuable insights into the perceptions around diabetes technology from more than 400 healthcare professionals and people with Type 2 diabetes across the United States.

During the conference, Dexcom will present extensive clinical data that shows the benefits of CGM

for those living with Type 2 diabetes as well as new outcomes from early Stelo users. Dexcom releases new State of Type 2 Report: Access and Attitudes Across the United States. Earlier this year, Dexcom announced the release of its first multi-region report, detailing access and attitudes of individuals diagnosed with Type 2 diabetes and healthcare professionals across Europe and the Middle East (EMEA).

**iRhythm Technologies, Inc. (NASDAQ: IRTC)** recently [announced](#) the results from two large-scale real-world studies presented at the American Diabetes Association's 85th Scientific Sessions (ADA 2025). The analyses reveal that cardiac arrhythmias are common and often occur early in people with type 2 diabetes (T2D)—especially those who also have chronic kidney disease (CKD). These findings suggest a critical opportunity to enhance early detection strategies in at-risk cardiometabolic populations.

The studies examined longitudinal claims data from over 30 million U.S. adults, providing new insights into how arrhythmias—often asymptomatic—cluster around major disease inflection points. In T2D patients, arrhythmias were frequently identified prior to or shortly after diagnoses of CKD or major adverse cardiovascular events such as stroke or heart failure.

**Tandem Diabetes Care, Inc. (NASDAQ: TNDM)**, a leading insulin delivery and diabetes technology company, recently [announced](#) the Tandem t:slim X2, an insulin pump with Control-IQ+ automated insulin delivery (AID) technology now works with Abbott's FreeStyle Libre 3 Plus continuous glucose monitoring (CGM) sensor. The Company has initiated an early access program in the United States (U.S.), and intends to scale availability in the second half of 2025.

"Diabetes management is not one-size-fits-all and it is critical for people living with diabetes to be able to personalize their AID systems to fit their unique healthcare and lifestyle needs," said Dr. Jordan Pinsker, chief medical officer of Tandem Diabetes Care. "The American Diabetes Association recommends AID systems as the preferred insulin delivery method in people with type 1 and other types of insulin-deficient diabetes, and this integration with Abbott's latest generation sensor allows even more CGM users to access the life-changing benefits of our Control-IQ+ technology."

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