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Newly Published Policy Model: Effectiveness of Artificial Intelligence Diagnosis in Preventing Vision Loss from Diabetes

Digital Diagnostics Founder and Executive Chairman Co-Authors Publication that Proposes a Model for Showing the Effectiveness of Autonomous Artificial Intelligence Diagnosis

Coralville, Iowa. April 18, 2023 –Digital Diagnostics founder and executive chairman, Michael D. Abramoff, MD, PhD, along with authors Roomasa Channa, MD, at University of Wisconsin, and Risa Wolf, MD, and Harold P. Lehmann, MD, PhD, at Johns Hopkins University, recently published a policy model for determining whether or not autonomous AI can be effective on improving patient outcomes. They developed the Care Process for Preventing Vision Loss from Diabetes (CAREVL), Markov model to compare the effectiveness of using point-of-care autonomous AI-based exams, to in-office exams by an eye care provider, of preventing vision loss among people living with diabetes.

“Our results show that autonomous AI, if made available to the entire US diabetes population of 37M, would result in 8.6 times more effective vision loss prevention compared to standard of care referrals to eye care providers,” said Michael Abramoff, MD, PhD.

Using a wide range of scientific evidence-based process-of-care metrics such as care adherence, metabolic control, accuracy of the diagnostic process, and potential changes to the process of care, they analyzed impact of autonomous AI deployment on vision loss.

“I’m encouraged to see the study suggest that using autonomous AI would result in 27,000 fewer Americans with vision loss, at 5 years, a dramatic reduction in vision loss that holds over a wide range of evidence-based parameters regarding the difference in care process metrics, such as sensitivity and specificity of the exam, and access to the exam,” continued Abramoff.

Effectiveness has already been suggested in one Digital Diagnostics customer, Tarzana Treatment Centers Inc. (TTC). Just nine months after implementing autonomous AI

diagnosis for diabetic retinopathy (DR) one TTC clinic saw their eye exam for diabetes completion rate improve from 25% to 71%. While it is too early to track visual outcomes, it was observed that patients referred to ophthalmology after a positive diabetic retinopathy diagnosis with the AI system, decreased the referral approval and ophthalmology scheduling time from 1–2 months to 3–5 days due to immediate results and the imaging sent in the referral.

TTC reported that one patient who tested positive for DR was able to see the impact of their diabetes complications and successfully reduced their HbA1c from 11.8% to 8.9% in three months.

“When we have a patient with a positive diagnosis, the clinical team has a feeling of satisfaction,” said Nicholas Hermann, PA-C Medical Champion at Tarzana Treatment Centers. “We know we will intervene with a referral to eyecare the same day, potentially saving their vision.”

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About Digital Diagnostics Inc.

Digital Diagnostics Inc. is a pioneering AI diagnostics company on a mission to transform the quality, accessibility, equity, and affordability of global health care through the application of technology in the medical diagnosis and treatment process. The company, originally founded by Michael Abramoff, MD, PhD, a neuroscientist, practicing fellowship-trained retina specialist, and computer engineer, is led by him and co-founders John Bertrand and Seth Rainford.

LumineticsCore™ (formerly IDx-DR) is an FDA-cleared AI-based diagnostic system designed for use at the front lines of care to detect diabetic retinopathy (including macular edema), a common complication of diabetes and a leading cause of blindness. LumineticsCore is cleared by the FDA to make a diagnosis without the need for a clinician to also interpret the image or result, making it usable by health care providers who may not normally be involved in eye care. For more information and the latest news follow: https://digitaldiagnostics.com/