OpenDNA and Mayo Clinic Present AI-Powered Heart Disease Risk Prediction Model at the American College of Cardiology

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GAITHERSBURG, MD, UNITED STATES, March 31, 2025 /EINPresswire.com/ -- This week, OpenDNA and Mayo Clinic unveiled a study at the American College of Cardiology (ACC) conference in Chicago showcasing an innovative AI-powered heart disease risk prediction model using Polygenic Risk Scores (PRS). The study, which explores the potential of AI to predict coronary heart disease (CHD), highlights how combining genomics with clinical data could improve risk assessment and preventative care.

The study, conducted by Mayo Clinic, involved 287 patients who had a calcium score screening at the institution with 15 years of follow up with a manual chart review identifying 35 CHD events within the cohort.

The OpenDNA AI model demonstrated a significant association with the risk of CHD events ($p=0.001$) and outperformed traditional cardiovascular risk assessment tools such as the Pooled Cohort Equations (PCE) (AUC=0.69 vs. 0.67). The model's efficacy was further enhanced by incorporating the Coronary Artery Calcium (CaC) score, achieving an AUC of 0.74, compared to the PCE alone (AUC=0.67). When combined with the CaC score, the AI model demonstrated clinical performance with an 80% sensitivity, a Net Reclassification Improvement (NRI) of 22.54%, and a 100% Negative Predictive Value (NPV). These results illustrate the potential of this AI-driven approach to significantly improve CHD risk prediction.

Regis Fernandes, MD, FACC, FASE, FNLA, Chair of Comprehensive and Preventive Cardiology at Mayo Clinic in Arizona stated, "The results of this study showcase the strong potential of combining genomics and imaging data using AI to predict a patient's risk of developing coronary heart disease. This represents a step forward in personalized cardiovascular care."

Eran Feldhay, MD, Founder and CEO of OpenDNA, echoed this sentiment, adding, "This study underscores OpenDNA's commitment to leveraging AI in improving health outcomes by combining genomic data with multi-modality clinical data. The integration of AI into heart disease risk prediction not only has the potential to enhance accuracy but also to open new doors for early intervention and precision medicine."

This research marks a significant advancement in the application of AI and genomics to cardiovascular disease prevention, indicating potential for more accurate and personalized risk assessments in the future.

Mayo Clinic has a financial interest in the technology referenced in this press release. Mayo Clinic will use any revenue it receives to support its not-for-profit mission in patient care, education and research.

Nir Gamliel
OpenDNA
+1 2404019712
nir@open-dna.com
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