Philips presents findings from retrospective study at HRS 2023, showing AI model's potential to predict ventricular tachycardia

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On May 19, 2023 at the annual Hearth Rhythm Society congress in New Orleans, Louisiana USA, Philips presented an abstract highlighting recent research demonstrating how AI may be used to help predict life-threatening ventricular arrhythmias. The study, entitled Near-Term Prediction of Life-Threatening Ventricular Arrhythmias using Artificial Intelligence-Enabled Single Lead Ambulatory ECG, used an AI-based learning model to successfully predict sustained ventricular tachycardia (VT) during a two-week period when compared to actual ambulatory ECG patient data.

The AI-based learning model was developed using a deep neural network and 115,505 ambulatory ECG recordings collected from independent diagnostic testing facilities across five countries. The model was then retrospectively validated using retrospective 14-day ambulatory ECG recordings (2019-2023), where researchers studied the algorithm's ability to predict the risk of sustained VT (lasting longer than 30 seconds) over the following two weeks using data from the first 24-hours of monitoring.

Predictive biomarkers may enable early risk detection, enhanced patient monitoring, and improved patient management, helping to facilitate better outcomes.

Head of Medical Office, Ambulatory Monitoring & Diagnostics at Philips

> AI-powered digital biomarkers have the potential to advance cardiac care pathways by moving from reactive to preventive medicine," said Manish Wadhwa, Head of Medical Office, Ambulatory Monitoring & Diagnostics at Philips. "Predictive

biomarkers may enable early risk detection, enhanced patient monitoring, and improved patient management, helping to facilitate better outcomes.

As shown in another recent study examining AI's ability to identify patients at risk of atrial fibrillation, novel AI models could lay the foundation for a new approach to cardiac risk management that can be applied across multiple care settings to identify at-risk patients earlier to improve health outcomes.

To learn more about Philips' growing AI capabilities, research and deep neural network, click here.

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