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Japan aims to prevent CVDs using AI and home measurement data

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OMRON Healthcare and Kyoto University announce Collaborative Research Program "Healthcare Medical AI"



OMRON Healthcare and Kyoto University have announced a new Collaborative Research Program called "Healthcare Medical AI" to use artificial intelligence (AI) and an innovative data set of home measurements to prevent the events of cardiovascular disease (CVD).

The first study in the Collaborative Research Program will explore how AI can derive new personalized blood pressure improvement methods based on both day and nighttime blood pressure fluctuation, home electrocardiography recordings, and lifestyle data.

The aim is to achieve further improvement of high blood pressure management. The study will investigate how AI can accurately predict cardiovascular diseases at an early stage.

The collaboration between Kyoto University and OMRON Healthcare focuses on two research themes: The development of a novel blood pressure management method and blood pressure analysis for early detection of cardiovascular events using AI. Regarding the novel blood pressure management method, the joint team will use AI technology to develop personalized blood pressure management by analyzing biological data sets (body weight, body composition, volume of activity and Na/K ratio[*4]), and habits (smoking and drinking) daily.

The team will develop a detection system of abnormal home measurement data of symptoms of cardiovascular events at an early stage. Since events occur unpredictably, early detection of the disease is one of the key challenges. By analyzing changes in various biological data set points measured at home using AI technology, it will be possible to detect signs of events faster and with higher probability so that treatment can be adjusted, realizing the prevention of cardiovascular events.

Image caption- Takehiro Hamaguchi, Senior General Manager of Technology Development HQ, OMRON Healthcare Co., Ltd. (pictured left) and Yasushi Okuno, Ph.D., Prof., Department of Biomedical Data Intelligence, Graduate School of Medicine, Kyoto University, Kyoto, Japan (pictured right)