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PRESS RELEASE

McCann Health Japan
Acquired evidence for the world's first*
"Dementia prediction model using voice data from daily conversations"

【Tokyo— July 29, 2021】

McCann Health Japan (McCann Health, Headquarters: Minato-ku, Tokyo, President: Junji Yokokawa) announced on July 14, 2021, that the paper jointly authored with Naoki Kondo Laboratory, Department of Social Epidemiology, Graduate School of Medicine, Kyoto University, titled, "Dementia risks identified by vocal features via telephone conversations: a novel machine learning prediction model" was published in a peer-reviewed academic journal, PLOS ONE[*1].

[Published Paper]

A. Shimoda, L. Yue, H. Hayashi, N. Kondo. Dementia risks identified by vocal features via telephone conversations: a novel machine learning prediction model. PLOS ONE. 2021;16(7):e0253988. DOI:
https://doi.org/10.1371/journal.pone.0253988

Previous studies have shown that early detection of signs of mild cognitive impairment (MCI), a precursor to dementia, appropriate medical consultation and cognitive training, can contribute to reducing the progression of the dementia and recover cognitive functions[*2]. As a new approach to dementia prevention in an aging society, McCann Health Japan has been working on the development of an AI-driven prediction model that detects the signs of MCI from voice data of daily telephone conversations aiming to, "Providing everyone with the opportunity to correctly detect signs of MCI."

The project started in January 2019. With the cooperation of Hachioji City, Tokyo, a two-month experiment which collected voice data of daily conversations over the phone was conducted from March 1 to April 30, 2020, targeting residents aged 65 and older. The obtained voice data was converted into voice-related variables of voice characteristics such as "loudness" and "pitch", and a prediction model for dementia risk was constructed using machine learning. A paper to evaluate the accuracy of this prediction model was developed in collaboration with Naoki Kondo Laboratory, Department of Social Epidemiology, Graduate School of Medicine, Kyoto University. The acceptance of publication of this paper is evidence that the model developed by McCann Health Japan can predict risks of dementia with a certain level of accuracy.

Prediction of the risks of dementia using voice data from daily conversations is an unprecedented approach seen nowhere else in the world. McCann Health Japan hopes to provide a service that incorporates this prediction model from a device that is familiar to everyone, the telephone, and aims to conduct the second experiment by the end of this year and commercialize the service next year. McCann Health Japan believes in the significance of this project, and that the provision of the opportunity to correctly predict the risks of dementia will contribute to people's wellbeing in an aging society and, in as a result, extend their healthy life expectancy.

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[*1]PLOS ONE is one of the world's largest open access peer-reviewed scientific journals, published by the Public Library of Science since 2006. Papers that pass internal and external peer reviews are accepted for publication regardless of perceived academic significance, as long as the research was conducted with scientific validity, strong methodology, and high ethical standards – the acceptance rate is around 50% (As of 2006). The PLOS ONE online platform also allows users to discuss and evaluate papers after publication.

[*2]Living a healthy life in old age without fear of dementia

Interest in healthy life expectancy is increasing day by day in the era of 100-year life, however it is estimated that the number of dementia patients in Japan will surpass 8 million by 2030. Early detection of dementia has been proven to contribute to reducing the progress of the disease[.1] and in addition, a systematic review reported that cognitive function improved by about 40% when appropriate measures such as cognitive training are taken in the MCI stages, the prodromal stage of dementia, contributing to the prevention of dementia.[2] Identifying signs in the MCI stage is the key to long-term good health.

References.

1. B Dubois, A Padovani, P Scheltens, A Rossi, G Dell'Agnello. Timely Diagnosis for Alzheimer's Disease: A Literature Review on Benefits and Challenges. Journal of Alzheimer's Disease: 2015;49(3):617-631.
2. L Jean, M Bergaron, S Thivierge, M Simard. Cognitive Intervention Programs for Individuals Wih Mild Cognitive Impairment: Systematic Review of the The American Journal of Geriatric Psychiatry. 2010;18(4):281-296.

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About McCann Health:

McCann Health, three-time Network of the Year winner at Cannes Lions Health and winner of an unprecedented twelve Network of the Year titles from the industry's top five creative award shows, is one of the world's most awarded global healthcare communications networks. Through combining science, creative and strategy we strive to deliver best-in-class services to our clients. Our 1,900+ employees in 60 offices across 20 countries and 6 continents are united by one vision: to help our clients play a meaningful role for healthier lives. McCann Health, spans a range of global practices including strategic consulting, healthcare professional marketing, medical communications, consumer health and wellness, global health and specialty practices like pharmacy, payer and patient engagement. McCann Health is a part of McCann Worldgroup and the Interpublic Group (NYSE: IPG), a global leader in modern marketing solutions. McCann Health Japan with more than 150 dedicated professionals and over 20 years of experience is uniquely positioned to develop and deliver more effective communication strategies to clients by combining domestic stakeholder insights with global marketing expertise. As a result it has been awarded at Campaign Magazines Specialist Agency of the Year for the last eleven years including 9 Golds. http://www.mccannhealth.co.jp/

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