(Personalized healthcare for the elderly using artificial intelligence)

Primary Researcher: (Tomohide Yamada)
(Visiting Professor), (King's College London, London, UK)
(Registered Researcher), (The University of Tokyo, Tokyo, Japan)
Co-researchers: (Nobuhiro Shojima)
(Specially Appointed Associate Professor), (The University of Tokyo, Tokyo, Japan)
(Toshimasa Yamauchi)
(Professor), (The University of Tokyo, Tokyo, Japan)
(Chia-lin Lee)
(Associate Professor), (Taichung Veterans Hospital, Taichung, Taiwan)
(Hisashi Noma)
(Professor), (Institute of Mathematical Statistics, Tokyo, Japan)

Evidence-based medicine (EBM) involves determining treatment that matches the needs of each patient by integrating the best and latest available "scientific evidence" and "clinical skills". Systematic review and meta-analysis refers to the process of searching databases and performing statistical analysis to integrate the results of multiple independent studies conducted in the past. These results obtained provide the highest quality evidence, which has become the foundation of various clinical guidelines. The objectives of this project are to reduce the time required to perform a systematic review by employing artificial intelligence (AI) and to improve the precision of the method. We also aimed to identify particular people those who have benefited from lifestyle intervention at high risk of 5-year mortality by Artificial Intelligence. This approach takes into account the role played by differences in genetics, epigenetics, the microbiome and other environmental factors including but not limited to other nutrients, environmental toxicants, pharmaceuticals, disease status, and physical activity. This could provide significant benefit by facilitating the acquisition of new evidence for clinical guidelines in all disease fields as well as lifestyle related diseases in the eldery.

Key words: Artificial intelligence, Systematic Review, Life-related diseases