

# 23 Prevention and Early Diagnosis of Dementia

## Situation

According to government estimates, the number of elderly dementia patients in Japan is expected to reach 7 million by 2025. This is one out of every five people over the age of 65. Already, our society faces severe challenges around dementia, including deteriorating quality of life for patients, burdens for families, elderly caring for elderly, traffic accidents, and fraud targeted against the elderly.

According to a global survey of 10 countries on Alzheimer's Disease conducted in 2014 66 percent of Japanese responded that they would like to be notified of dementia, even if there was no treatment available. Some of the reasons included: "I can make decisions based on the detailed analysis" (54 percent), "I can improve my lifestyle to minimize the effect of my condition" (52 percent). Also, 95 percent of the Japanese respondents thought that early diagnosis of Alzheimer's disease should be covered by universal health coverage.

Development of fundamental therapeutic agents for Alzheimer's disease is an urgent global need, where pharmaceutical companies are investing heavily on research and development in order to prepare for market introduction. On the other hand, the conditions are worsening at a rapid pace, and it is important to consider not only preventive drug development, but also measures to control a patient's clinical condition and to introduce methods for early diagnosis. In addition, through research of Alzheimer's disease, it is expected that we will see accelerated research on high level functionality of the brain, including differential diagnosis with other neurodegenerative disease, and introduction of adequate diagnosis and treatment pathways.

Regardless of whether they have dementia or not, many elderly desire to age in place. In order to meet such needs, it is important to install systems for early diagnosis and treatment of

dementia, where patients and their families can get necessary support. Japan is the fastest aging society in the world. By leveraging the country's advanced environment and infrastructure, Japan is expected to build a "Japan model for combating dementia," and to show the concrete results of initiatives the government and healthcare companies are taking.

## Current Policy

The Japanese government is taking steps to tackle issues related to dementia. In Tokyo, the Japanese Government hosted a December 2013 event to follow the "G8 Dementia Summit," which was held in November 2013 hosted by British Prime Minister David Cameron. Prime Minister Shinzo Abe attended the follow-up event and called for the development of a Japanese national strategy for dementia.

In response, a cabinet meeting on dementia was held on January 27 2015 after which the government announced the "New Orange Plan" or the comprehensive strategy on policy promotion for dementia. In the new National Dementia Strategy, 12 related ministries, including MHLW, NPA, METI and the Consumer Affairs Agency, will establish mechanisms for The strategy also included increasing understanding and awareness of dementia, provision of adequate treatment and care, research and development for prevention, and diagnosis and treatment. In order to accelerate these initiatives, the government has reserved USD161 million for dementia as well as USD6.5 million to be spent by Japan Agency for Medical Research and Development (AMED), which was established in April 2015. Initiatives at AMED include, development of molecular imaging diagnostics for ultra-minor cognitive impairment conditions, and clinical research for the development of fundamental therapeutic agent.

Already, various advanced research studies on dementia have provided valuable findings. In order to accelerate research, it is important

to encourage sharing of research outcomes, and to make the information available to researchers. In addition, the data can be utilized to develop standard diagnosis and treatment methodologies. This will enable introduction of preemptive medicine and elimination of regional and professional gaps for more standardized treatment, resulting in high quality and trustworthy medicine in the community.

The overall long-term care reimbursement revision for 2015 was reduced by 2.27 percent. However, the Japanese government has provided small incentives for group homes, and long-term care homes for dementia patients.

In order to accelerate government initiatives, we make the following recommendations.

### **Recommendations**

- Promote development of big data analytics for early warning and prevention of dementia.
- Accelerate government projects on early discovery of minor cognitive impairment symptom through imaging diagnosis.
- Promote drug development for preemptive medicine.
- Introduce measures to control a patient's clinical condition.
- Standardize diagnostics and treatment.
- Monitor elderly population by utilizing ICT.
- Emphasize rehabilitation programs to support independent living.
- Build capacity of doctors who can diagnose dementia.
- Further promote research and development globally through collaboration with domestic and international experts.

### **Case Study**

- GE Healthcare Japan has been engaging in a joint research project since August 2014 with Hirosaki University and Aomori Prefecture, to develop algorithms and methods for early warning and prevention of neuro disease, such as Alzheimer's.

# 23. Overview of Hirosaki University COI Project

## The Center of Healthy Aging Innovation (CHAIN)

Development of an innovative strategy for disease prediction and prevention by combining neuroscience research and analysis of health big data

### Innovation

