



Global Dementia Legacy Event Japan

New care and prevention models

Topic 3 Day 2

Dementia-friendly community and ICT

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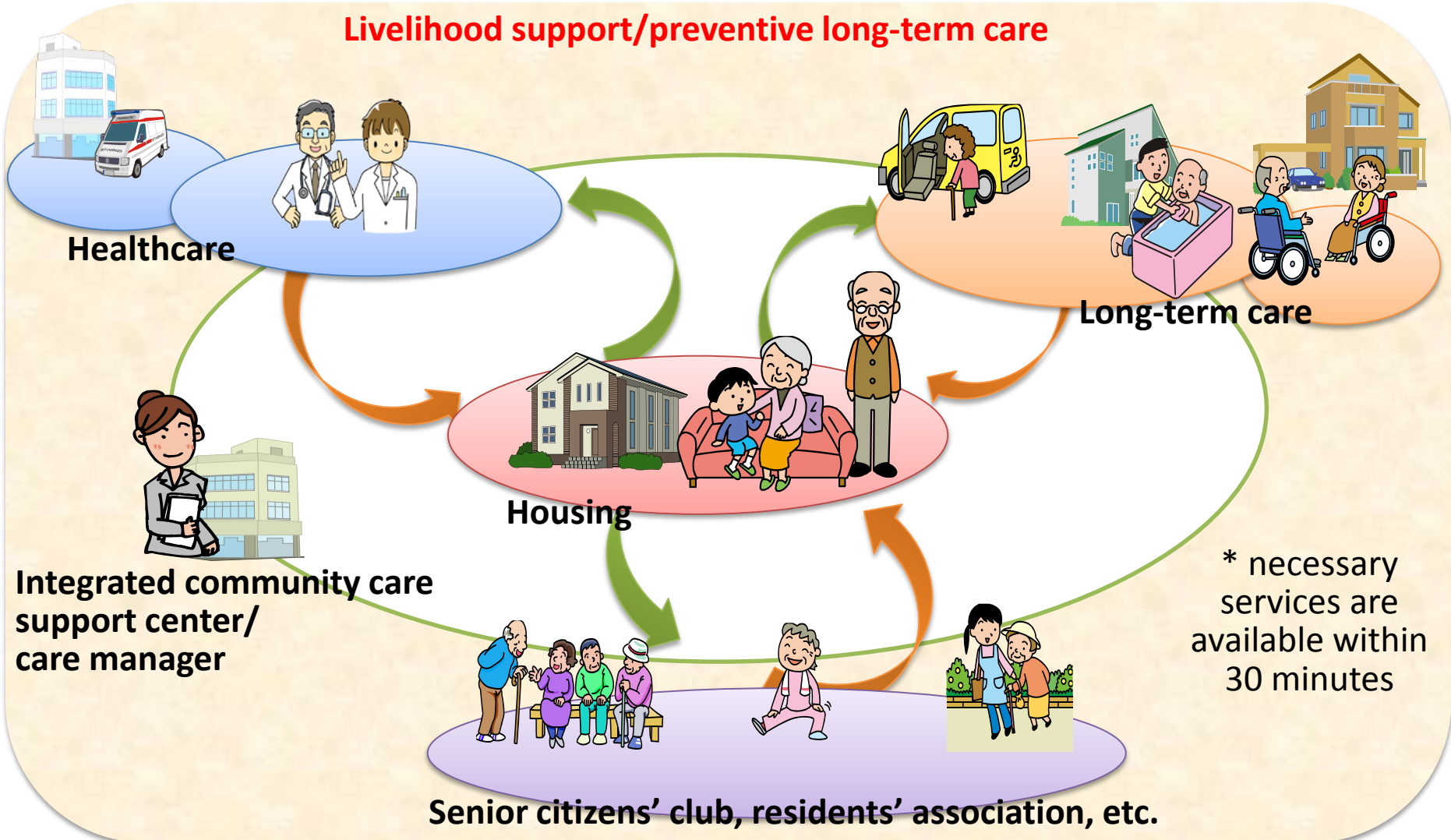
Office for Dementia and Elder Abuse Prevention Health and Welfare Bureau for the Elderly
Ministry of Health, Labour and Welfare, Government of Japan

November 6th 2014

Integrated Community Care System

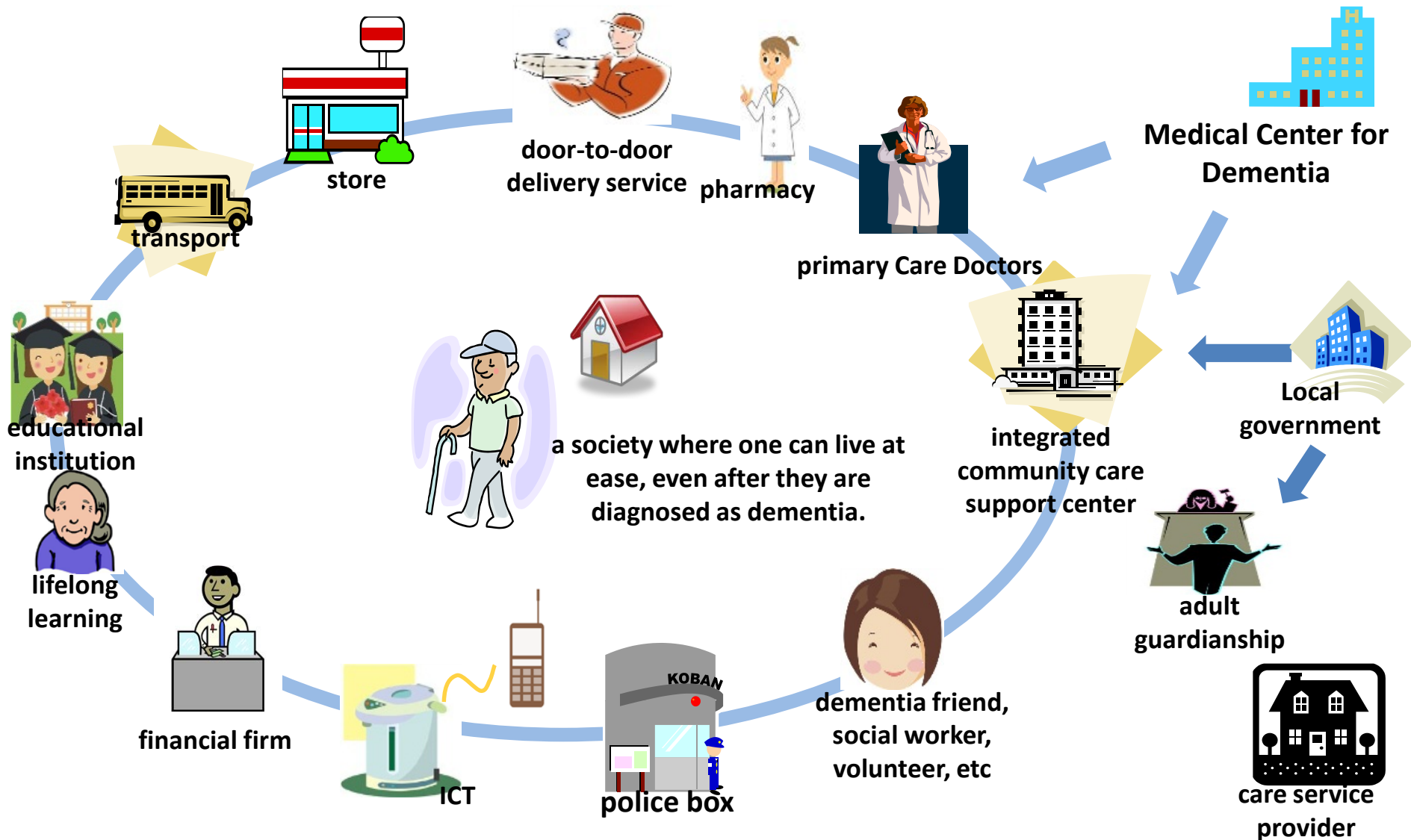
To live in community in a pleasant and familiar environment

Livelihood support/preventive long-term care



self and mutual aid network

cross-ministerial collaboration to support measures of each area

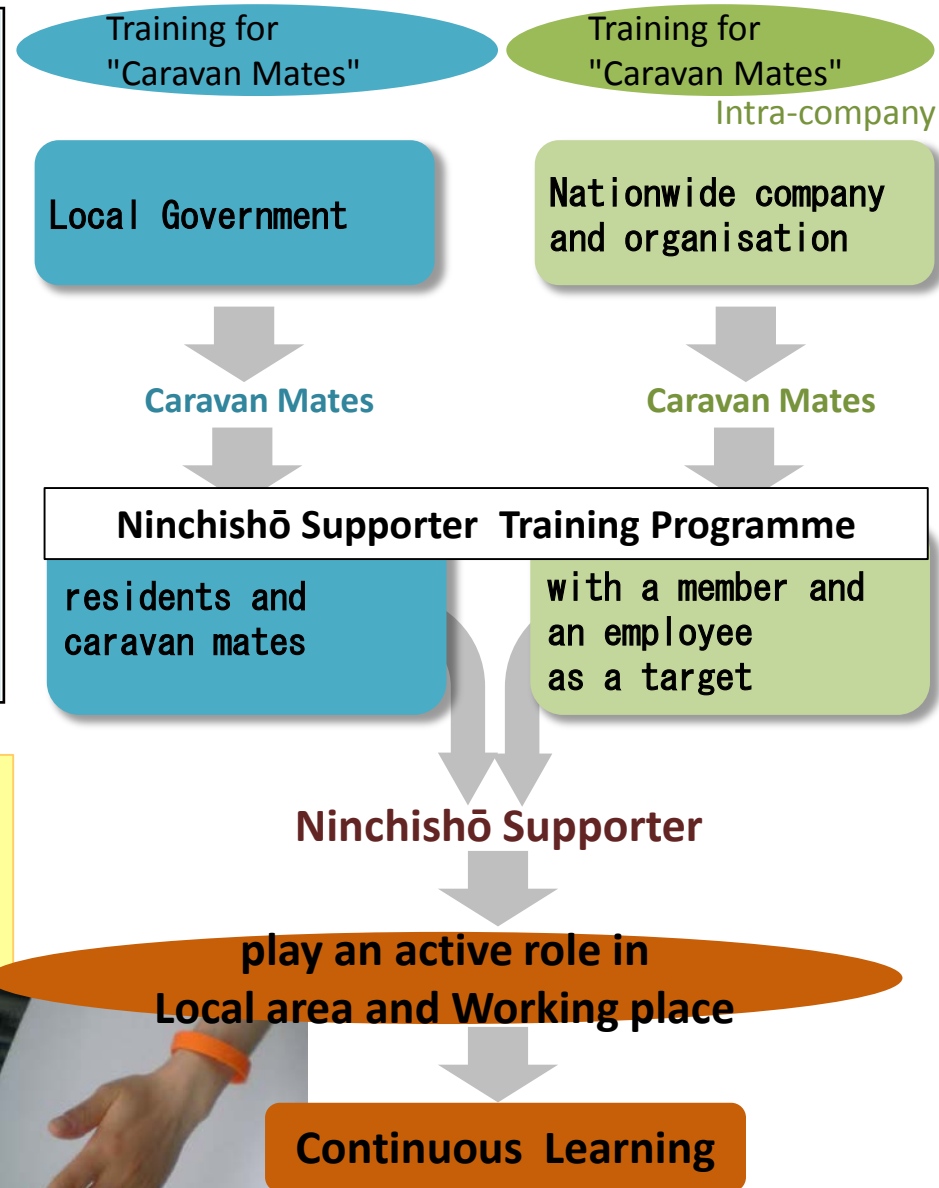


"Ninchishō Supporters (Dementia Friends)" (2005~)

What are "Ninchishō Supporters"?

- With good knowledge and understanding of dementia, they support the elderly with dementia and their families at regional/professional levels, to the extent possible

❖ Total Number
5,445,162 (as of September 30th 2014)



Supporting Development of Care Robot

民間企業・研究機関等

機器の開発

○日本の高度な水準の工学技術を活用し、高齢者や介護現場の具体的なニーズを踏まえた機器の開発支援

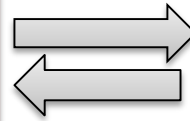
【METI】

介護現場

介護現場での実証等

○開発の早い段階から、現場のニーズの伝達や試作機器について介護現場での実証(モニター調査・評価)

【MHLW】



exchange of opinions of both side

(priority areas)

○Lifting Assistance (1)



○Lifting Assistance (2)



○Transferring Assistance (1)



○Transferring Assistance (2)

・高齢者等の屋内移動や立ち座りをサポートし、特にトイレへの往復やトイレ内での姿勢保持を支援するロボット技術を用いた歩行支援機器



○Exertion Assistance



○Watching for PWD (1)

・介護施設において使用する、センサーや外部通信機能を備えたロボット技術を用いた機器のプラットフォーム



○Watching for PWD

・在宅介護において使用する、転倒検知センサーや外部通信機能を備えたロボット技術を用いた機器のプラットフォーム



○Bathing Assistance

・ロボット技術を用いて浴槽に出入りする際の一連の動作を支援する機器



※点線枠は平成26年2月に新たに追加した項目。平成26年度より開発支援の対象。

※開発支援するロボットは、要介護者の自立支援促進と介護従事者の負担軽減に資することが前提。

What can technology do for person with dementia?



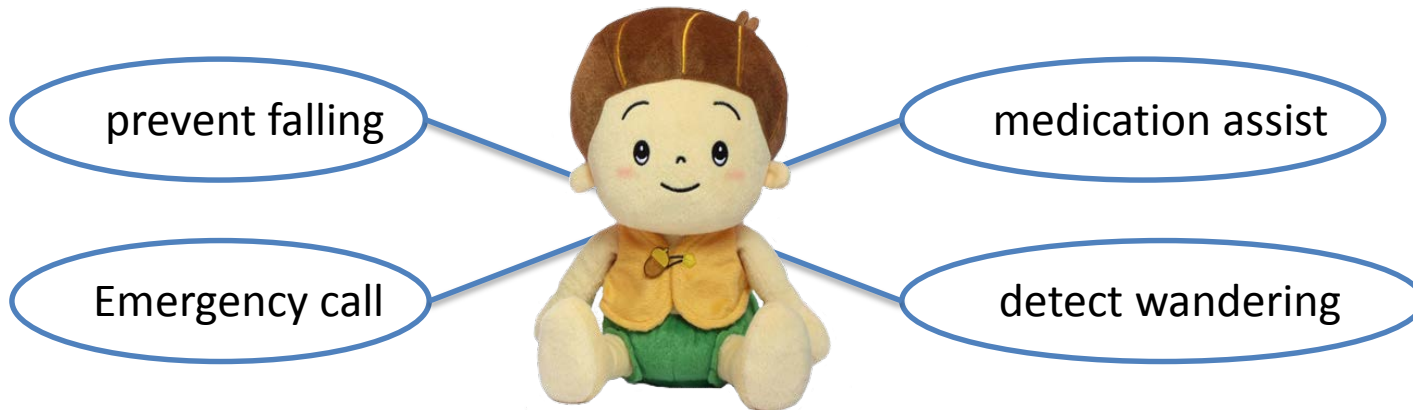
Assistance of medication



With portable device
Gain the data about

- sleep
- sitting on bed
- leaving bed
- ,etc

Watching around the bed



Watch comprehensively through robot

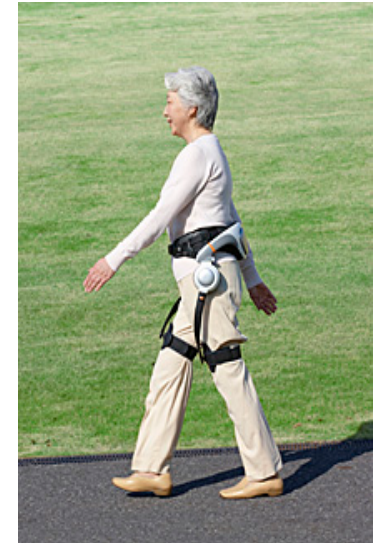
On-going trial about robotics



HAL (robot suites)



PAPERO
(communication robot)



Walk-assist robot



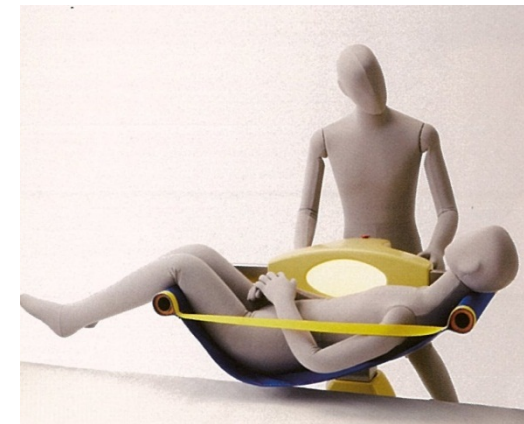
PARO (mental commit robot)



Smart suits
(robot suit)



PALRO (communication robot)



SASUKE (Lift assist robot)

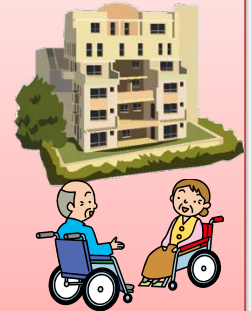
Support practical application of robots for care and welfare

【Specifically】

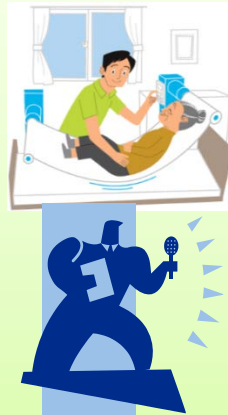
**inquiry
counter**



**Equipment
for
verification**



**Monitoring
investigation**



**Public
Awareness**



others

- need survey at practical stage
- exchange ideas between development level and practical level

7. Project for Psychiatric and Neurological Disorders

- Aiming for the realization of a society where healthy brains can be developed, protected and restored -

Project to overcome brain diseases by cooperation between MEXT, MHLW and METI

Establish innovative methods for the diagnosis, prevention and medical treatment of mental disorders and disabilities by strong promotion of R&D and infrastructure development for research on brain neural circuits and functions related to their etiology.

Goals and objectives by FY 2015

- Establish diagnostic technologies and criteria of very early stage brain degeneration by novel molecular imaging methods.
- Discover candidate biomarkers with clinical utility for the early diagnosis and treatment of brain diseases.

Goals and objectives by FY 2020

- Initiate pre-clinical and clinical trial studies of candidate drugs of Japanese origin for treatment of brain diseases including depression.
- Establish objective diagnosis methods and criteria for brain diseases.
- Complete a whole brain map including neural circuits and functions.

Joint Promotion Committee

For promoting effective cooperation within the project

MEXT; Ministry of Education, Culture, Sports, Science and Technology
 METI; Ministry of Economy, Trade and Industry
 MHLW; Ministry of Health, Labour and Welfare

Develop Innovative Technologies for Diagnosis

METI; Super-earlier Diagnosis of Alzheimer's Disease by Analyzing Brain Images and Clinical Information
 MEXT; Japan Advanced Molecular Imaging Program

MHLW; Health and Labour Sciences Research Grants for Comprehensive Research on Disability Health and Welfare
 Development of biomarkers and image diagnostics for depression, schizophrenia and other mental disease

Support for Clinical Trials and Research (promotion of networking among major institutions)

National Center for Geriatrics and Gerontology (NCGG)
 National Center for Neurology and Psychiatry (NCNP), etc.

Understand Clinical Disease Landscape

MHLW; Health and Labour Sciences Research Grants for Research on Dementia.
 ※ J-ADNI2 preclinical AD research
 ※ Longitudinal preclinical study for familial Alzheimer's disease

Development of Technologies for Understanding Higher-order Mental Functions of the Human Brain (e.g. generate disease model animals)

Develop methods of diagnosis, prevention and medical treatment

Support for clinical trial studies

Comprehensive Analysis of Structure and Activities of Whole Brain Neural Circuits at the Macro Level

MEXT;
 • Strategic Research Program for Brain Sciences
 • Network Mapping Project for Understanding Brain Function (Tentative)

Global Understanding of Brain Circuits at the Neuronal Level Critical for Mental Activity

Reveal mechanisms of psychiatric diseases

Overcome brain diseases including psychiatric and degenerative disorders

Reference: trends in other countries

BRAIN Initiative / USA

- In April 2013, President Obama announced the "BRAIN Initiative: Brain Research through Advancing Innovative Neurotechnologies", a ten-year project that aims to develop transformative technologies for recording and observing brain cell signals at large scale and high precision, in order to understand and cure mental diseases and disabilities.

Human Brain Project / EU

- In January 2013, The Human Brain Project was adopted as a EU Flagship Project, together with the Graphene Project, as a ten-year project to understand brain by means of computer simulation for robotics and ICT consisting of five sub-projects: ICT integrated infrastructural research platform as the core, data acquisition, theory, applied computing, and ethics.

MHLW; Health and Labour Sciences Research Grants for Research on Dementia.

