

# Accelerating research: innovation and partnerships

Moderator: **Professor Sir Simon Lovestone**

Janssen/J&J

**#DefeatingDementia**

# Accelerating research: innovation and partnerships

**Jacqueline Hoogendam**  
Board member, JPND

**#DefeatingDementia**



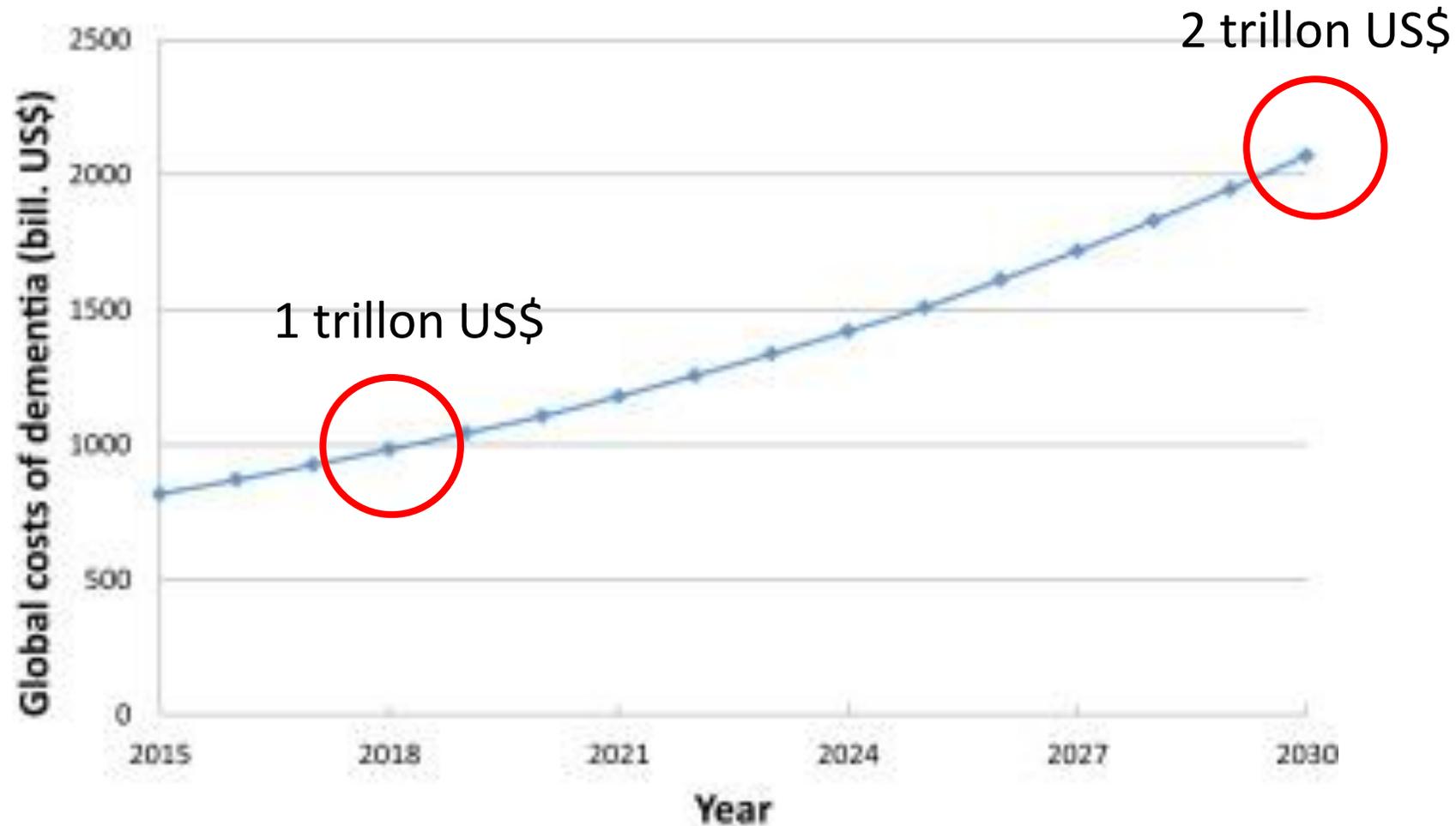
**JPND**  
research

EU Joint Programme – Neurodegenerative Disease Research

# Joint Programming in Neurodegenerative Disease Research (JPND)

**Jacqueline Hoogendam**  
**JPND Executive Board**  
**The Netherlands**

# Forecasted global costs of dementia 2015-2030



From Wimo A et al, Alzheimer's & Dementia, 2017

# The conditions of success

- Increase the critical mass of physicians and scientists involved in neurodegenerative disease research
- Increase the funding dedicated to neurodegenerative disease research
- Increase the number of collaborations globally

# Internationalisation: Europe and beyond

JPND is the largest global research initiative aimed at tackling the challenge of ND led by EU countries, with 30 participating

**EU member states**

**Associated countries**

**Partner countries**

Collaboration with USA NIH since 2018

Exploring potential for future collaboration with

- EU13 countries
- Brazil
- China
- India
- Japan
- Singapore
- South Korea

Albania  
Australia  
Austria  
Belgium  
Bulgaria  
Canada  
Croatia  
Czech Republic  
Denmark  
Finland  
France  
Germany  
Greece  
Hungary  
Ireland  
Israel  
Italy  
Luxembourg  
Netherlands  
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Spain  
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Turkey  
United Kingdom

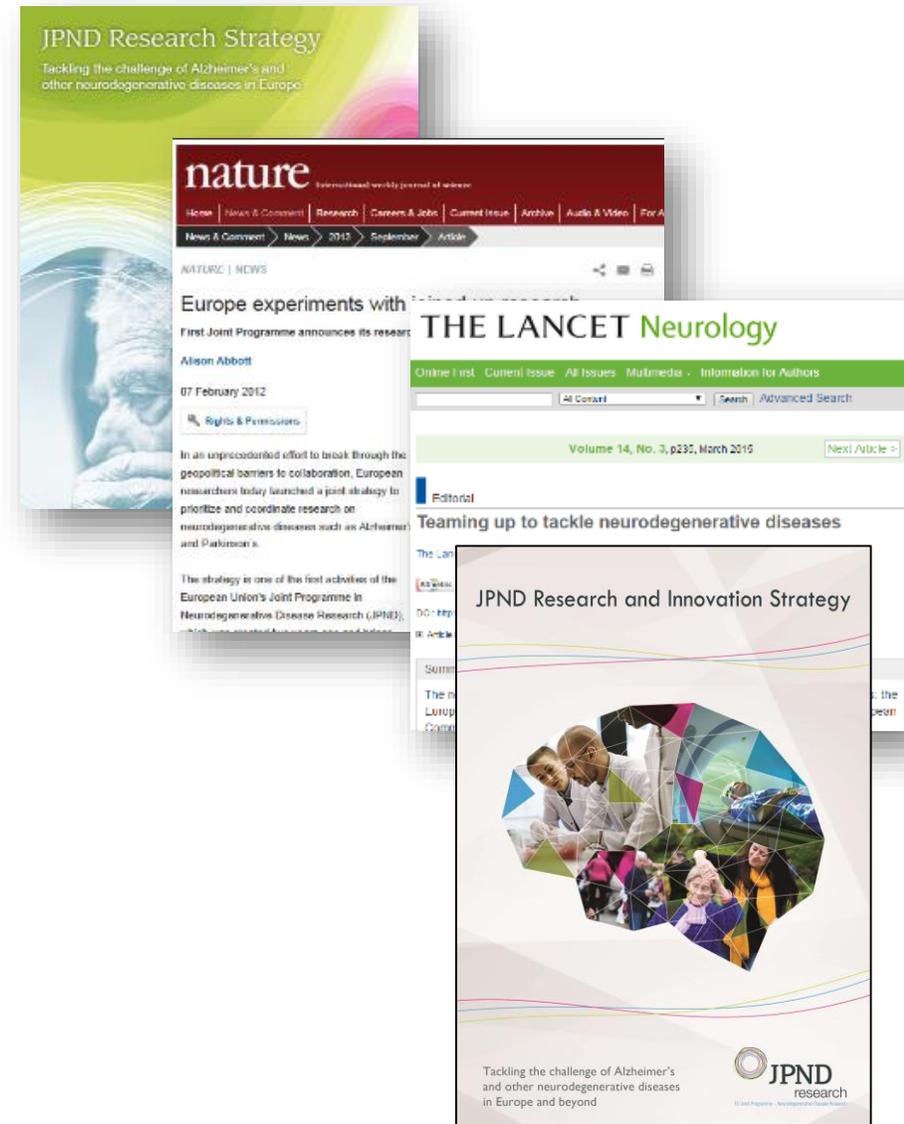
# Joint Programming - principles

## Three pillars

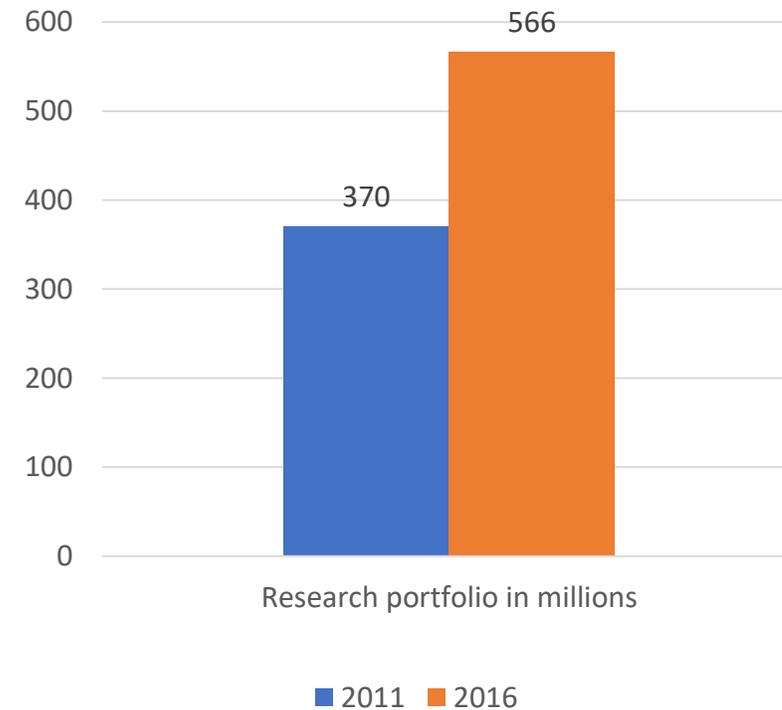
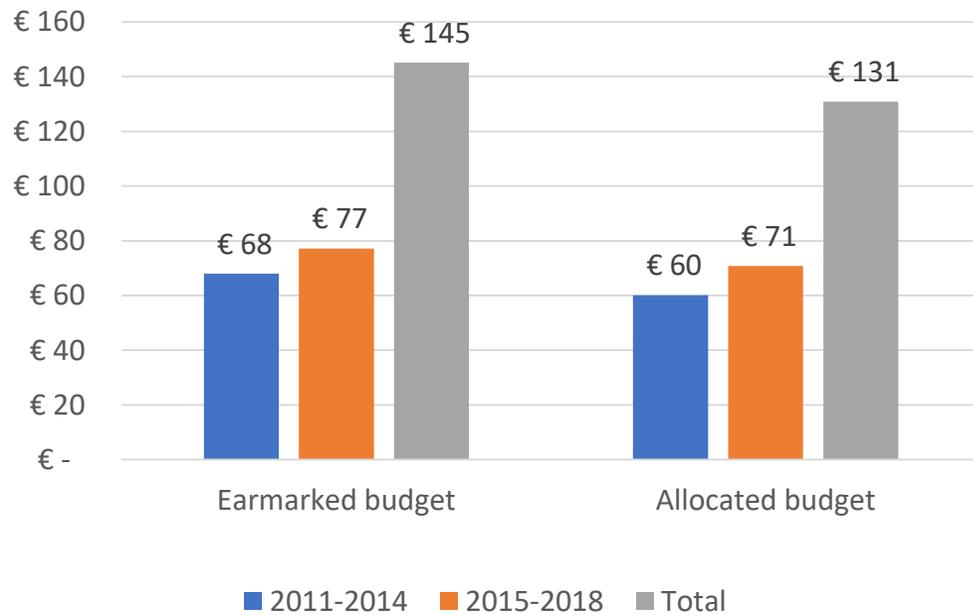
- Shared vision
- Light and robust management structure
- Common research and innovation strategy

# JPND progress to date

- RIS for a Common European/Global Strategy
- Research Database
- Alignment of National Plans and Strategies
- Operating plan (2015-2020)
- Transnational joint calls
- Working groups
- Widening participation and internationalisation
- Stakeholder involvement
- Monitoring and assessment activities
- Communication and dissemination



# Multi-annual commitment of Member States



# Publicly available tools and resources for researchers and stakeholders

- Global Cohort Portal
- Database on Experimental Models for Parkinson's Disease
- A map of funded research, resources and infrastructures

**In vivo models of Parkinson's disease – Mammalian models**

**THE LRRK2 GENE**

The gene LRRK2 (leucine-rich repeat kinase 2 gene, also known as dardarin) is located on the chromosome 12 (12q12) in the 760 kb locus. It is composed of 144 kb forming 33 exons (Gene ID: 102972). The LRRK2 protein is an unusually large kinase (2327 amino acids, 265 kDa) with: Arimid-like repeats (ARR), Kinase repeats (KR), Leucine-rich repeats (LRR), a pair of complex domains (DC1, a C-terminal of Ros (COG) and WD40 repeats.

Mutations in the LRRK2 gene have an autosomal dominant inheritance and are the most prevalent genetic causes of both familial and sporadic forms of Parkinson's disease (PD). They are associated with a typical clinical features and a late-onset of the disease. Few mutations in the LRRK2 gene have been causally linked to PD (G701R, R1441G, R1441Q, R1441H, D2007, and Y1696C) and over 40 others have been identified as risk factors for the disease.

LRRK2 has been linked to various possible pathogenic mechanisms including dysubcellular and tau aggregation, inflammation, oxidative stress, mitochondrial, synaptic and autophagy/lysosomal dysfunctions.

| Species | USRG   | Strain/line  | Viral vector | Neurogeneration | URL                    |
|---------|--------|--------------|--------------|-----------------|------------------------|
| Human   | hWT    | Case 16/2008 | NA           | N               | CARE-154-187502-NAF    |
| Human   | hWT    | COV3/3962    | NA           | N               | COV3/3962-18-18960-NAF |
| Human   | hWT    | COV3/3962    | NA           | N               | COV3/3962-18-18960-NAF |
| Human   | hWT    | COV3/3962    | NA           | N               | COV3/3962-18-18960-NAF |
| Human   | hWT    | Th1          | NA           | N               | Th1-18-18960-NAF       |
| Human   | hWT    | Th1-L2       | NA           | N               | Th1-L2-18-18960-NAF    |
| Human   | hWT    | hLRRK2 (D4C) | NA           | N               | D4C-hLRRK2-NAF         |
| Human   | hLRRK2 | CARE-154     | NA           | N               | CARE-154-187502-NAF    |



# The secret of JPND's success

- Voluntary engagement on a variable geometry
- Light, but robust management
- Common research and innovation strategy

# Keep up to date

- Visit the JPND website:
  - <http://www.jpnd.eu>
- Sign up to the JPND News Feeds
- E-mail us: [secretariat@jpnd.eu](mailto:secretariat@jpnd.eu)



@JPNDEurope



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Subscribe to JPND News update feed or receive email up dates.



## JPND Progress

Click here for the latest progress and updates from ongoing JPND activities.



## JPND Newsletter

The JPND Newsletter is a bi-annual "look back" at JPND activities and highlights.

# Accelerating research: innovation and partnerships

**Dr Heather Snyder**

Vice President, Medical and Scientific Research

Alzheimer's Association

**#DefeatingDementia**

# Accelerating Research: Innovation and Partnerships

Heather Snyder, Ph.D.  
Medical & Scientific Relations

alzheimer's  association®

# Need for Global Partnership

- More than 50 million people living with dementia worldwide
- 2013 Dementia Summit
- **Must work together to accelerate research, maximize investments, stimulate new discoveries**
- Advancing global conversation; build on/ establish new partnerships



# Partnership is Cornerstone

Tau Consortium

THE MICHAEL J. FOX FOUNDATION  
FOR PARKINSON'S RESEARCH

Center of Alzheimer's Disease

Alzheimer's Society  
United Against Dementia

Report of the NINDS  
Task Force on  
Alzheimer's Disease

WESTON  
BRAIN INSTITUTE

GLOBAL  
BRAIN HEALTH  
INSTITUTE

Group\* under  
Human Services  
Agency

Guy McKhann, MD; David Drachman, MD; Marshall Folstein, MD; Robert Katzman, MD;  
Donald Price, MD; and Emanuel M. Stadlan, MD

Alzheimer's  
Research  
UK  
The Power to Defeat Dementia

Fondation  
Brain Canada  
Foundation

AMERICAN  
BRAIN  
FOUNDATION 1984

# Advances in Understanding Alzheimer's

Cognitively Unimpaired

Alzheimer's dementia



**BIOMARKERS**

**History & Cognition**

# Revised Diagnostic Guidelines for Alzheimer's



Alzheimer's & Dementia 7 (2011) 263–269



The diagnosis of dementia  
Recommendations from the National  
Alzheimer's Association workgroups on diagnosis

Guy M. McKhann<sup>a,b,\*</sup>, David S. Knopik<sup>c</sup>,  
Clifford R. Jack, Jr.<sup>g</sup>, Claudia H. Kawczynski<sup>d</sup>,  
Jennifer J. Manly<sup>m,n,o</sup>, Richard Mayeux<sup>e</sup>,  
Martin N. Rossor<sup>f</sup>, Philip Scheltens<sup>s</sup>, M. C.  
Creighton<sup>r</sup>

Alzheimer's  
&  
Dementia

Alzheimer's & Dementia 7 (2011) 270–279



The diagnosis of mild cognitive impairment  
Recommendations from the National  
Alzheimer's Association workgroup on diagnosis

Marilyn S. Albert<sup>a,\*</sup>, Steven T. DeKoski<sup>c</sup>,  
Howard H. Feldman<sup>f</sup>, Nick C. Fox<sup>g</sup>, Anthony  
R. McEvoy<sup>d</sup>, Ronald C. Petersen<sup>l</sup>, Peter J. Snyder<sup>m,n</sup>, M. C. Creighton<sup>r</sup>

Alzheimer's  
&  
Dementia

Alzheimer's & Dementia 7 (2011) 280–292

Toward defining the preclinical stages of Alzheimer's disease:  
Recommendations from the National Institute on Aging-Alzheimer's  
Association workgroups on diagnostic guidelines  
for Alzheimer's disease

Reisa A. Sperling<sup>a,\*</sup>, Paul S. Aisen<sup>b</sup>, Laurel A. Beckett<sup>c</sup>, David A. Bennett<sup>d</sup>, Suzanne Craft<sup>e</sup>,  
Anne M. Fagan<sup>f</sup>, Takeshi Iwatsubo<sup>g</sup>, Clifford R. Jack, Jr.<sup>h</sup>, Jeffrey Kaye<sup>i</sup>, Thomas J. Montine<sup>j</sup>,  
Denise C. Park<sup>k</sup>, Eric M. Reiman<sup>l</sup>, Christopher C. Rowe<sup>m</sup>, Eric Siemers<sup>n</sup>, Yaakov Stern<sup>o</sup>,  
Kristine Yaffe<sup>p</sup>, Maria C. Carrillo<sup>q</sup>, Bill Thies<sup>q</sup>, Marcelle Morrison-Bogorad<sup>r</sup>, Molly V. Wagster<sup>r</sup>,  
Creighton H. Phelps<sup>r</sup>

Representatives from U.S.,  
Canada, U.K, France, and  
Japan

# Possibility of Prevention



**DIAN TU**  
Dominantly Inherited  
Alzheimer Network  
**Trials Unit**

**A** The A4 Study  
NOW IS THE TIME

**LEARN**

The logo for "U.S. POINTER" features a stylized hand icon pointing to the right. To its right, the text "U.S. POINTER" is in a large, bold, sans-serif font. Below it, "alzheimer's association" is written in a smaller font with the Alzheimer's Association logo symbol.

**U.S. POINTER**  
alzheimer's association®



ALZHEIMER'S  
**PREVENTION**  
INITIATIVE

# NIA-AA Research Framework

Representatives from  
U.S., Germany, Spain,  
Australia, Netherlands

## 2018 National Institute on Aging—Alzheimer's Association (NIA-AA) Research Framework NIA-AA Research Framework: Toward a biological definition of Alzheimer's disease

Clifford R. Jack, Jr.,<sup>a,\*</sup>, David A. Bennett<sup>b</sup>, Kaj Blennow<sup>c</sup>, Maria C. Carrillo<sup>d</sup>, Billy Dunn<sup>e</sup>,  
Samantha Budd Haerberlein<sup>f</sup>, David M. Holtzman<sup>g</sup>, William Jagust<sup>h</sup>, Frank Jessen<sup>i</sup>,  
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Katherine P. Rankin<sup>o</sup>, Christopher C. Rowe<sup>p</sup>, Philip Scheltens<sup>q</sup>, Eric Siemers<sup>r</sup>,  
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# NIA-AA Research Framework Principles

Framework proposes to **DEFINE** and **STAGE** disease across the continuum for future **RESEARCH** studies

- Framing Alzheimer's like heart disease, cancer
- *Research* framework to stimulate research in new directions; not intended for general clinical care

# A Turning Point

Editorial

*The Journal of Prevention of Alzheimer's Disease - JPAD*  
Volume 6, Number

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## A Turning Point in Alzheimer's Research: Harmonized Research Strategies and Novel Investments in Public Health Infrastructure Are Reenergizing the Field, and Rekindling Hope for Those Affected by Alzheimer's and Related Dementias

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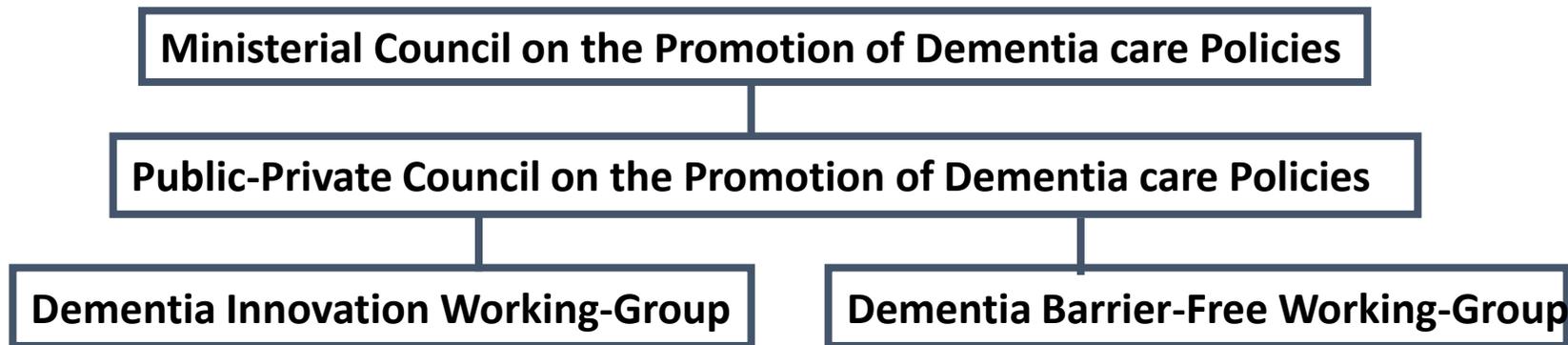
# Accelerating research: innovation and partnerships

**Kazumi Nishikawa**  
Director of Healthcare, METI

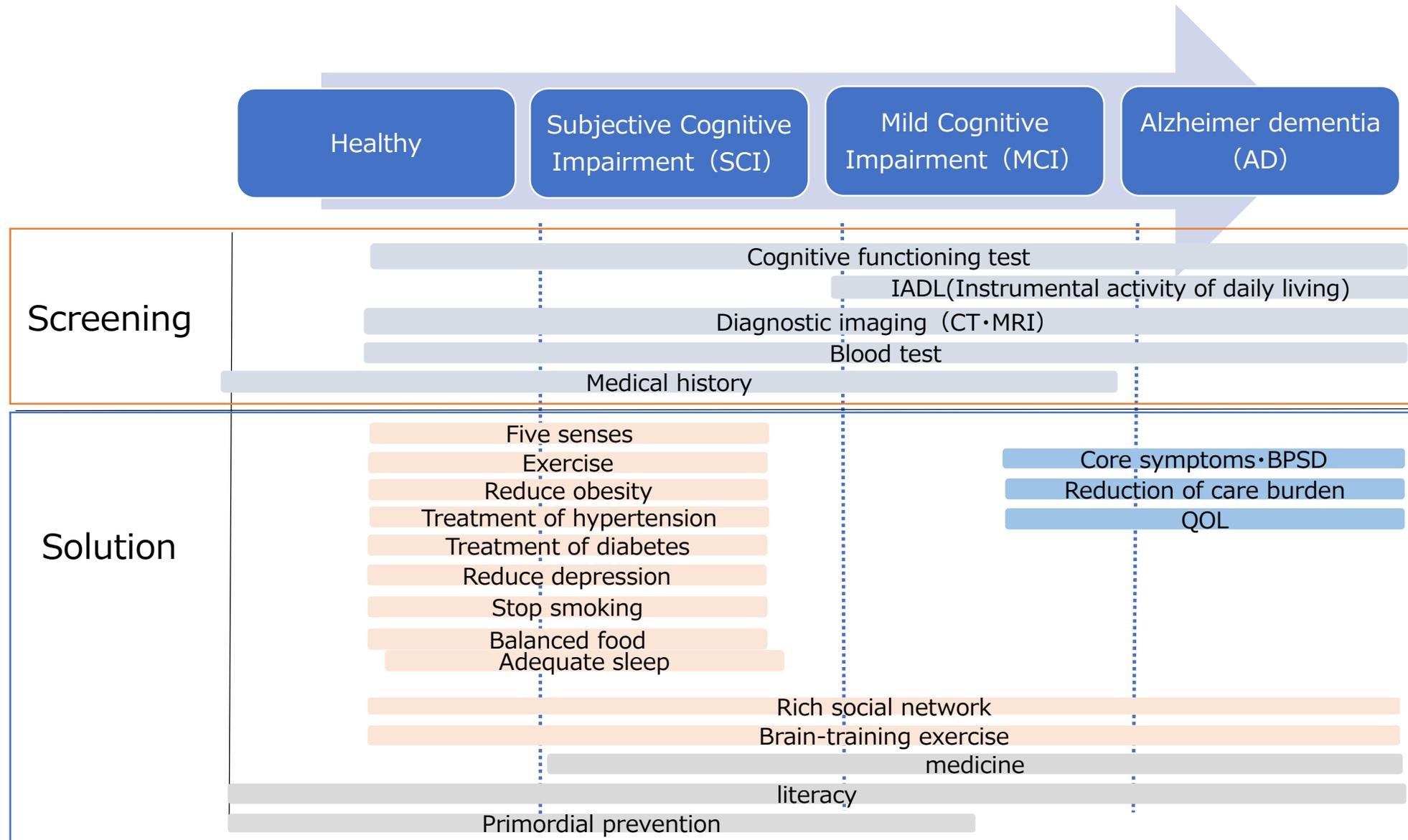
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# Ministerial Council and Public-Private Council on the Promotion of Dementia care Policies

- On December 25, 2018, Prime Minister Shinzo Abe attended the first meeting of the Promotion of Dementia Care Policies at the Prime Minister's Office. They established the executive committee which member is Director-General of each ministries.
- The executive committee decided to set up the Public-Private Council on the Promotion of Dementia Care Policies where all the ministries work in unity to advance policies about dementia.
- On April 22, 2019, Public-Private Council on the Promotion of Dementia Care Policies was established. We consider to advance initiatives such as promoting innovation of dementia care and dementia-barrier-free society.

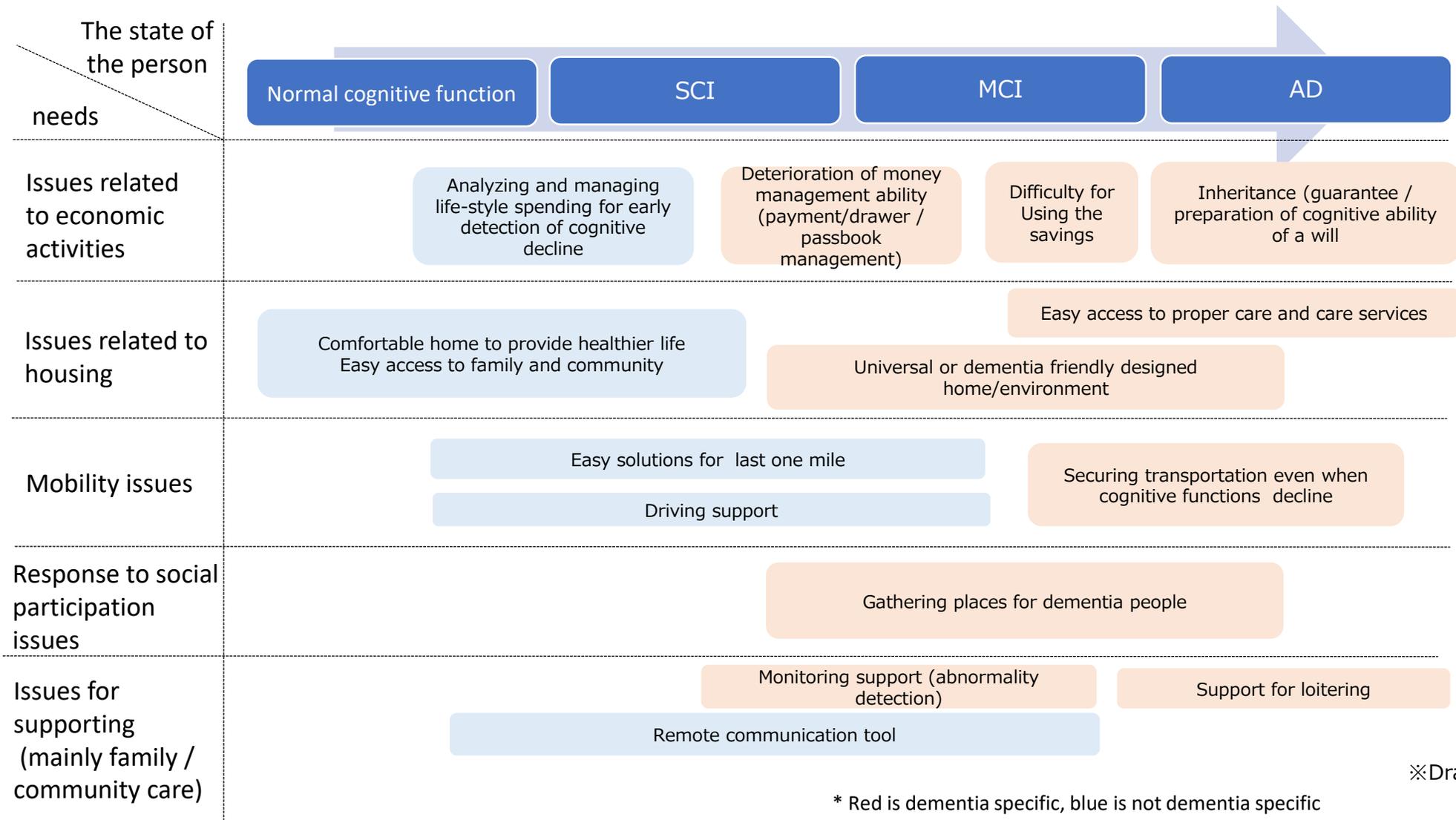


# Overview of screening and solution(Draft)



# Dementia/MCI related life-style needs

- Cognitive decline affects to individual life-style needs. While such needs are unique for every individual, a comprehensive mapping of tentative life-style needs helps development of new solutions to prepare and to live with dementia/MCI.



\* Red is dementia specific, blue is not dementia specific

# Social and economic impact of new solutions

- It is necessary to analyze the social and economic impact of solutions for stakeholders.
- While the impact is unique for each case, a standard method for measuring tentative impact will help stakeholders to choose and prioritize new solutions.

