

# **Japan's Healthcare Innovation Policy**

**June 2018**

**Healthcare Industries Division**

**Ministry of Economy, Trade and Industry**

# Growth Strategy 2018 (Healthcare Part)

## **(1) (ii) Project to create the next-generation healthcare system**

The creation of a new patient-oriented healthcare system through the introduction of data and technological innovations aims for full-scale operation by 2020. **The goal is to lengthen life expectancy and create a next-generation healthcare system that provides services catered to the individual's needs in order to promote preventive care and improve the health of individuals.**

# Growth Strategy 2018 (Healthcare Part)

## <Personalized healthcare services>

- A nationwide healthcare information network with the health records and medical history of individuals shared among medical institutions will be set up. Detailed plans will be formalized this summer and necessary trials held in order to ensure full-scale operation from fiscal 2020.
- By 2020, individuals and their family members will be able to access their Personal Health Record (PHP) to check their health and medical records using the My Number Portal at any time. This is expected to improve quality of life and promote healthier lifestyles.
- **A public-private partnership that brings together local governments, researchers and enterprises to create new products and services that are aimed at dementia will be set up this year. The platform will deal with early dementia prevention, the creation of an inclusive environment and lifestyle support after the onset of disease.**

# Growth Strategy 2018 (Healthcare Part)

<Increasing the productivity of the healthcare and nursing industry>

- To increase productivity in nursing, the move towards the usage of ICT will be promoted. By the year 2020, data-sharing in the field of nursing will be made possible together with the development and implementation of robots, sensors and AI to meet the needs of the industry. Using the evidence of efficacy obtained from operators, evaluations regarding remunerations for nursing will be made in the next term.
- **To increase the usage of services that contribute to better health and disease prevention outside of public insurance, the industry needs a mechanism for feedback and evaluation so as to allow for the objective visualization of said services. Local governments and care managers should actively provide users with information on quality services. At the same time, performance-based partnerships with the private sector will be carried out in order to keep administrative costs low while making use of the expertise of the private sector to solve social issues and increase efficiency.**

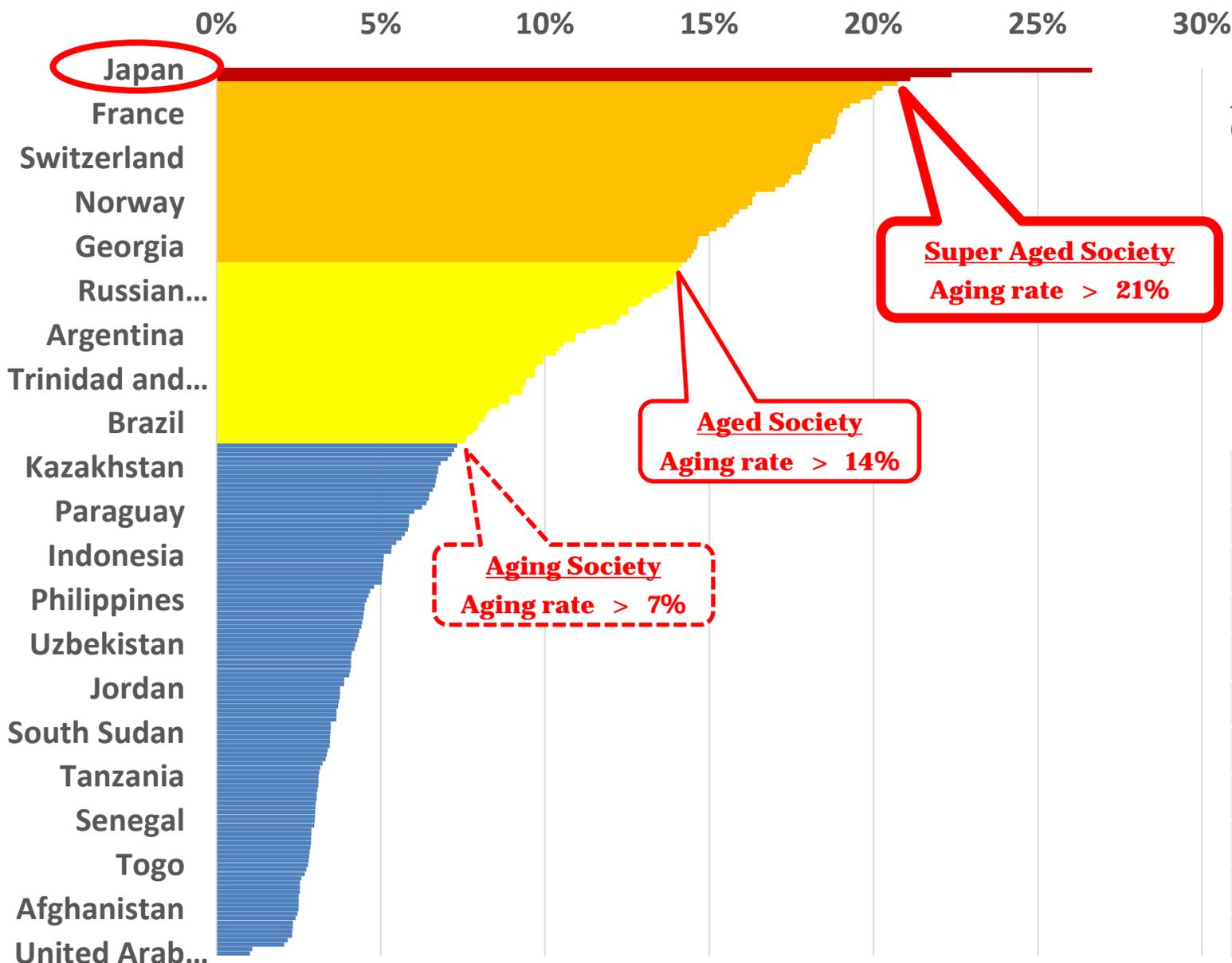
# Growth Strategy 2018 (Healthcare Part)

## <Remote/real-time medical care>

- Enhancement of "online medicine" so patients can receive medical care from professional doctors and pharmacists from home, in an environment they feel comfortable in. From the next term onwards, amendments to the "Medicinal products and instruments law" will be made with evaluations of the effectiveness and safety of medical treatments based on the healthcare remuneration revision. These reforms aim to make measures more current and user-oriented.

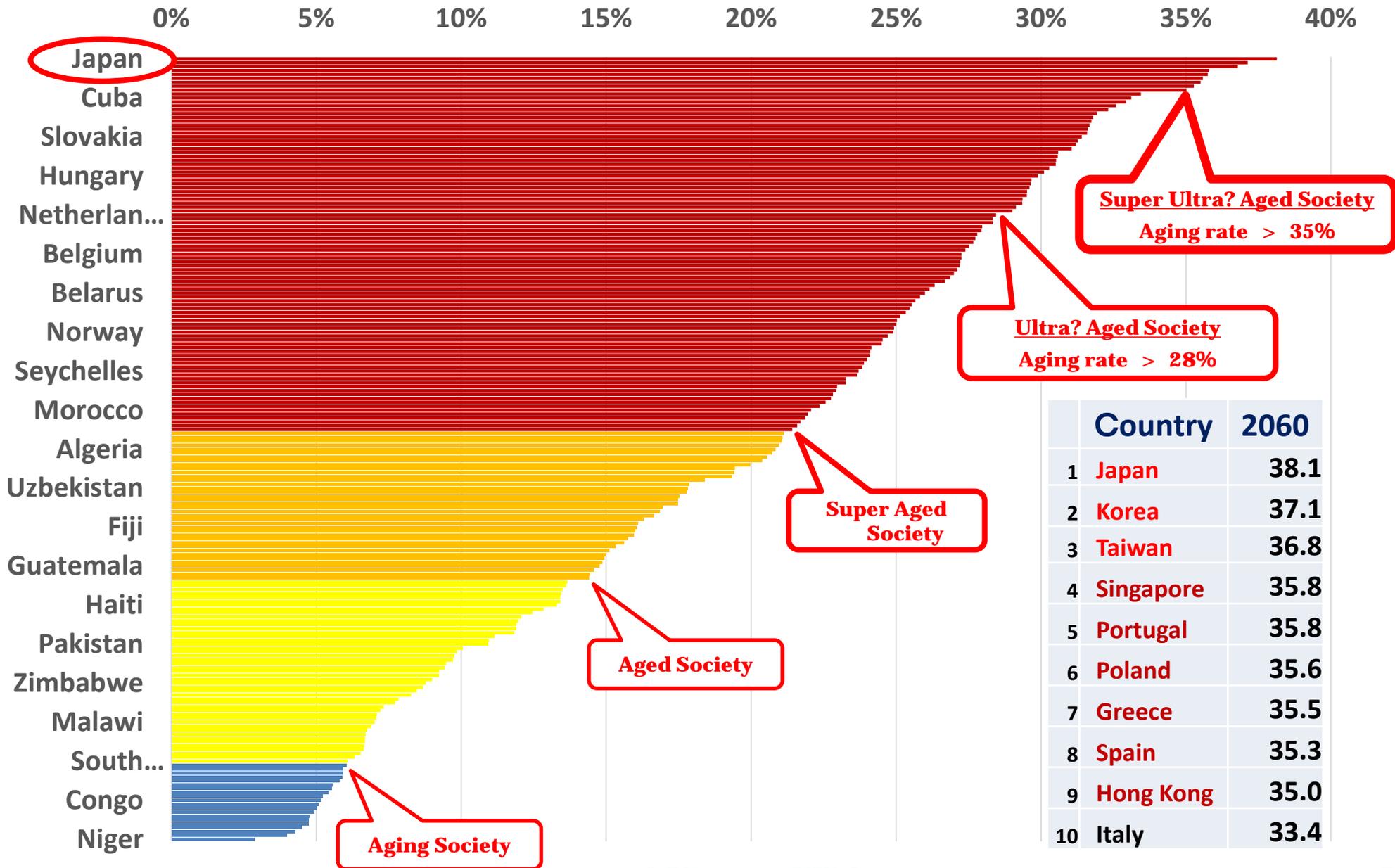
# Well-Ageing Society

# Current Situation of Aging <2015> (201 countries)



Country	2015
1 Japan	26.0
2 Italy	22.4
3 Germany	21.1
4 Portugal	20.7
5 Finland	20.3
6 Bulgaria	20.1
7 Greece	19.9
8 Sweden	19.6
9 Latvia	19.3
10 Denmark	19.0

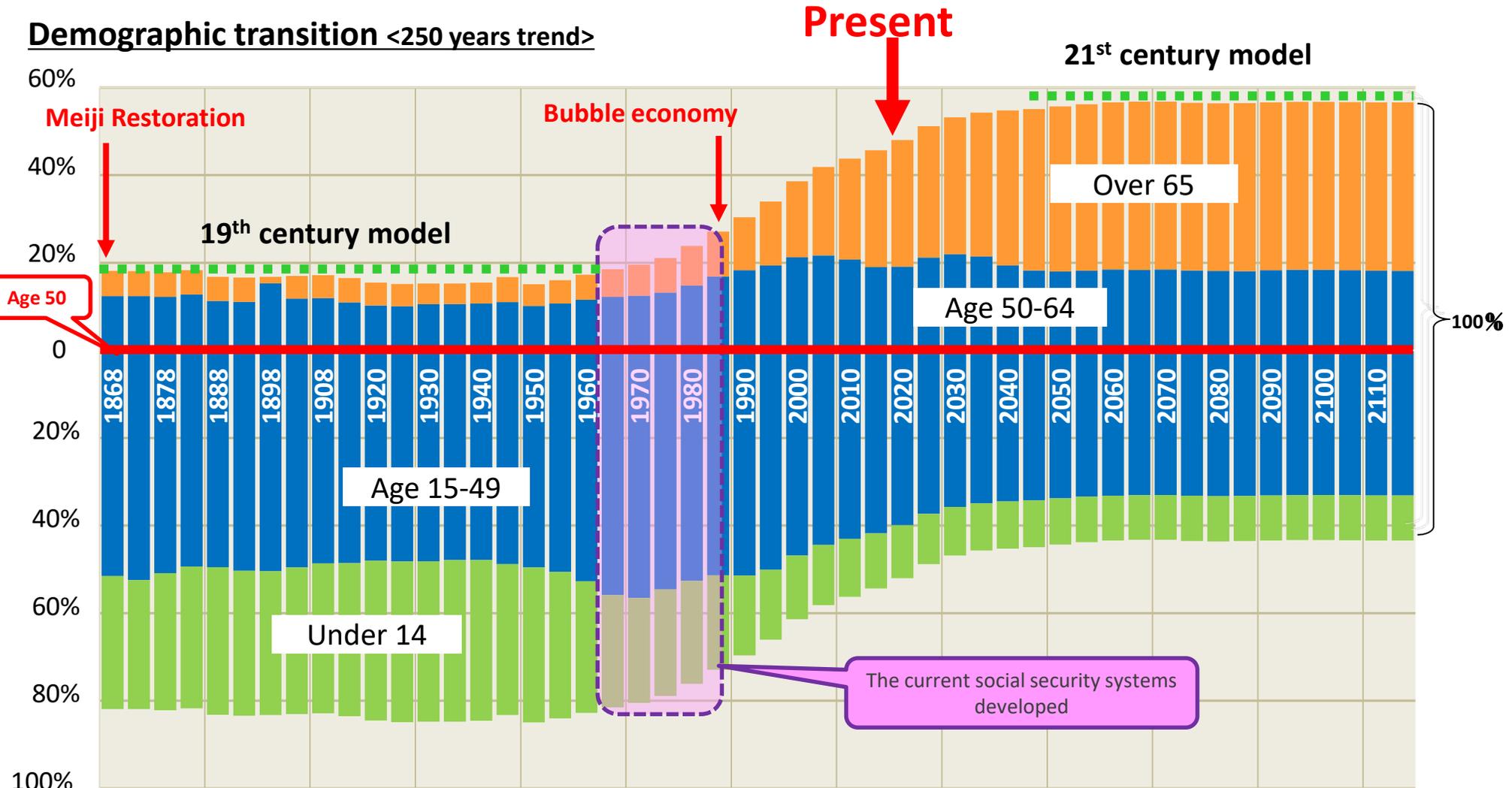
# Progress of aging <2060 prediction>



# Japan's demographic structure & transition

- There has been a **major shift in the population structure** in 19<sup>th</sup>-21<sup>st</sup> century
- It is impossible to maintain the social security systems established in 1960-80s

## Demographic transition <250 years trend>

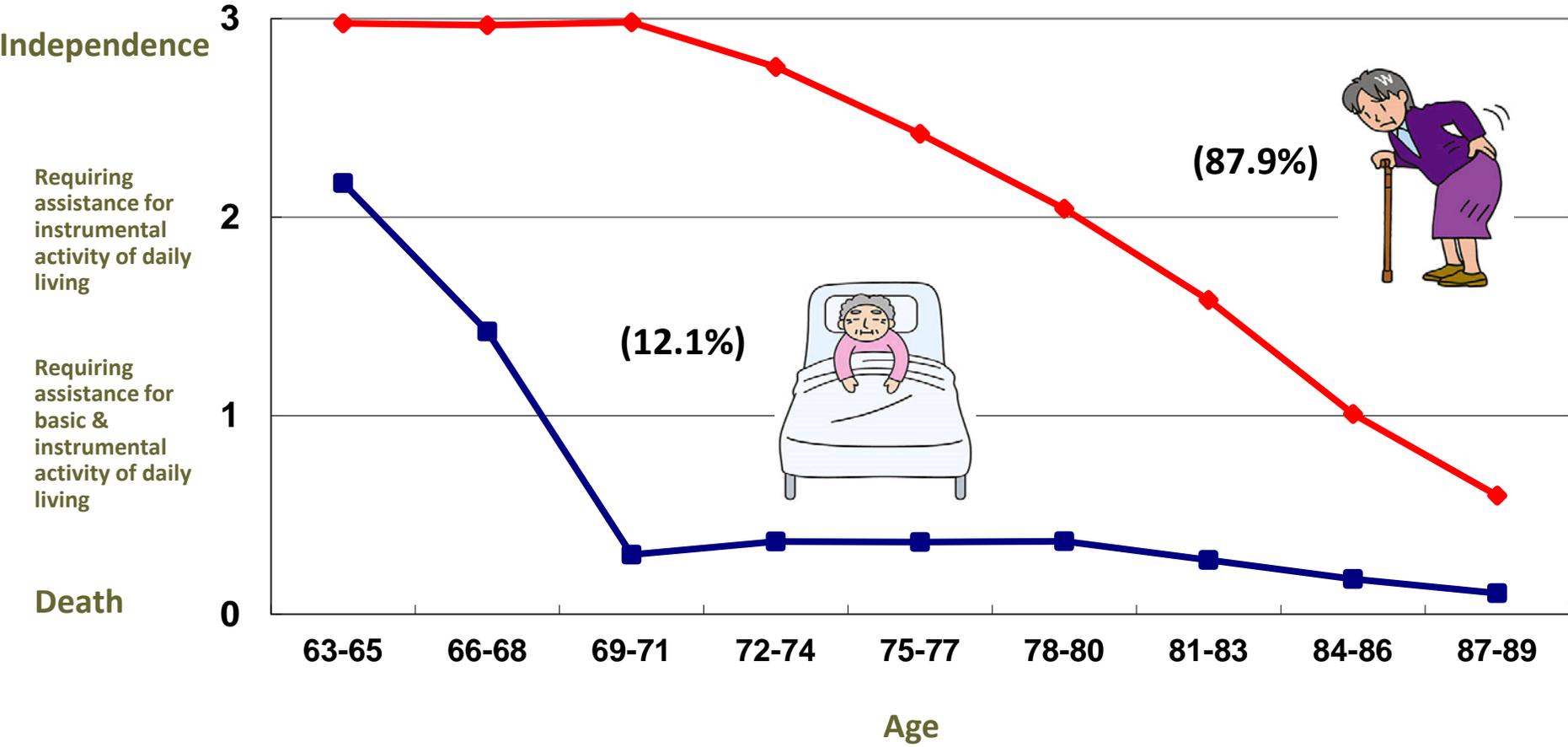


Source: *Sensus, Okazaki estimate, National Institute of Population and Social Security Research 2017 estimate*

# Change in Independence [1]

## —Nationwide 20-year Follow-up Survey of the Elderly—

### Females

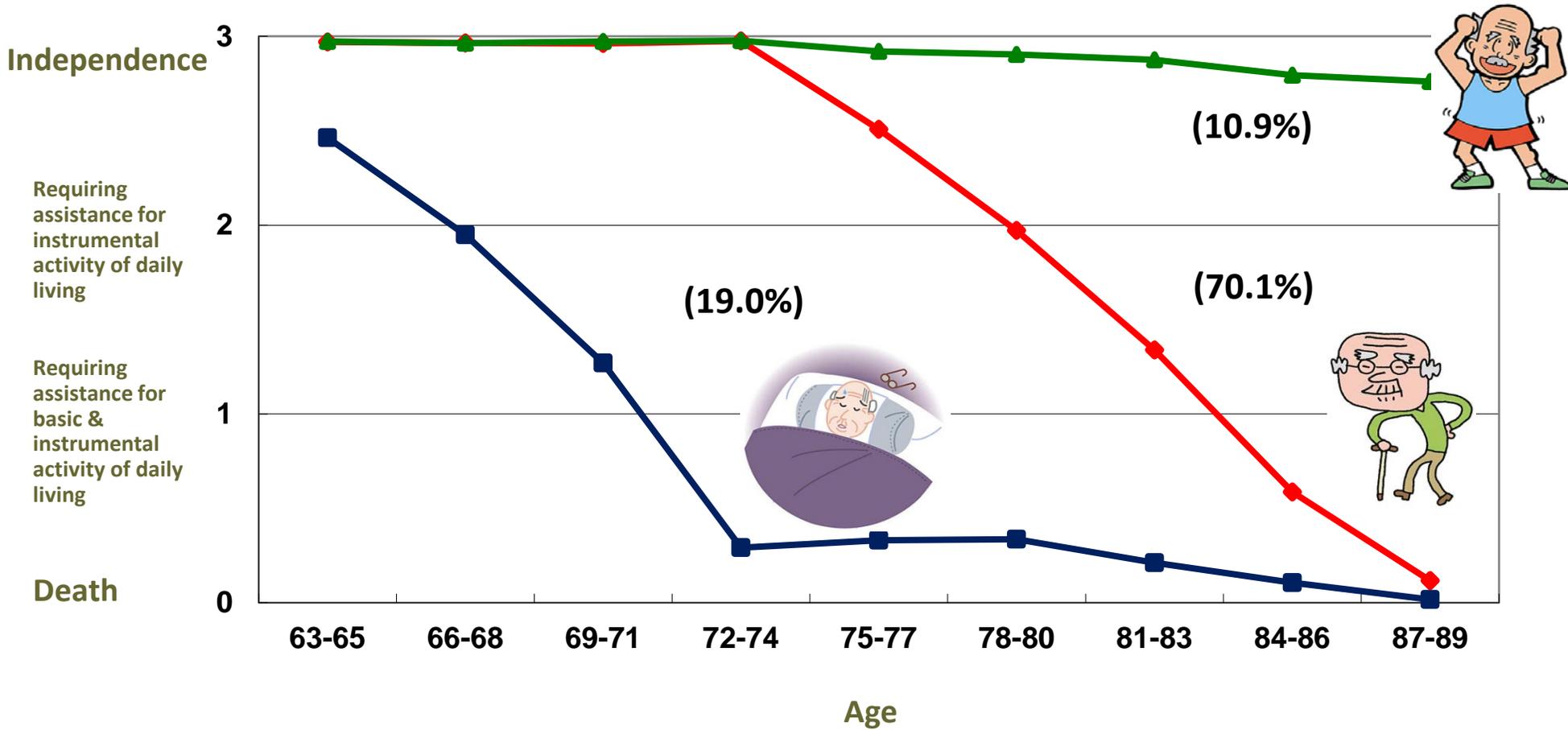


Source: Hiroko Akiyama, Science and Social Scheme in the Longevity Era, "KAGAKU," Iwanami Shoten Publishers., 2010

# Change in Independence [2]

## —Nationwide 20-year Follow-up Survey of the Elderly—

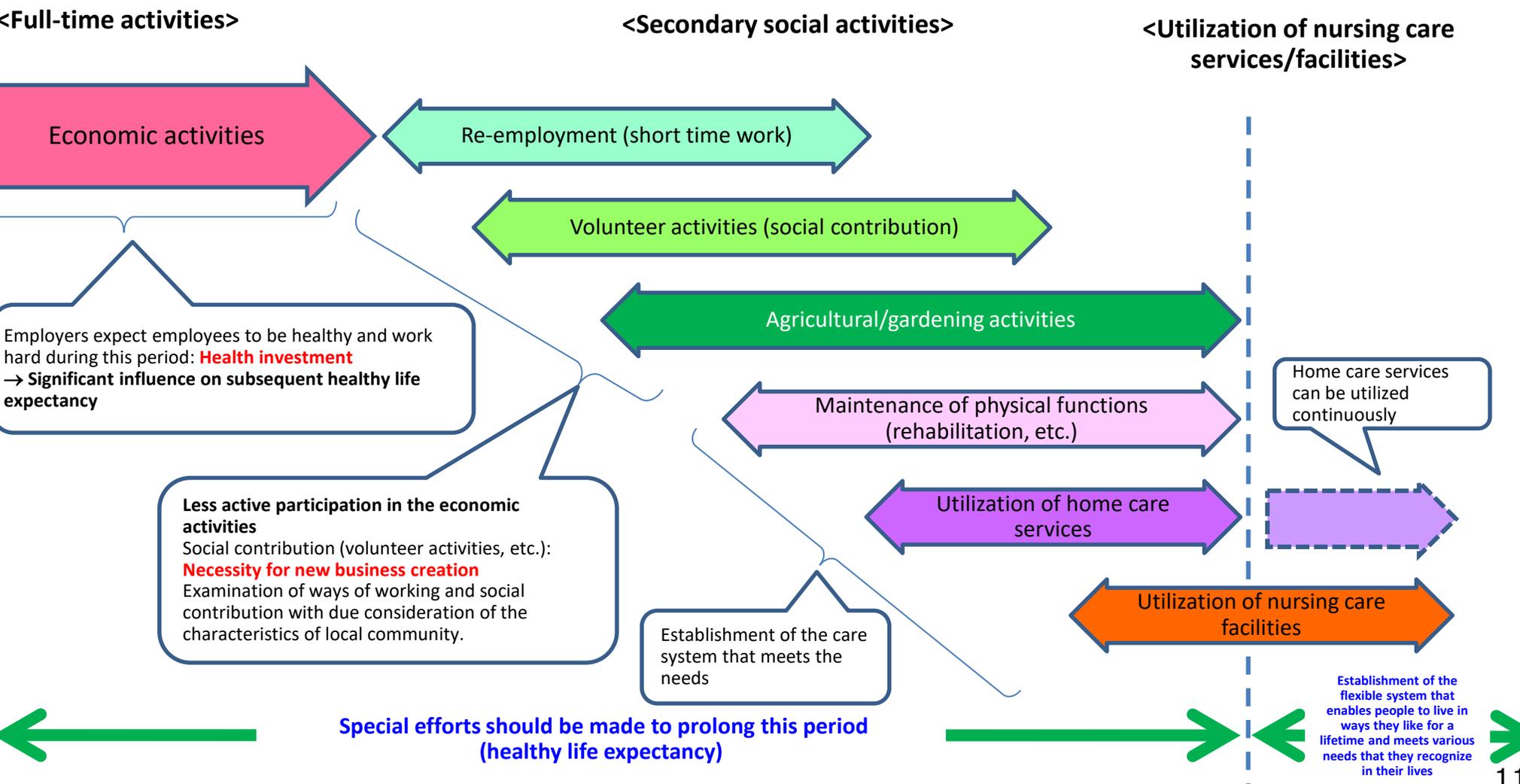
### Males



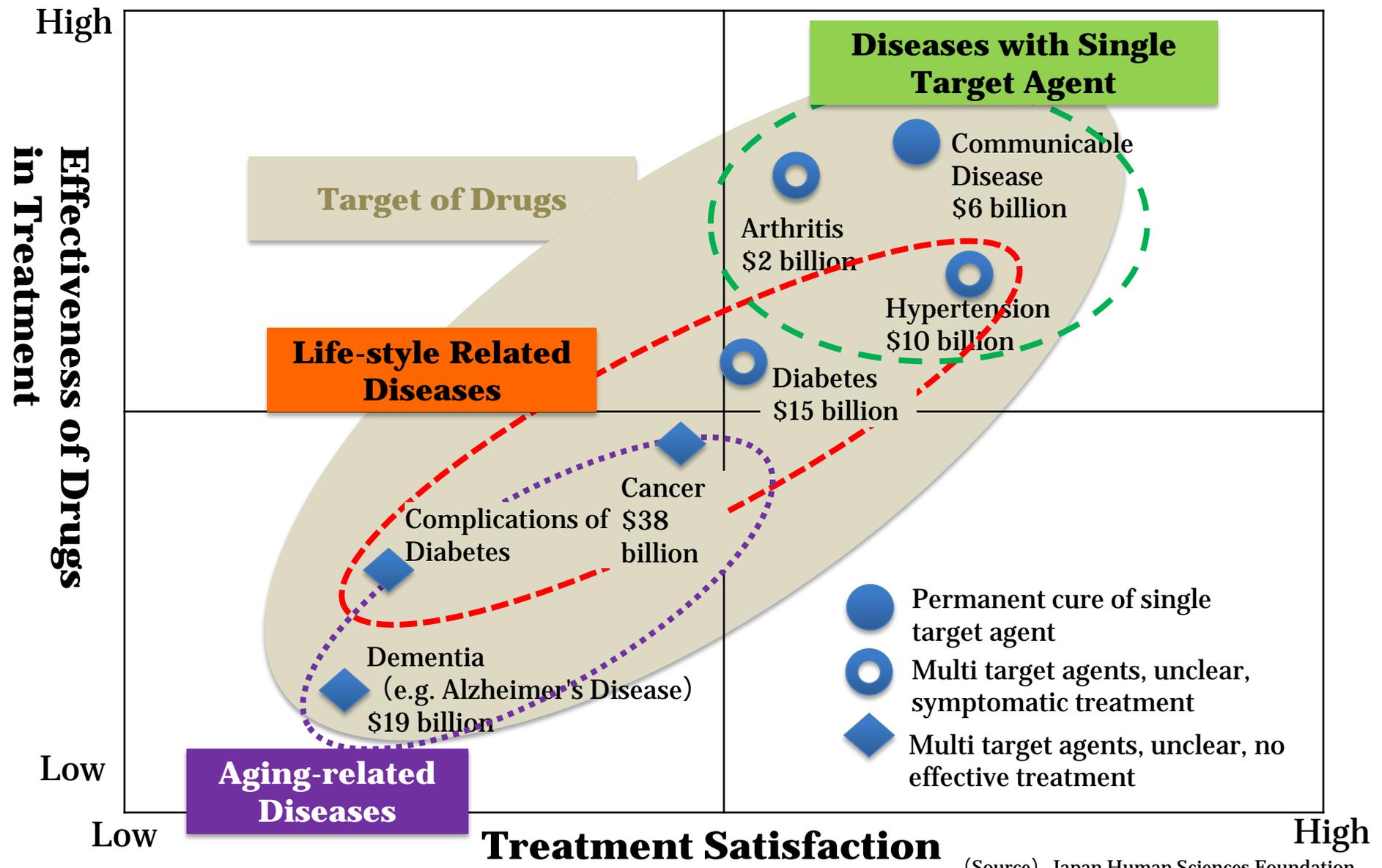
Source: Hiroko Akiyama, Science and Social Scheme in the Longevity Era, "KAGAKU," Iwanami Shoten Publishers., 2010

# Establishment of 'Lifelong Active Society'

- As everyone hopes to live long, society will inevitably age. → 'Aging society' is the **ideal society of mankind**.
- After the World War II, affluent economic society was realized, the **average life expectancy** increased from **about 50 years** to **about 80 years**.
- Based on the aging of society, it is required to restructure the socioeconomic system.



○ Effectiveness of drugs in treatment and treatment satisfaction vary across common diseases based on their characteristics.



(Source) Japan Human Sciences Foundation

# The Future of Healthcare and Medical System

Traditional  
Medicine

- Considering the increase of **Endogenous Disease (Life-style Related Disease / Aging Disease)** the establishment of a new **prevention-oriented healthcare system** is needed.

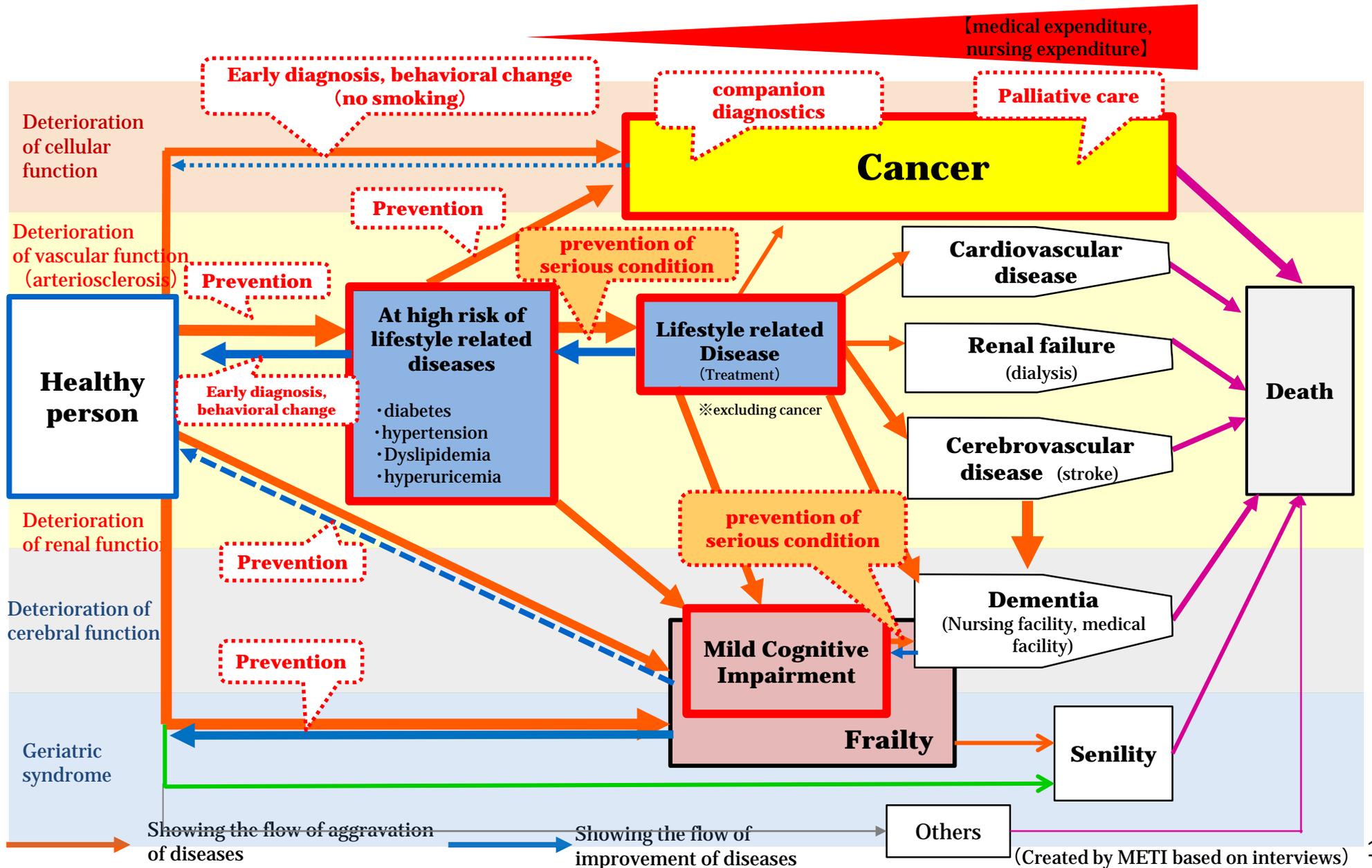
Characteristics of Diseases		Common Diseases	Treatment Plan		Healthcare System Needed
Exogenous	Diseases with Single Target Agents	Communicable Disease	Permanent Cure	Same for everyone (Standard treatment)	<ul style="list-style-type: none"> <li>○ Develop <b>drugs with high safety and response rate</b> <ul style="list-style-type: none"> <li>▪ Establish quick and accurate <b>diagnosis methods</b></li> <li>▪ Conduct efficient clinical trial and improve manufacturing tech</li> </ul> </li> <li>▪ Promote <b>regulatory science</b></li> </ul>
		Hereditary Disease			
Endogenous	Aging-related Diseases	Cancer (with high target specificity)	Early Diagnosis	Depending on characteristics and status of patients	<ul style="list-style-type: none"> <li>○ <b>Find potential patients in early stages</b></li> <li>○ <b>Manage/control the progression of symptoms</b> <ul style="list-style-type: none"> <li>▪ Develop <b>technology for early diagnosis</b></li> <li>▪ Provide <b>lifestyle guidance</b> in addition to prescription of drugs</li> <li>▪ Establish <b>progression control methods</b> through data collection</li> <li>▪ Utilize service &amp; equipment to support daily life with diseases</li> </ul> </li> </ul>
		Cancer	Disease Progression Control		
	Dementia	Life support			
Life-style Related Diseases	Hypertension	Diabetes	Early Diagnosis Prevention Behavioral Change	<ul style="list-style-type: none"> <li>○ <b>Find potential patients in early stages</b></li> <li>○ <b>Build prevention-oriented healthcare system</b> <ul style="list-style-type: none"> <li>▪ Be thorough in periodic health checkups and health guidance</li> <li>▪ Develop <b>health management tools</b> using IoT / AI</li> <li>▪ Strengthen roles of pharmacists and <b>registered dietitians</b></li> <li>▪ Promote <b>self-medication</b></li> </ul> </li> </ul>	

# Transitions of Symptoms (image)

Prevention stage

treatment and recuperation stage

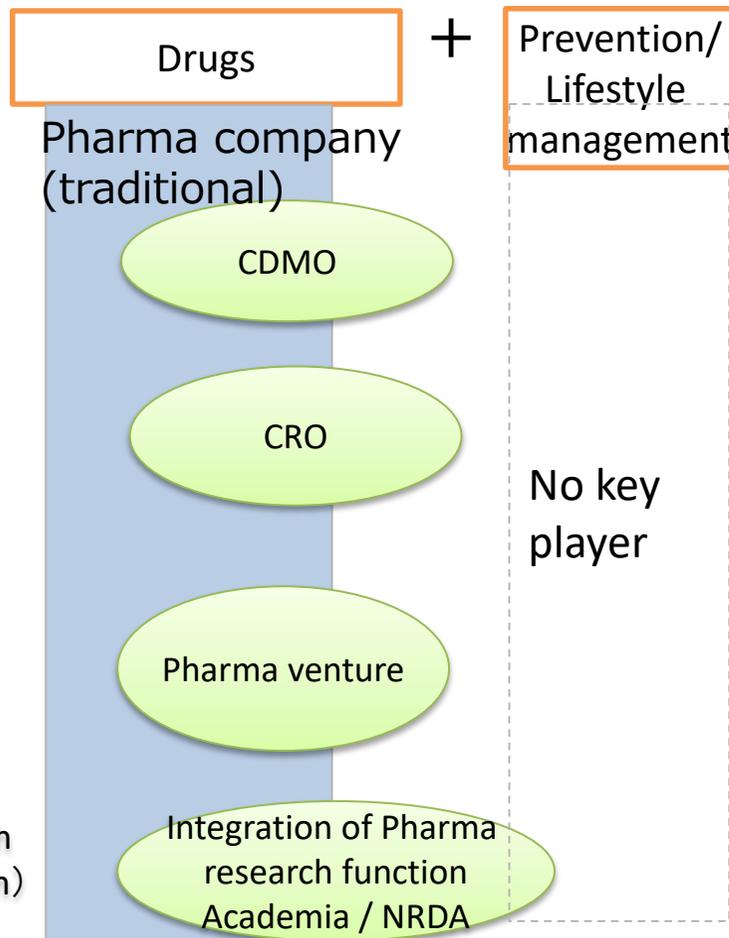
Terminal stage



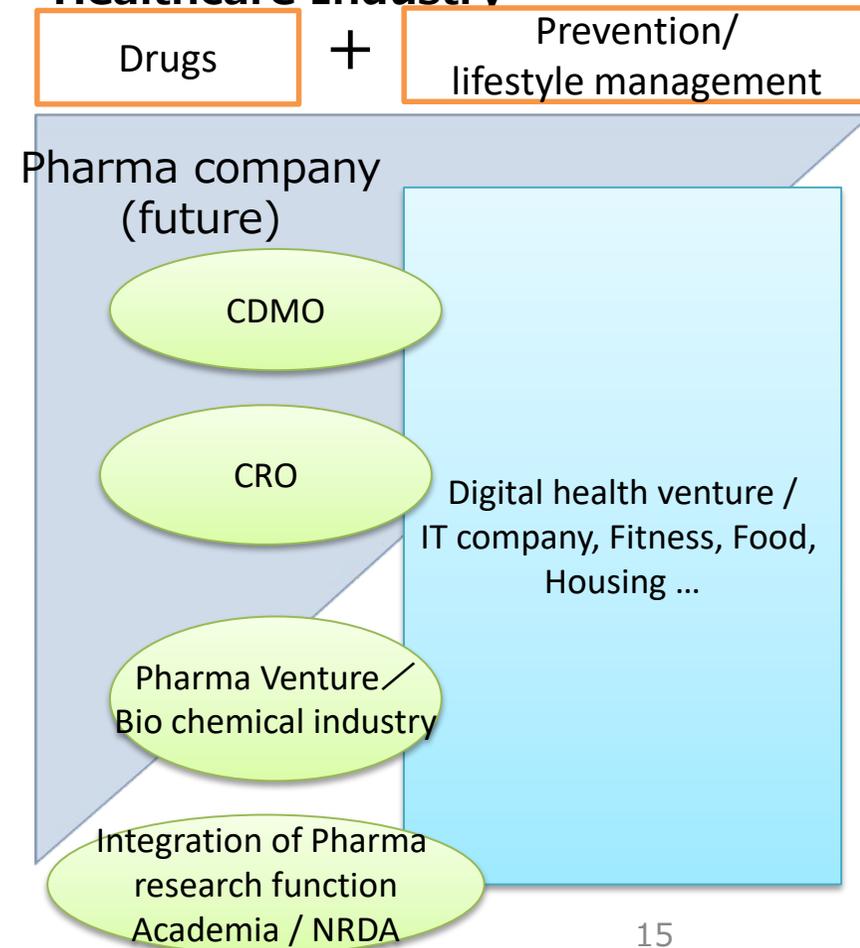
# Industrial Structure in New Healthcare System

- Pharmaceutical companies shift business models from the provision of drugs to the provision of comprehensive healthcare solutions including prevention and lifestyle management services
- Simultaneously, the switch from a vertical integration structure to a horizontal specialization structure is seen

## Traditional Structure in Pharmaceutical Industry



## New Structure in Comprehensive Healthcare Industry



# DFree" / Triple W JAPAN Inc.

## Overview

- DFree is the first urination timing predicting device ever. It detects the changes in bladder size and predicts urination timing with ultrasound.
- DFree supports those who have difficulty going to the toilet by themselves. Toilet care is always a stress for both caretaker and the care receiver. DFree reduces stress for everyone, bringing more smiles.
- Nursing care facilities in Japan have already introduced Dfree. Triple W JAPAN goes beyond Japan and has started demonstration project with nursing facilities overseas.

Sensing Bladder with  
Ultrasound



Connecting to Smart Devices



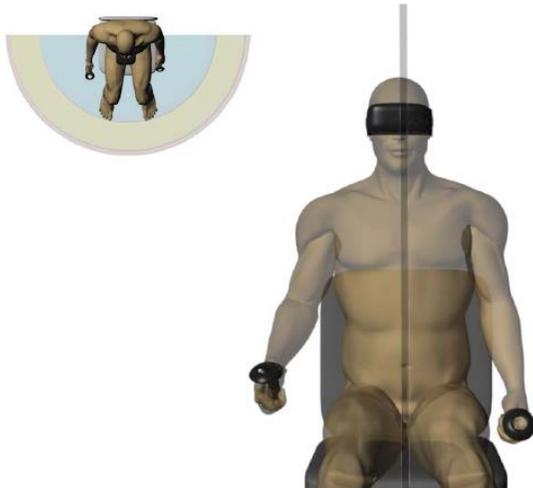
(Citation) Triple W JAPAN's website

# mediVR Ltd.

**Developed rehabilitation system using virtual reality and artificial intelligence.** Quantified rehabilitation which has been traditionally conducted with experience and skill of physiotherapist, and provided automatic and customized rehabilitation system to individuals.

## mediVR 治療機器 mediVR01

歩行に重要な体幹バランスを鍛えるプログラム  
Tolerance calibration



頭を使いながら運動 = **二重課題 (デュアルタスク)**  
(※リハビリテーション効果が最も高い)



**体幹バランス訓練 & 認知機能訓練**  
**日常生活に必須の歩行能力再獲得 (転倒リスク低減)**

# EXAWIZARDS

- 認知症者等のケアに関する画像や音声などのデータを解析することで、介護技能に関する熟練者のケア技法の特徴を抽出し、ケア初心者の学習を支援。

## ケア動画（非構造化データ）をAIが解析



ベテランのケア

酒井さんのケア



ユマニチュード研修  
(指導中の東京医療センターの本田美和子医長)



ユマニチュードのインストラクターがスマートフォンのアプリで「赤ペン」を入れて指導。AIが学習し、教師データを蓄積する



# Next-Gen Power Wheelchair (WHILL)

- Compact size, Intuitive controls and omni wheels make maneuvering effortless and enjoyable, and allows you to go from the office to the park in a single device. Exceptional stability keeps you in complete control, best-in-class durability.
- Founders with solid engineering and design experience (NISSAN, OLYMPUS, SONY)
- Currently no entity in Europe, one distributor in UK, CE marking ready

- ✓ Award-winning design
- ✓ Excellent terrain coverage & tight turning radius
- ✓ Safety & comfort through software integration

WHILL

## Design



“Unlike any existing wheelchair”

Patented

## Technology

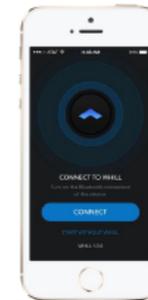


“Thrive in any environment”

4WD  
X  
Omni-wheel  
Technology

Patented

## Software\*



- Remote control
- Customization
- Remote maintenance

Patented

# OQTA

- OQTA is a service to send someone precious to you your genuine love. Using only a one-second sound.
- Aim to heal loneliness and mental health by using OQTA clock system.
- <https://www.oqta.com/index.html.en>



1. When you wonder how your grandma is doing,



2. Tap her icon on the dedicated smartphone app



4. Let your grandma know someone is thinking of her

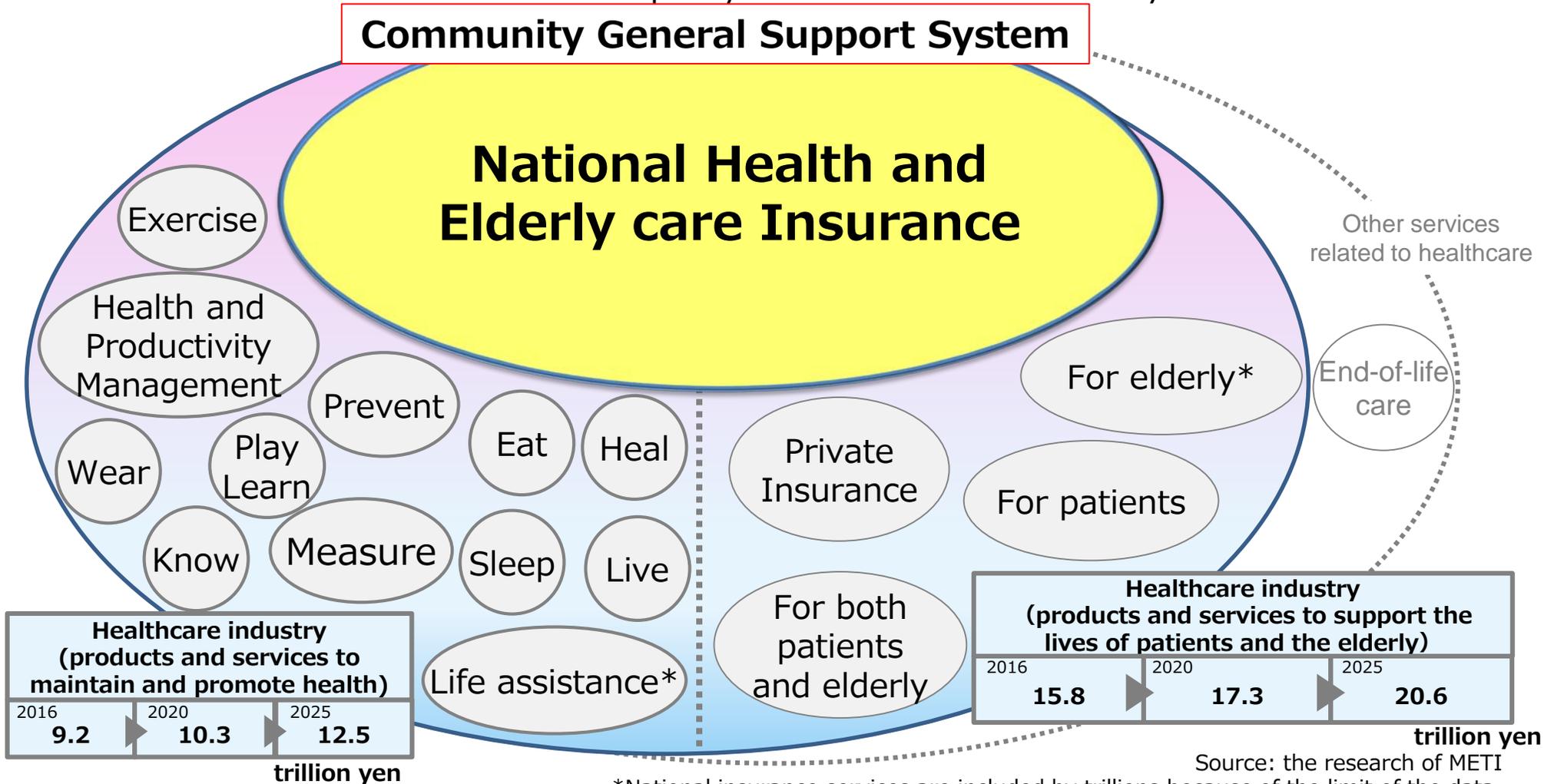


3. The connected cuckoo clock makes a sound



# Market Scale of Healthcare Industry: Healthcare Businesses Outside Public Insurance Coverage

- We sorted the entire picture of healthcare industry, healthcare businesses outside public insurance coverage and estimated the current and future market scale for each industrial field, under the existing research. The healthcare industry is expected to expand into a 25-trillion-yen market by 2016 and a 33-trillion-yen market by 2025.
- It will be revised under trends in the policy of the healthcare industry.



# Details of the Market Scale of Healthcare Industry: Healthcare Businesses Outside Public Insurance Coverage

- The healthcare industry is expected to expand into a 25-trillion-yen market by 2016 and a 33-trillion-yen market by 2025.
- Products and services whose markets are expected to expand in the future such as dwellings for health and advice services related to health are not included.

**Healthcare industry to maintain and promote health** 2016 **9.2trillion** ▶ 2025 **12.5trillion**

<b>Health and Productivity Management</b>	2016 560billion	▶	2025 760billion	<b>Eat</b>	2016 3.2trillion	▶	2025 4.16trillion
<ul style="list-style-type: none"> <li>✓ Agency of medical check-up</li> <li>✓ Measures for mental health</li> </ul>				<ul style="list-style-type: none"> <li>✓ Supplement and healthy food</li> <li>✓ OTC and quasi-drugs</li> </ul>			
<b>Know</b>	2016 30billion	▶	2025 60billion	<b>Sleep</b>	2016 150billion	▶	2025 190billion
<ul style="list-style-type: none"> <li>✓ App related to healthcare</li> <li>✓ Publications related to healthcare</li> </ul>				<ul style="list-style-type: none"> <li>✓ Functional bedclothes</li> </ul>			
<b>Measure ****</b>	2016 1.02trillion	▶	2025 1.12trillion	<b>Play Learn</b>	2016 2.38trillion	▶	2025年 3.2trillion
<ul style="list-style-type: none"> <li>✓ Service of medical check-up</li> <li>✓ Measurement instrument</li> </ul>				<ul style="list-style-type: none"> <li>✓ Health tourism</li> </ul>			
<b>Heal</b>	2016 400billion	▶	2025 520billion	<b>Life assistance*</b>	2016 270billion	▶	2025 340billion
<ul style="list-style-type: none"> <li>✓ Esthetic salon and relaxation service</li> <li>✓ Relaxation instrument</li> </ul>				<ul style="list-style-type: none"> <li>✓ Glasses and contacts</li> </ul>			
<b>Exercise</b>	2016 710billion	▶	2025 1.59trillion	<b>Prevent</b>	2016 360billion	▶	2025 400billion
<ul style="list-style-type: none"> <li>✓ Fitness club***</li> <li>✓ Training machine</li> </ul>				<ul style="list-style-type: none"> <li>✓ Sanitary goods</li> <li>✓ Vaccination****</li> </ul>			
<b>Live</b>	2016 100billion	▶	2025 130billion	<b>Wear</b>	2016 -	▶	2025 -
<ul style="list-style-type: none"> <li>✓ Household appliances for health</li> </ul>				<ul style="list-style-type: none"> <li>✓ Functional clothes</li> </ul>			

※They couldn't be estimated because of lack of data.

**Healthcare industry to support lives of patients and the elderly** 2016 **15.8trillion** ▶ 2025 **20.6trillion**

<b>Private Insurance</b>	2016 7.22trillion	▶	2025 9.36trillion
<ul style="list-style-type: none"> <li>✓ 第三保険</li> </ul>			
<b>For patients**</b>	2016 60billion	▶	2025 100billion
<ul style="list-style-type: none"> <li>✓ Food for patients</li> </ul>			
<b>For elderly</b>	2016 8.38trillion	▶	2025 10.86trillion
<ul style="list-style-type: none"> <li>✓ Food for elderly care** and tourism with support for elderly</li> <li>✓ House for nursing care and welfare equipment*</li> </ul>			
<b>For both patients and elderly</b>	2016 120billion	▶	2025 230billion
<ul style="list-style-type: none"> <li>✓ Food delivery service</li> </ul>			

**Other services related to healthcare**

**End-of-life care**

\*: mixing service of national insurance and non-national insurance

\*\* : mixing service for institution and individual

\*\*\* : including services for elderly

\*\*\*\* : mixing service paid by municipal corporation, company and individual

# Promoting “Regional Councils on Healthcare Industries of Next Generation”

- Promoting “Regional Councils on Healthcare Industries of Next Generation” to accelerate cooperation between healthcare-related professionals in a region and create a healthcare industry based on regional needs
- Regional Councils have been established in 5 blocks, 17 prefectures, and 18 cities (40 in total). (As of May 2018)

- Established <Prefectures>**
- Aomori
  - Tochigi
  - Gunma
  - Saitama
  - Kanagawa
  - Fukui
  - Nagano
  - Shizuoka
  - Mie
  - Osaka
  - Hyogo
  - Wakayama
  - Shimae
  - Hiroshima
  - Tokushima
  - Nagasaki
  - Kumamoto

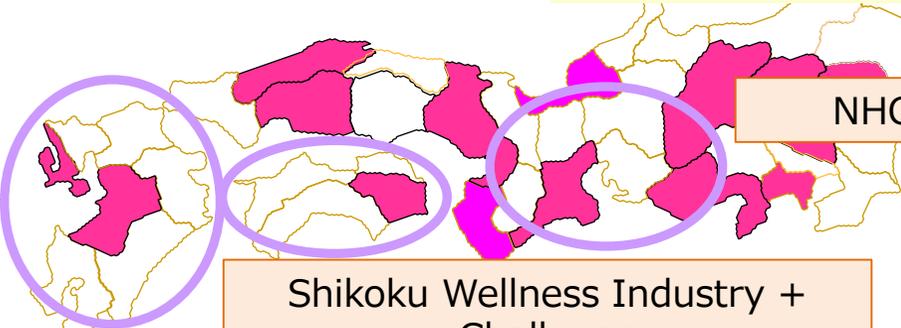
- Established <Cities>**
- Morioka
  - Sendai
  - Semboku
  - Kaminoyama
  - Yokohama
  - Kawasaki
  - Matsumoto
  - Toyama
  - Takaishi
  - Koube
  - Amagasaki
  - Okayama
  - Matsuyama
  - Kitakyushu
  - Sasebo
  - Koshi
  - Kagoshima
  - Satsumasendai

Hokkaido Health Care Initiative

The Organization to promote Healthcare And Medical device industry in K(Q)yushu



Council of Bankoku Iryou Shinryo



NHC Forum (Chubu)

Shikoku Wellness Industry + Challenge

# Phillips and Tohoku University

- Phillips and Tohoku University has agreed on joint research about healthcare ICT solutions focused on behavioral change.
- Philips is a leading health technology company focused on delivering integrated solutions. Phillips aims to improve patient outcomes and increase productivity in the health sector by applying Artificial Intelligence (AI) technologies to complex datasets across the data value chain. This includes data from patients, healthcare providers, health insurers and medical technology providers.
- Tohoku University started a program in 2014 for developing innovative medical devices by cooperating with corporates and academia and utilizing design thinking

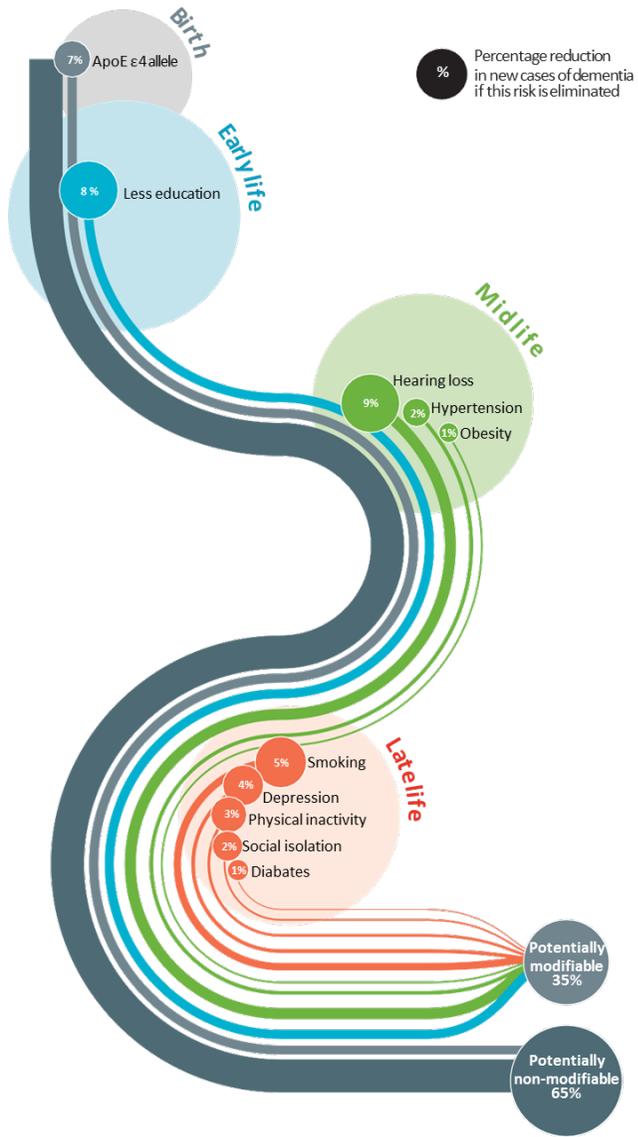
The Philips logo, consisting of the word "PHILIPS" in a bold, blue, sans-serif font.

# Iwaki Big Data : main items

- ① Dementia, Depression etc: 15 tests (MMSE, CDT etc), amyloid  $\beta$ 40, amyloid  $\beta$ 42, MRI, Olfactory test, center of gravity sway
- ② Oral health (remaining tooth number, periodontitis, salivary volume, microbiota)
- ③ Neutrophils functions, Lymphocyte subtype, Cytokine, Hormone, Vitamin
- ④ Microbiota in gut (T-RFLP method, 16S metagenome analysis, whole genome analysis)
- ⑤ Physical fitness (16 items)
- ⑥ Metabolic/ Locomotive syndrome: Bone metabolism (bone density), Fatty acid analysis, Amino acid analysis, Glucose metabolism, Joint X-p, MRI
- ⑦ Atherosclerosis (PWV, ABI)
- ⑧ Whole genome
- ⑨ Echogram for heart and abdomen
- ⑩ Others: trace elements in serum(12 elements like as selenium, copper, aluminum zinc), H<sub>2</sub>, CH<sub>4</sub>, CO NO in exhaled gas, Blood metabolome analysis etc.

# Risk factors for dementia

- The Lancet Commission identifies nine potentially modifiable health and lifestyle factors from different phases of life that, if eliminated, might prevent dementia.



# Dementia

United States

Europe

Collaboration

Japan

Round Table

- Academia (dementia, nursing care, neurology, IT, etc)
- Business (pharma, non-pharma)

**Dementia-related field and registry**

Registry

Municipalities

Nursing care providers

⋮

Projects for Dementia

**Specific Research/  
Empirical Research**

Risk reduction

Diagnosis/Prevention

Treatment

Life support

# PPPs for Dementia around the World

- Public private partnerships have started in the field of dementia's risk reduction, prevention, treatment and life support in the world

## Memory Friendly Finland at 2020

- Started in 2012 as the Finnish National Memory program.
- Promoting Brain Health, preventing memory disorders etc



## Dementia Forum X

- Held with cooperation by Karolinska institute and Swedish royal family.
- Supported by **IKEA**
- Held in Japan in April 2018. Discussed **life support** and **risk reduction**.



## ADNI (Alzheimer's Disease Neuroimaging Initiative)

- Uniting researchers with study data to define the progression of Alzheimer's disease (AD).
- Data include MRI and PET images, genetics, cognitive tests, CSF and blood biomarkers

## USA2 (US Against Alzheimer's)

- Driving collaborations Alzheimer's treatment, **care, life support**



## World Dementia Council

- Established by the G8 at the London summit. Consisted of global leaders and professionals on dementia issues.
- Focus area is ①Awareness, ②Care, ③Risk Reduction, and ④Research.



## University of Stirling

- Promoting **dementia-friendly design**



## EPAD (European Platform for Alzheimer's Disease)

- Providing a platform for developing a new treatment for dementia prevention

## WEF (World Economic Forum)

- Opened the Fourth Industrial Revolution Center. Started projects on Precision Medicine.
- Interested in **Aging Society**



## Japan-China Services Trade Cooperation Mechanism

- Dialogue for cooperation in elderly care and support



## Singapore

- Considering pilot projects on life support for people with dementia

## ORANGE Platform

- Nationwide clinical registry for dementia
- Consisted of multiple registries of patients with dementia stratified by the following clinical stages: preclinical, mild cognitive impairment, early-stage, and advanced-stage dementia.

# Mediva

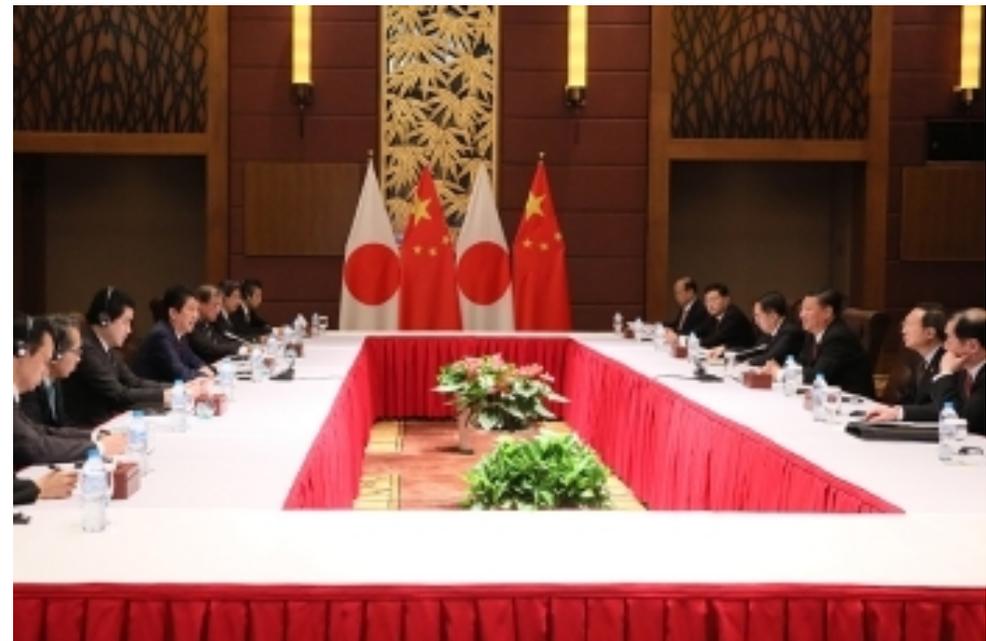
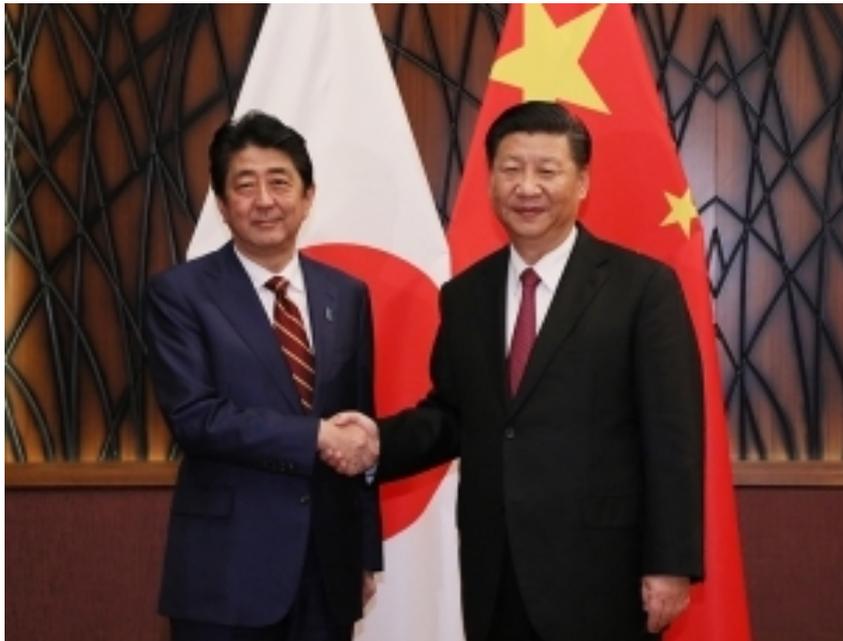
- Mediva and Tokyu Land Corporation were awarded by the University of Stirling's Dementia Services Development Centre (DSDC) with its first international gold accreditation for excellence in dementia design.
- Two buildings within a senior living development in the Tokyo suburb of Setagaya received recognition from the world-renowned center.



# Japan-China Summit Meeting : Cooperation in Aging Issues

## Strengthening economic cooperation

- The two sides shared the view that developing the economic relationship is one of the most important foundations for both countries, and that **cooperation will move ahead in a broad range of fields including** finance, food trade, the environment and energy conservation, tourism, and the **declining birthrate and aging population**, and that exchanges between the two countries' business communities will be encouraged. (November 11, 2017)



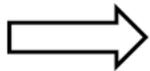
Quality Digital Health

# Concept of Quality Digital Health

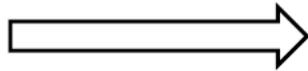
- To utilize digital technology to cover the limitation of existing healthcare
- To take an organized approach to gather and analyze data in order to achieve “meaningful data-set for certain purpose”
- To put high importance on privacy and ethical issues in order to gather “clean data in process ”

# Integration of BioMedicaleveryThing (IoBMT)

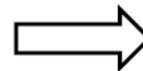
ギリシャ時代



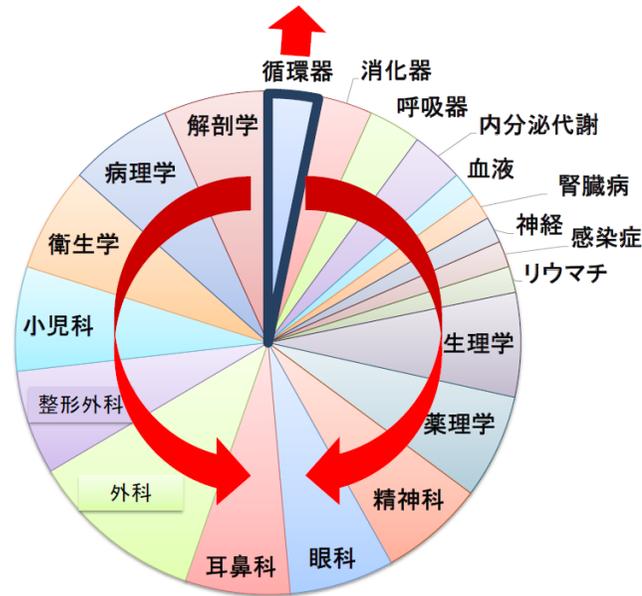
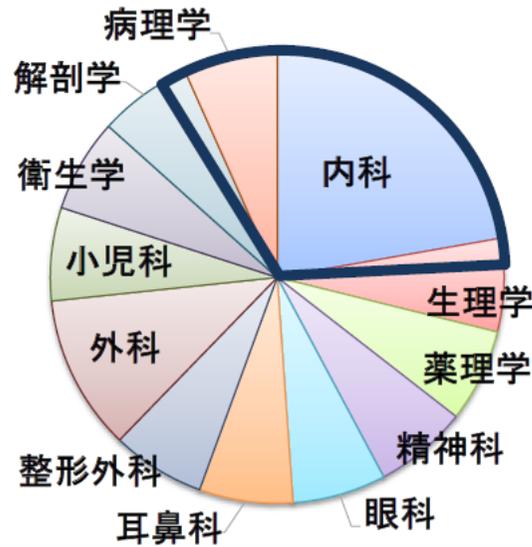
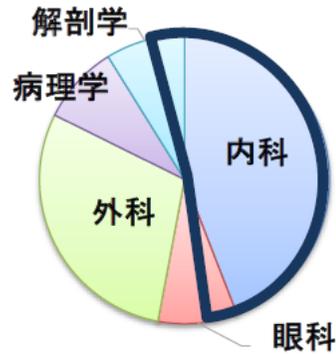
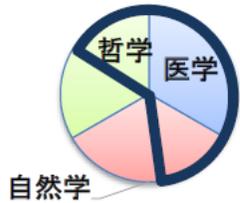
18世紀



19世紀後半



現在



Citation:  
 Dr. Nagai, Healthcare IT Study Group,  
 April 12, 2018

**Joint Declaration by Mr. Shinzo Abe, Prime Minister of Japan and Mr. Jean-Claude Juncker, President of the European Commission**  
Brussels, 6 July 2017

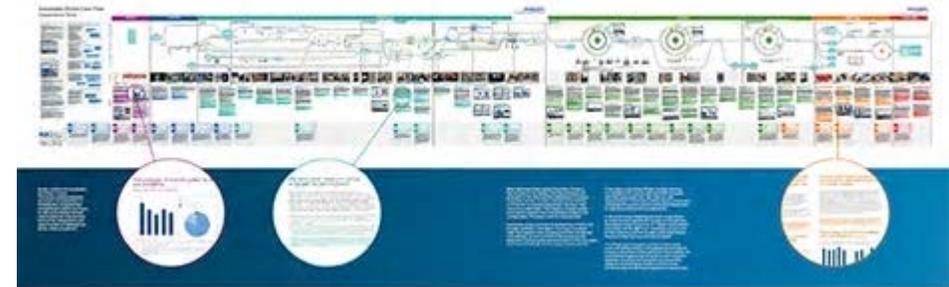
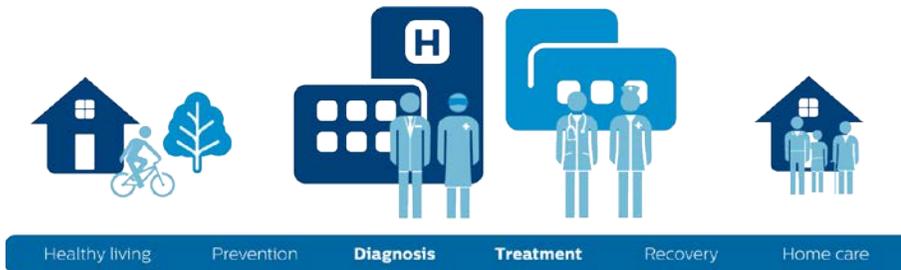
At the G7 Ise-Shima Summit, we reaffirmed that the free flow of information is a fundamental principle to promote the global economy and development, and ensures a fair and equal access to the cyberspace for all actors of digital economy.

We stress the importance of ensuring a high level of privacy and security of personal data as a fundamental right and as a central factor of consumer trust in the digital economy, which also further facilitate mutual data flows, leading to the development of digital economy. With the recent reforms of their respective privacy legislation: the entry into force of the EU General Data Protection Regulation (GDPR) on 24 May 2016, which will apply from 25 May 2018, and of the Japanese Act on the Protection of Personal Information (APPI) on 30 May 2017, the EU and Japan have further increased the convergence between their two systems, which rest notably on an overarching privacy law, a core set of individual rights and enforcement by independent supervisory authorities. This offers new opportunities to facilitate data exchanges, including through a simultaneous finding of an adequate level of protection by both sides. With this in mind, we reaffirm our commitment to further intensify our efforts towards achieving this goal by early 2018.

- Quality digital health and precision healthcare/preventive healthcare
  - Can provide evidence-based, credible, new healthcare solutions
  - May reduce social concern for digital health (domestically and cross-border)
  - Can efficiently achieve the goal, considering cleansing cost and accuracy level
  - Can be accepted by more wide global academics, professionals and businesses

# Integrated Healthcare Solutions (Karolinska)

- Karolinska University Hospital creates long-term partnerships in order to continuously improve and develop healthcare together with industry, academia and the patient.
- Companies will be able to commercialize products and services and the hospital will be able to further develop solutions based on identified needs. The partnerships may or may not be linked to our procurement processes.



- Establish system infrastructure for connecting and accumulating data collected through IoT, with the consent from patients (examination and implementation of the Agreement on the Exchange of Health Information and a form for exchanging health information)
- Using **HbA1c**, validate the project's effect with a method used in clinical trial (experimental research)

**Big** Effect on reduction of medical Expenditure **Small**

**Lifestyle related diseases** **Target of our project**

**Target of conventional projects**

## Diabetes

[diabetes : under treatment]

**Medication / dialysis**

**10M people**

medication: 35M people  
dialysis: 0.12M people

[diabetes (mild)]

**HbA1c 6.5 and above**  
No medication

[prediabetes]

**HbA1c above 6.0 and below 6.5**

**10M people**

[Healthy people]

**HbA1c below 6.0**

**80M people**

※ Population of 30 and above, excluding people with prediabetes

<Annual medical expenditure>

medication: \$4,000

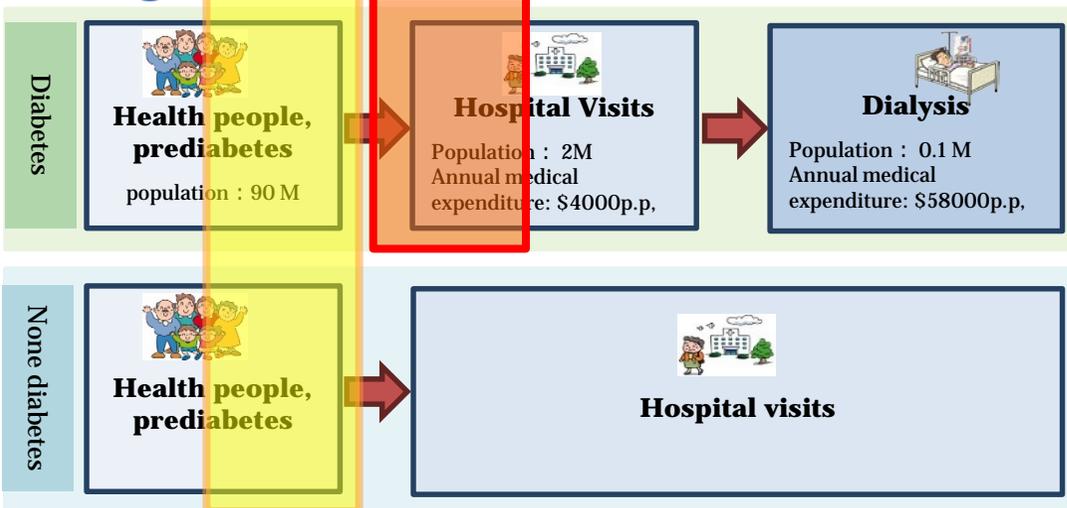
dialysis: \$58,000

**Other lifestyle related diseases**  
(Hyperlipidemia, hypertension, etc)

**Establish basic algorithm based on quality data, and establish AI that can be used in the medical field**

# Use of healthcare information (Project for Diabetes Prevention)

## <Target>

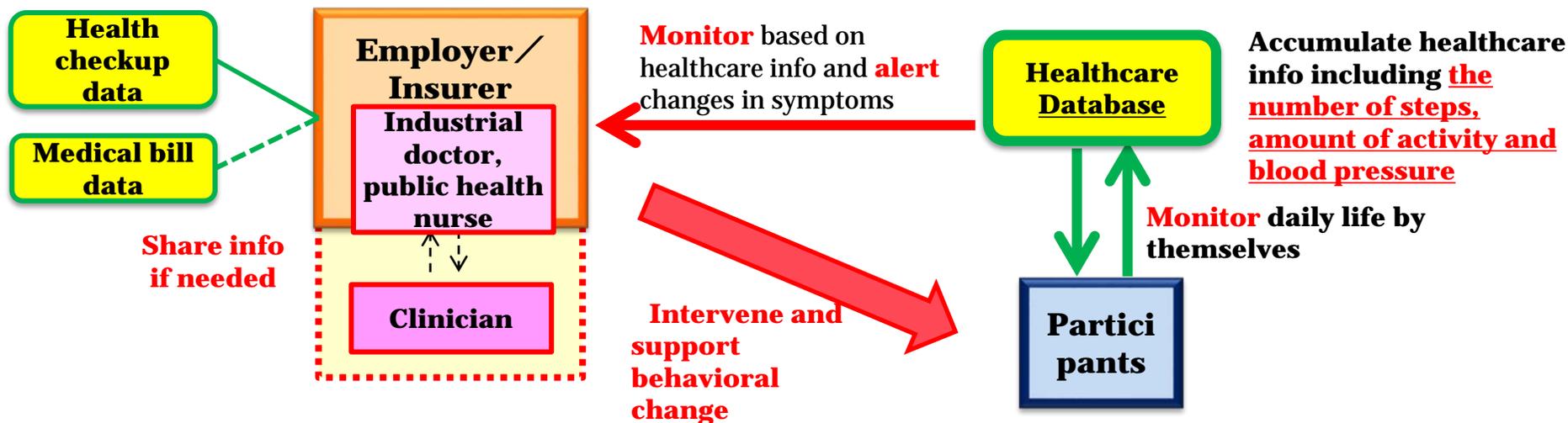


## <Elements of health information mainly used>

- Information to monitor daily life
  - Number of steps, amount of activity** (collected through wearable devices including pedometer and smartphones)
- Information to alert changes in symptoms
  - weight** (measured in workplace)
  - blood pressure** (measured in workplace)
  - Elements to indicate the serious level of diabetes : **HbA1c** (monthly inspected in medical institution), **blood glucose level** (measured in workplace), **urinary glucose level** (measured in home)

※ Main participants are people with diabetes (mild), but can include people with hypertension and dyslipidemia  
 Participants should have their **HbA1c (NGSP)  $\geq 6.5$**  and don't take dialysis or insulin injection or hypoglycemic agent.

- ※ Blood glucose level and urinary glucose level can be changed in a day. Be sure to measure them under certain conditions
- ※ Change or addition in the above elements is acceptable if possible to achieve the equivalent goal



October events

# The 1<sup>st</sup> Well Aging Society Summit Asia-Japan

Preliminary

In Japan, there is strong demand and opportunity for transformation in our healthcare ecosystem. Our rapid aging population is driving strong social demand for change. Japan has some of the most advanced basic sciences, applied sciences such as regenerative medicine, and has quality healthcare data from 120 million people. This provides opportunity for new technology, new business models, new culture to be implemented through partnerships within and globally.

## FOCUS TOPIC

The technology; **Biotech startups**

The business model; **Quality digital health**

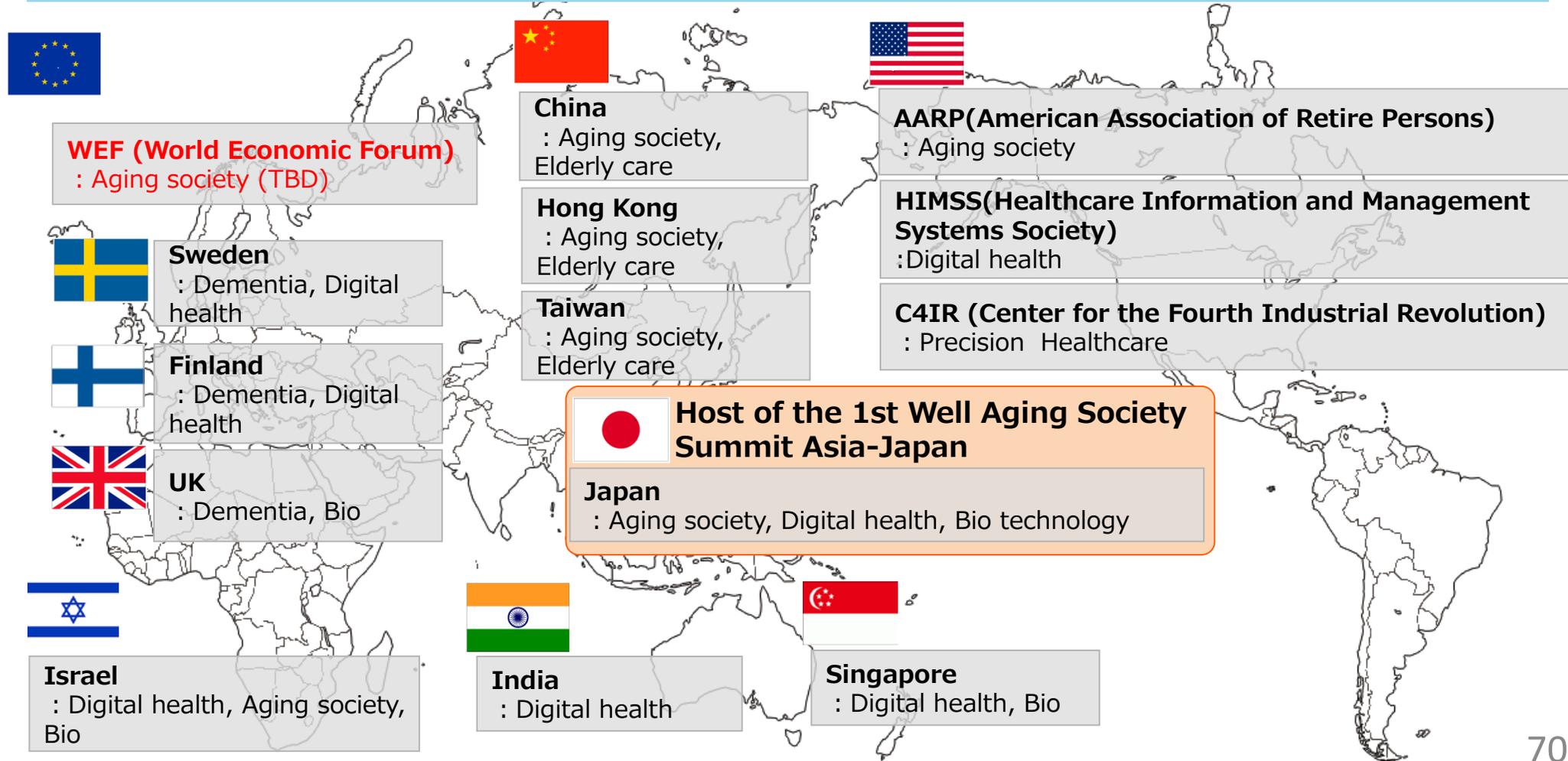
The culture; **Well aging society**

**(elderly care and support, preventive healthcare)**

- Format: Partnering event (symposium, pitch) inviting diverse global players such as healthcare ventures, investors and sponsors (Pharma, Medical device, IT, trading companies, insurers, VCs etc) and local governments from Japan
- Date: **October 9, 2018**  
**co-event with "Bio-Japan"**, *Asia's No.1 partnering event for the global biotechnology industry*
- Venue: Yokohama, Japan
- Supported by  
AMED(Japan Agency for Medical Research and Development),  
Government of Japan (Cabinet Office, Ministry of Economy, Trade and Industry(METI), Ministry of Health, Labour and Welfare)
- For more information contact:  
Healthcare Industries Division, METI [healthcare-events@meti.go.jp](mailto:healthcare-events@meti.go.jp), +81-3-3501-1790

# Cooperation with other countries in the 1st Well Aging Society Summit Asia-Japan

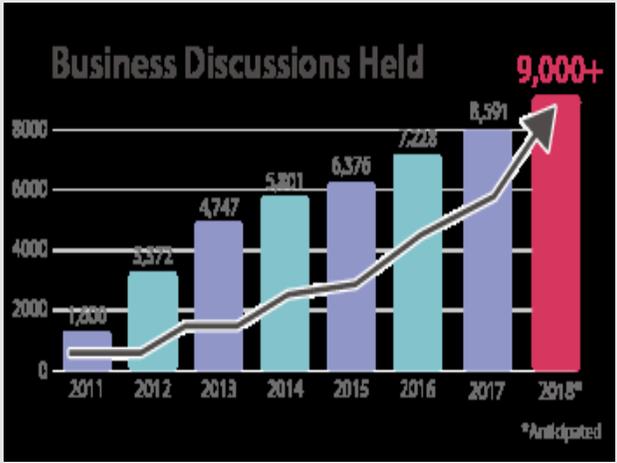
- Japan will invite startups, healthcare companies, investors, and governments in the world to the 1st Well Aging Society Summit Asia-Japan
- We will build a collaborative relationship on issues of aging society



# Related Events (1)

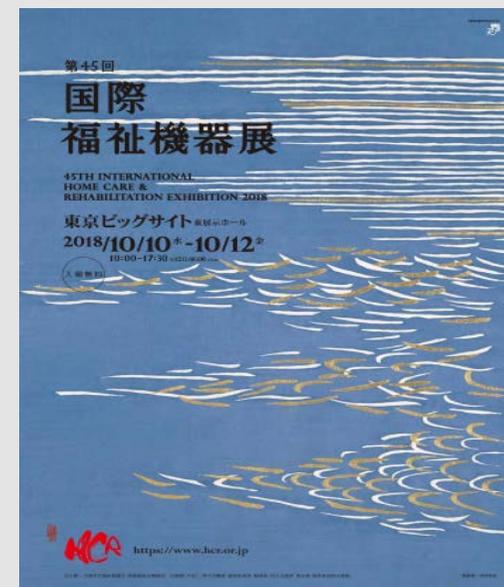
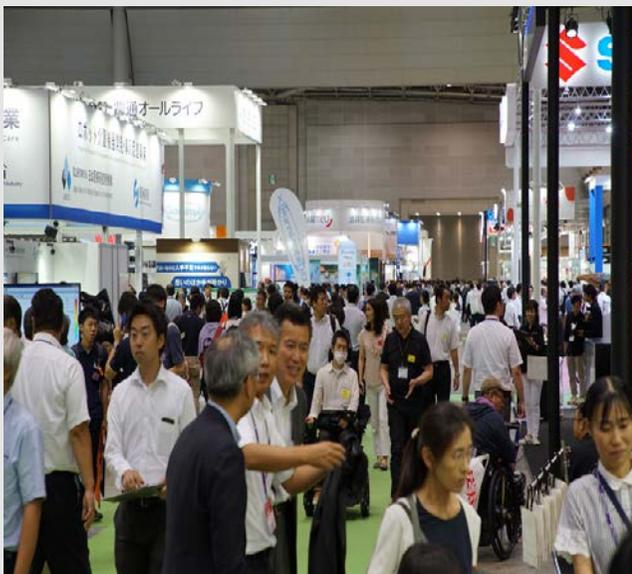
## BioJapan 2018

- Outline: BioJapan has played an important role in facilitating interaction between Japanese and global companies/organizations and stimulating new business opportunities for almost two decades. Top business development, licensing, and alliance management professionals, R&D personnel, and biotech company executives from around the world will gather in Yokohama in October 2018 for the 20th iteration of BioJapan. Over 900 organizations from around 30 countries are expected to participate in the event, to hold an anticipated 9,000 business meetings over the course of the three days. Bio Japan is Asia's No.1 partnering event for biotechnology.
- Date: 10<sup>th</sup> -12<sup>th</sup> October, 2018
- VENUE: Yokohama, Japan
- Home Page URL: <https://www.ics-expo.jp/biojapan/en/>



## 45th International Home Care & Rehabilitation Exhibition (H.C.R.2018)

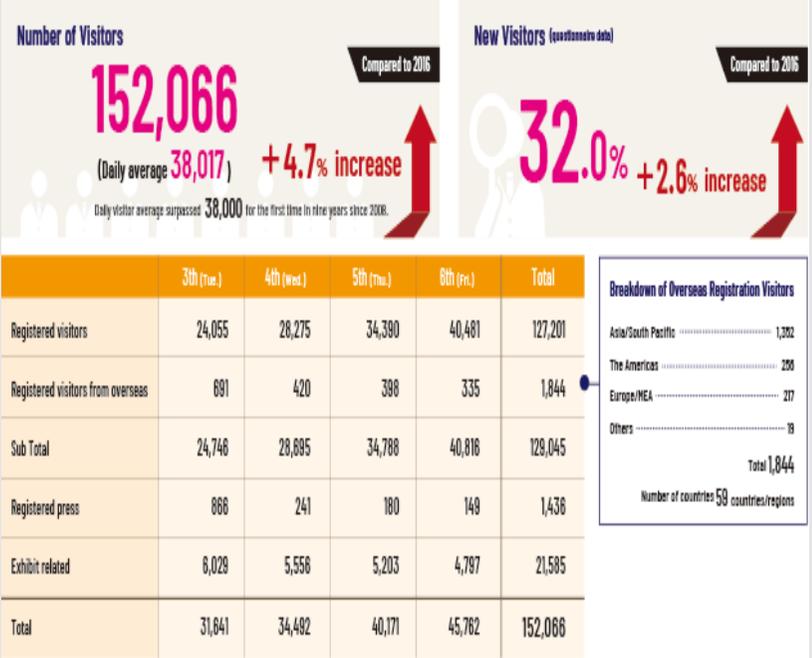
- Outline: H.C.R. is the largest international home care and rehabilitation exhibition in Asia, which brings together home care and rehabilitation equipment from all over the world from daily living aids through to state-of-the-art care related aids.
- Date: 10<sup>th</sup> -12<sup>th</sup> October, 2018
- VENUE: Odaiba, Tokyo, Japan
- Home Page URL: <http://www.hcrjapan.org/english/>
- Last Year's Visitors: 121,528 (about 3,000 from Asia)



# Related Events (3)

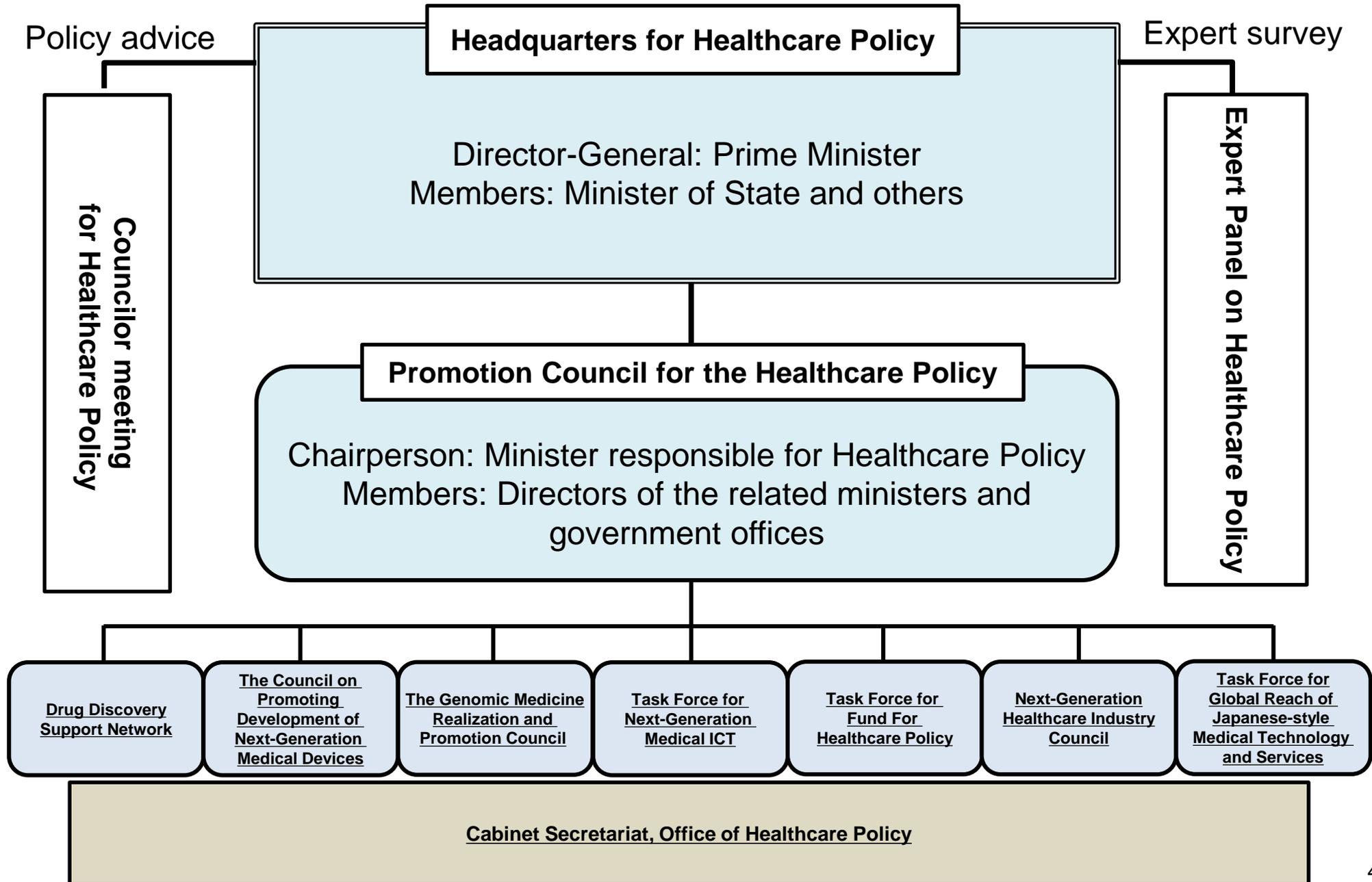
## CEATEC JAPAN 2018

- Outline: Harnessing CPS/IoT to create business opportunities based on co-creation involving a wide range of industries and fields, this event brings the technologies together in one venue that is ideal for the exchange of information. This facilitates the realization of Society 5.0, the ultra-smart society designed to further economic development and the solution of social problems.
- Date: 16<sup>th</sup> -19<sup>th</sup> October, 2018
- VENUE: Makuhari, Chiba, Japan
- Home Page URL: <http://www.ceatec.com/en/application/>
- Last Year's Visitors: 152,066 (about 1,300 from Asia)



**Reference**

# The system for promoting the Healthcare Policy



# Outline of Healthcare Policy

(Cabinet decision of July 22, 2014, Partial amendment on February 17, 2017)

Based on the Act on Promotion of Healthcare Policy (Law No. 48 of 2014), the Government developed this Healthcare Policy as an outline of comprehensive and long-term measures to be taken.

In the era of a super-aging society ahead of other countries, Japan has an important role in extending healthy life expectancy by developing cutting-edge medical technologies / services for the formation of a society of health and longevity. To this end, Japan promotes the following measures:

- **Consistent research and development in the healthcare field from basics to commercialization, along with the improvement of its environment and dissemination of results** ⇒ Leading to the provision of healthcare using the world's highest level of technologies
- **Creation and activation of new industrial activities that can help to form a society of health and longevity, and promotion of international expansion** ⇒ Contribute to the economic growth of Japan and improvement in the quality of overseas healthcare

The period should be from FY2014 to FY2019 (March 2020).

## Medical R&D

- Start clinical studies for at least 10 types of anticancer drugs by 2020
- Identify the targets of drug discovery by 2020 (10 targets)

## Creation of new industries

- Expand the market scale of industries related to health promotion, disease prevention, and life support by 2020 (from 4 to 10 trillion yen)

## International expansion of healthcare

- Establish Japanese healthcare hubs overseas by 2020 (from 3 to around 20 hubs)

## Use of ICT in healthcare

- Construct a digital infrastructure for medical, nursing and healthcare by 2020

# Outline of the Plan for Promotion of Medical R&D

(Cabinet decision of July 22, 2014, Partial amendment on February 17, 2017)

Based on the Act on Promotion of Healthcare Policy (Law No. 48 of 2014), the Headquarters for Healthcare Policy developed this Plan to promote medical research and development (R&D) in accordance with the Healthcare Policy.

In order to promote medical R&D, turning research results into actual utilization and creating its supporting system are important challenges. To this end, the Headquarters promotes the following measures based on 10 basic principles:

- Promote integrated and consistent project management, database creation, international strategy and industrial-academic collaboration within AMED under the program director
  - Promote **nine collaboration projects** (five cross-sectional and four disease field-specific projects)
- The period should be from FY2014 to FY2019 (March 2020).

Construct a cycle between basic research and clinical practice

10 basic policies

Expected functions of AMED

Collaboration projects

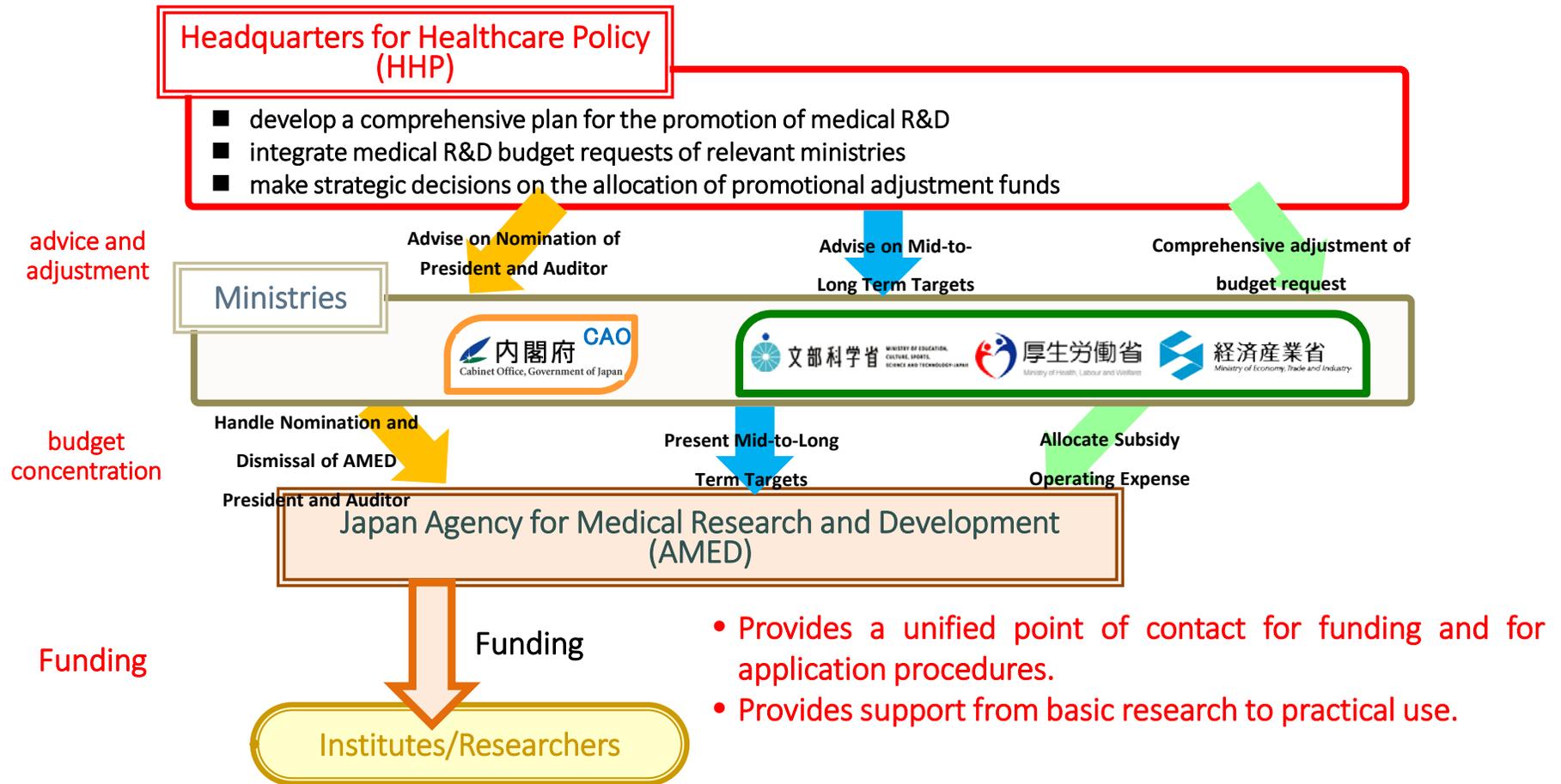


- Construct a system to help commercialize the results of basic research (Japan Medical Research and Development Award)
- Efforts to materialize cutting-edge medicine, including regenerative medicine
- Arrange a system for fair research, etc.

- 1) Management of R&D related to healthcare (Construction of database)
- 2) Management of clinical research and study data
- 3) Support for commercialization
- 4) Support for arrangement of R&D infrastructure
- 5) Promotion of international strategy
- 6) Support for the efforts of industrial-academic collaboration, etc.

- (Cross-sectional)
- 1) Creation of pharmaceuticals
  - 2) Development of medical devices
  - 3) Hub for creating innovative medical technologies
  - 4) Regenerative medicine
  - 5) Genome medicine
- (Disease field-specific)
- 6) Cancer
  - 7) Cerebral / mental diseases
  - 8) Emerging / re-emerging infectious diseases
  - 9) Intractable diseases

# AMED : New System for Medical R&D



# Health & Productivity Management: Johnson & Johnson “Our Credo”

- Johnson & Johnson’s “Our Credo”, created 75 years ago, declared that they are responsible to their employees’ health and happiness.

## J&J “Our Credo”

### Our Credo

We believe our first responsibility is to the doctors, nurses and patients,  
to mothers and fathers and all others who use our products and services.  
In meeting their needs everything we do must be of high quality.  
We must constantly strive to reduce our costs  
in order to maintain reasonable prices.  
Customers' orders must be serviced promptly and accurately.  
Our suppliers and distributors must have an opportunity  
to make a fair profit.

We are responsible to our employees,  
the men and women who work with us throughout the world.  
Everyone must be considered as an individual.  
We must respect their dignity and recognize their merit.  
They must have a sense of security in their jobs.  
Compensation must be fair and adequate,  
and working conditions clean, orderly and safe.  
We must be mindful of ways to help our employees fulfill  
their family responsibilities.  
Employees must feel free to make suggestions and complaints.  
There must be equal opportunity for employment, development  
and advancement for those qualified.  
We must provide competent management,  
and their actions must be just and ethical.

We are responsible to the communities in which we live and work  
and to the world community as well.  
We must be good citizens — support good works and charities  
and bear our fair share of taxes.  
We must encourage civic improvements and better health and education.  
We must maintain in good order  
the property we are privileged to use,  
protecting the environment and natural resources.

Our final responsibility is to our stockholders.  
Business must make a sound profit.  
We must experiment with new ideas.  
Research must be carried on, innovative programs developed  
and mistakes paid for.  
New equipment must be purchased, new facilities provided  
and new products launched.  
Reserves must be created to provide for adverse times.  
When we operate according to these principles,  
the stockholders should realize a fair return.

*Johnson & Johnson*

# Health and Productivity Management

- Over 700 listed companies and over 12,000 SMEs have started Health and Productivity management

Over 700

Over 12,000

## 【 Large Organizations 】

## 【 SMEs 】

The Health & Productivity  
Stock Selection  
(At most 33 companies)



The Certified Health and Productivity  
Management Organization  
Recognition Program  
(White 500)  
(Goal : over 500 organizations)

The Certified Health and Productivity  
Management Organization  
Recognition Program



Organizations to engage in  
the Health-conscious Management Declaration  
(Goal : over 10,000 organizations)



Other large organizations

Other SMEs

- An increasing number of investors embraces ESG (environment, social, and governance).
- United Nations' Principles for Responsible Investment (PRI) backs up ESG investments.
- Health and Productivity Management can be recognized as activities of "S" and/or "G"

## Six Principles

Principle 1: We will incorporate ESG issues into investment analysis and decision-making processes.

Principle 2: We will be active owners and incorporate ESG issues into our ownership policies and practices.

Principle 3: We will seek appropriate disclosure on ESG issues by the entities in which we invest.

Principle 4: We will promote acceptance and implementation of the Principles within the investment industry.

Principle 5: We will work together to enhance our effectiveness in implementing the Principles.

Principle 6: We will each report on our activities and progress towards implementing the Principles.

## ESG Elements



### Environmental (E)

- climate change
- greenhouse gas (GHG) emissions
- resource depletion, including water
- waste and pollution
- deforestation



### Social (S)

- working conditions, including slavery and child labour
- local communities, including indigenous communities
- conflict
- health and safety
- employee relations and diversity



### Governance (G)

- executive pay
- bribery and corruption
- political lobbying and donations
- board diversity and structure
- tax strategy