

# Redesigning Communities for Aged Society - An Update -

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The University of Tokyo**

CARE's Expert Programme  
September 21, 2016



# Demographics (Japan)

## Life Expectancy

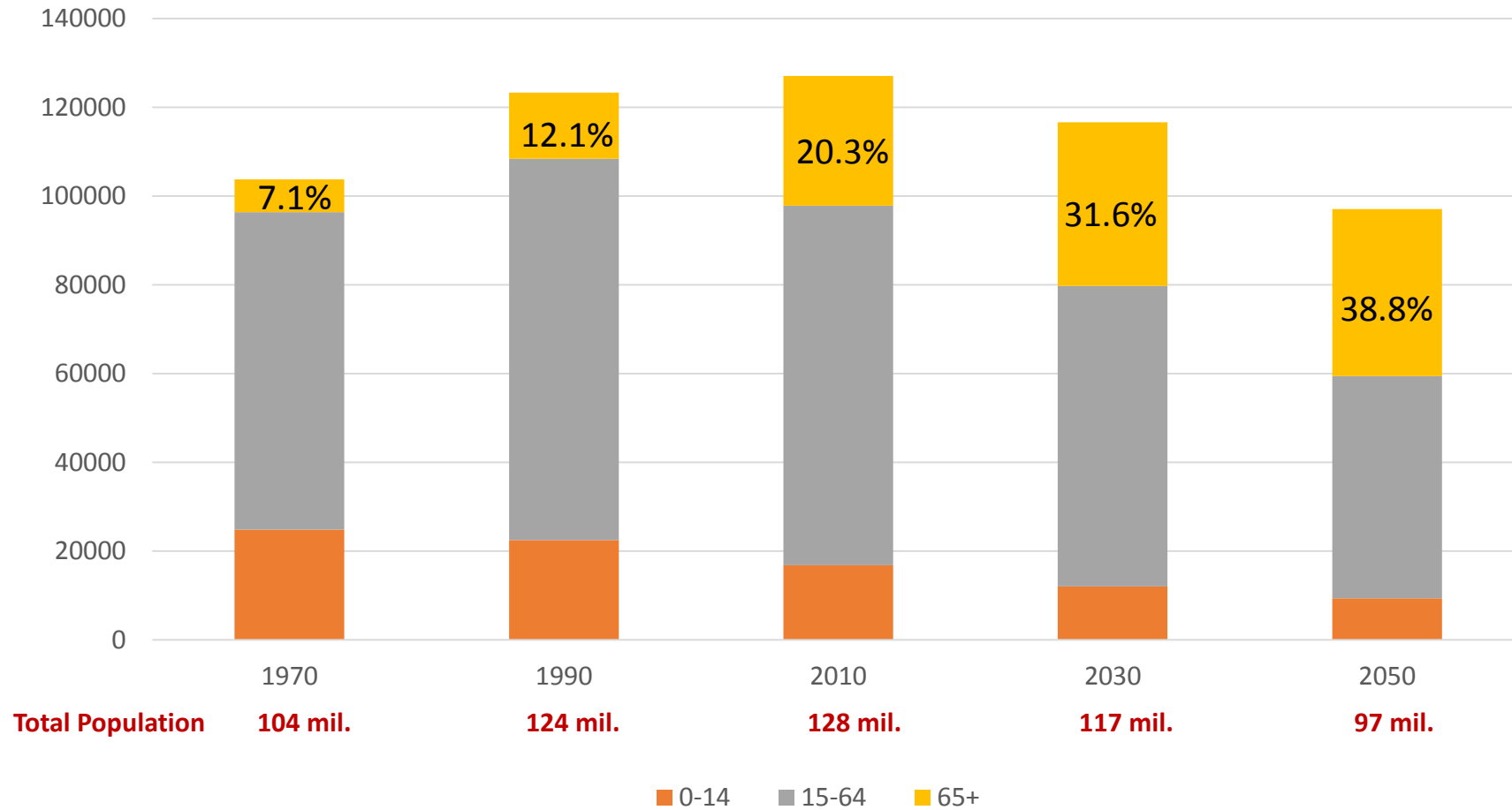
**Men**                      **80 years**

**Women**                    **86 years**

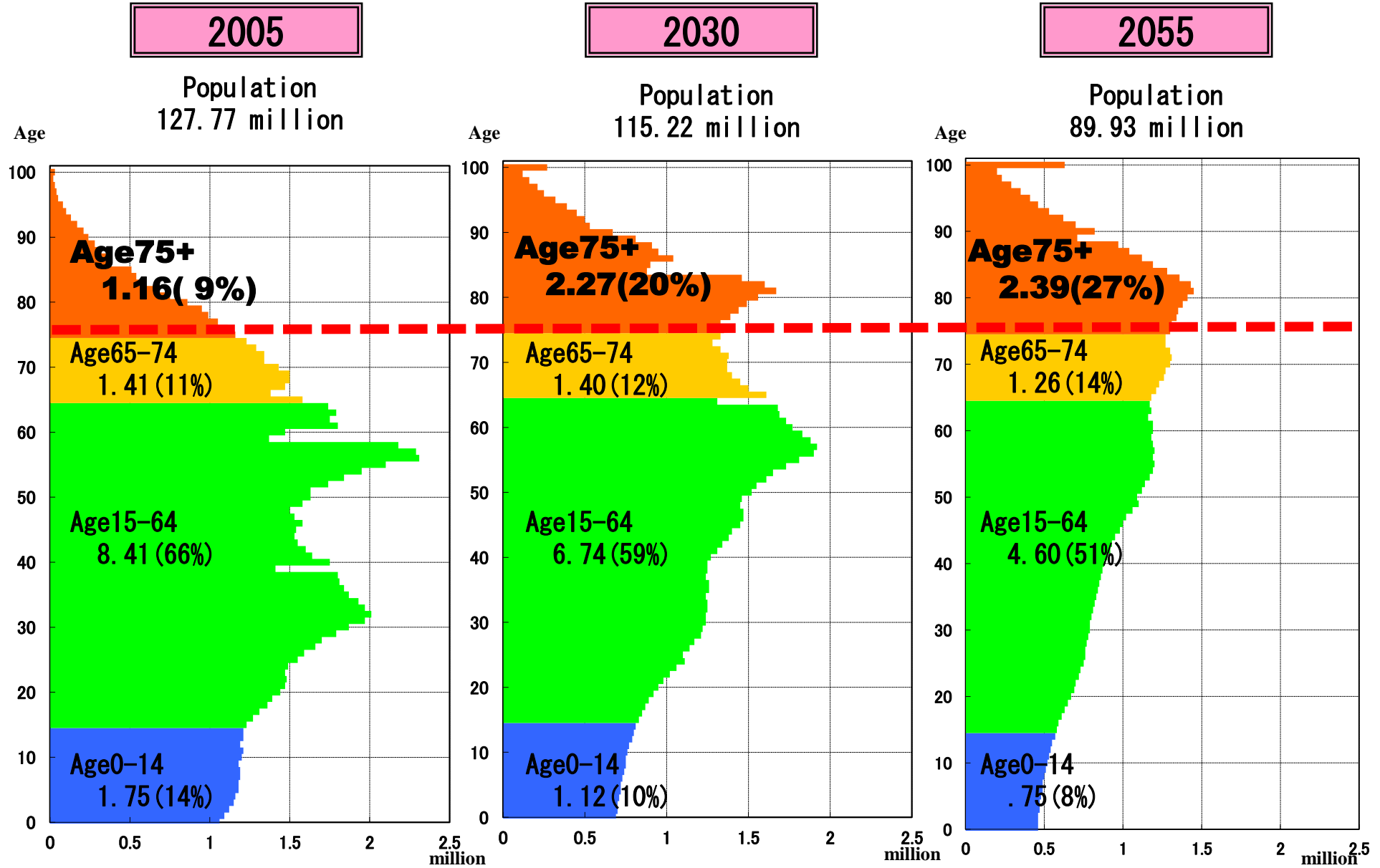
**Fertility Rate**            **13%**

**Age 65+**                    **26%**

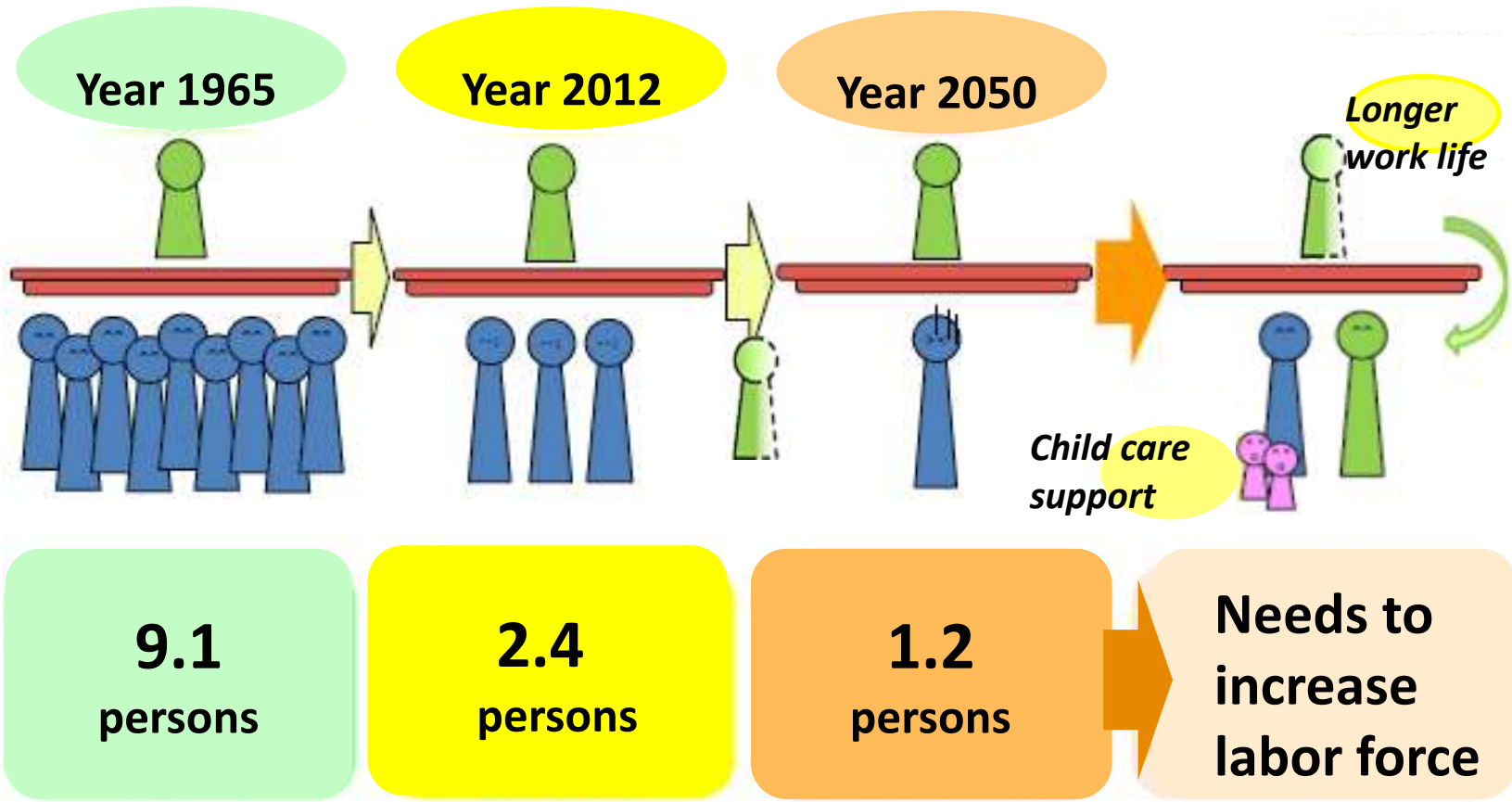
# Aging Population



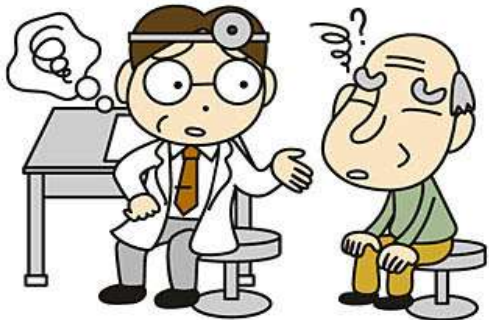
# Drastic Increase of Older-olds (age75+) - Japan



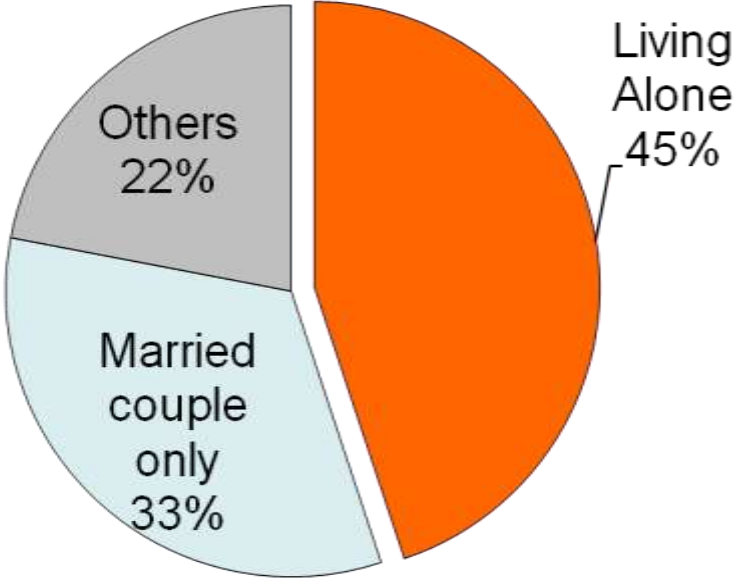
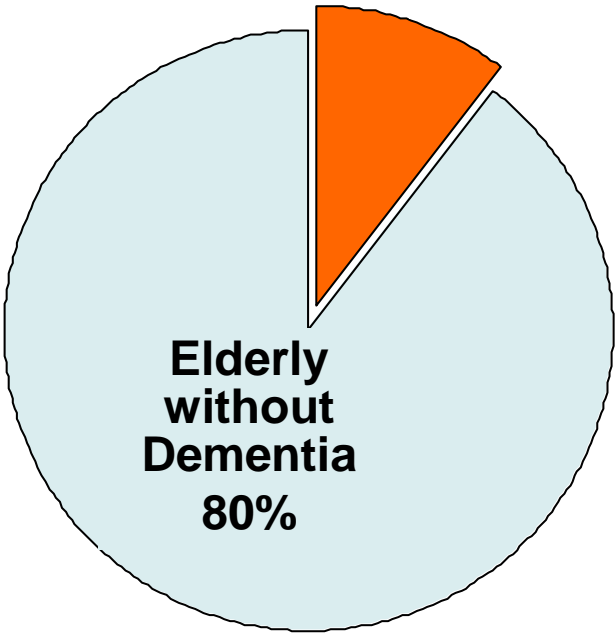
# Old Age Dependency Ratios (Age 20-64 / Age 65+)



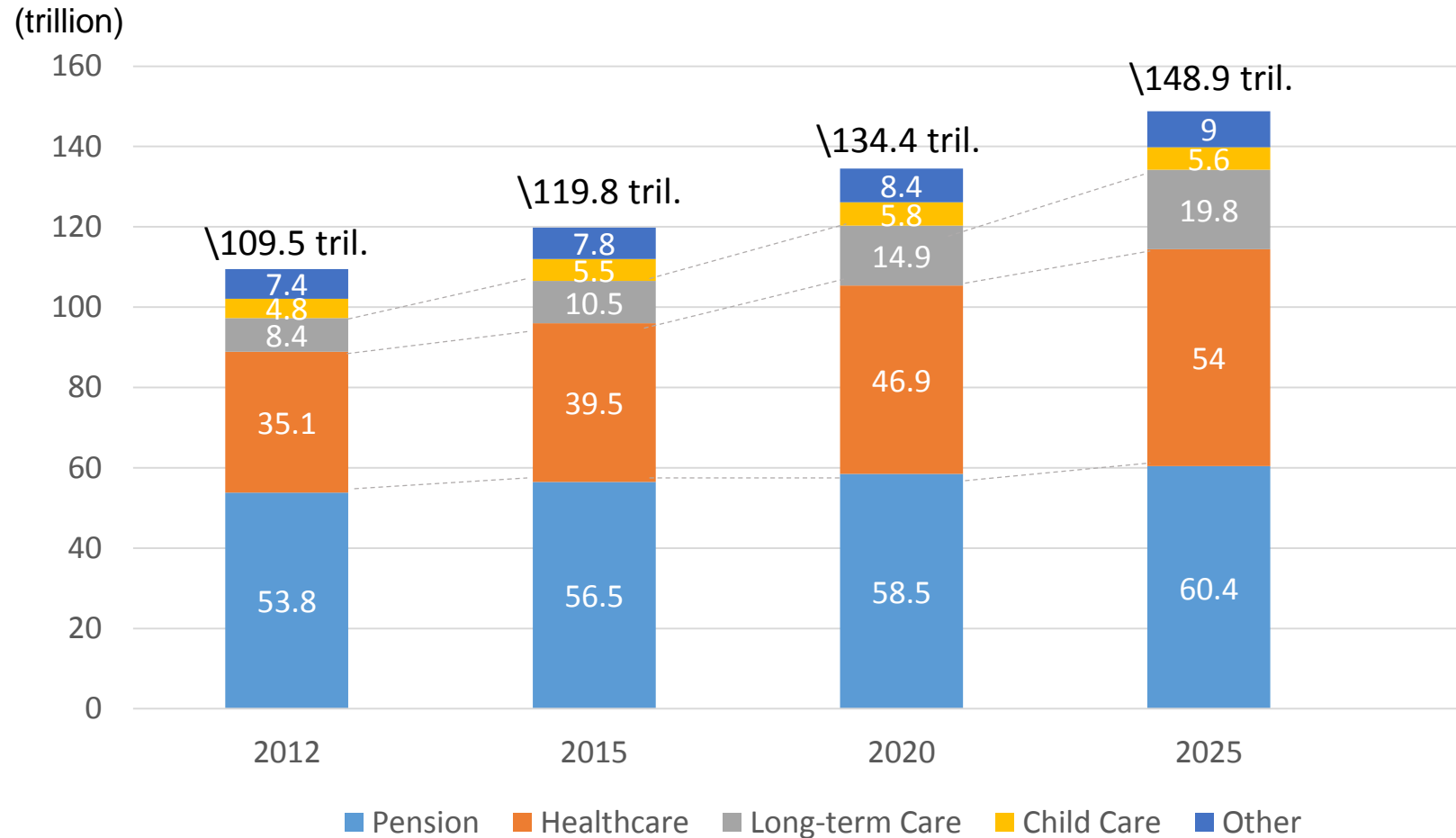
# Demographic Shift and New Needs (2030)



**Dementia  
20%**

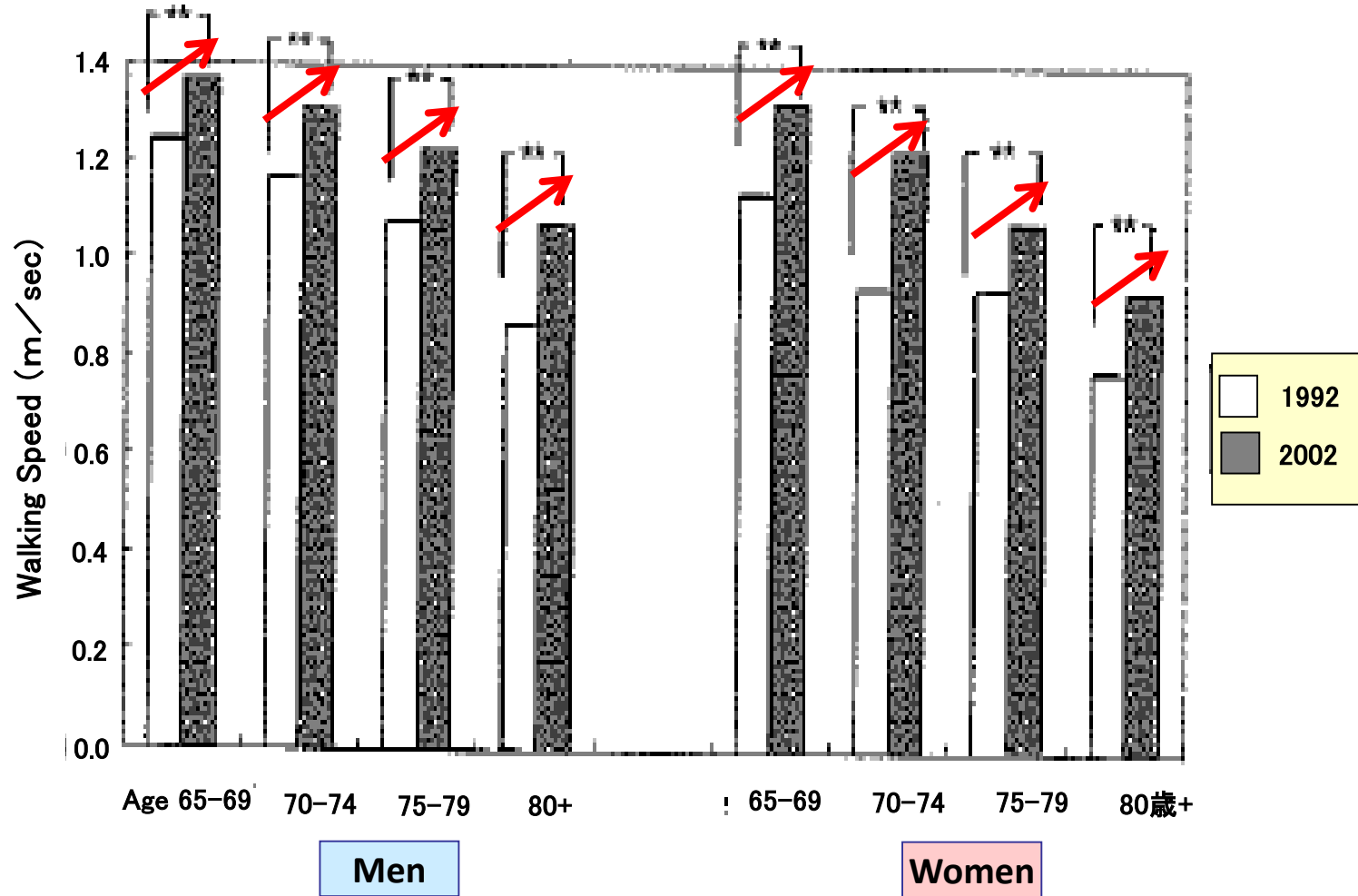


# Social Welfare Spending



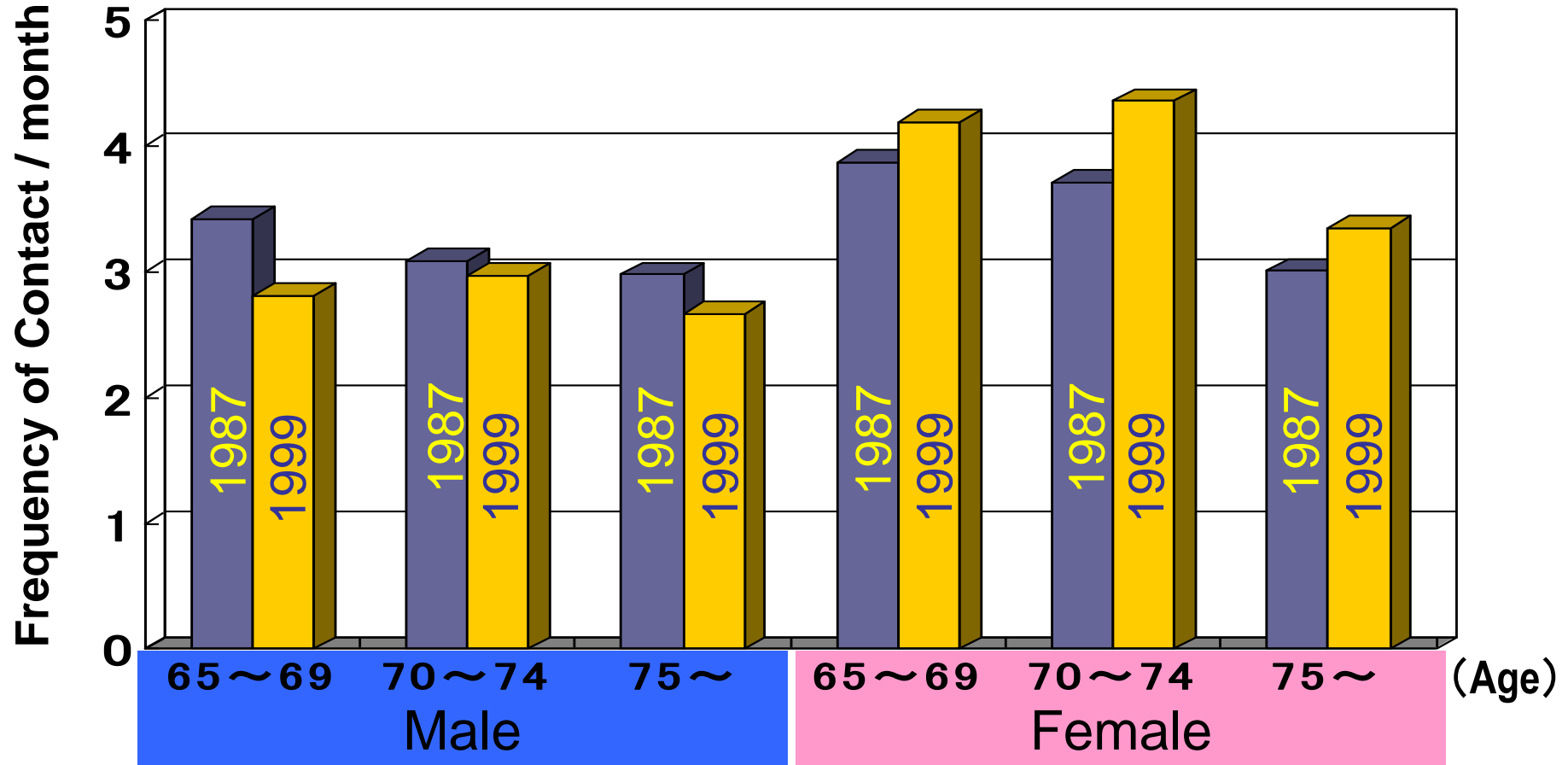
# We are Living Longer and Healthier!

11 years younger in usual walking speed between 1992 & 2002



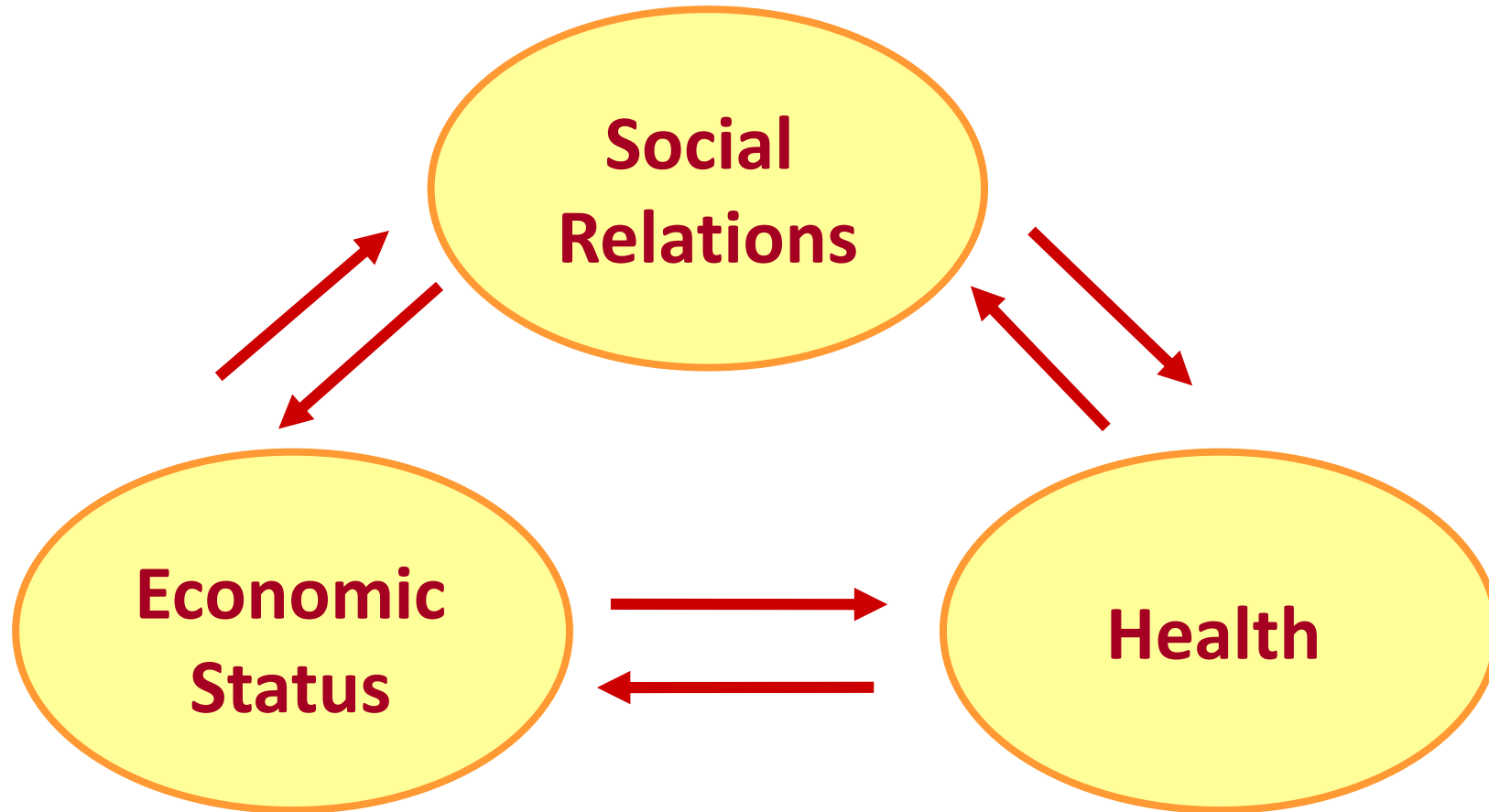


# Cohort Difference in Frequency of Contacts with Friends, Neighbors & Relatives



# Well-being of Japanese Elderly

N=5715, (1987- )



# Independent Living Measure

## Score

- 3 ADL & IADL without assistance**
- 2 IADL with assistance but ADL without assistance**
- 1 ADL & IADL with assistance**
- 0 Dead**

## ADL questions

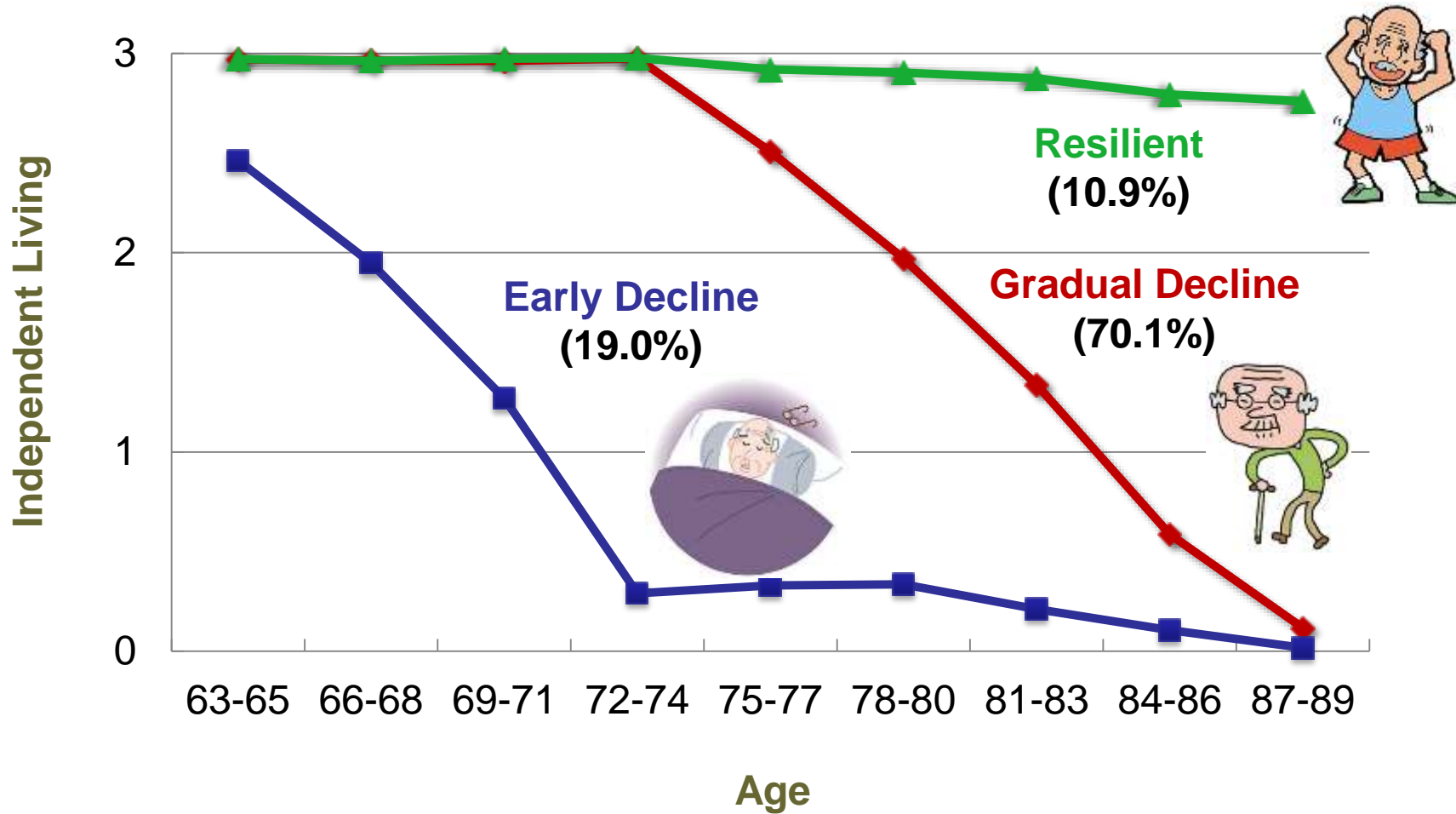
- Bathing
- Walking a short distance
- Going up a few steps

## IADL questions

- Shopping for groceries or clothes
- Using the telephone
- Going out by bus/train

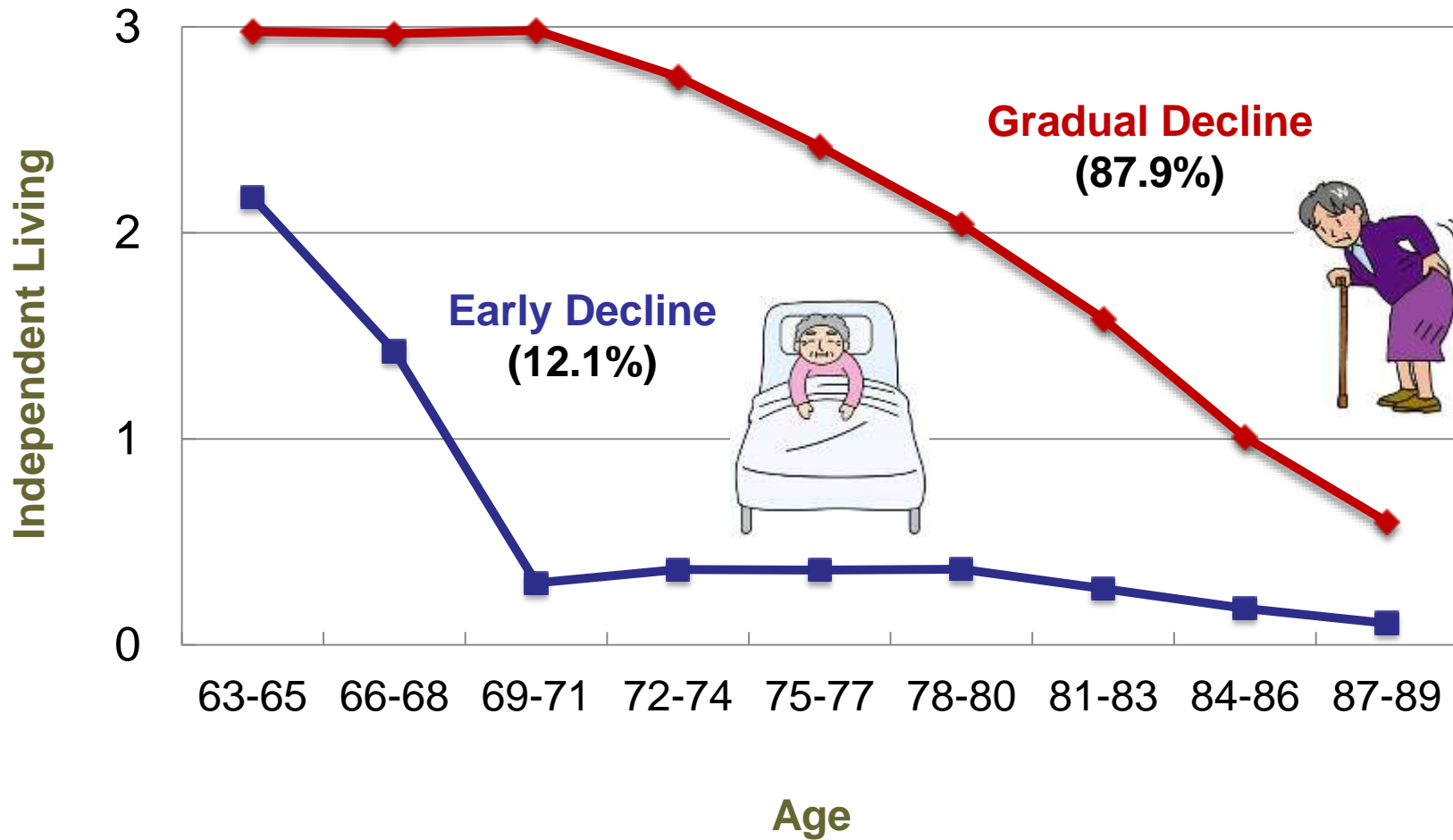
# Trajectories of Independent Living

## Men



# Trajectories of Independent Living

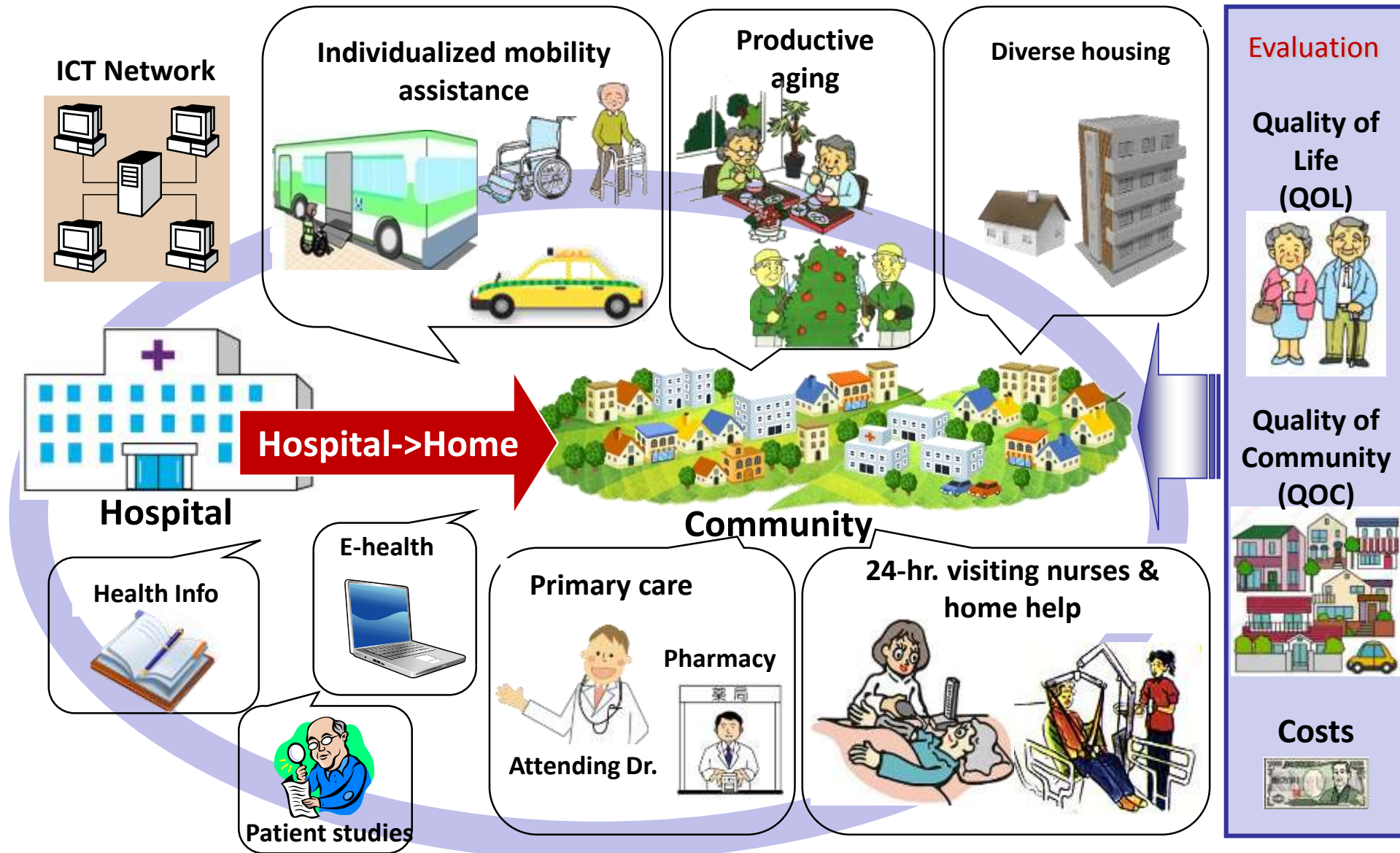
## Women



# Three Priority Issues

- **To extend years of being independent**
- **To create an environment for aging in place**
- **To maintain and strengthen human bonds**

# Redesigning Communities for Aged Society

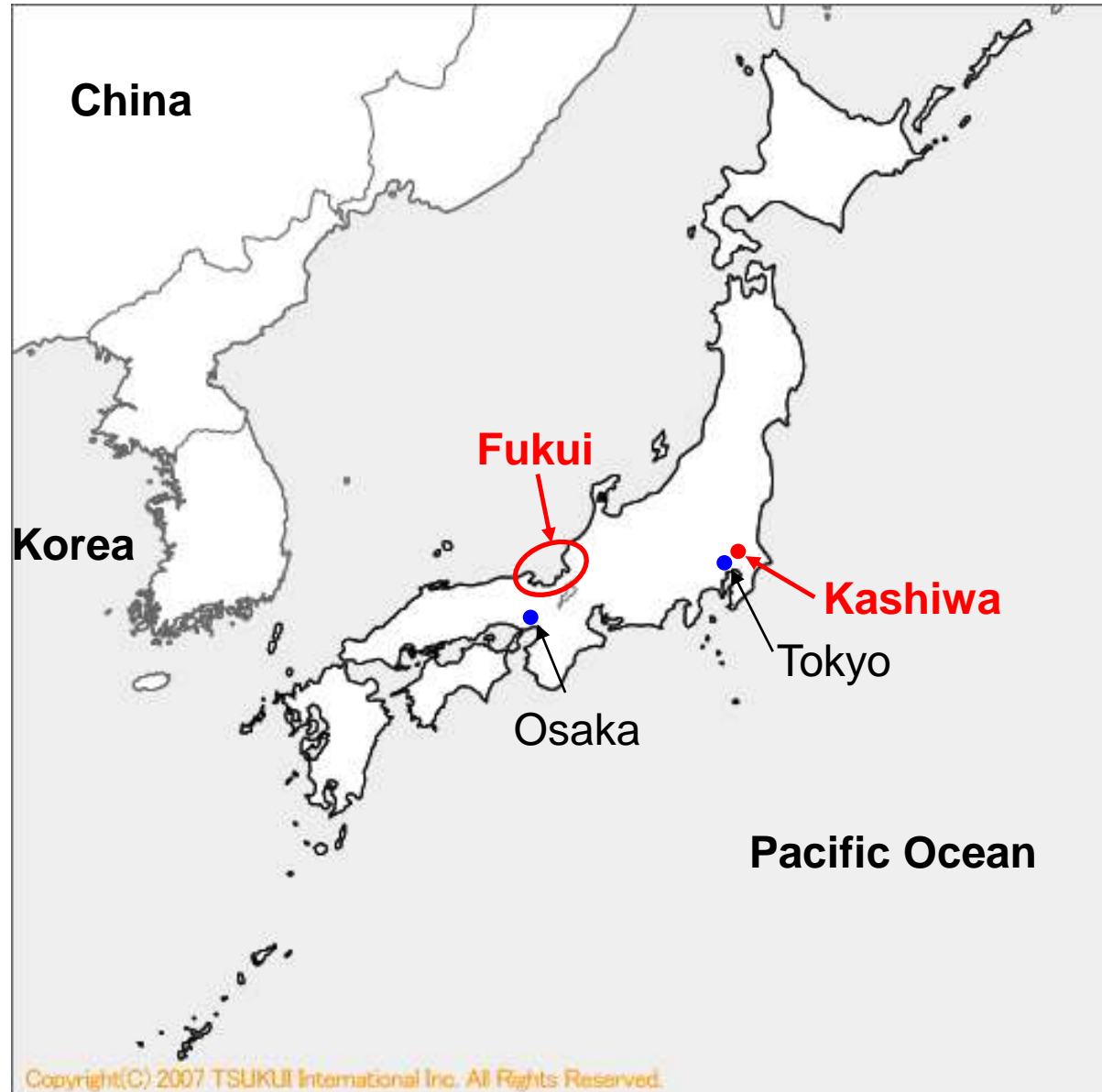


# Major Projects

- **Productive aging**
- **Life long learning**
- **Human Bonds**
- **Frailty prevention**
- **Health care & long term care**
- **Housing**
- **Transportation**
- **ICT**



# Social Experiment Sites





# Community for 2030



# **We Live Longer & Work Longer**

**It is good for the well-being of  
individuals and the society**

## **< Contributions of seniors >**

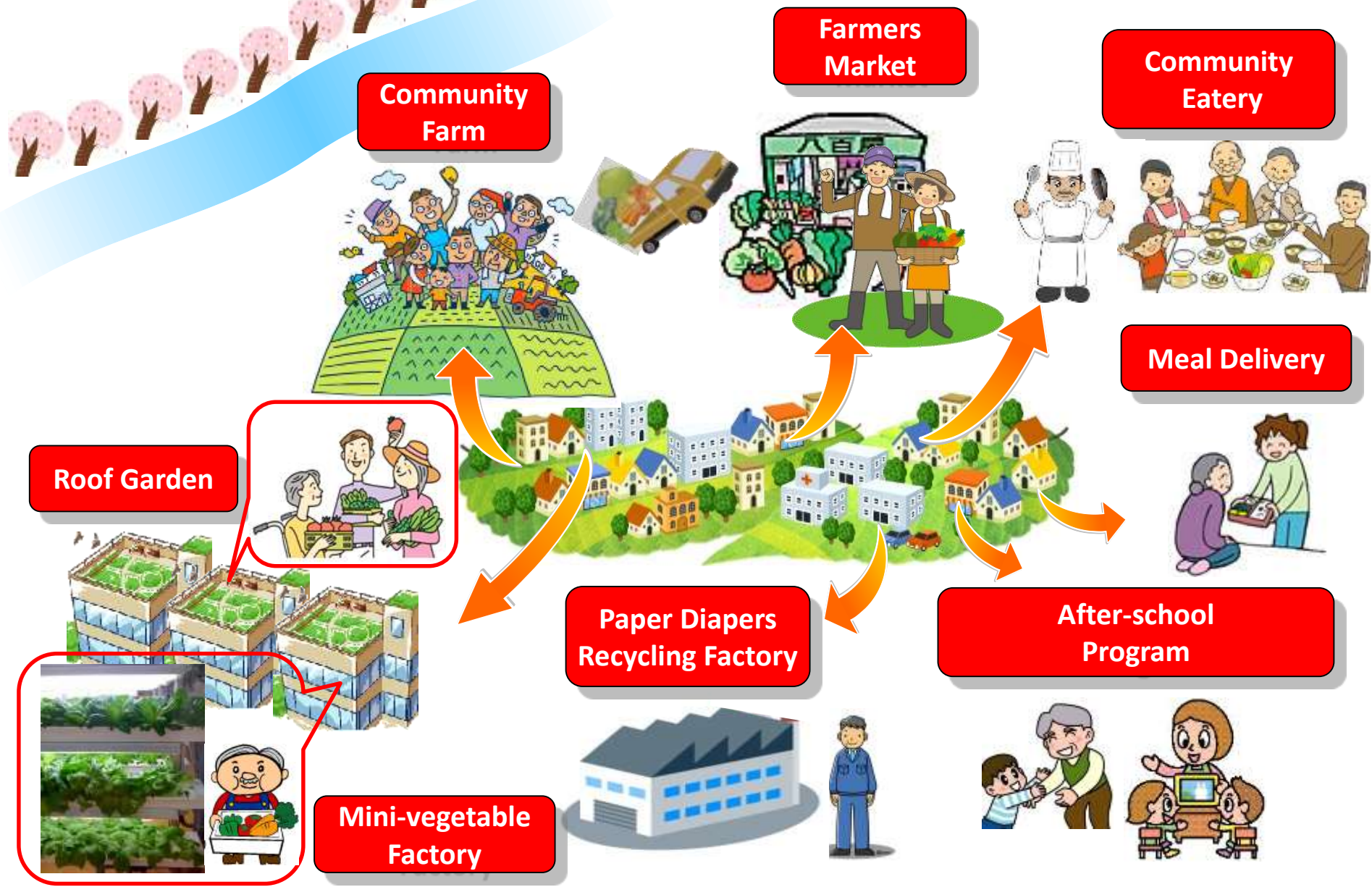
**Expansion of job opportunities for seniors is essential to ensure sustainability of the society (i.e., to sustain and enhance the labor force, social security finance and economic development)**

- Labor demand & supply in 2030: ▲8.45M : Seniors will be “producers (workers)”**
- Social security benefits exceed 100 trillion yen : Seniors will be “taxpayers” (+ promoting health & containing medical costs by working)**
- Expansion of senior market: Seniors will be active “consumers”**

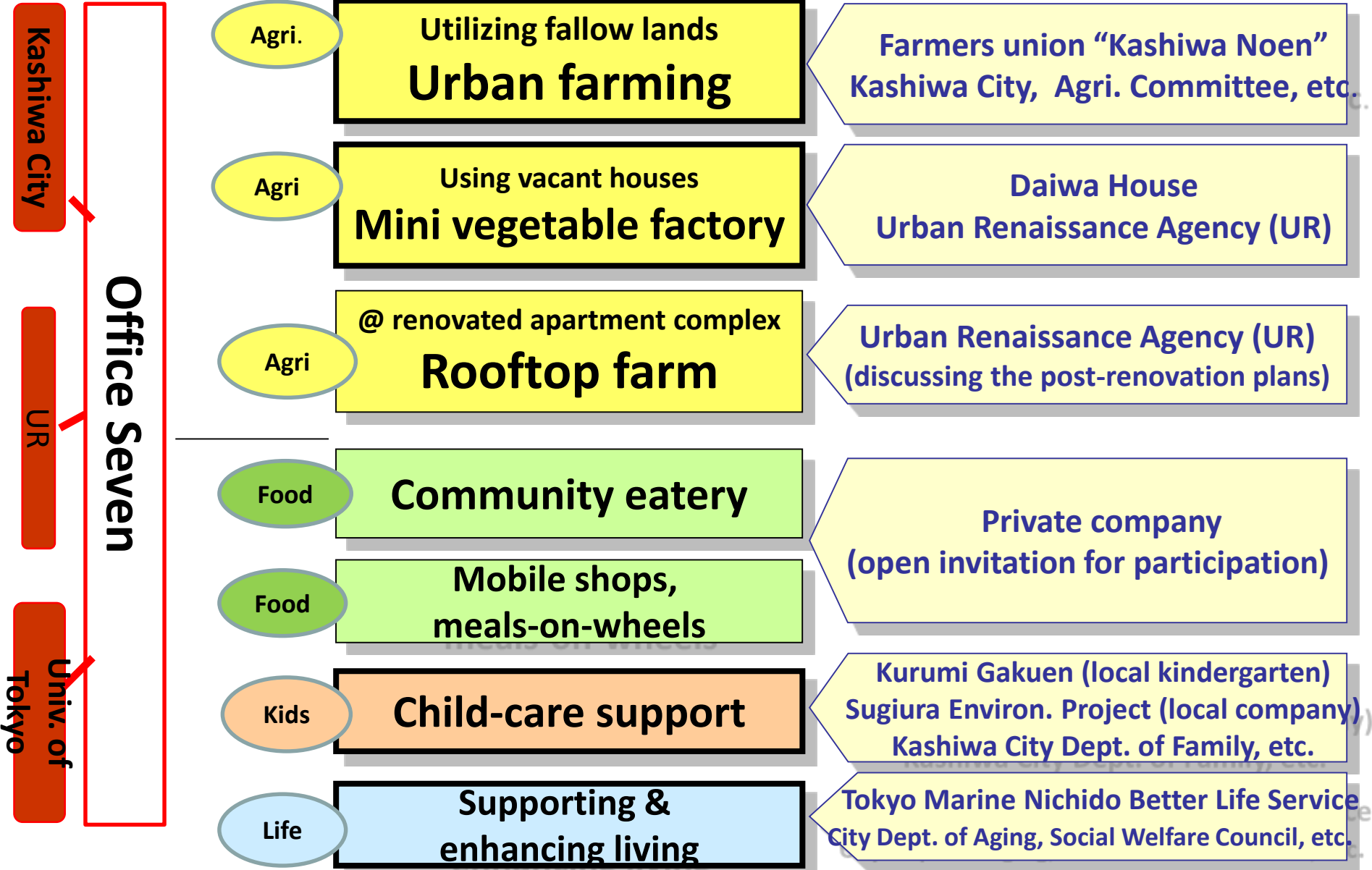
## **<Seniors are able and willing to work>**

- Seniors are physically and cognitively younger than their counterparts in the past**
- Japanese seniors are willing to work**

# Work Places for the Second Life



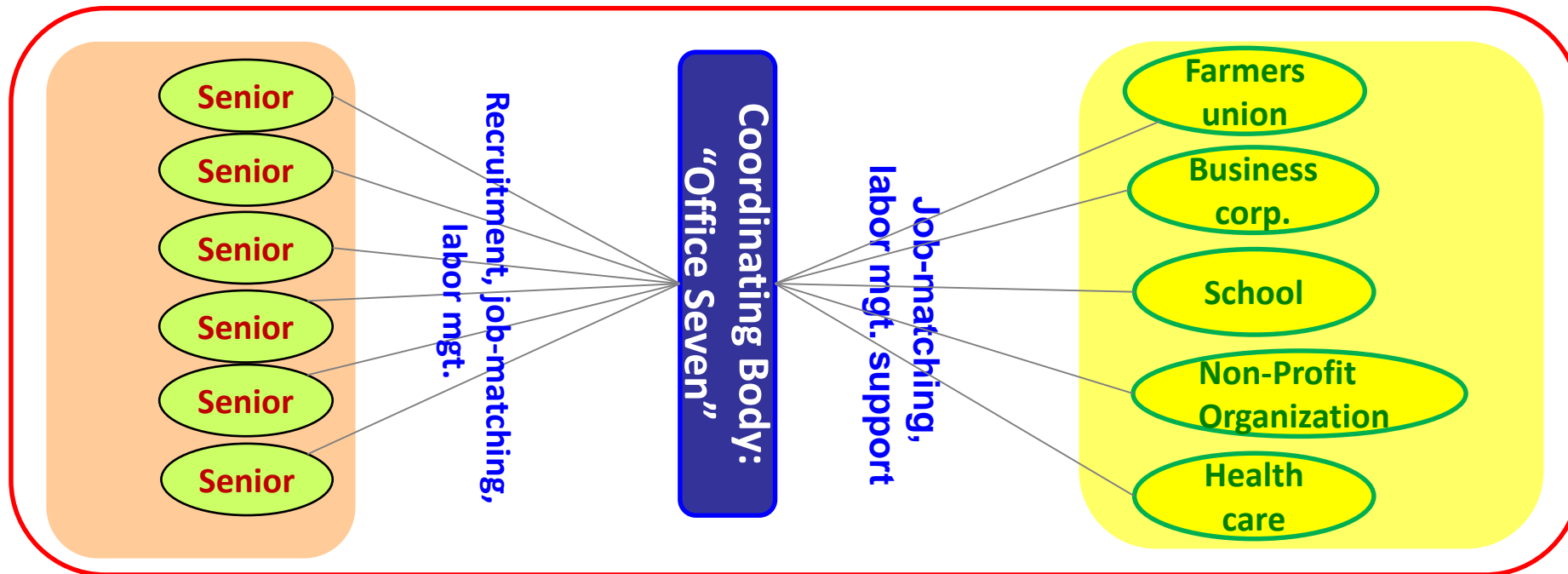
# Creating Work Places



# New Work Style for the Second Life

## Office Seven

- “Job seminar” for residents: held 8 times & 778 people completed
- Using work-sharing, a flexible employment scheme for both employers and workers
- Technological development using a cloud computing system to support the flexible work scheme





# Seniors in Work Places



# Guidebook



# Policy Recommendation to Ministry of Health, Welfare and Labor

生涯現役社会の実現に向けた  
雇用・就業環境の整備に関する検討会  
報告書

平成27年6月5日

生涯現役社会の実現に向けた  
雇用・就業環境の整備に関する検討会



(関係機関等向け)

生涯現役社会の実現に向けて



厚生労働省  
高齢・障害者雇用対策部  
高齢者雇用対策課

# Frailty Prevention



InBody

Ultrasound measurement of quadriceps femoris

Questionnaire

Cognitive function

Physical ability  
Grip strength/TUG  
Pinch strength  
Knee extension strength  
Sit-to-stand test

Oral cavity (1)  
salivary bacterial counts  
Moisture  
Swallowing function

Body measurement  
Finger circle test

Walking speed

Blood drawing

Oral cavity (2)  
Ultrasound measurement of tongue  
Dental formula  
Gum/gummy

Medical interview

Reception

Final check

# Multi-dimensional Frailty

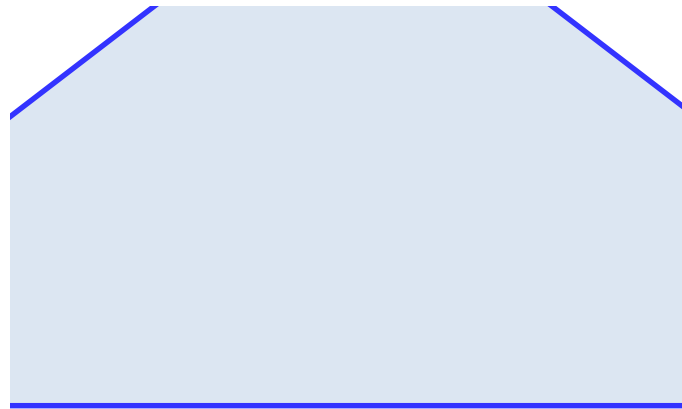
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**“Physical”**

frailty

**“Mental”**

frailty

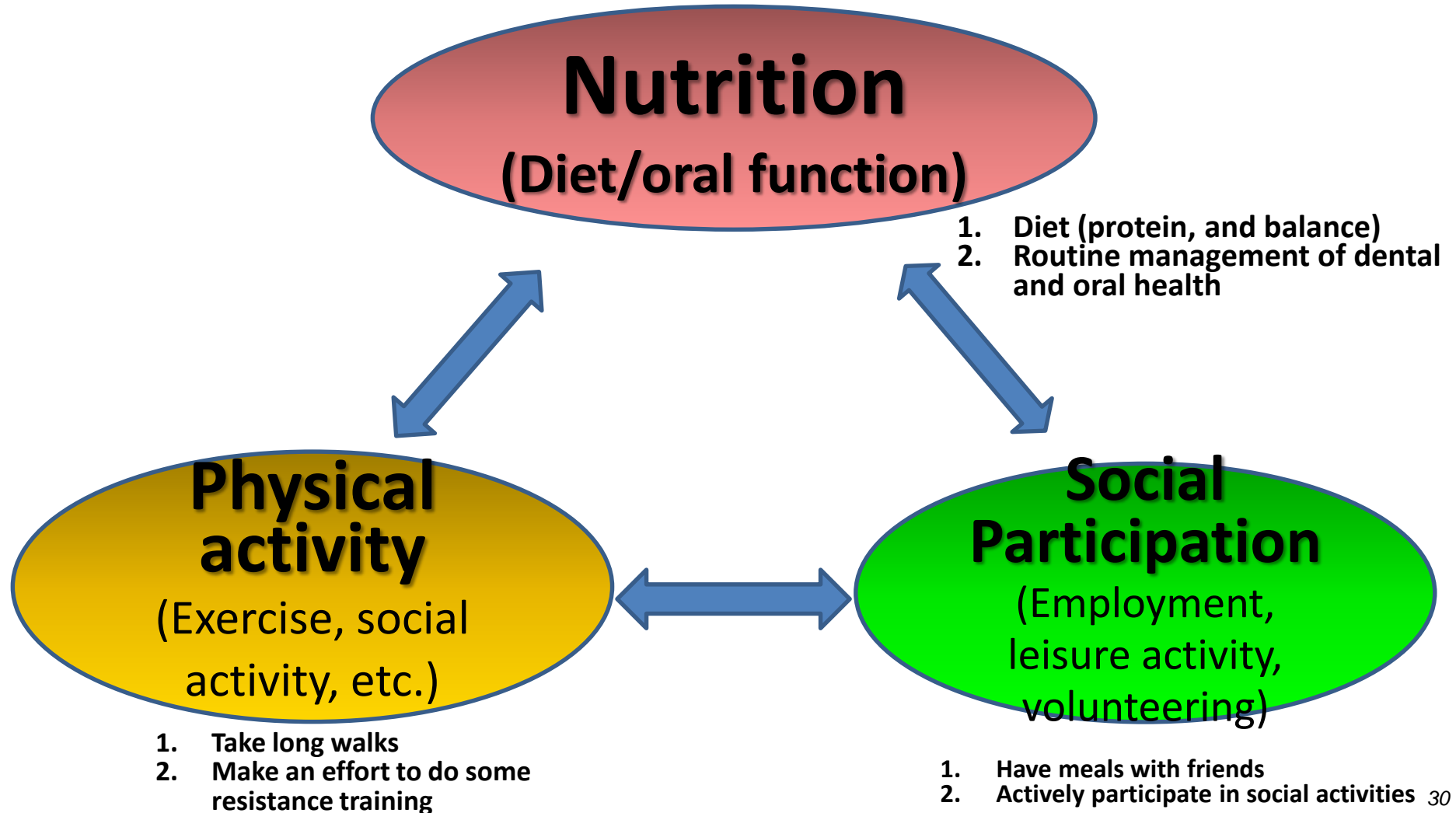


**“Social”**

frailty

# "The Trinity" for Health and Longevity

Early prevention of frailty due to sarcopenia



# Simple health-checkup for the frailty conducted by 'the healthy senior citizen supporters'



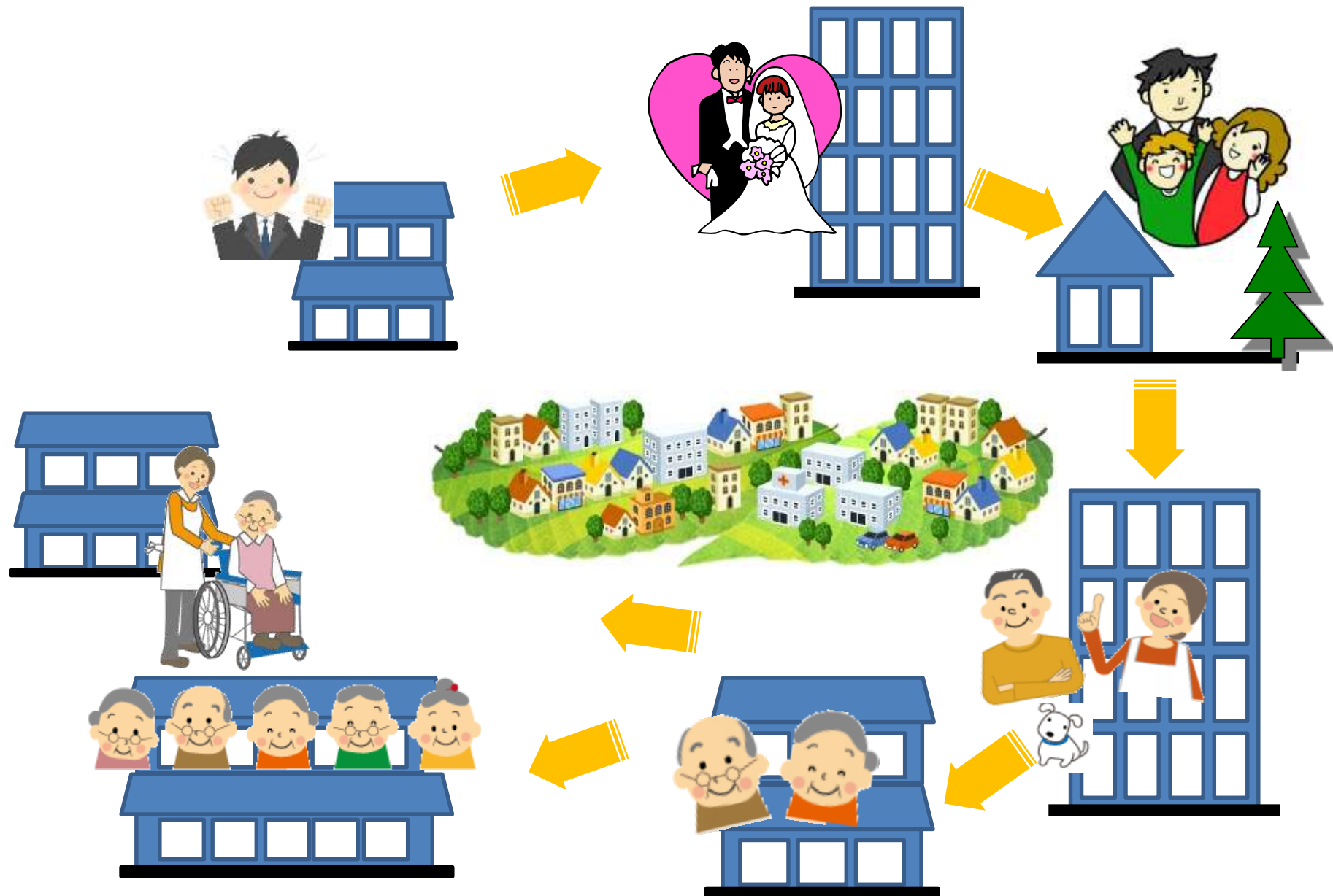
# Simple health-checkup for the frailty conducted by 'the healthy senior citizen supporters'





# Aging in Place

# Housing for Life Stages



# Community for 2030



# Community Restaurant (Under Construction)



(資料) 亀井工業ホールディングス㈱「千葉県柏市豊四季台団地事業企画パンフレット」より引用

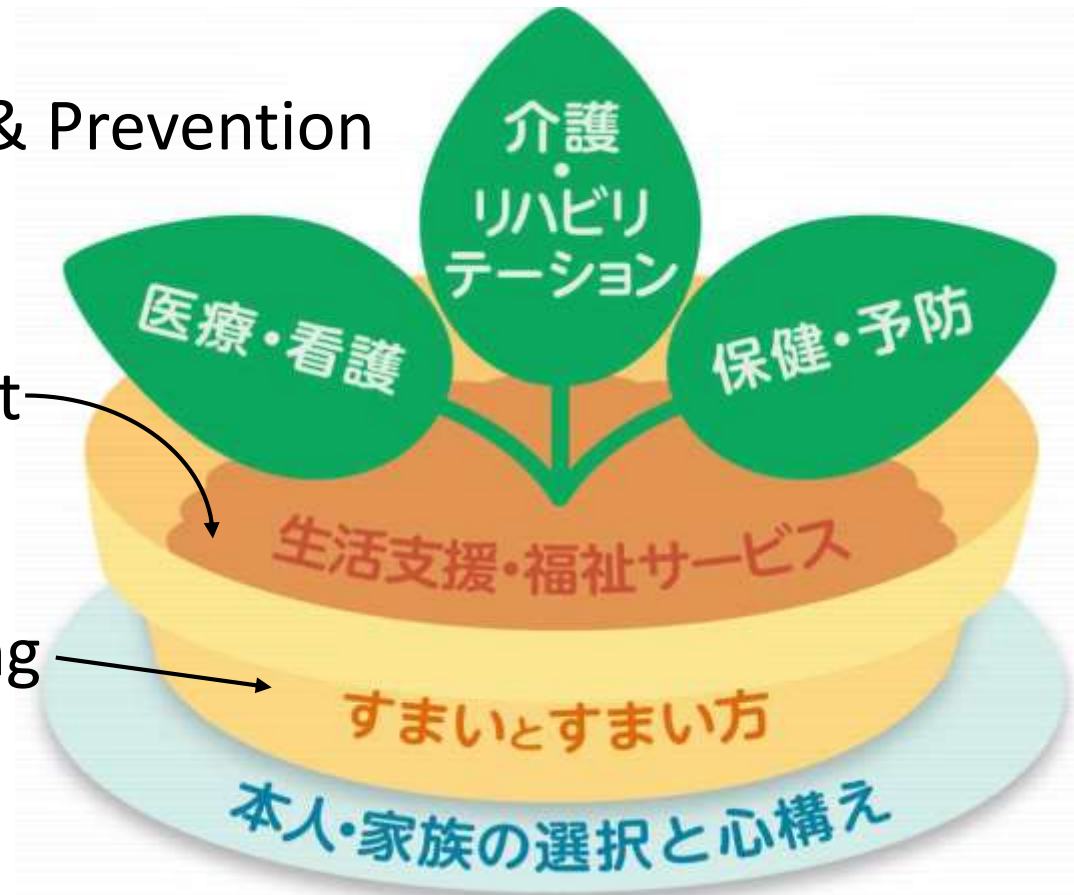
# Flowerpot Concept of Integrated Community Care System

**Plant:** Healthcare & Prevention

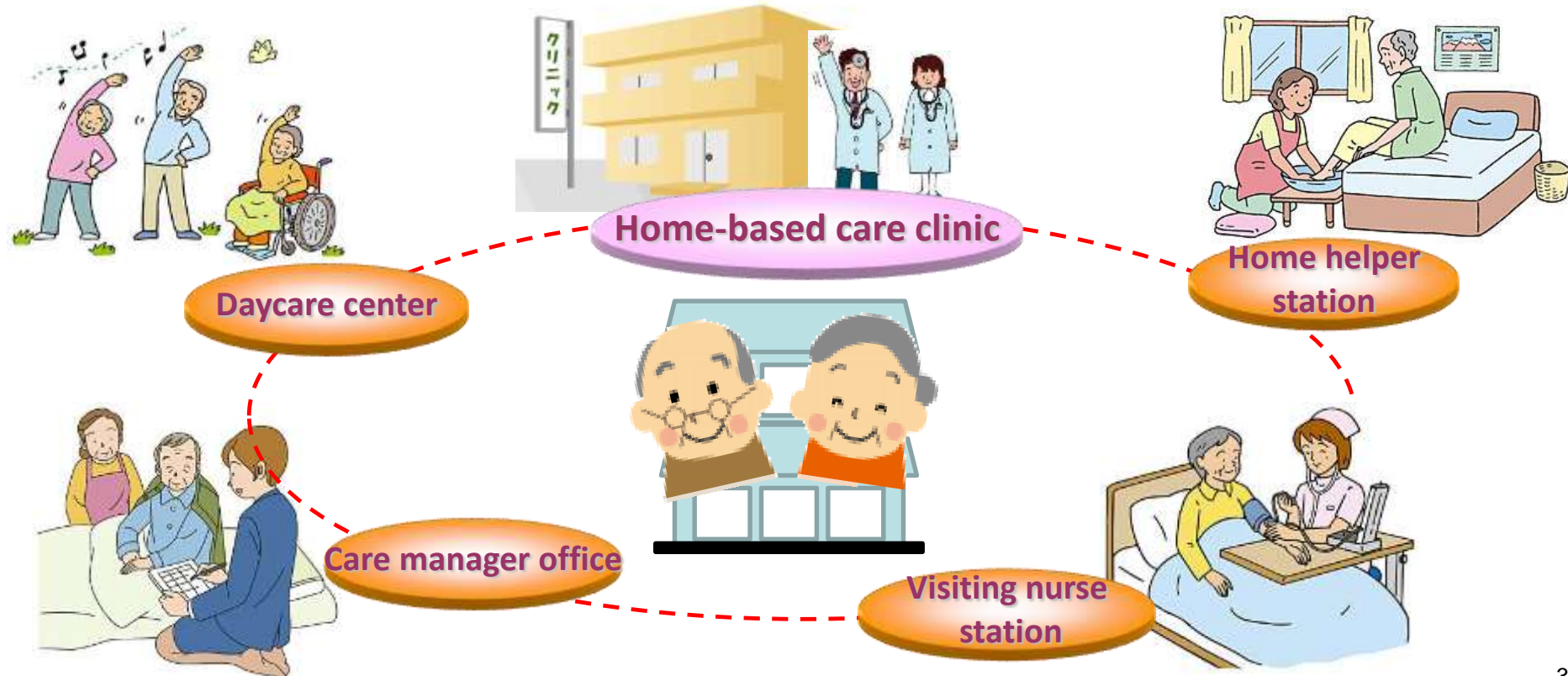
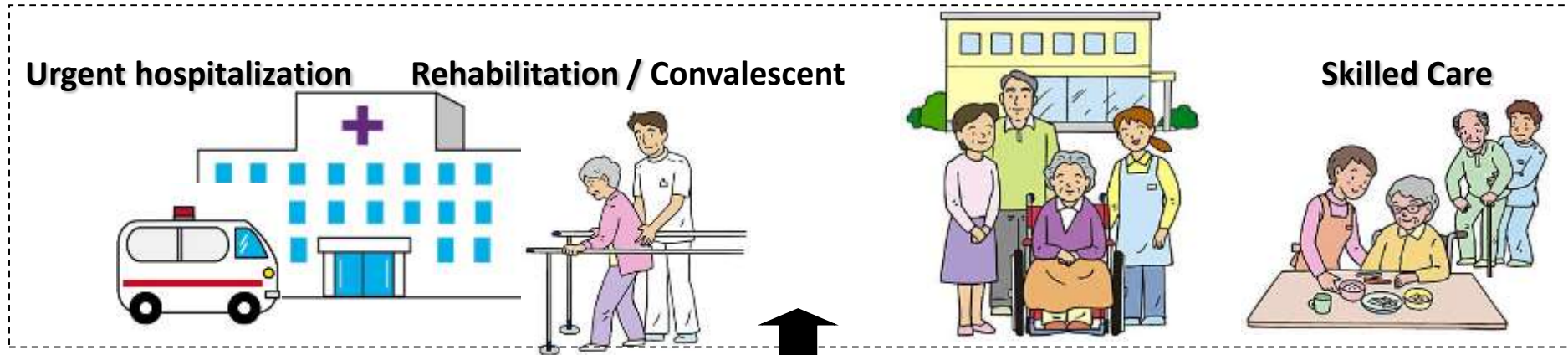
**Earth:** Living support

**Flowerpot:** Housing

**Tray:** Patient's choice & preparation



# Integrated Community Care System



△ : Primary Doctor

▲ : Sub-doctor

■ : Health Care Hub

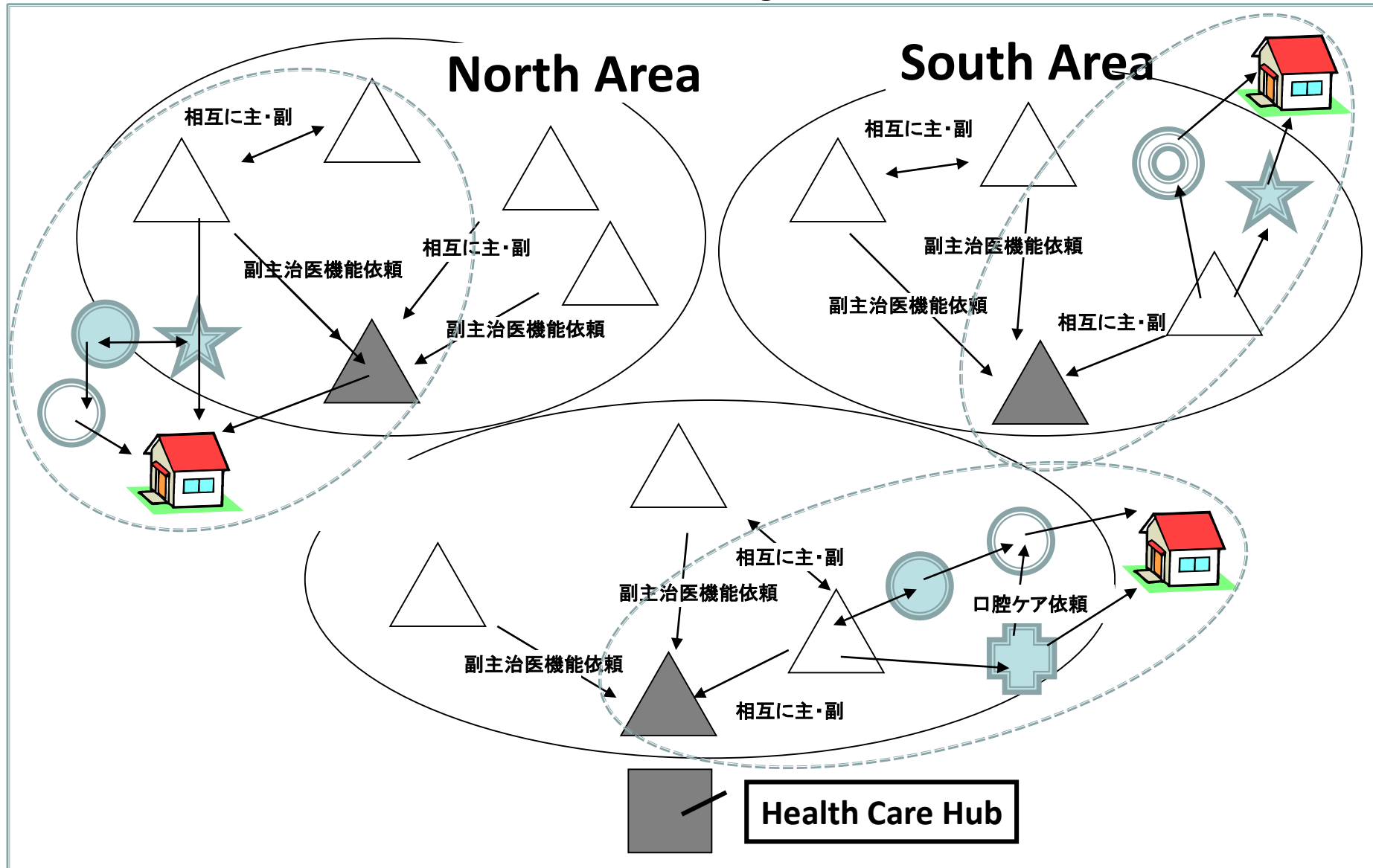
★ : Visiting Nurse

● : Care Manager

○ : Visiting Caregiver

◎ : Visiting Pharmacist

⊕ : Visiting Dentist



# 5 Working Groups

## (1) Physician WG

- Kashiwa Medical Association and hospitals
- Workable relations among the primary doctors, sub-doctors and hospitals

## (2) Coordination WG

- Coordination among health care and long-term-care services

## (3) Trial Practice WG

- Testing and verification of the system using by trial runs

## (4) Hospital WG

- Discharge protocol and backup system of home-based care

## (5) Face-to-Face WG

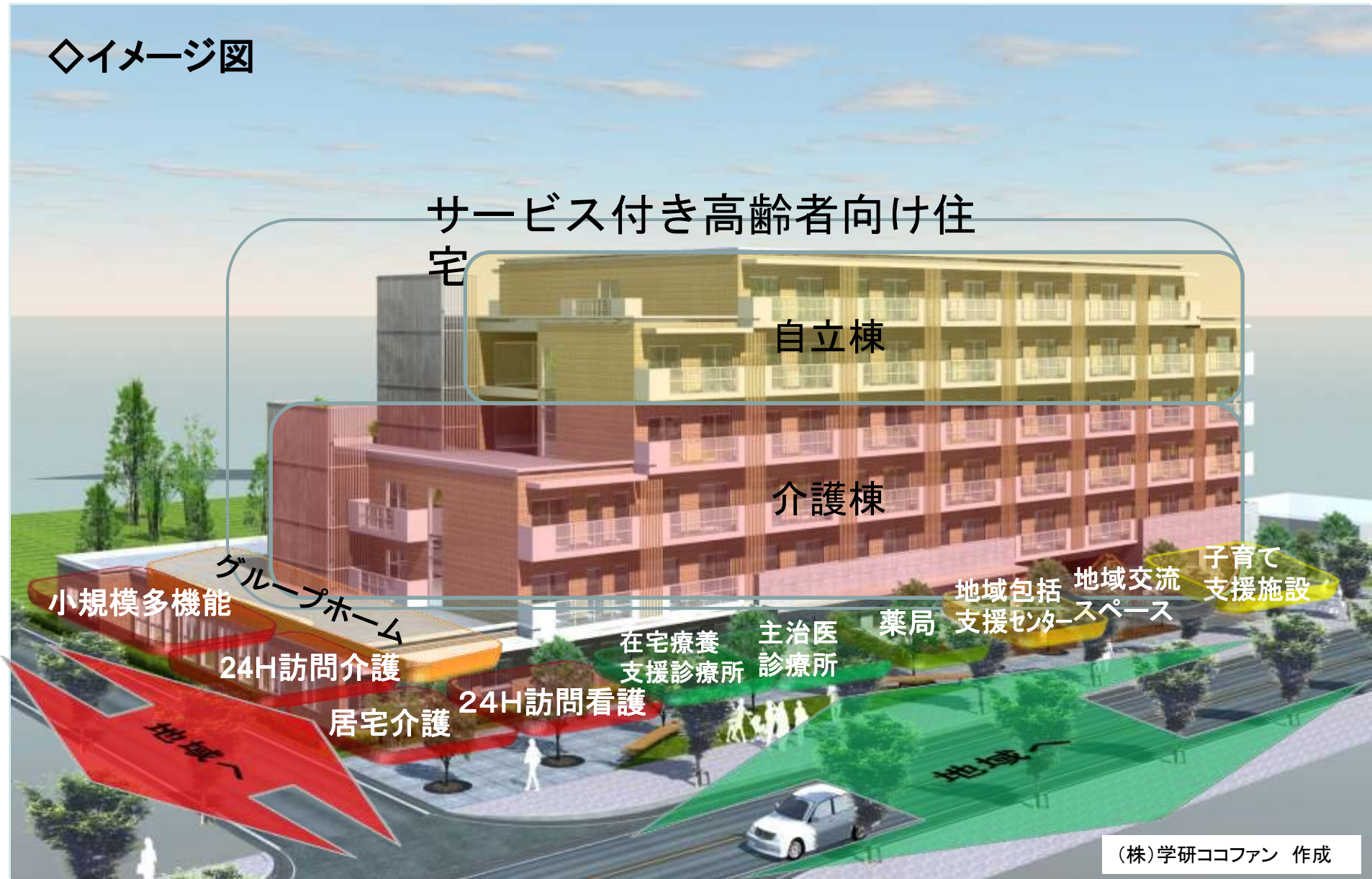
- All service providers get together and enhance the partnerships





# Assisted Living in Community

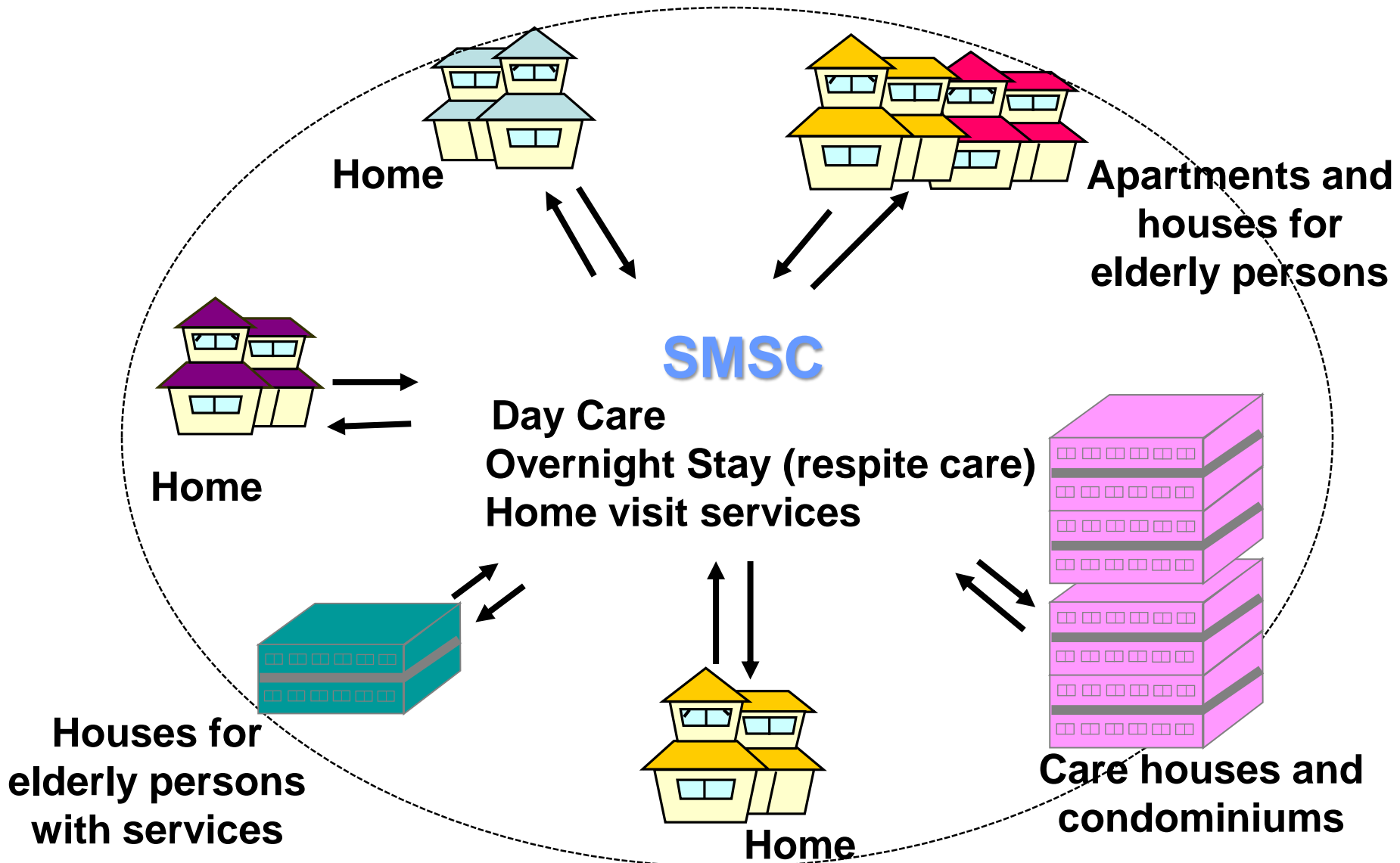
◇イメージ図



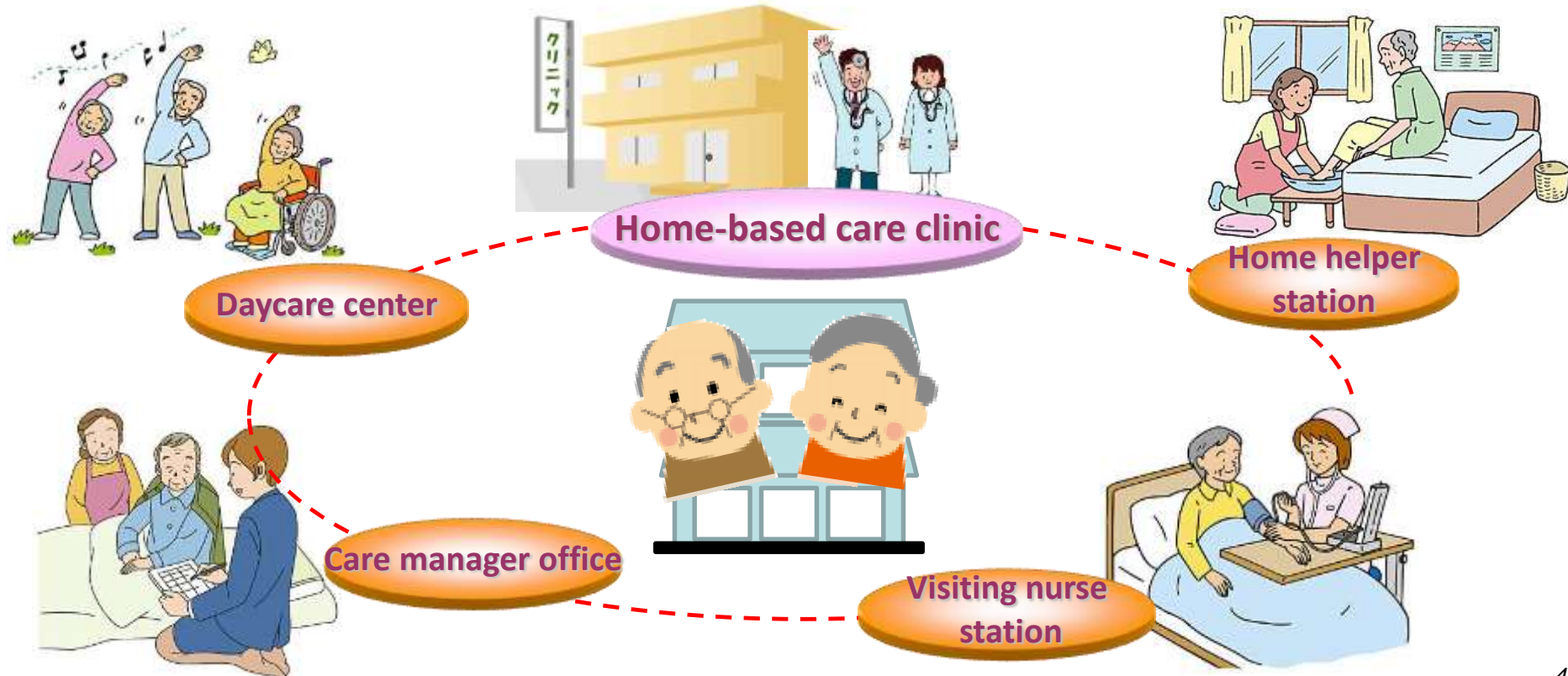
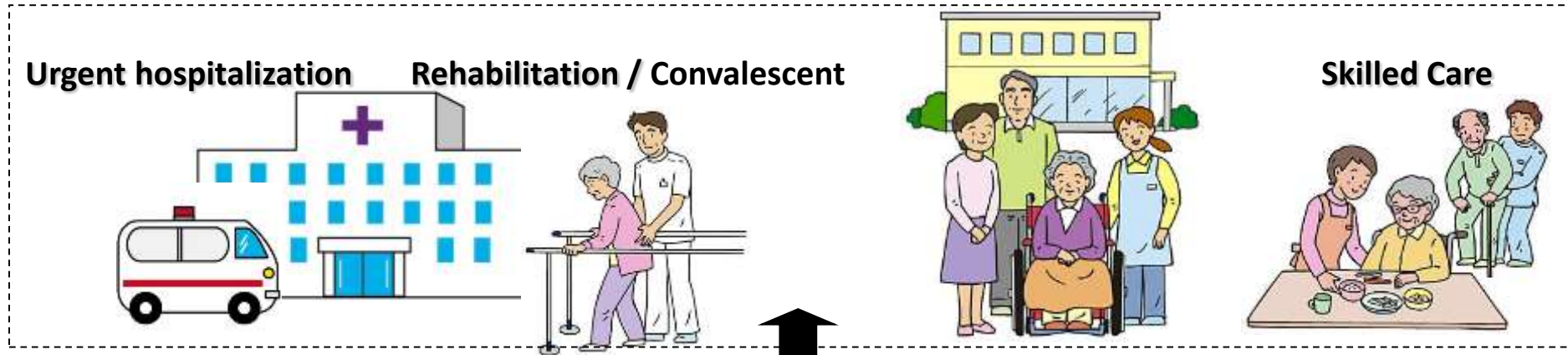
# Home-based Health Care



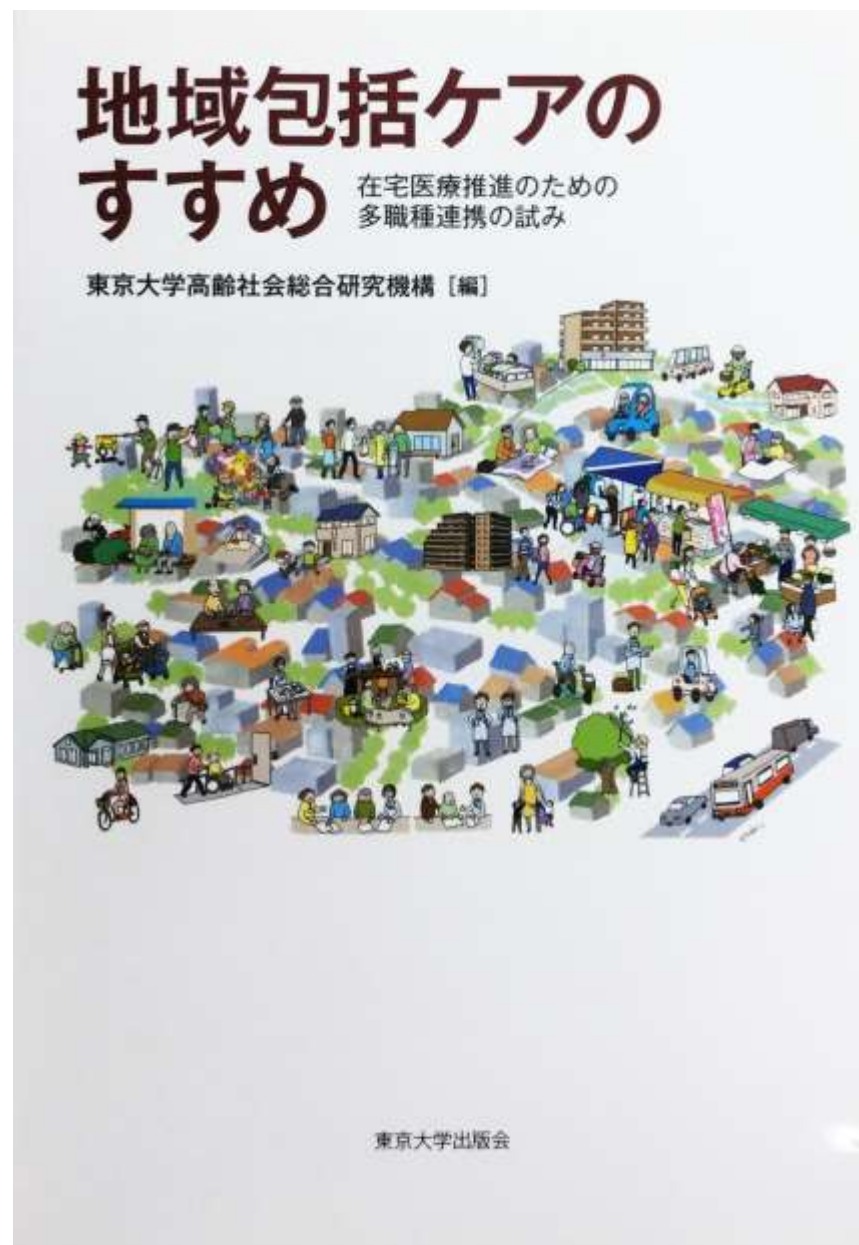
# Small Multifunctional Service Center



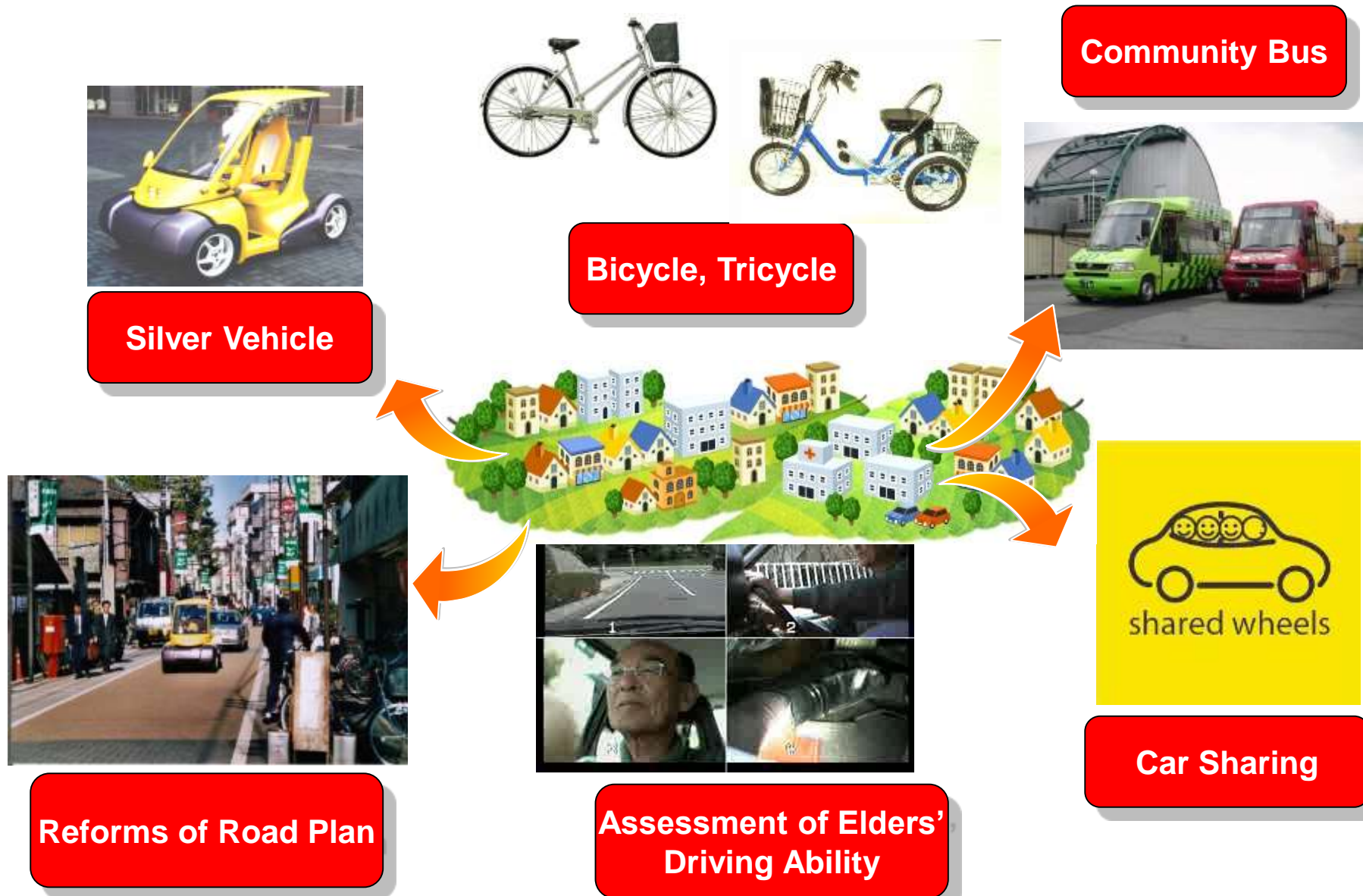
# Integrated Community Care System



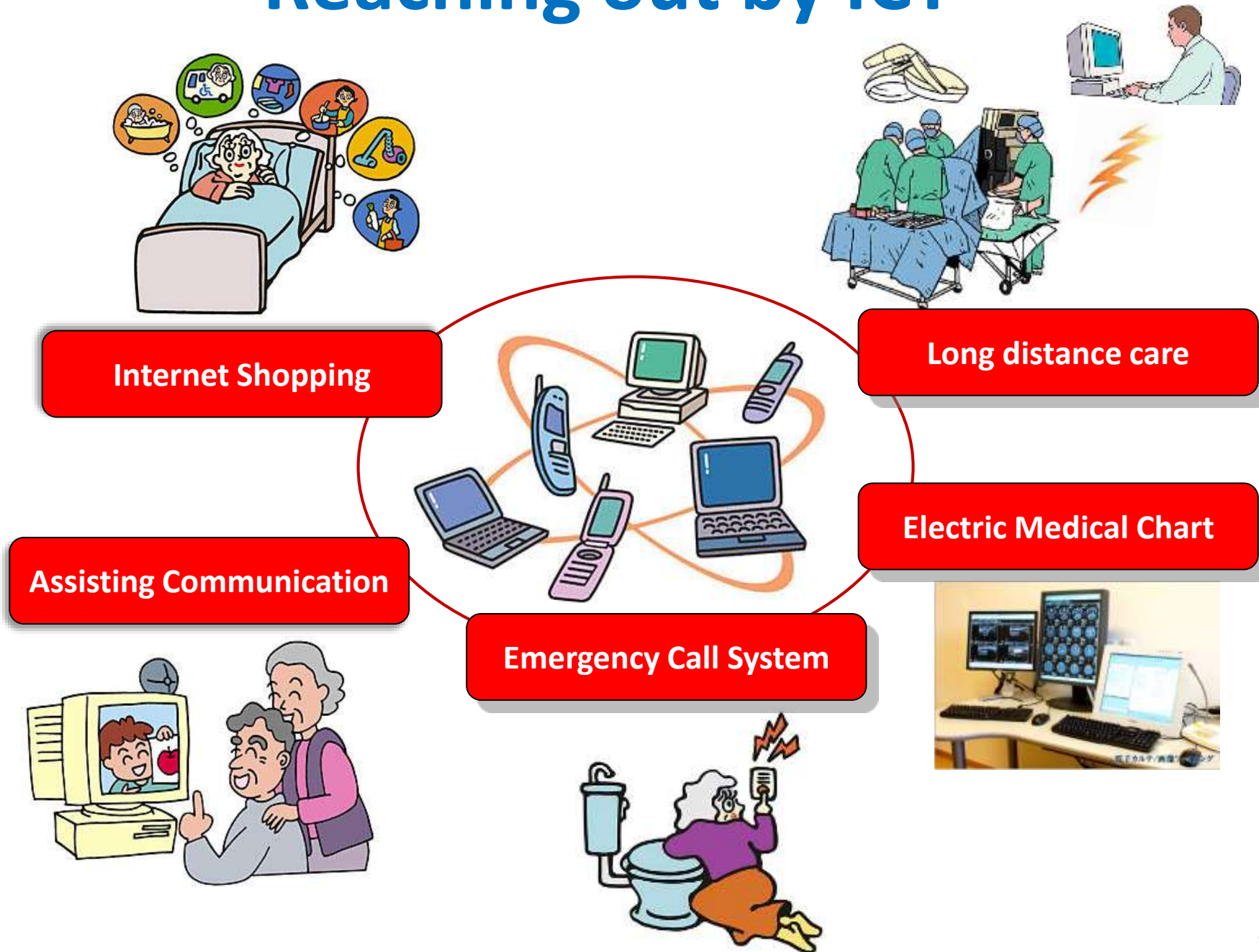
# Guidebook to Community-based Integrated Care System



# Alternative Means of Transportation



# Reaching out by ICT



# Government Initiatives in Social Experiment



**‘Redesigning Communities for Aging Society’**

**‘Innovation in Science, Technology and  
Social System for Aging Society’**



# Redesigning Communities for Aged Society



## Public Needs

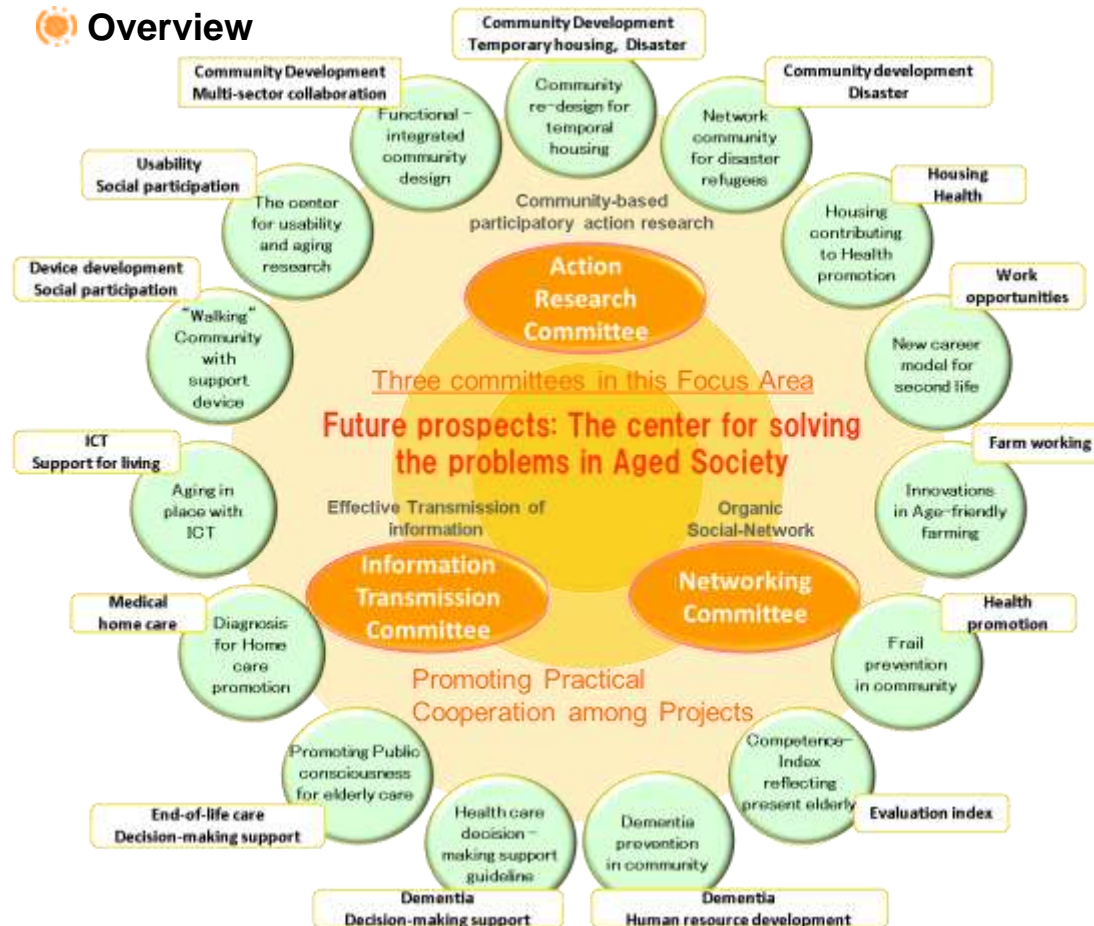
- The Japanese population aged 65+ is expected to reach one in three of the total population in 2030.
- RISTEX is situated to witness the advent of this aging society that is without any precedent in the world. Our aim, therefore, is to sift through and identify specific social issues, and to implement practical R&D in communities.

## Approach

- Collaboration of social and natural sciences, with multidisciplinary approach
- Collaboration between practitioners / researchers
- Social experimentation, PDCA cycle

Area Director: Hiroko Akiyama  
Professor, Institute of Gerontology,  
The University of Tokyo

## Overview



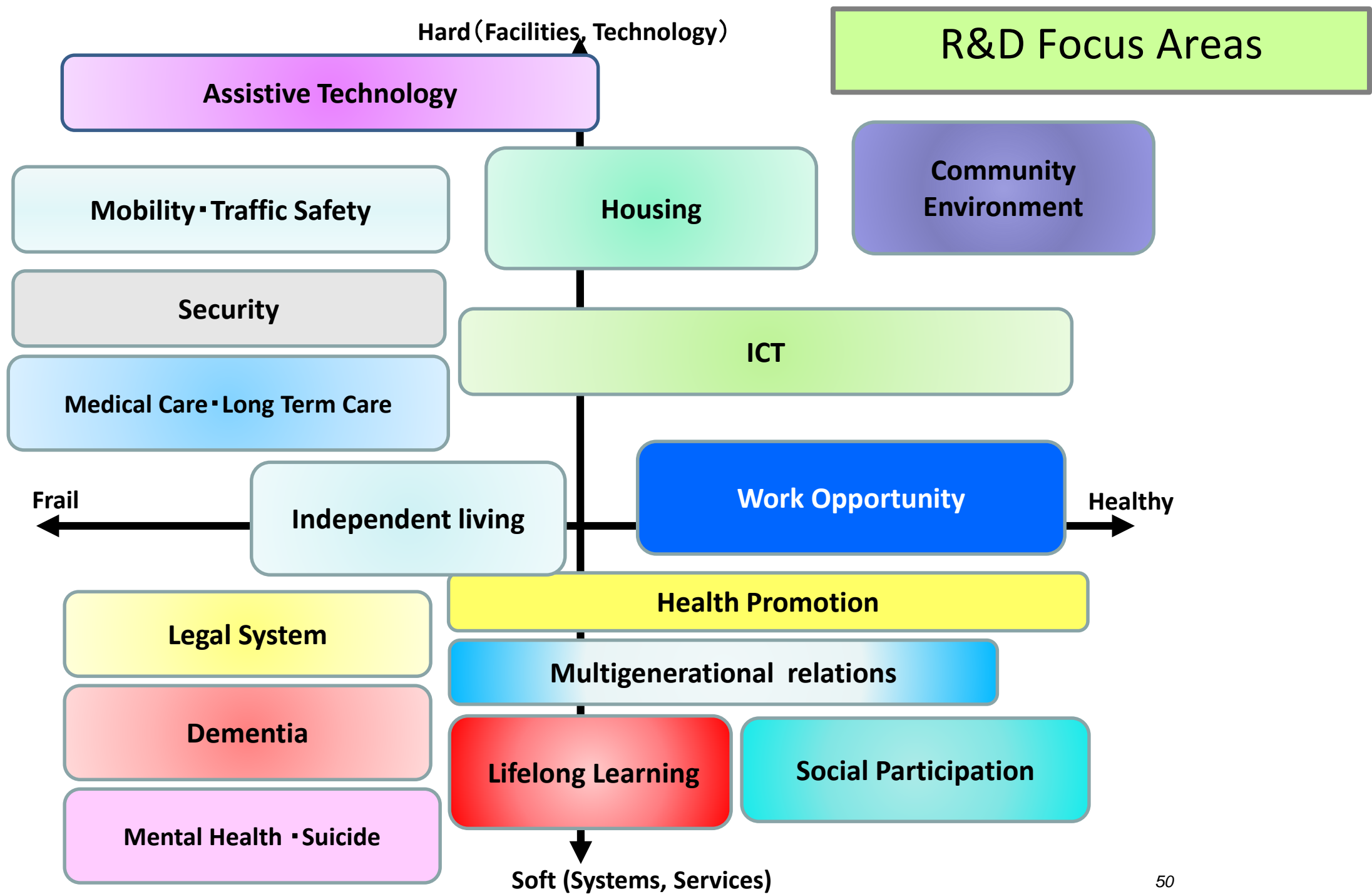
## Goals

- To develop innovative community-based research programs seeking solutions to critical problems arising in the aged society, which involve relevant multi-stakeholders such as scientific disciplines, government agencies, industries and citizens.
- To introduce methodological innovations in research solving problems of the aged society.
- To create a network of R&D centers which will serve as the resource center for redesigning communities for the aged society.

## Two Priority Issues

- To extend years of being independent
- To create an environment for aging in place





# Project List

- 1. Aging in Place with ICT**
- 2. Work places for the second life**
- 3. Area diagnosis tool for promoting home based health care**
- 4. A new “Index of Competence” reflecting improved health status of the elderly**


## **Project List (continued)**

- 5. Expanding social capital in a community by utilizing assistive technology for walking**
- 6. Community design for temporal housing sites in the tsunami stricken area**
- 7. Community-based comprehensive system for prevention of frailty**
- 8. Innovations in age-friendly farming**
- 9. Center for Usability and Aging Research (CUAR) with senior citizens**

# Project List (continued)

- 10. Housing and healthy aging**
- 11. Community design for preventing dementia**
- 12. Community design by functional integration for 2030**
- 13. Network community for refugees dispersed in a wide area**
- 14. Health care decision-making support for people with dementia**
- 15. Decision-making on end of life care**

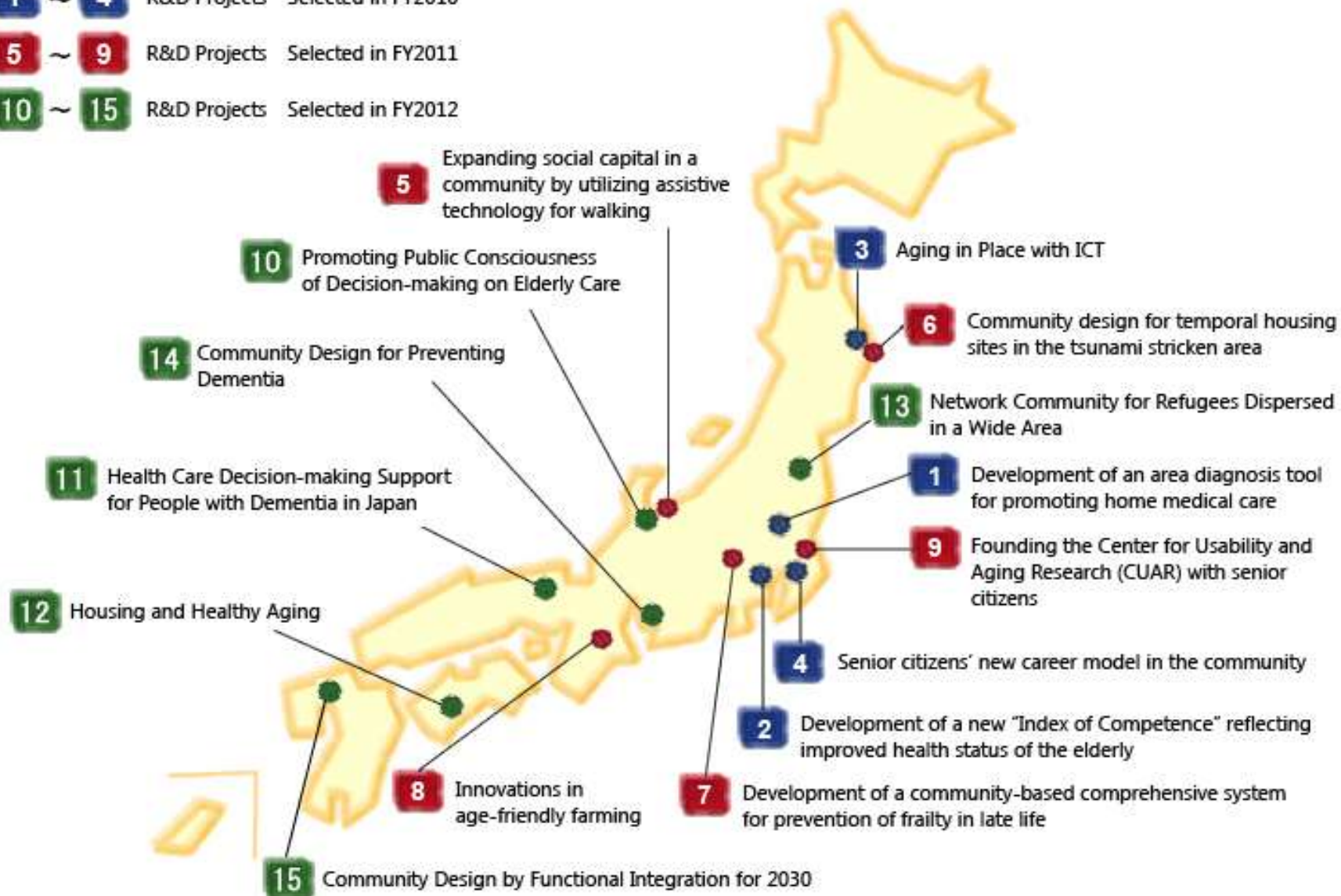
# R&D Projects

 Locations noted on the map are the sites of the main communities in the research and development projects.

**1 ~ 4** R&D Projects Selected in FY2010

**5 ~ 9** R&D Projects Selected in FY2011

**10 ~ 15** R&D Projects Selected in FY2012



# Active Aging



**Handing on  
knowledge and  
skills to the  
young**



**Age-friendly farming**



**Usability test lab**

# Health Promotion



**Frailty prevention**



**Dementia prevention**



**Walking with assistive technology**



# Share Walker



# Aging in Place



**Community-based daily life support system with ICT**



**Integrated support system: transportation, ICT & watch**

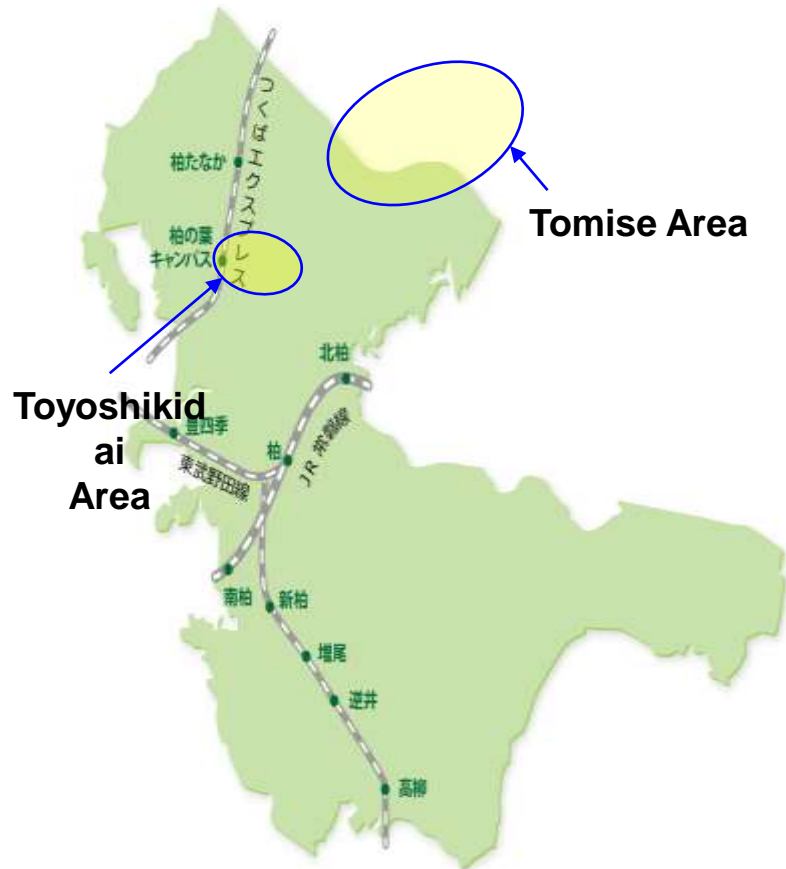


**Health care decision support for the demented**

## Redesigning Communities for Aged Society



# Integrated Implementation in Kashiwa



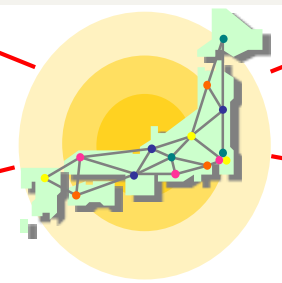
**Just Started !**



**Mission**

**A solution oriented platform for redesigning communities for aged society**

**Resource Center**



**Programs**

- I . Data archive of good practice
- II . Community empowerment and networking
- III . Evidence-based policy recommendations
- IV . International hub
- V . Living Lab etc.

**Collaboration**

- JST Projects
- Governments
- Academic Community
- Industries
- Citizens/Professional organizations/ NPO

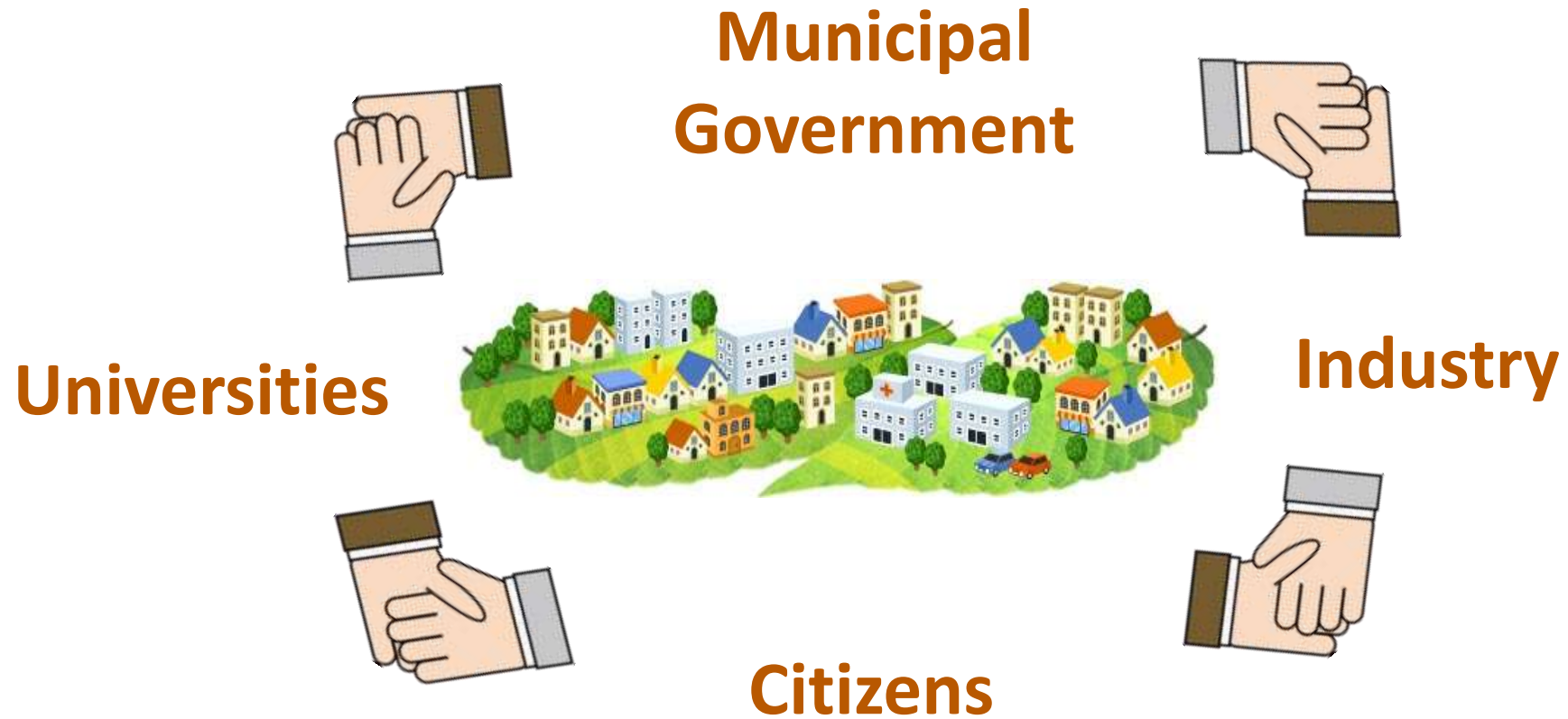
**Social Innovation Engine**

**Issues**

- Work for the second life
- Social participation
- Health promotion
- Community-based integrated care
- Active and assisted living
- Dementia Care
- Age friendly city



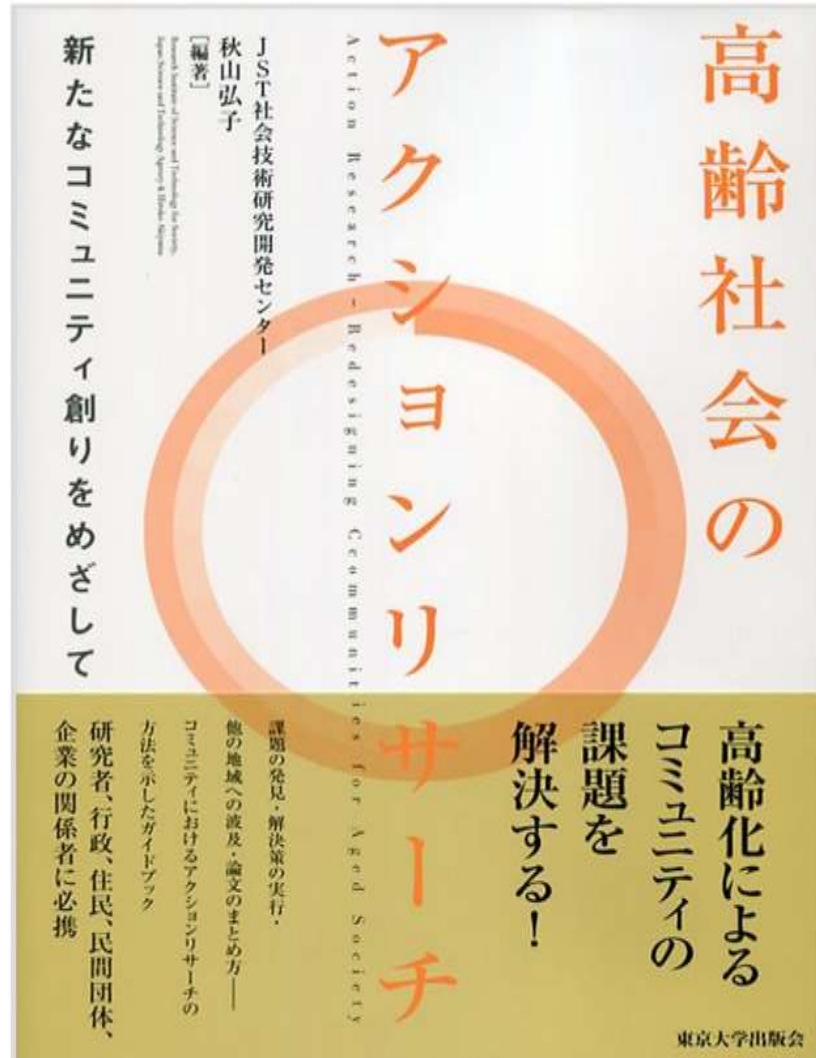
# Collaboration of Multi-stakeholders



# Action Research

- **Aims to solve a social problem**
- **Active participation in collaboration of multi-stakeholders**
- **A spiral of steps, each of which is composed of a PDCA circle**

# Action Research for Age-friendly Communities





# UT-Industry Gerontology Consortium

- Forefront of gerontological research and technology
- Industry roadmap towards 2030
- Platform for new industry

Members: 58 corporations (including 7 international co.)

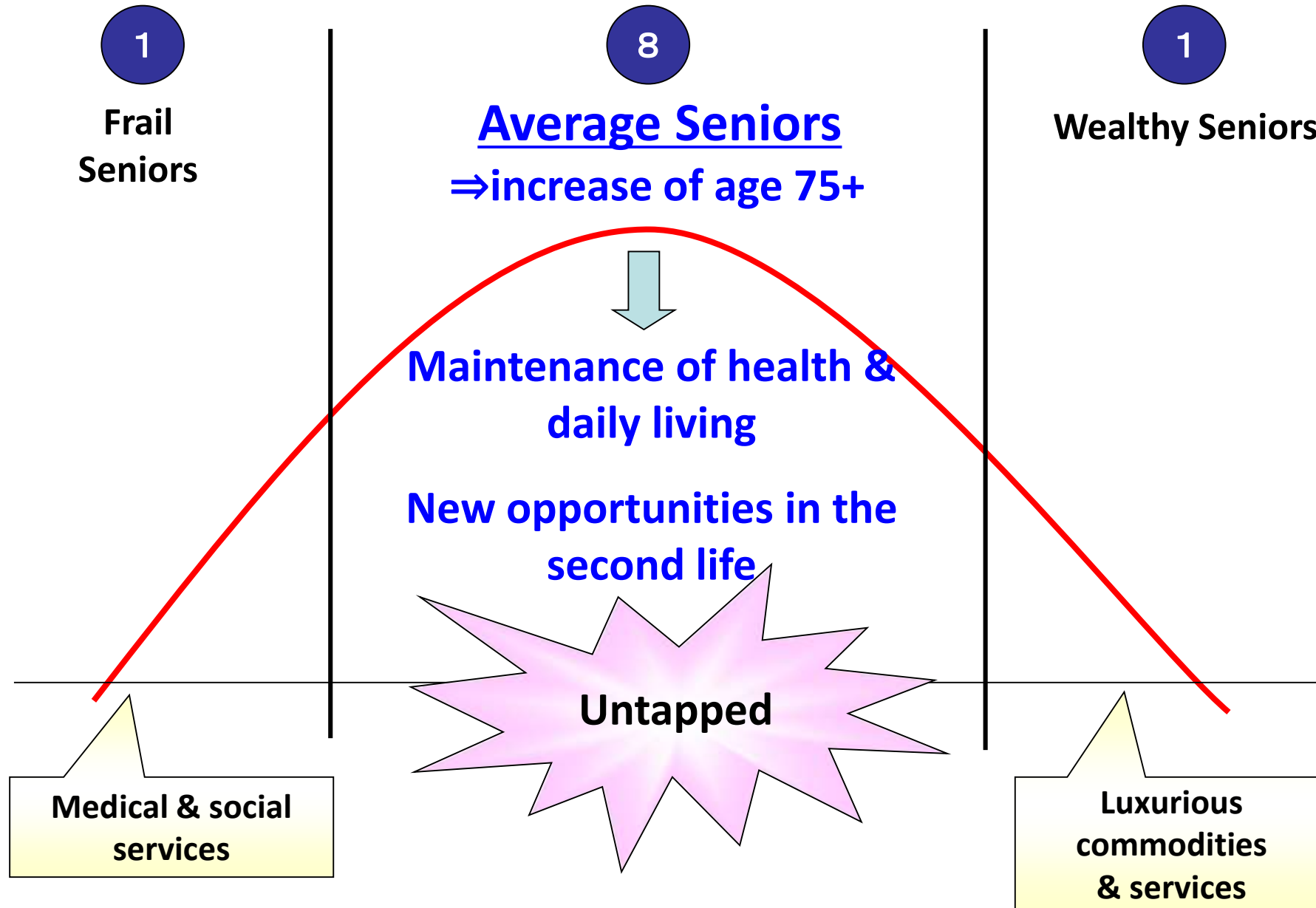


# U-T Industry Consortium on Gerontology

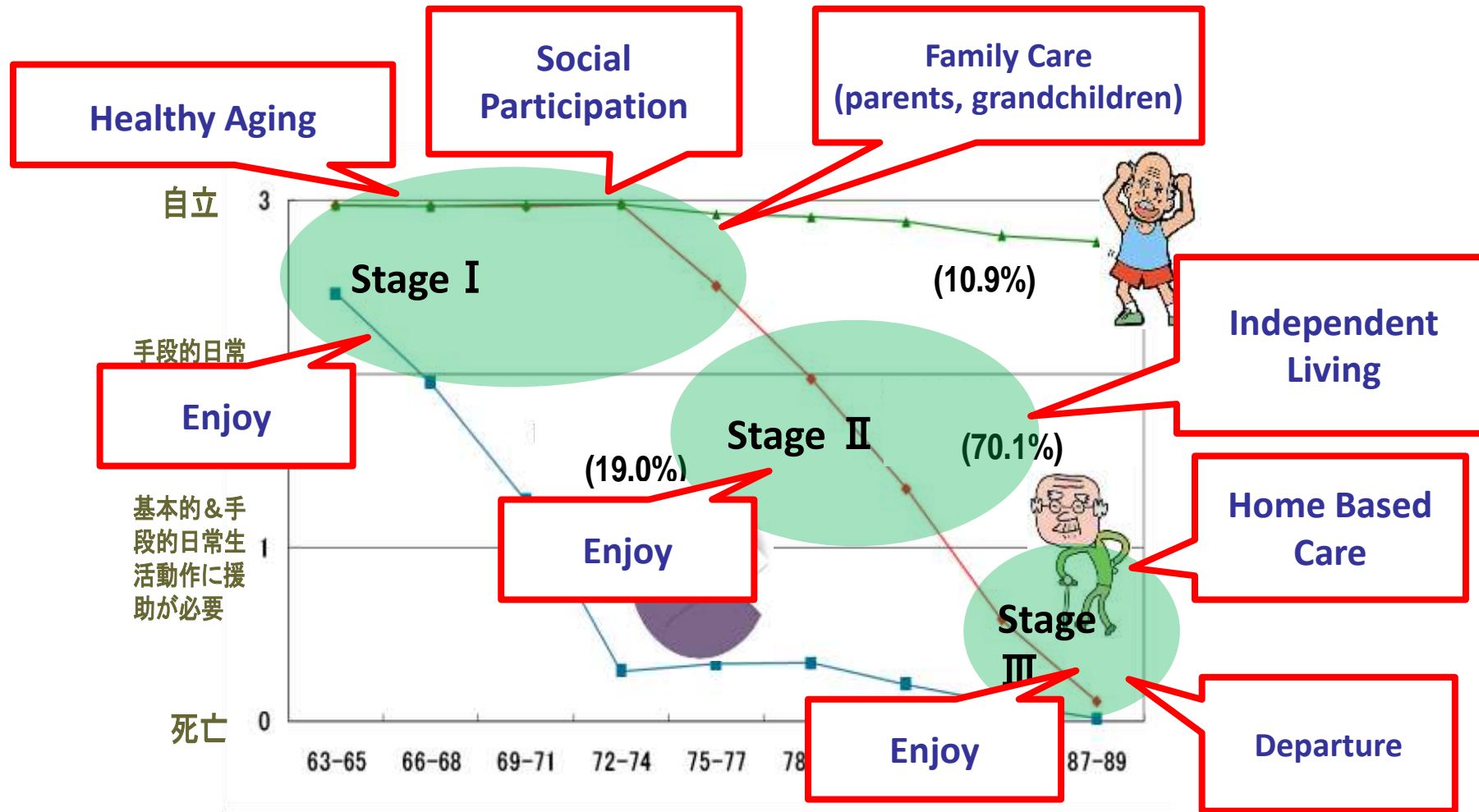
90 companies (2009-2013)

Ajinomoto Co., Inc. / Aeon Co., Ltd / American Family Life Assurance Company of Columbus / ANGFA Co., Ltd. / Arai / Bosch Japan / COMPASSO /  
Daikin Industries, Ltd / Dai Nippon Printing Co., Ltd. / Daiwa House Industry Co., Ltd. /  
Dentsu Inc./ Du Pont Kabushiki Kaisha / e-solutions, inc. /  
Ezaki Glico Company, Limited / Fancstaff / Fujifilm Corporation /  
FUJISOFT INCORPORATED / FUJITSU RESEARCH INSTITUTE/ Fureasu /  
GENESIS RESEARCH INSTITUTE, INC. / Healthcare Partners Co., Ltd. / Hitachi, Ltd. /  
House Foods Corp. / Intelligence Ltd. / ITOKI CORPORATION / Japan Tobacco Inc./  
Japan Broadcasting Co. / JTEKT CORPORATION / JX Nippon Oil & Energy Co /  
Kao Corporation / Lion Corporation / LIXIL Corporation / Medithink / Merck & Co., Inc. / Misawa Homes Institute of Research Institute of Research and Development Co., Ltd. / Mitsui & Co., Ltd. /  
Mitsui Fudosan Co., Ltd. / Mizuho Bank, Ltd. / NEC Corporation / Nestle Japan Limited / NICHIREI CORPORATION Nippon Life Insurance Company / Nippon Meat Packers, Inc. /  
Nissan Motor Co., Ltd. / Nomura Securities Co., Ltd. / NTT DOCOMO, INC. /  
Oki Electric Industry Co., Ltd. /ORIX Real Estate Co. / Panasonic Corporation /  
Research and Development, Inc. / P&G Japan / Ricoh Company, Ltd. /  
SECOM Co., Ltd. Seibu Shinkin Bank / Sekisui Integrated Research Inc. /  
Shinsei Pulp & Paper Co., Ltd. / Shiseido Co., Ltd. / Siemens Japan K.K. /  
Sumitomo Co. Sunstar Inc. / Suntory Beer & Spirits Limited /  
Suntory Beverage & Food Limited /Suzuki Motor Corporation /  
Taisho Pharmaceutical Co., Ltd. / The Kaiteki Institute (Mitsubishi Chemical Holdings) /  
TMJ, Inc / Tokyu Corporation / Toshiba Co. / Toyota Motor Corporation / UDIT Inc. / Unicharm Corporation / Urban Renaissance Agency (UR) Yachiyo Industry Co., Ltd. /  
Yamaha Motor Co., Ltd. / The Yomiuri Shimbun Holdings / Zensho Holdings Co., Ltd./ etc...

# Untapped Silver Market $\Rightarrow$ 1 : 8 : 1

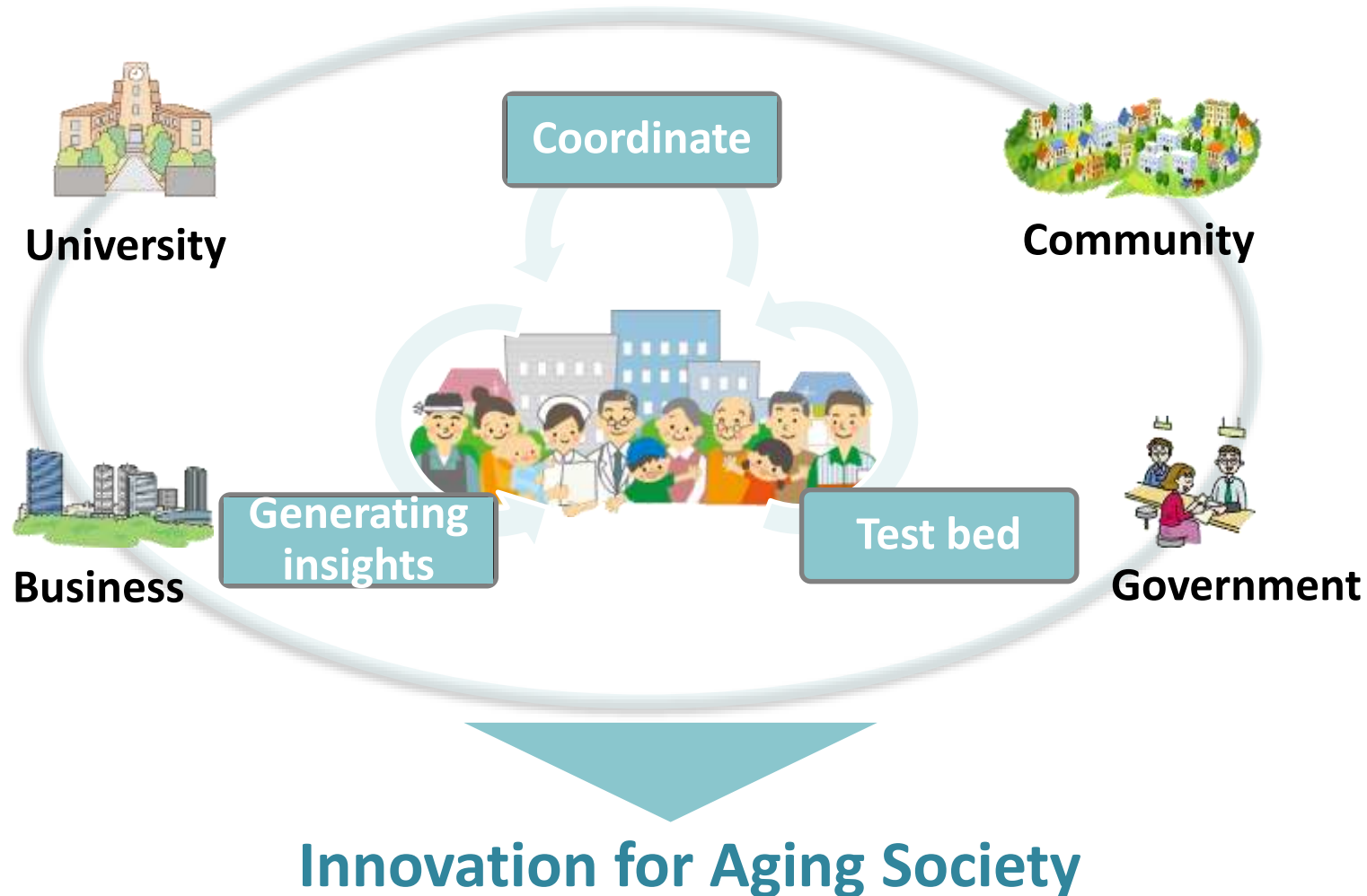


# Life Stages and Needs (Market)



# Transnational Living Lab

~ Innovation by Co-Creation with Users ~



# Challenge in Aged Society

