

Redesigning Communities for Aged Society

Hiroko Akiyama

**Institute of Gerontology
The University of Tokyo**

CUHK Jockey Club Institute of Ageing
Launch Conference on “Creating Age-Friendly Communities”
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Drastic Increase of Older-olds (age75+)

2005

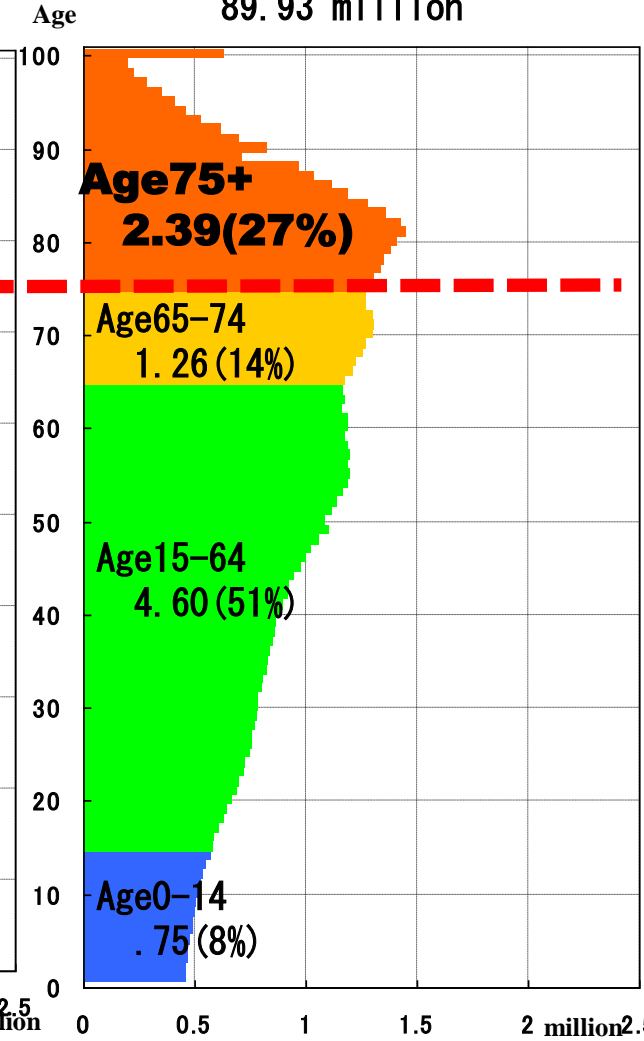
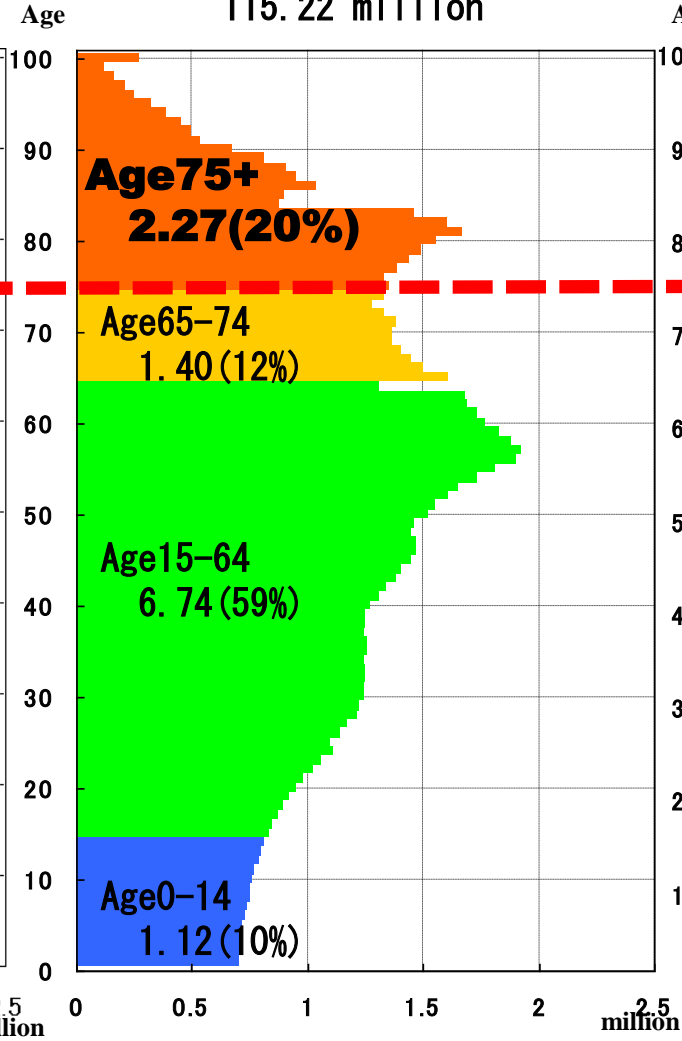
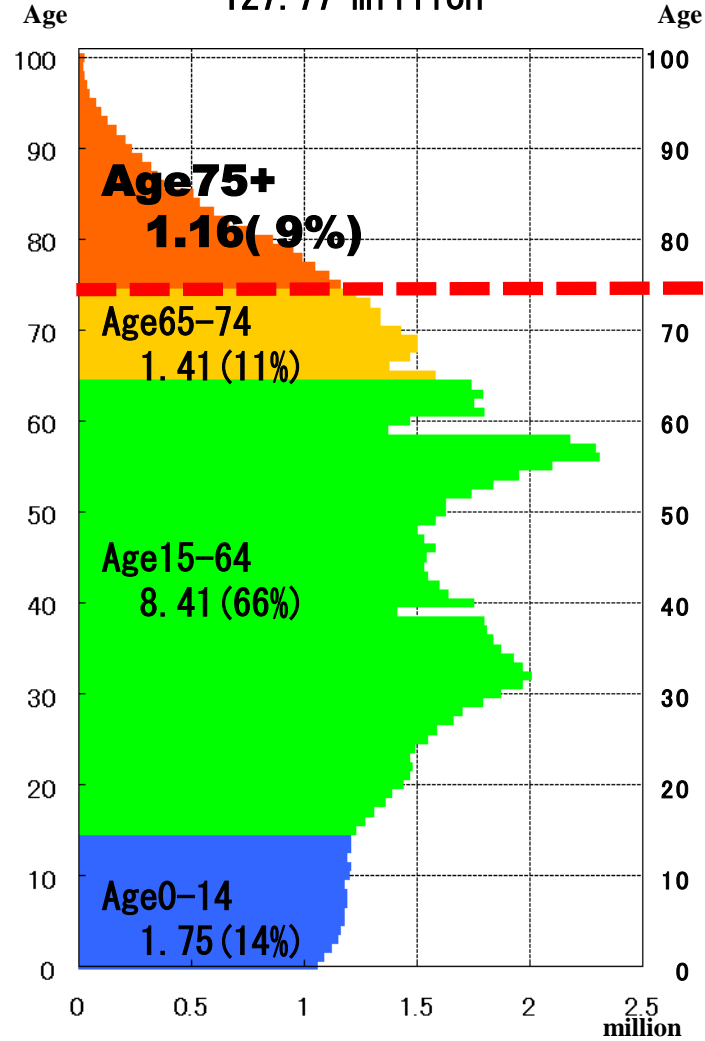
Population
127.77 million

2030

Population
115.22 million

2055

Population
89.93 million

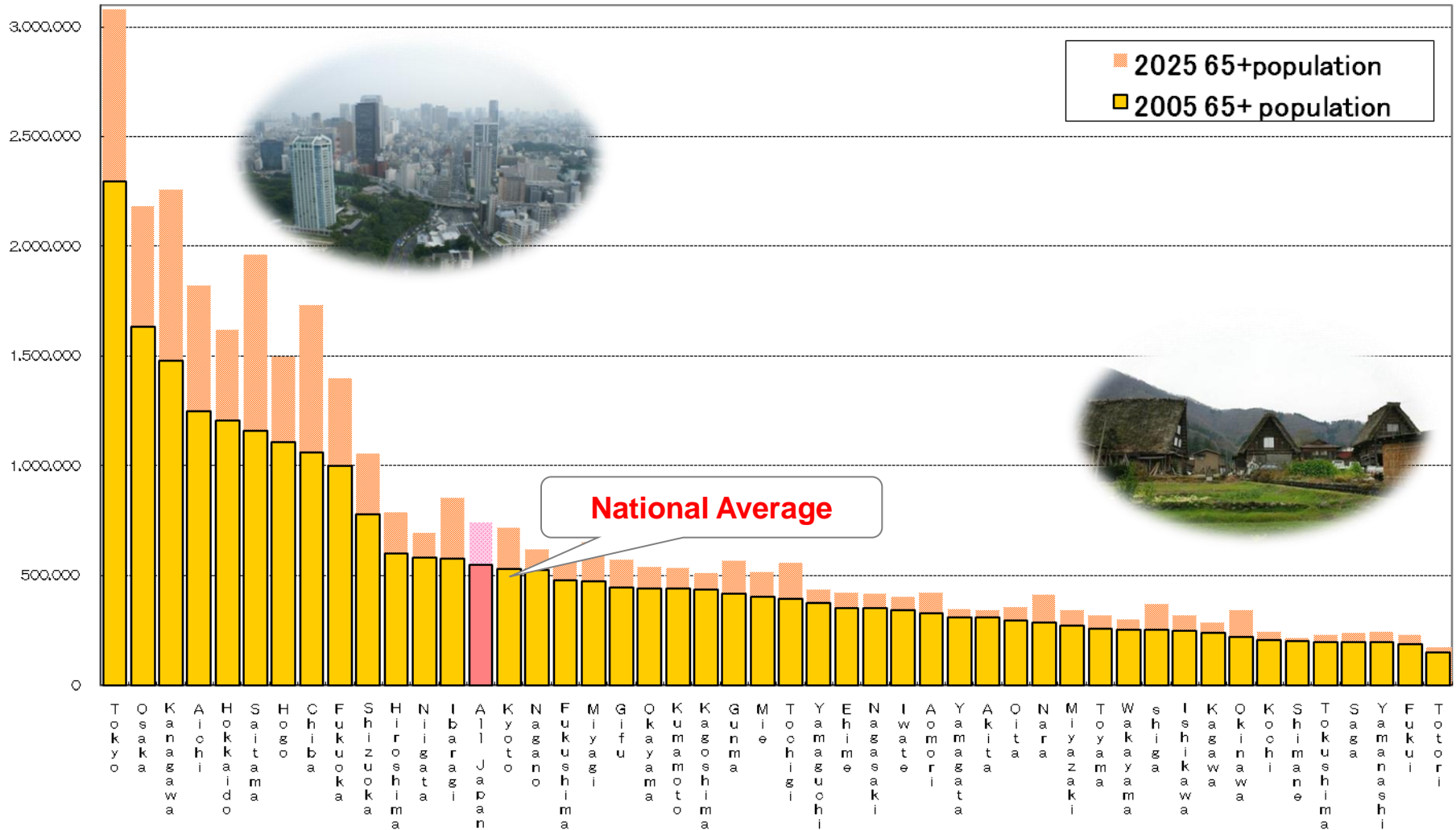


People now live into their 90s ~average life expectancy in Japan~

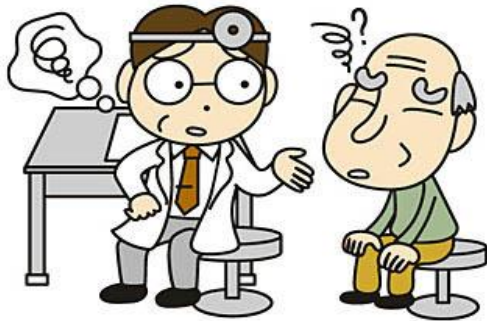
Men 80

Women 86

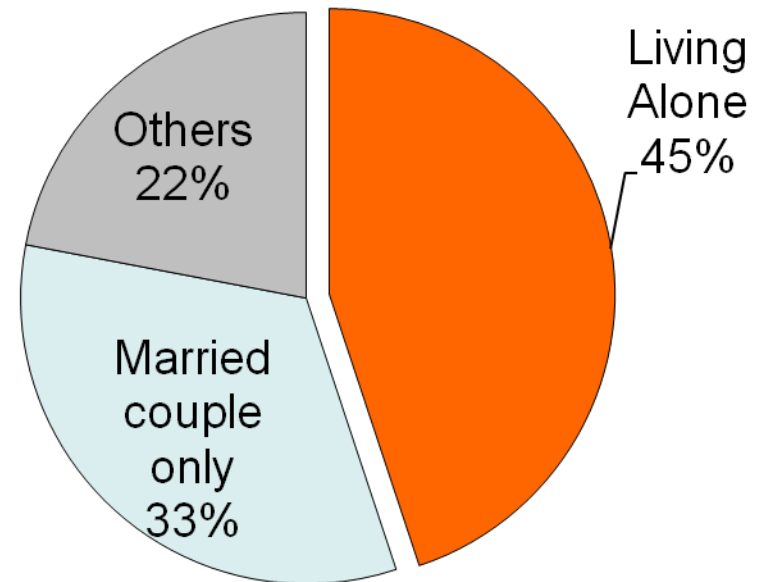
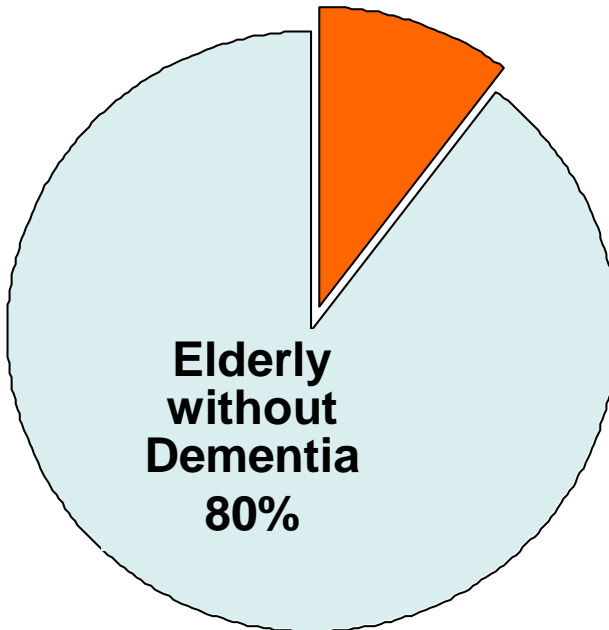
Aging occurs in urban population



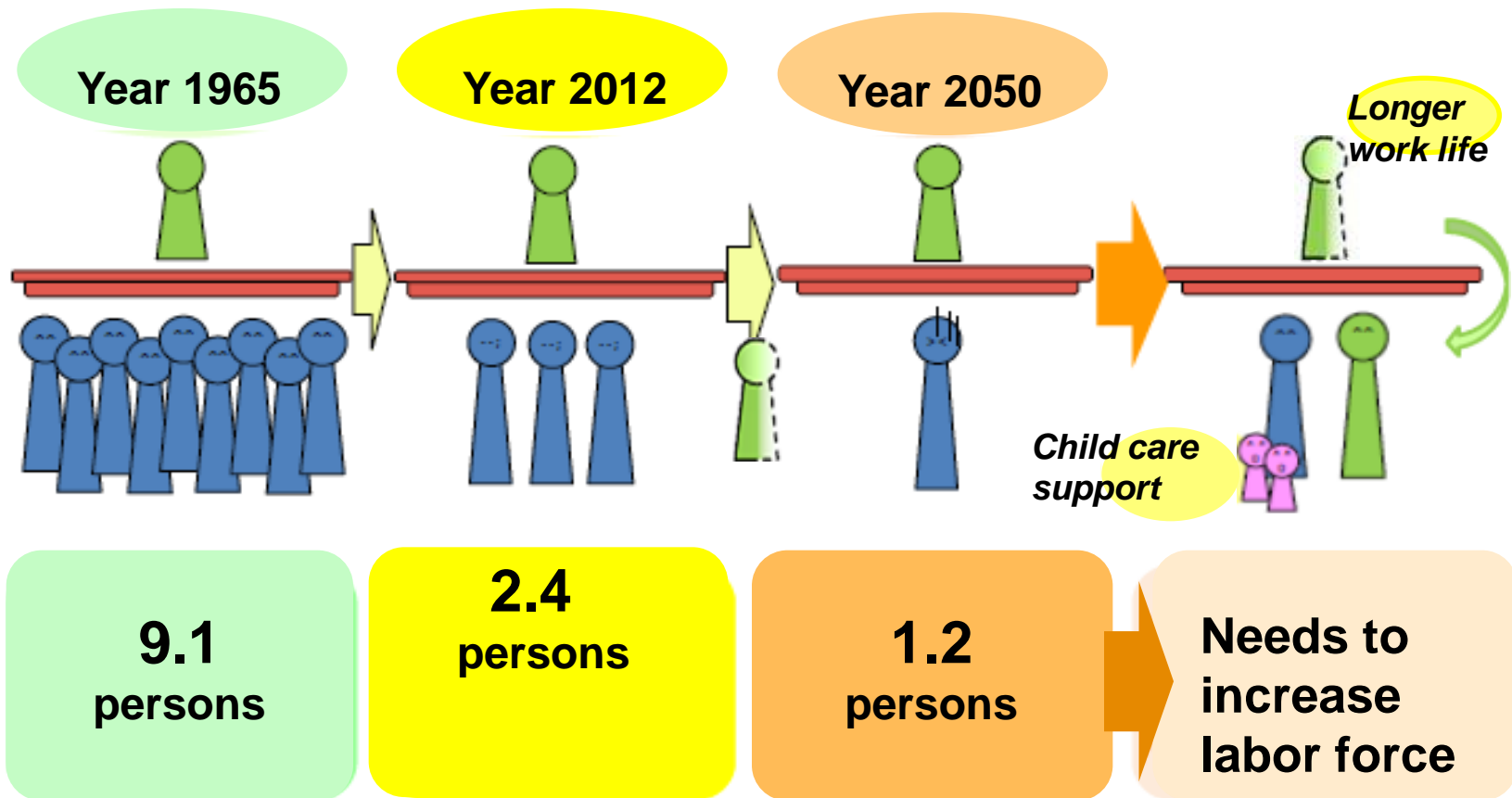
Demographic Shift and New Needs (2030)



Dementia
20%

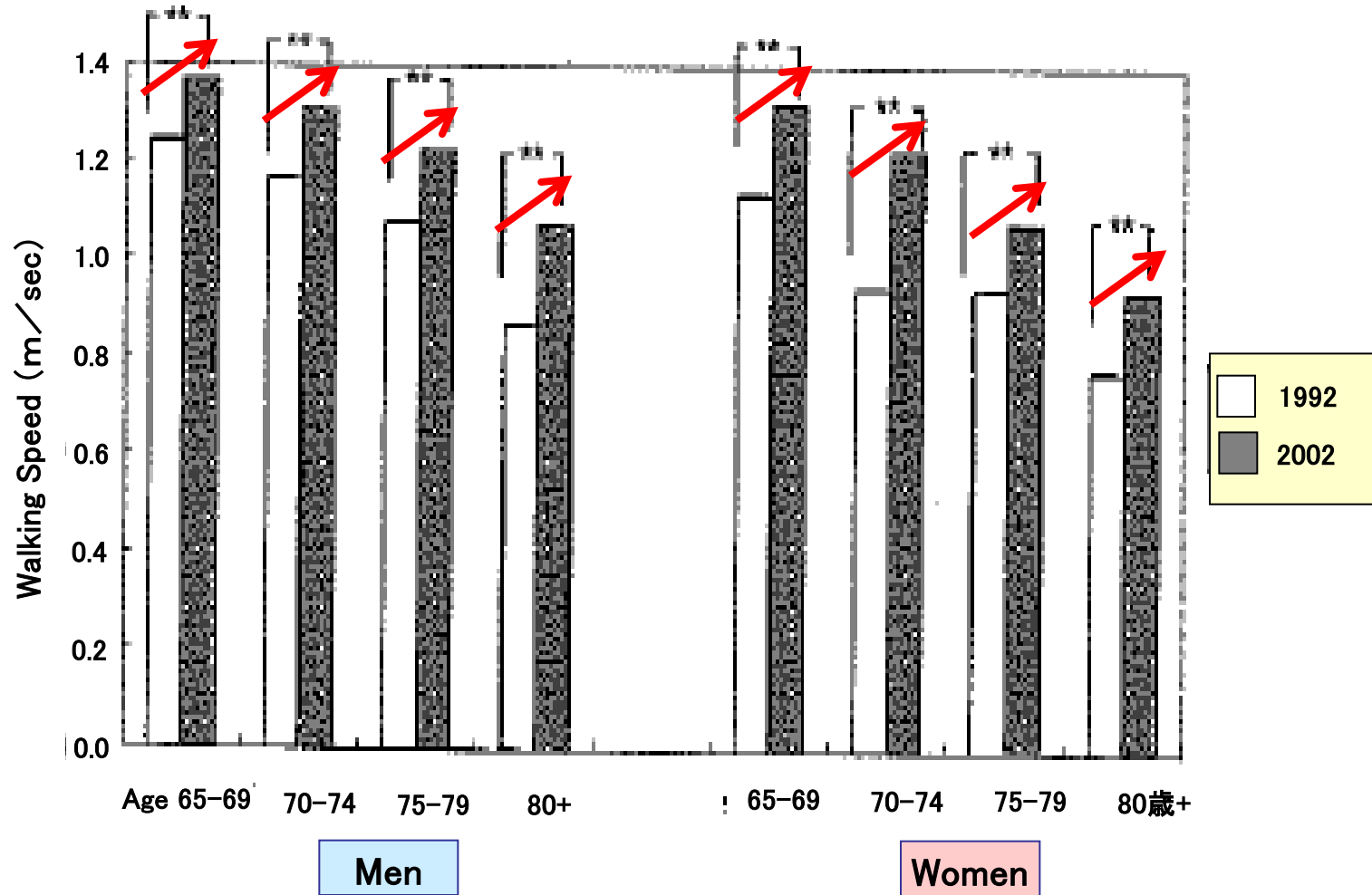


Old Age Dependency Ratios (Age 20-64 / Age 65+)



We are Living Longer and Healthier!

11 years younger in usual walking speed between 1992 & 2002

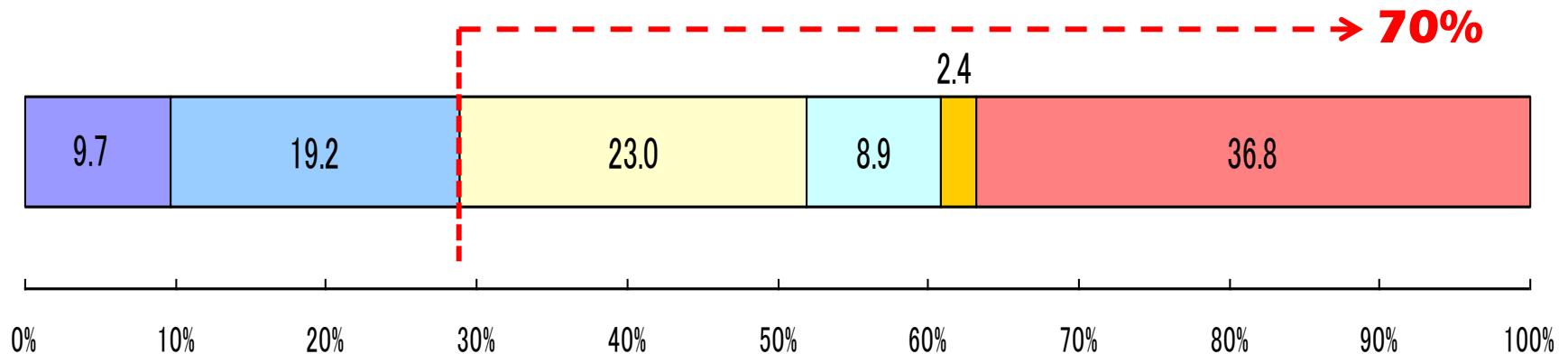


Japanese seniors are willing to work

70% of people age 60+ want to work until age 70

<How long do you want to work? >

■ 60歳ぐらいまで ■ 65歳ぐらいまで □ 70歳ぐらいまで □ 75歳ぐらいまで ■ 76歳以上 ■ 働けるうちはいつまでも

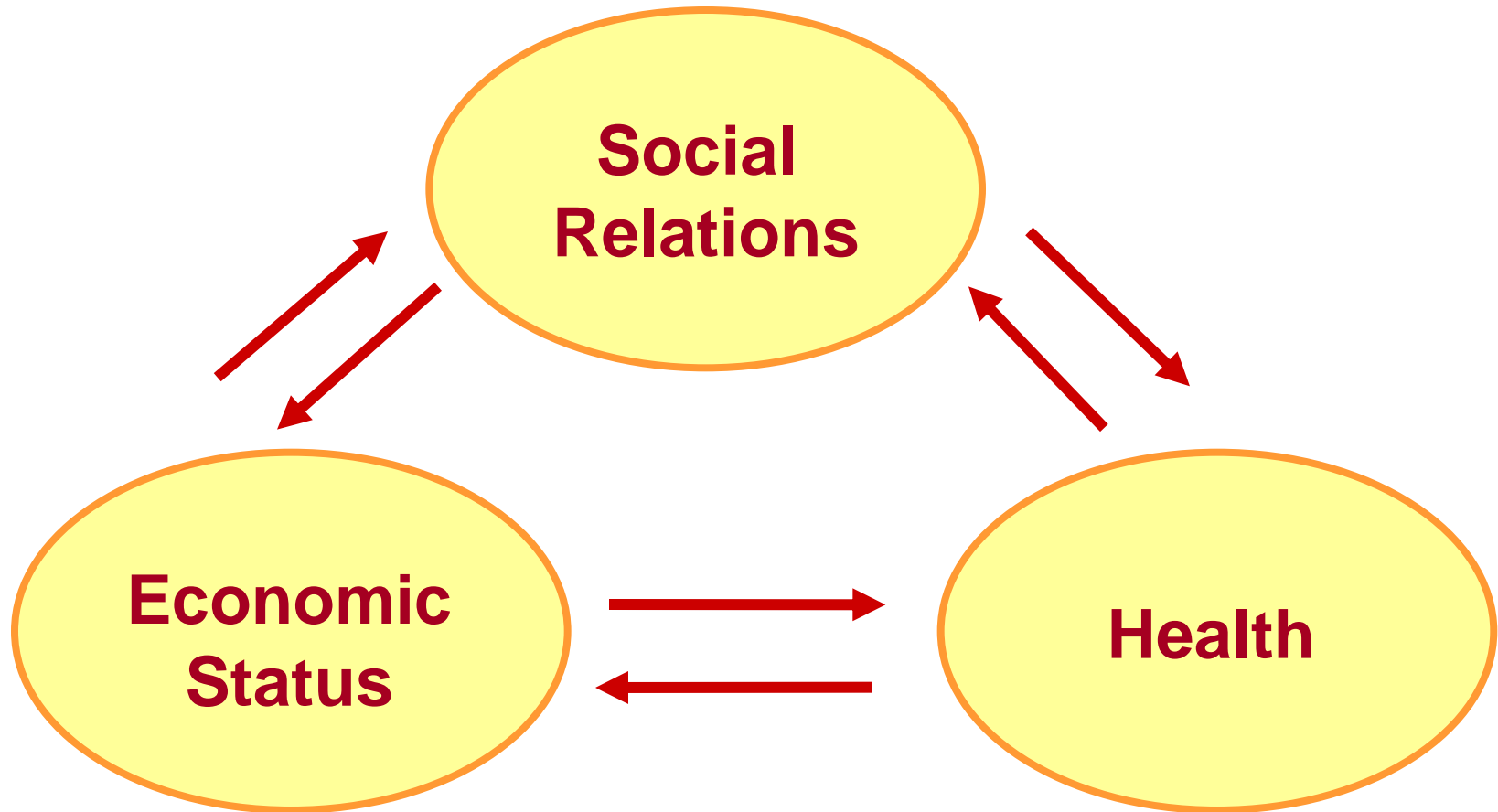


Source: Seniors' Social Participation Survey (Cabinet Office)

Well-being of Japanese Elderly

National panel survey of the elderly over 25 years


N=5715



Survey Design

- **National probability sample of 5715 Japanese (age 60+)**
- **Face-to-face interview in every three years**
- **Supported by NIA & Ministry of Health, Welfare and Labor**

Survey Years

Wave 1	1987		20 years
Wave 2	1990		
Wave 3	1993		
Wave 4	1996		
Wave 5	1999		
Wave 6	2002		
Wave 7	2006		
Wave 8	2012		

(Physical performance tests added)

Functional Health Measure

Score

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

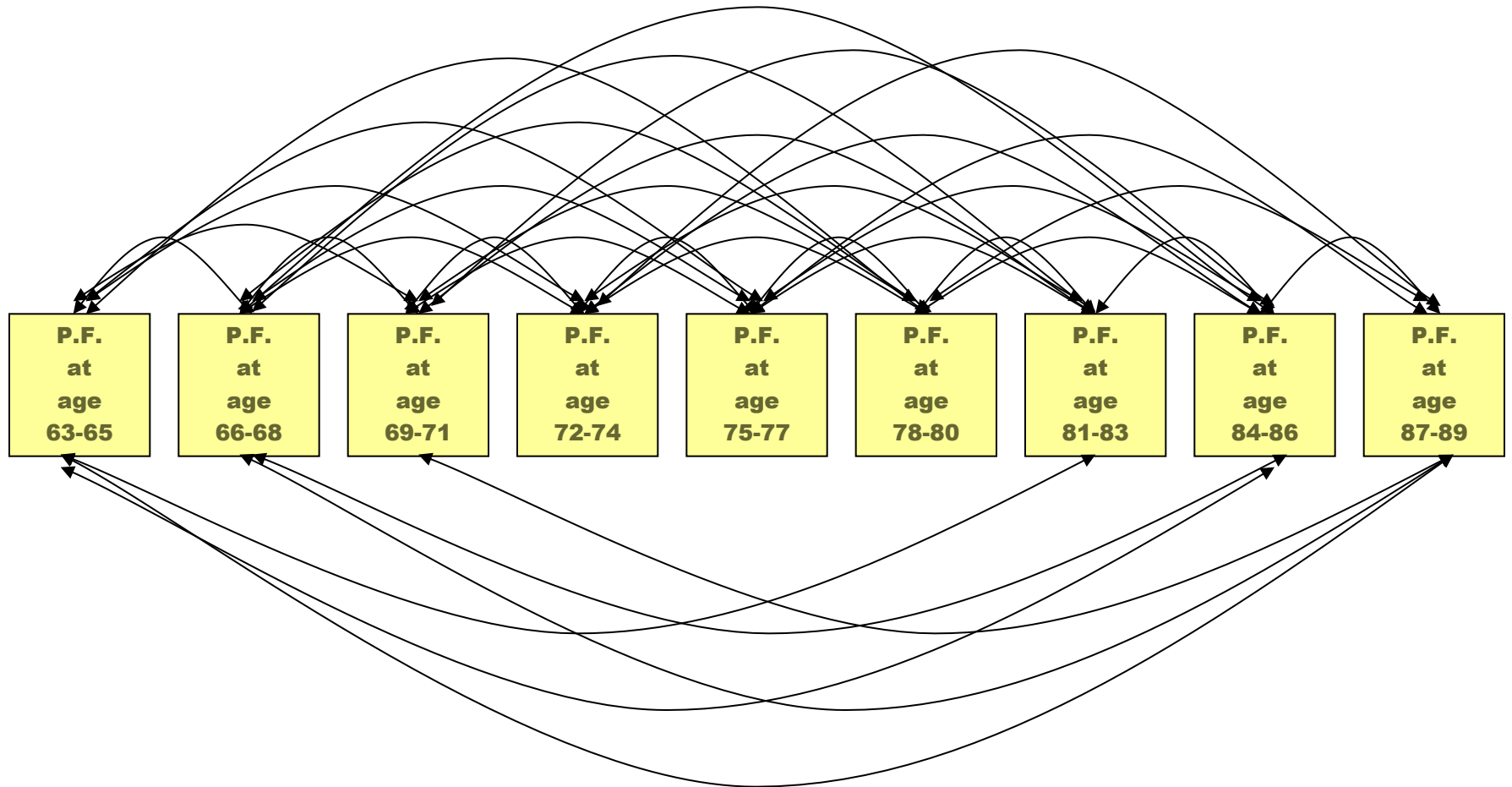
ADL questions

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

IADL questions

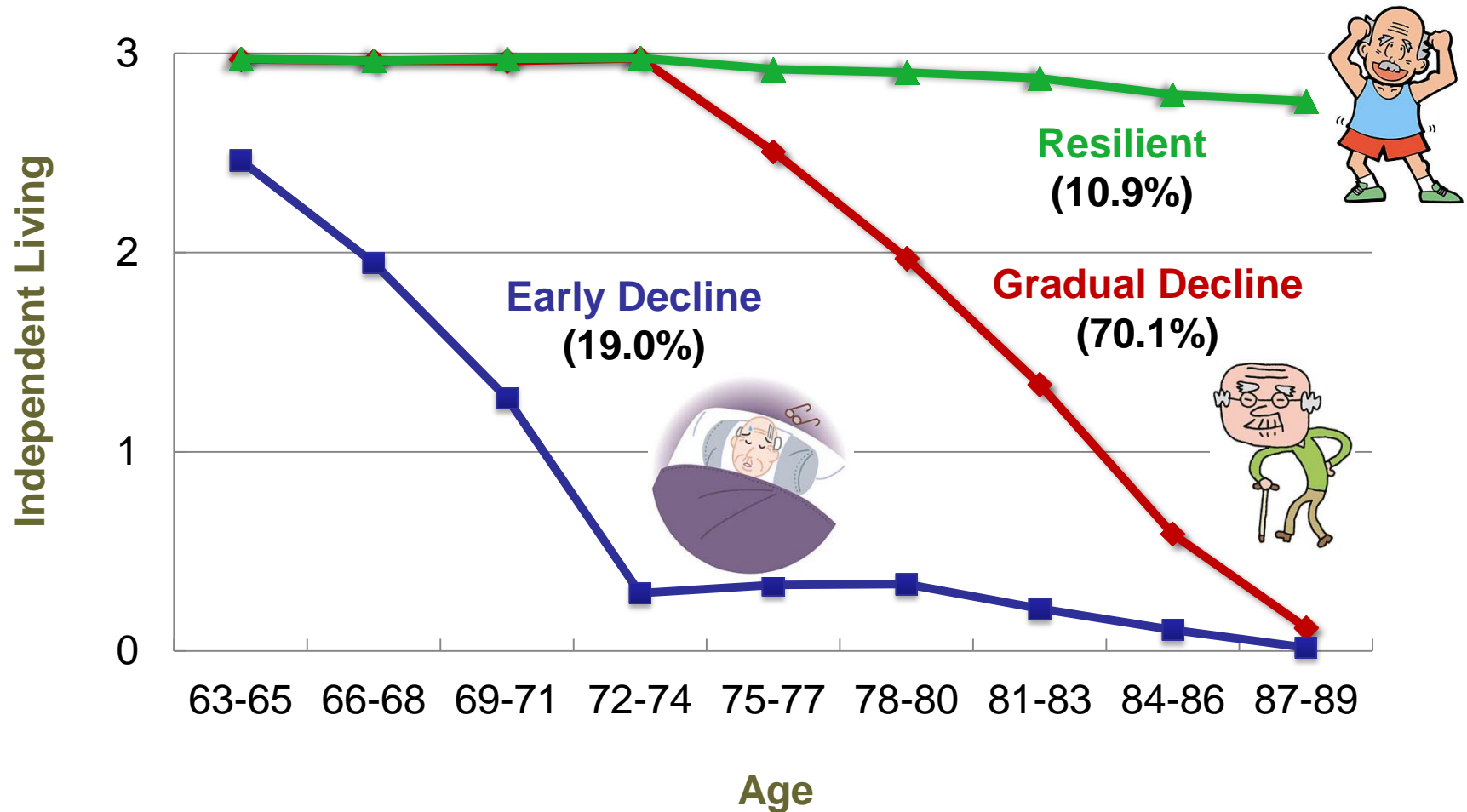
- Shopping for groceries or clothes**
- Using the telephone**
- Going out by bus/train**

Latent Class Analysis: Model



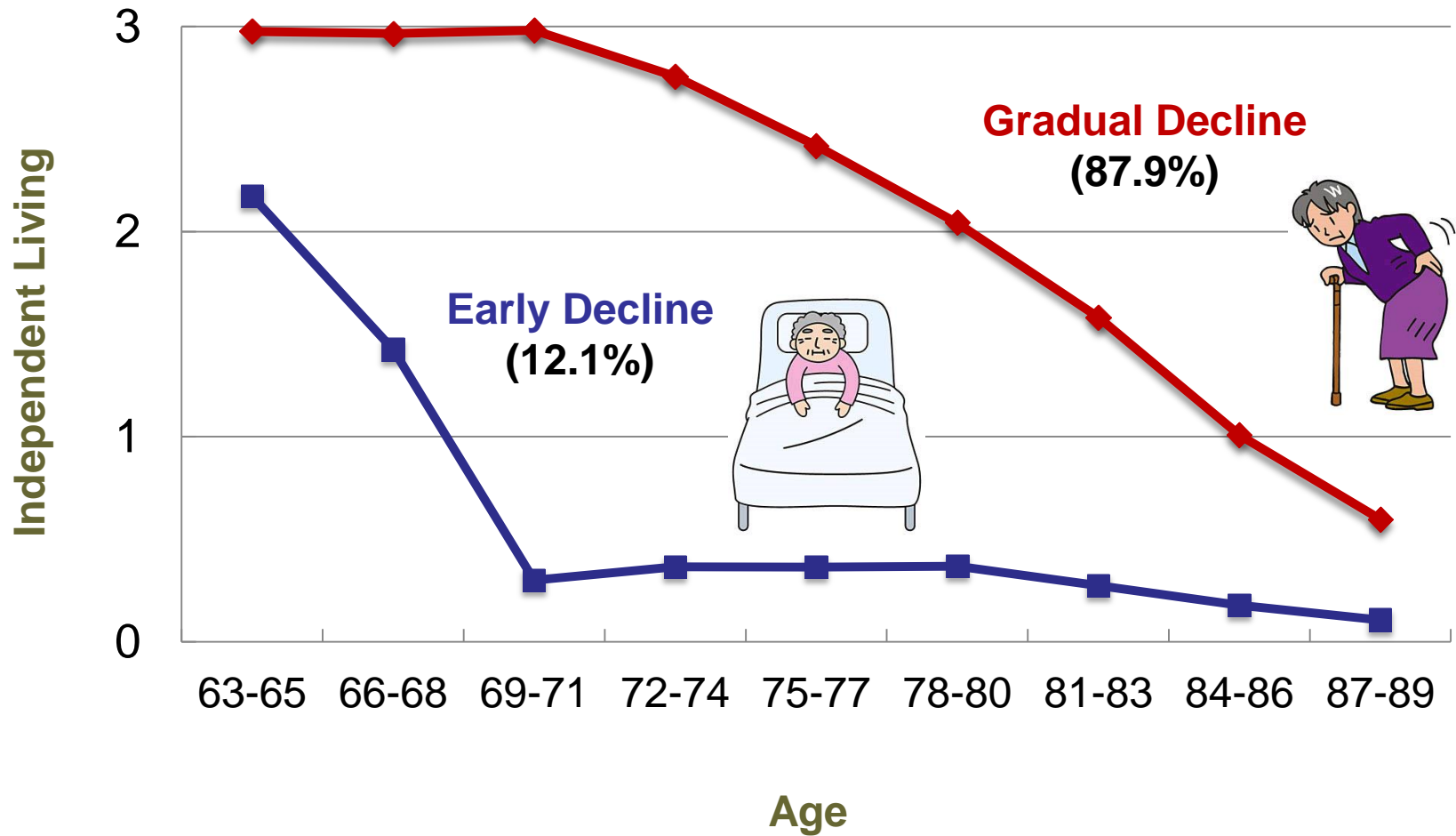
Trajectories of Independent Living

Men



Trajectories of Independent Living

Women

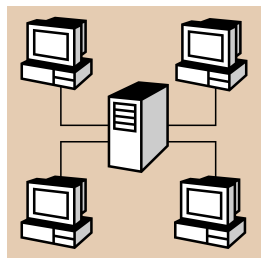


Three Priority Issues

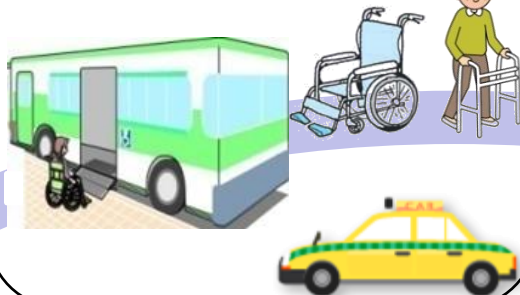
- **To extend years of being independent**
- **To create an environment for aging in place**
- **To maintain and strengthen human bonds**

Redesigning Communities for 2030

ICT Network



Individualized mobility assistance



Productive aging



Diverse housing



Evaluation

Quality of Life (QOL)



Quality of Community (QOC)



Costs



Hospital->Home

Hospital

Health Info



E-health



Patient studies



Community

Primary care



Attending Dr.

Pharmacy



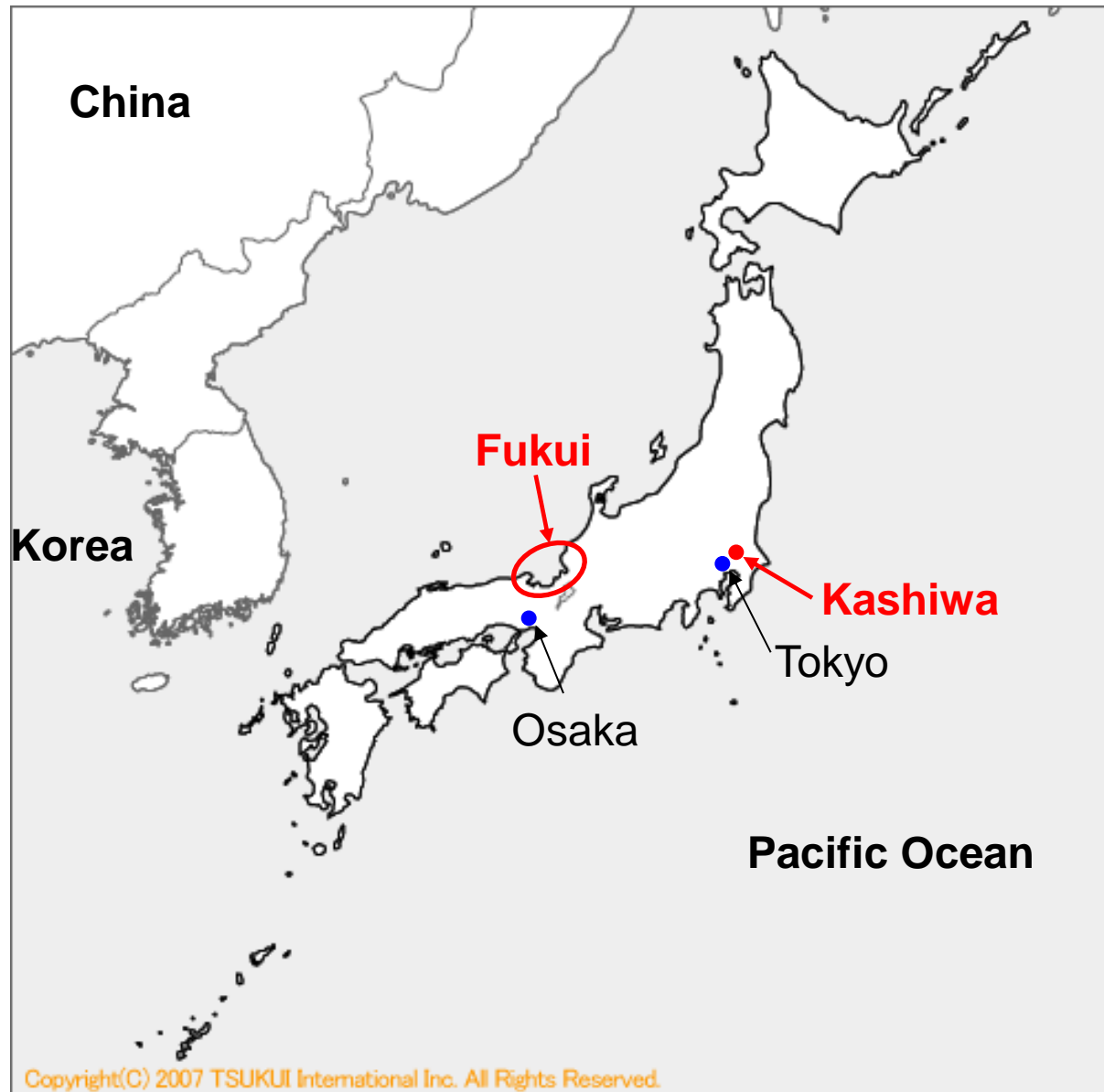
24-hr. visiting nurses & home help



Major Projects

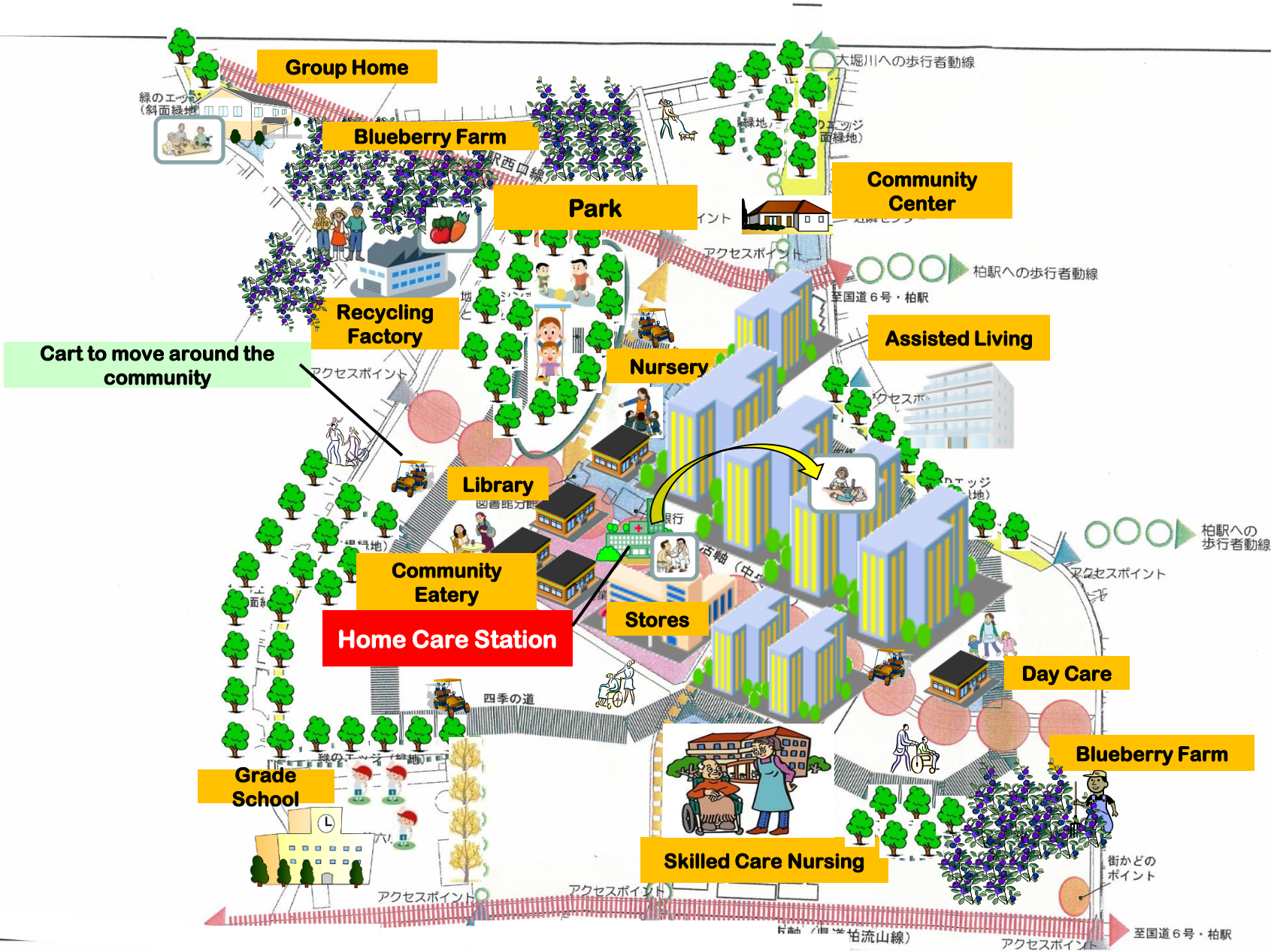
- **Productive aging**
- **Human Bonds**
- **Housing**
- **Health Care**
- **Transportation**
- **ICT**

Social experiment in 2 communities





Community for 2030



Work Places for the Second Life



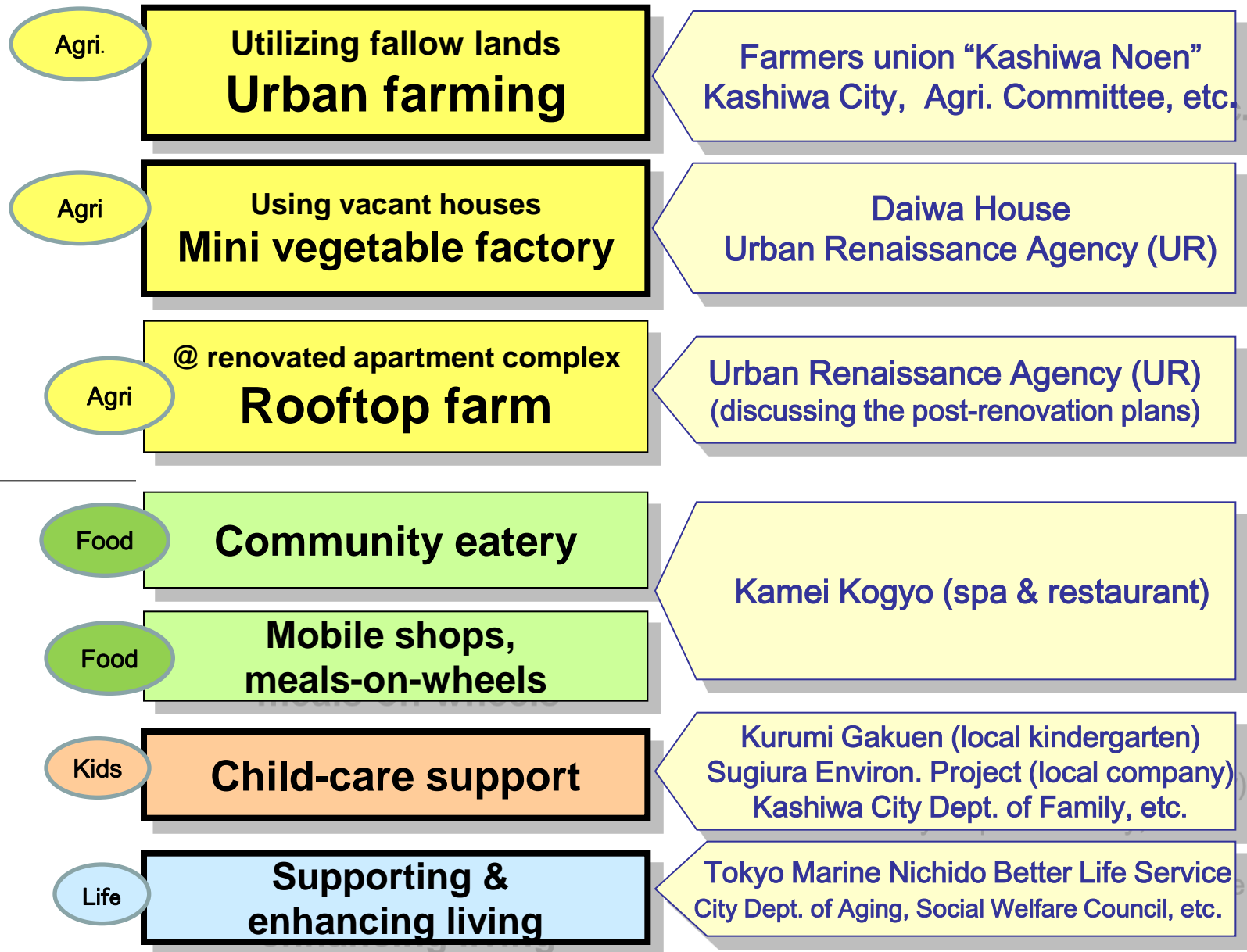
Creating Work Places

Kashiwa City

UR

Univ. of Tokyo

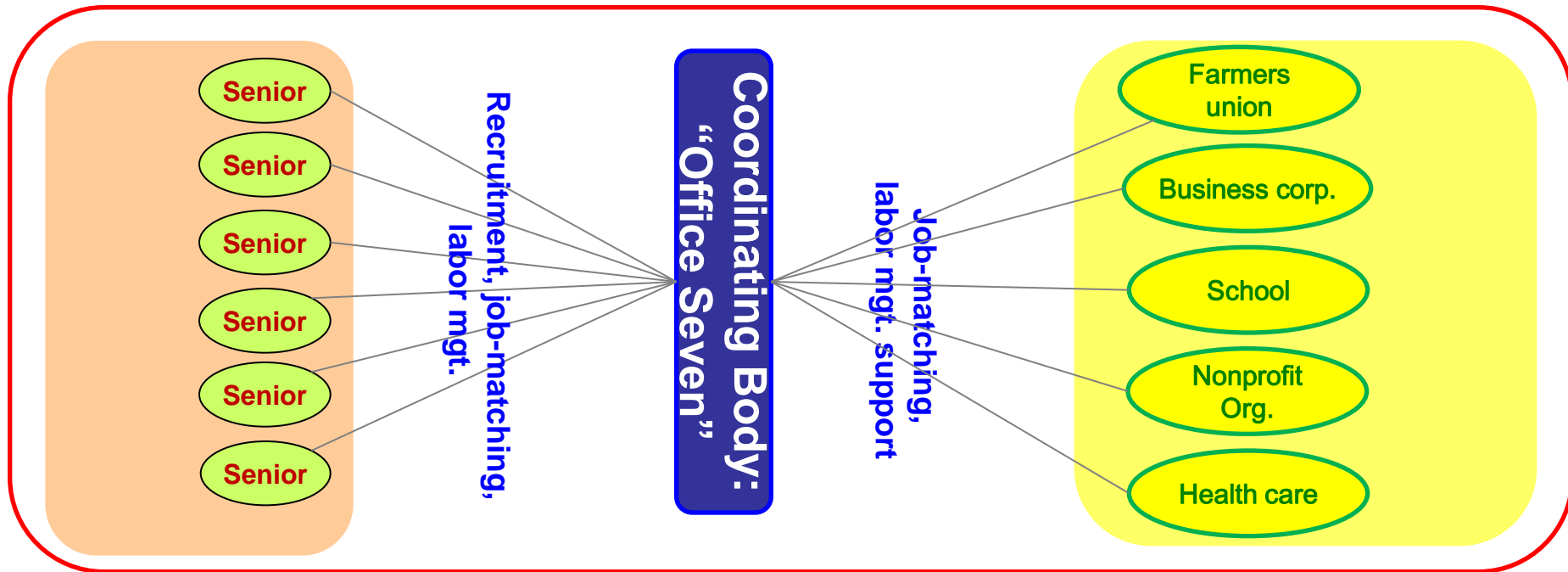
Office Seven



New Work Style for the Second Life

Office Seven

- “Job seminar” for residents: held 6 times & 517 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



Effect Indicators



Individual

Physical and mental health

Social relations

Meaningful life

Smile



Community

Tax revenue

Health care costs

Social capital

Evaluation Study

Vascular test

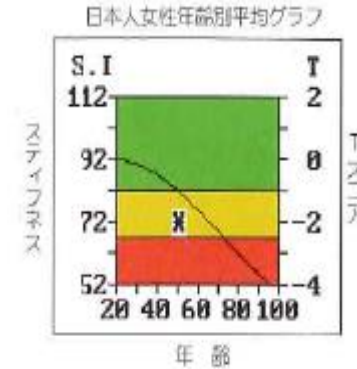


- CAVI/ABI
- FMD

IOG Lab



Bone density



Body composition



- Fat/body water/
bone and muscle mass

Physical activity



- Pedometer/calories/Mets

Cognitive function

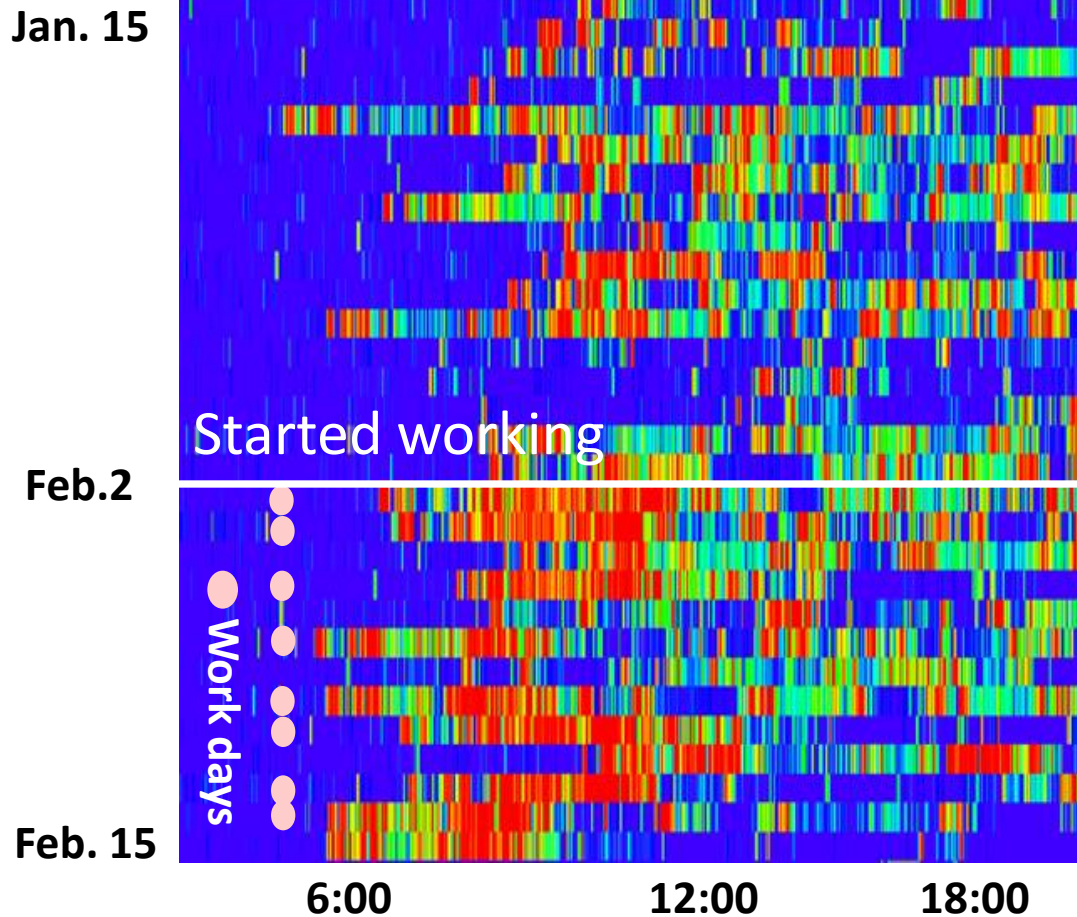


Data

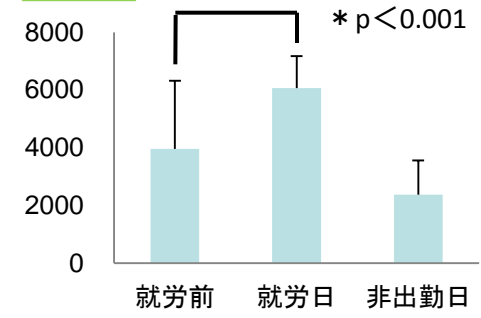
Physical Activities



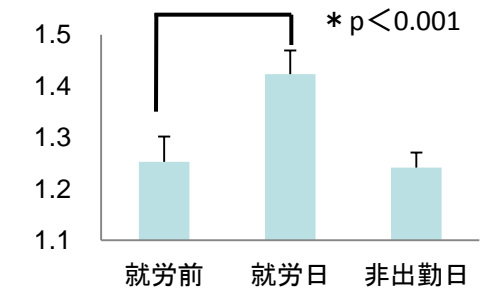
Activity Tapestry



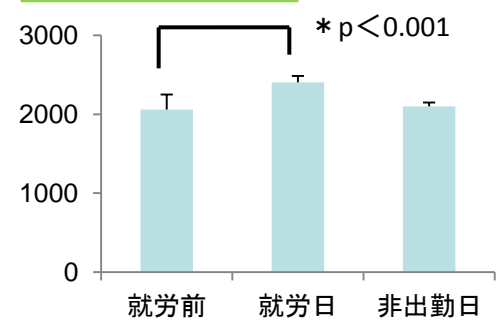
歩数

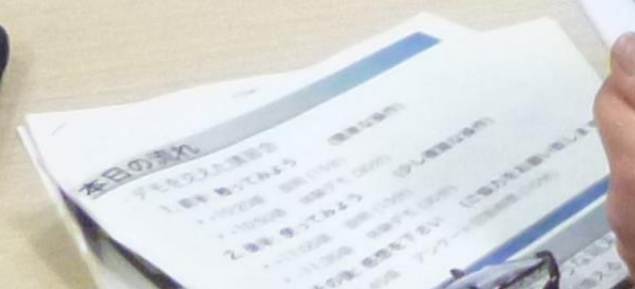


Mets (運動強度)



消費カロリー





KEIROKA: 3S Assistive Technology

KEIROKA Technology

Assistive technology to reduce fatigue/load of human workers in manual labors, e.g. agricultural work, nursing care, construction, designed on the concept of 3S assist.

3S Assist

<http://keiroka.org/>

- *Secure assistance*
- *Sustainable assistance* to maintain physical functions
- *Subliminal assistance* not to disturb sensory functions

Smart Suit®

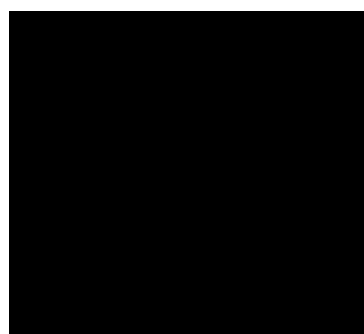
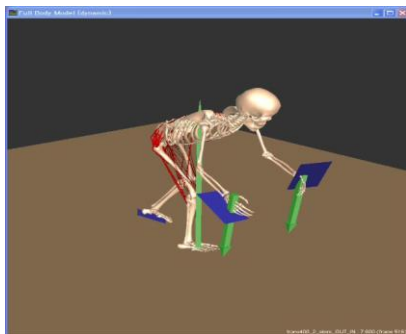
Semi-active KEIROKA Technology



Smart Suit® Lite

Passive KEIROKA Technology

KEIROKA technologies for buck support

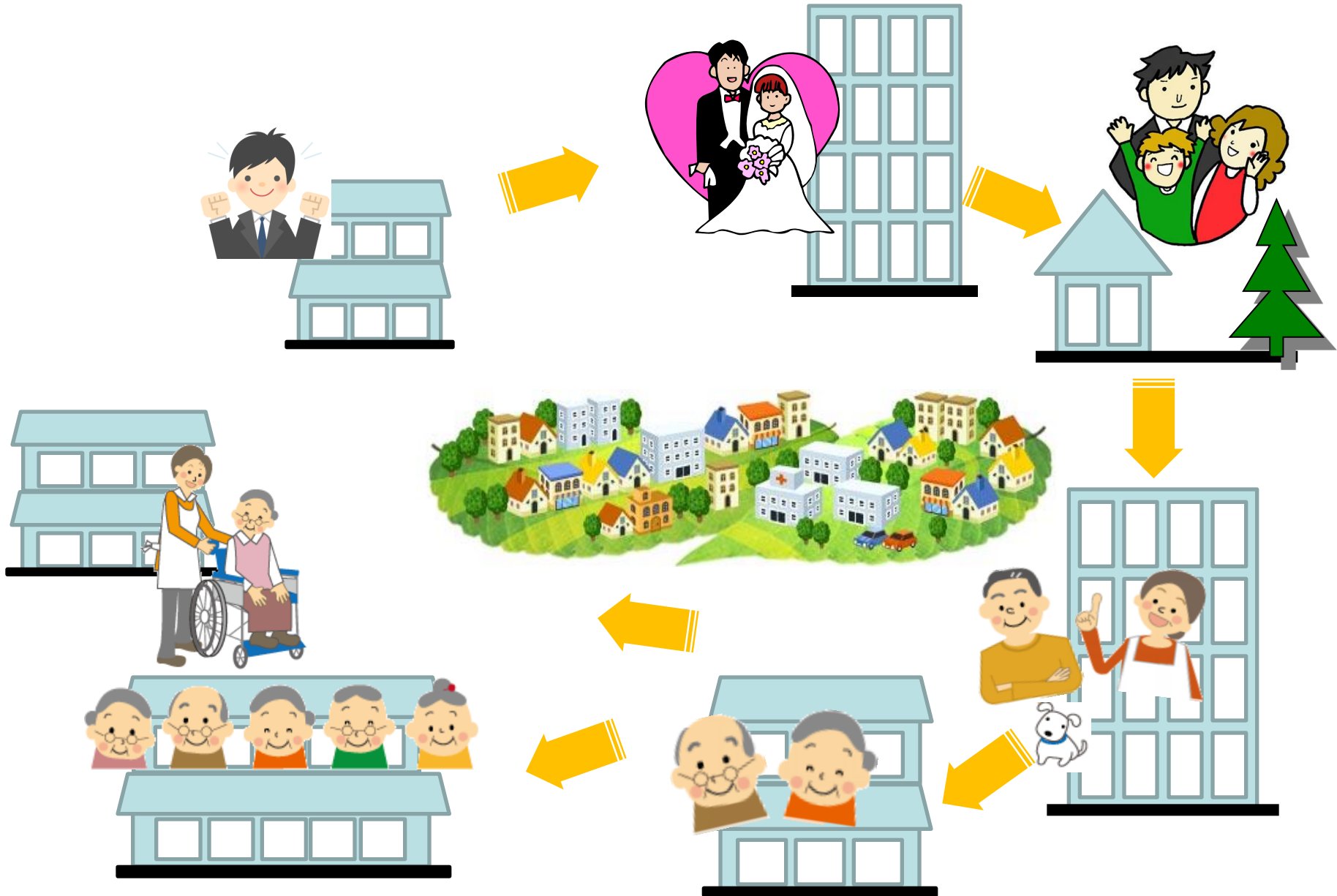


Biomechanical design for Smart Suit

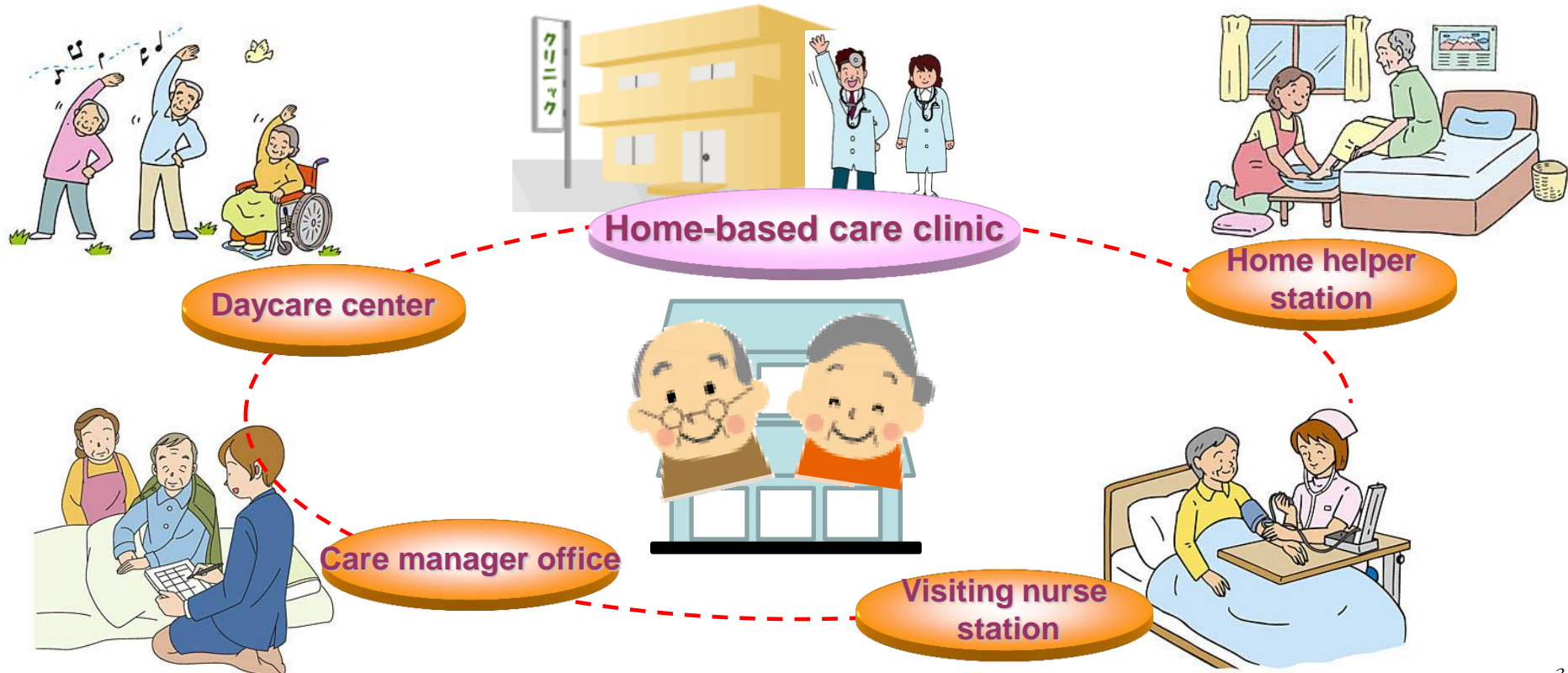
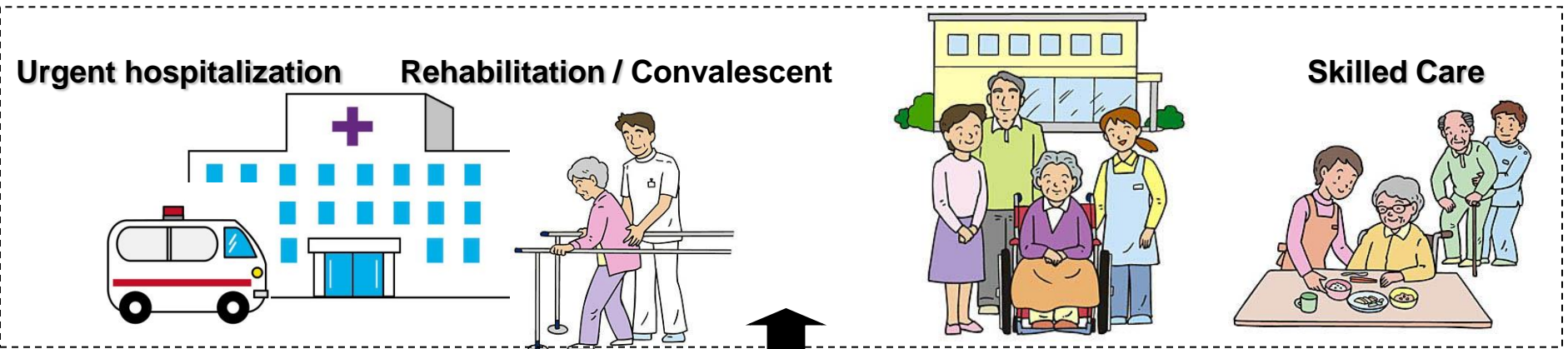


Contact to Prof. Tanaka (Hokkaido University, JP)
ttanaka@ssi.ist.hokudai.ac.jp

Housing for Life Stages



Health Care in Community



Assisted Living in Community

◇イメージ図

サービス付き高齢者向け住宅

自立棟

介護棟

小規模多機能

グループホーム

24H訪問介護

居宅介護

24H訪問看護

在宅療養
支援診療所

主治医
診療所

薬局

地域包括
支援センター

地域交流
スペース

子育て
支援施設

地域へ

地域へ

Alternative Means of Transportation



Silver Vehicle



Bicycle, Tricycle

Community Bus



Reforms of Road Plan



Assessment of Elders' Driving Ability

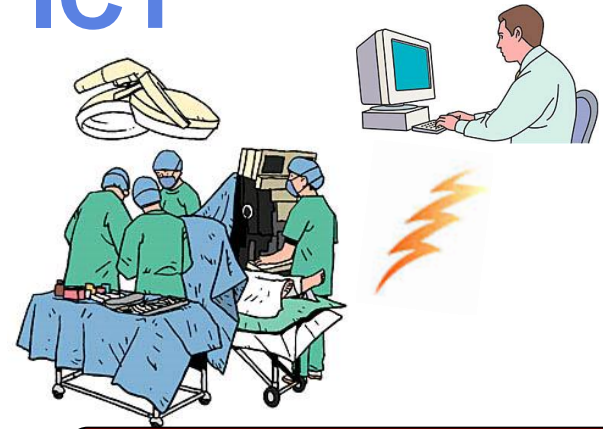


Car Sharing

Reaching out by ICT



Internet Shopping



Long distance care



Electric Medical Chart



Assisting Communication



Emergency Call System



New Government Initiatives in Social Experiment

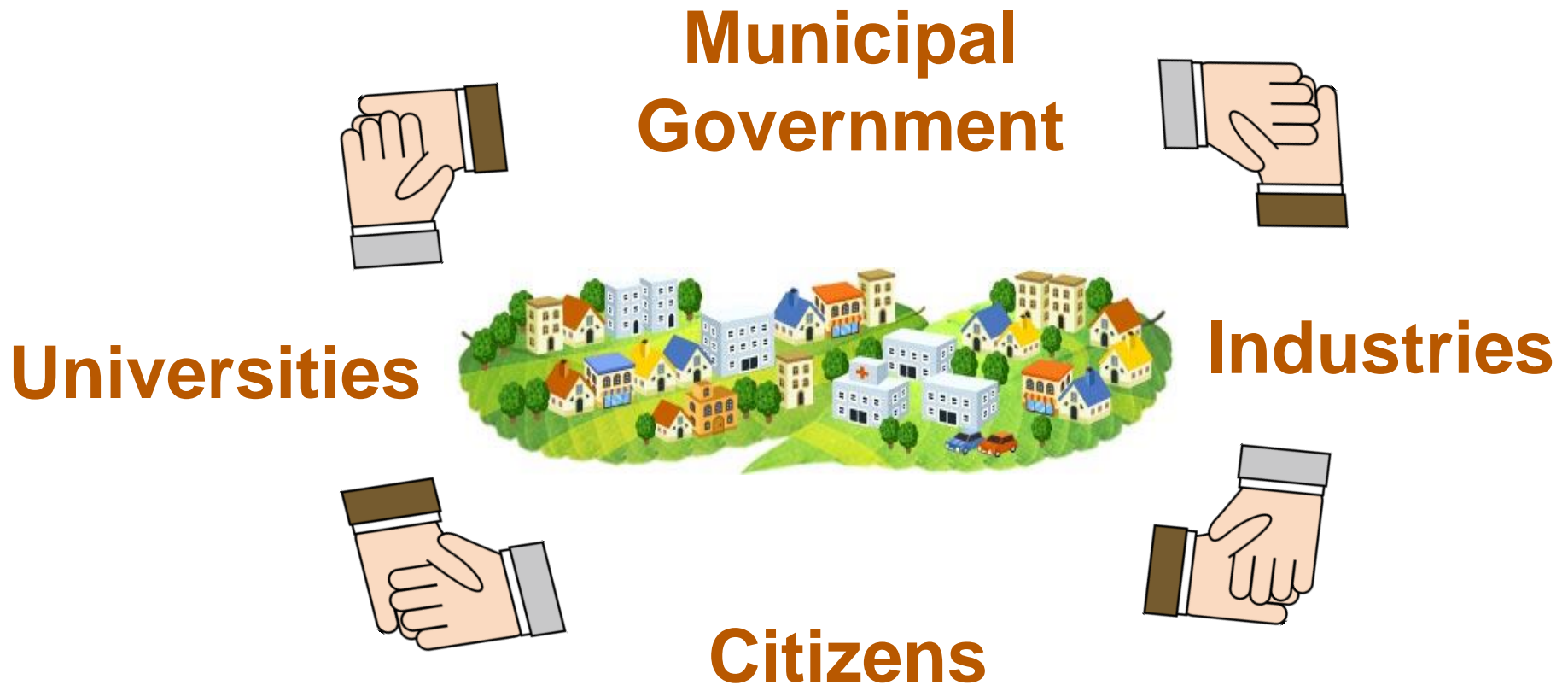


Japan Science and Technology Agency

‘Redesigning Communities for Aging Society’

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

Collaboration of Multi-stakeholders



UT-Industry Gerontology Consortium

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

Seminar



Working Group Meeting



Summer Camp

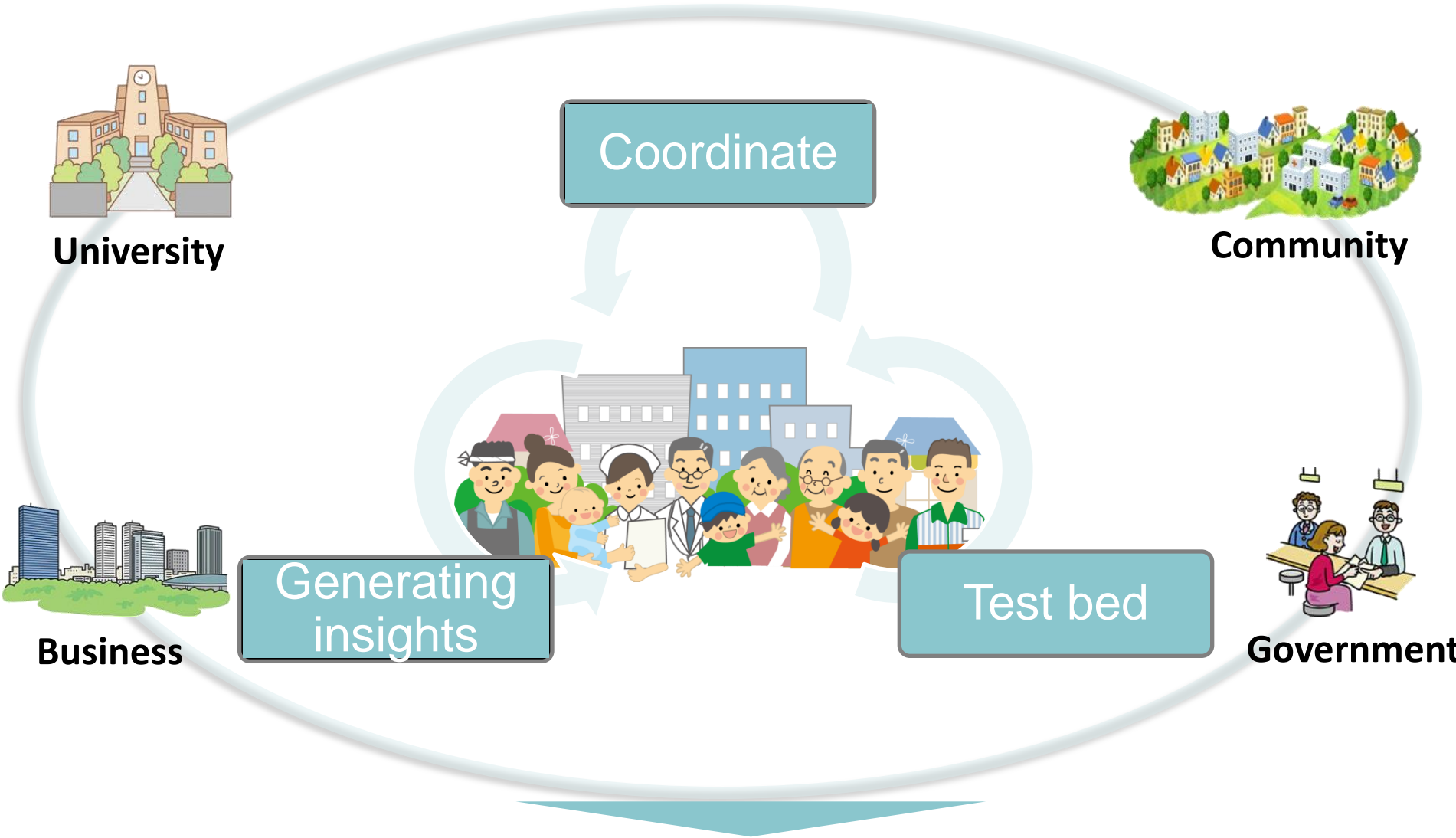
U-T Industry Consortium on Gerontology

59 companies

Ajinomoto Co., Inc. / ANGFA Co., Ltd. / Arai / COMPASSO /
Dai Nippon Printing Co., Ltd. / Daiwa House Industry Co., Ltd. /
Du Pont Kabushiki Kaisha / e-solutions, inc. /
Ezaki Glico Company, Limited / Fancstaff / Fujifilm Corporation /
FUJISOFT INCORPORATED / FUJITSU RESEARCH INSTITUTE /
GENESIS RESEARCH INSTITUTE, INC. / Healthcare Partners Co., Ltd. / Hitachi, Ltd. /
House Foods Corp. / ITOKI CORPORATION / JTEKT CORPORATION
Kao Corporation / Lion Corporation / LIXIL Corporation / Medithink /
Merck & Co., Inc. / Misawa Homes 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. / Panasonic Corporation /
Research and Development, Inc. / 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. /
Sunstar Inc. / Suntory Beer & Spirits Limited / Suntory Beverage & Food Limited /
Suzuki Motor Corporation / The Kaiteki Institute (Mitsubishi Chemical Holdings) /
TMJ, Inc / Tokyu Corporation / Toyota Motor Corporation / UDIT Inc. /
Unicharm Corporation / Urban Renaissance Agency (UR) /
Yachiyo Industry Co., Ltd. / Yamaha Motor Co., Ltd.

Living Lab

~ Innovation by Co-Creation with Users ~



Innovation for Aging Society

Challenge in Aged Society

