Healthy Ageing in Japan

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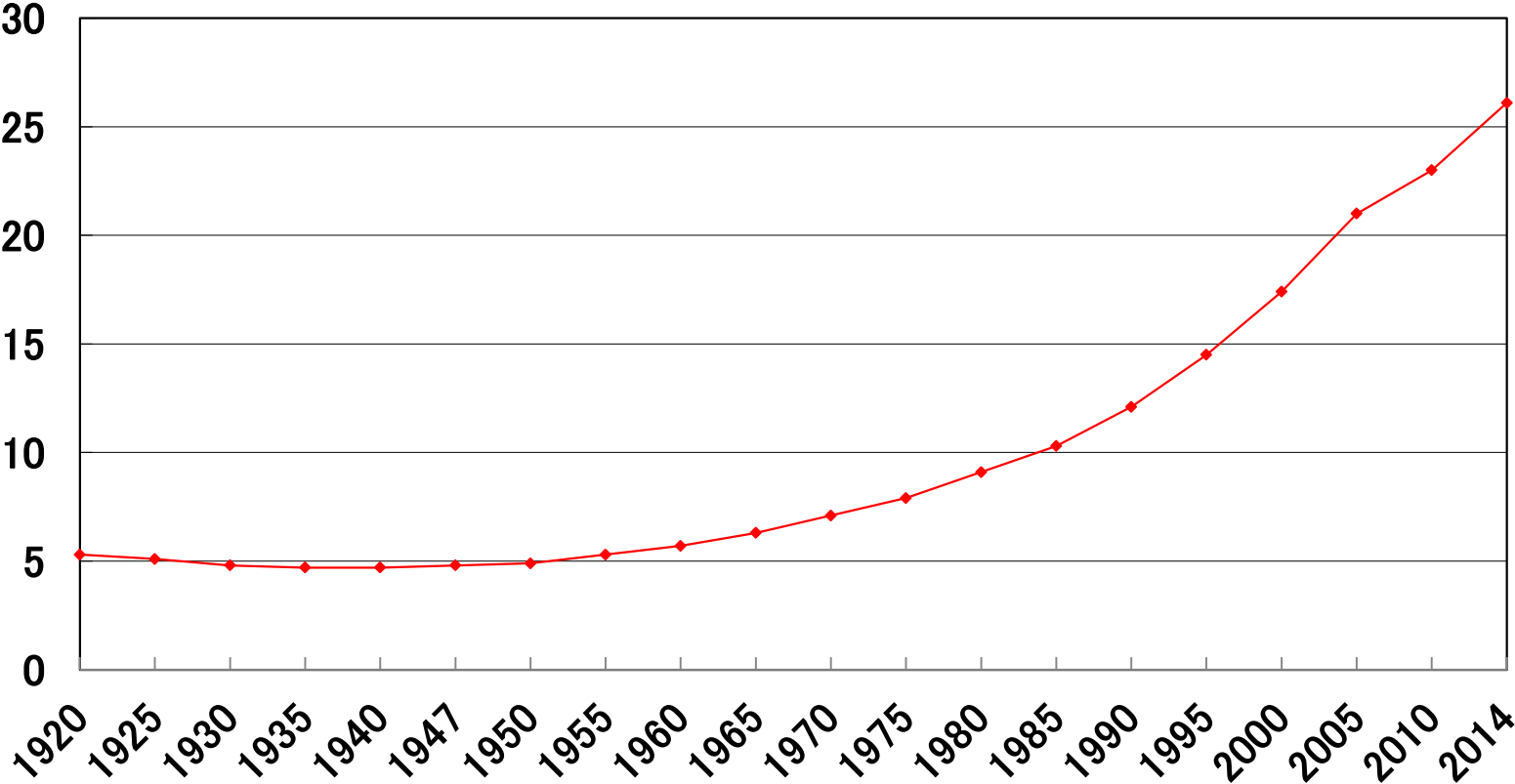
Second Mexico-Japan Meeting on Health Ageing

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Outline

- Ageing in Japan
- Healthy Ageing
- Life Expectancy
- Health Expectancy
- Trends in Health Expectancy in Japan

# Proportion of those aged 65 and over: Japan 1920-2014

Changes in Proportion of Aged 65+

Country	7%	14%	21%	Years from 7% to 14%	Years from 14% to 21%
Japan	1970	1994	2005	24	11
France	1862	1979	2021	115	42
Sweden	1887	1972	2018	85	46
Netherlands	1940	2005	2023	65	18
USA	1942	2014	2050	72	36

Proportion of Aged 75+ in Aged 65+

Country	2000	2025	Difference
Japan	40.7%	59.1%	18.4
France	46.2%	48.5%	2.4
Sweden	51.3%	52.2%	0.9
Netherlands	44.6%	46.7%	2.1
USA	47.3%	42.2%	-5.1

Trends in number of centenarians: Japan, 1920-2010
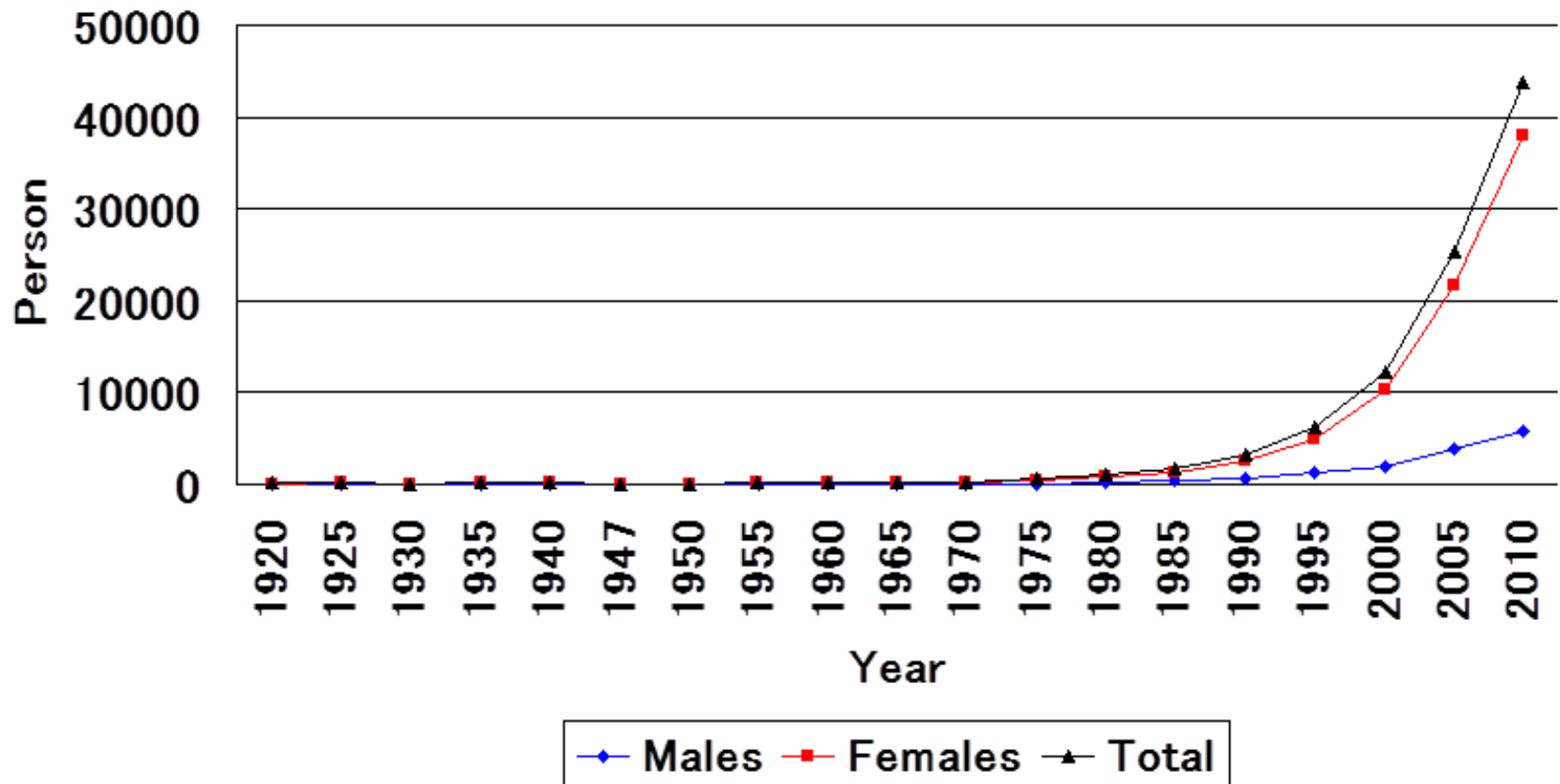
Pin Pin Korori

- Phrase used in a campaign in Japan to promote healthy aging about 35 years ago
- "Pin Pin" is to keep healthy, bouncing and dynamic, "Korori" is to roll over and die.
- Meaning of the phrase: to live a long life without illness and when the time is up simply die peacefully

Length of bedridden period before death

length	N	%
Within 1 day	209	15.4
2 to 6 days	128	9.2
1 week to less than 1 month	231	15.9
1 to 3 months	228	16.0
3 to 6 months	107	7.8
6 months to less than 1 year	71	4.6
1 to 3 years	139	7.8
3 years or more	109	6.8
missing	273	16.4
Total	1495	100.0

Source: Nihon University Japanese Longitudinal Study of Aging

Length of bedridden period before death by sex

length	Males	Females
Within 1 day	17.2	13.4
2 to 6 days	8.5	10.0
1 week to less than 1 month	16.8	14.9
1 to 3 months	17.8	13.9
3 to 6 months	8.6	7.0
6 months to less than 1 year	4.1	5.2
1 to 3 years	7.3	8.4
3 years or more	5.5	8.2
missing	14.1	19.1
Total	100.0	100.0

Source: Nihon University Japanese Longitudinal Study of Aging

Length of bedridden period before death by age

length	65-79	80+
Within 1 day	18.0	13.8
2 to 6 days	11.1	8.0
1 week to less than 1 month	17.2	15.2
1 to 3 months	16.4	15.7
3 to 6 months	8.8	7.2
6 months to less than 1 year	2.5	6.0
1 to 3 years	4.4	10.0
3 years or more	3.6	8.7
missing	18.1	15.4
Total	100.0	100.0

Source: Nihon University Japanese Longitudinal Study of Aging

2 concepts to be considered

- Long life
  - For a society: aging (life expectancy)
    - Decrease in fertility
    - Decrease in mortality
    - Migration
 - For an individual: longevity

- Healthy life
  - For a society: health expectancy
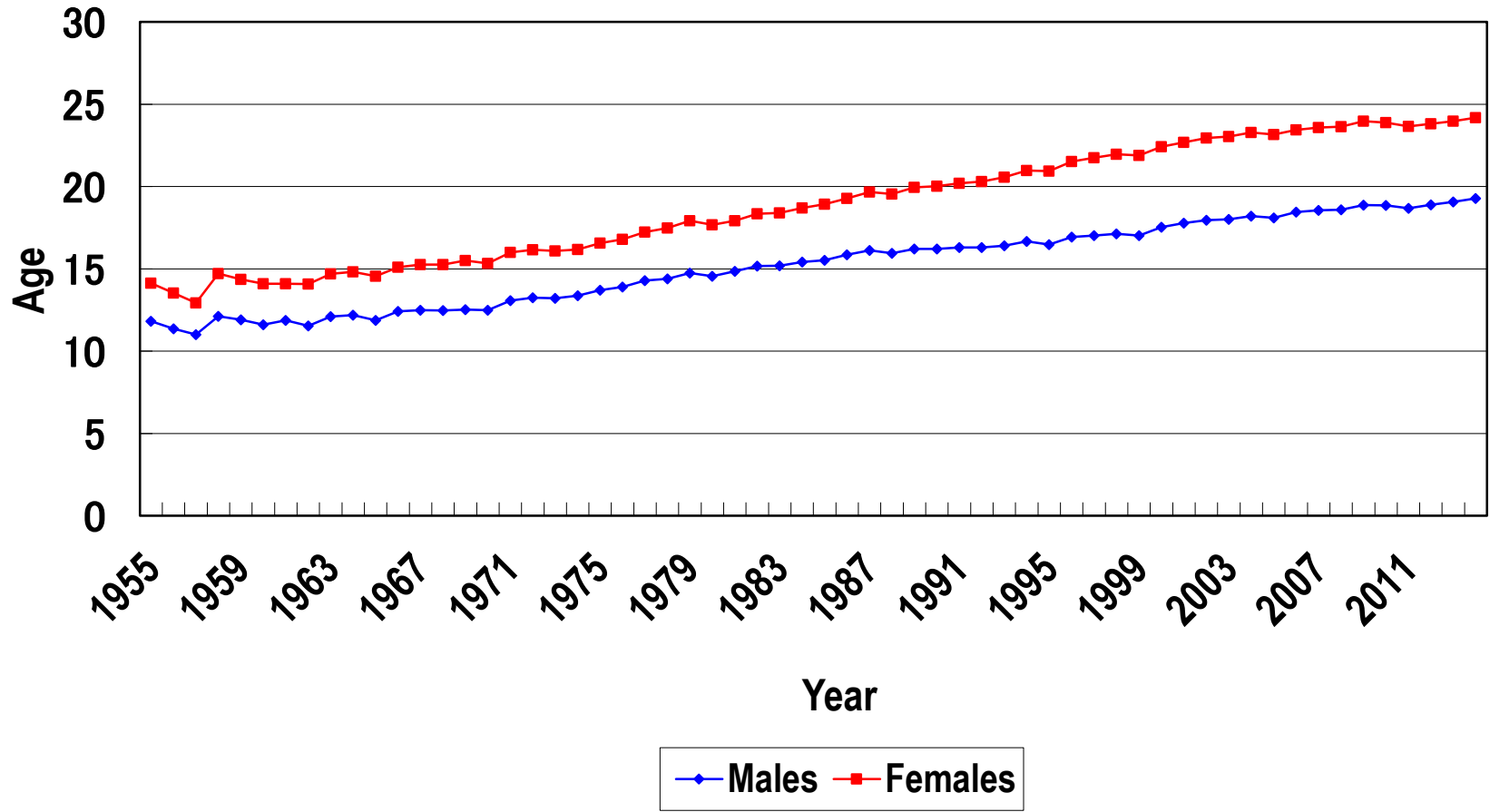 - For a individual: how to define healthy?

Life Expectancy

- Average length of expected life for a population

- Summary measure of age-specific mortality rates

- Life expectancy goes up if mortality rates go down

- Life expectancy can be computed at any age

Trends in Life Expectancy at Birth: Japan
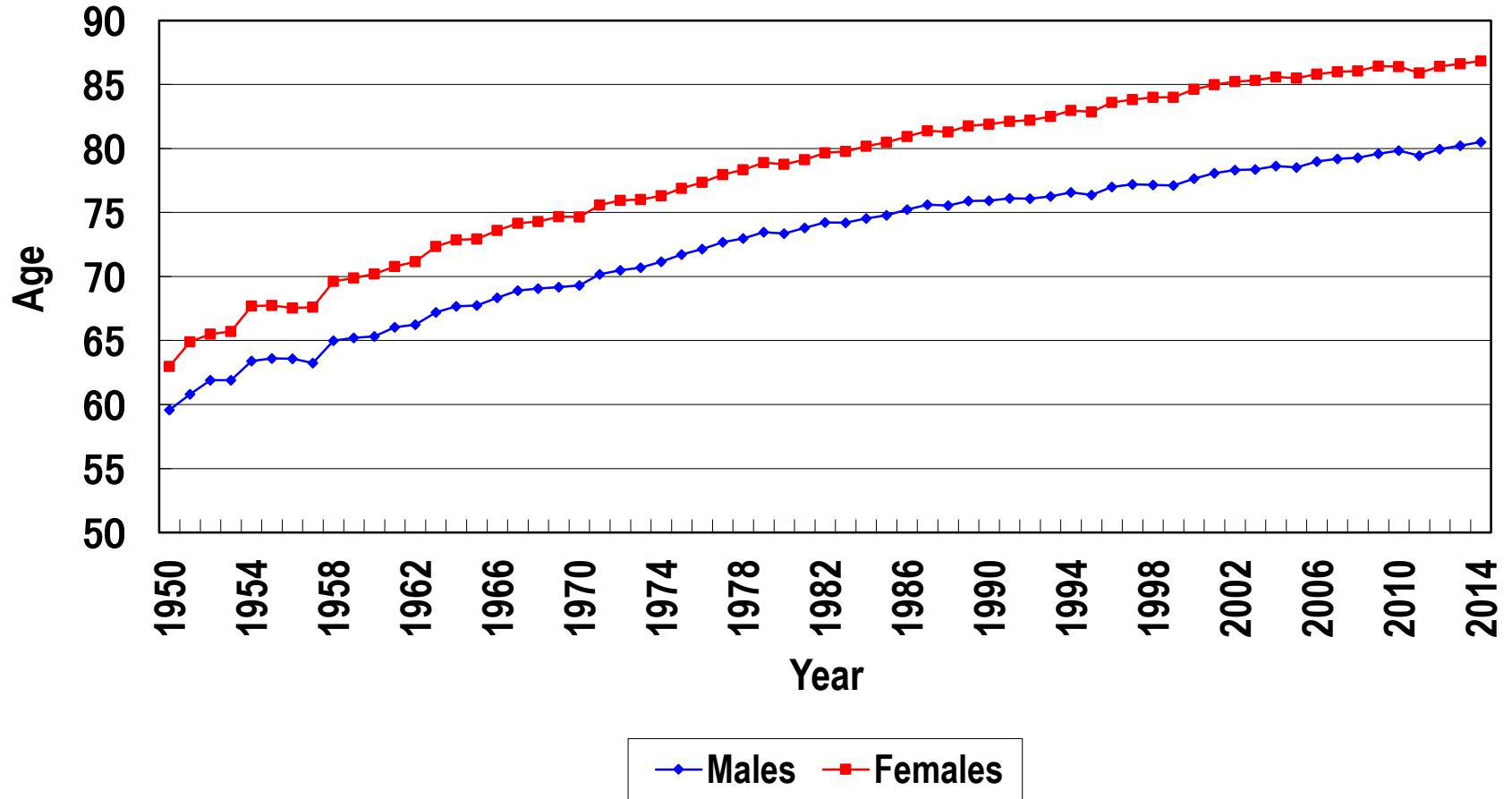
Trends in Life Expectancy at 65: Japan

Longevity

- Biological limit for human being exists?
  - We don't know.
  - We also don't know limit is increasing.
  - Probably around 120 years?
- Longest life human being ever lived?
  - French woman: Jeanne Calment
    - With proof: died in August 1997, at the age of 122 years and 164 days
  - For man: Jiroemon Kimura
    - With proof: Japanese, 116 years and 55 days

Health Expectancy: Definition

Life Expectancy = <u>Healthy Life Expectancy</u>

 <u>+ Unhealthy Life Expectancy</u>

(Health Expectancy)

86 Years of Life = 82 Years of Healthy Years

+ 4 Years of Unhealthy Years

4 years of unhealthy years do not mean the last 4 consecutive years of life.

Example of Health Expectancy: Females, 2010

Population	Japan	Tokyo
Age	0	65
Life Expectancy	86.3	23.9
Disability-free Life Expectancy	73.6	16.6
Life Expectancy with Disability	12.7	7.3
Proportion of Disability-free Life Expectancy (%)	85.3	69.4

Definition of Health

- Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

    – The correct bibliographic citation for the definition is:

    Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.

Health Related Classifications

- ICD: International Classification of Disease
  - 10th edition
- ICIDH: International Classification of Impairments, Disabilities, and Handicaps
  - Second edition of ICIDH was endorsed at the 54th World Health Assembly with the title International Classification of Functioning, Disability and Health (in short ICF) in May 2001

ICF

- The ICF puts the notions of 'health' and 'disability' in a new light. It acknowledges that every human being can experience a decrement in health and thereby experience some degree of disability. Disability is not something that only happens to a minority of humanity. The ICF thus 'mainstreams' the experience of disability and recognizes it as a universal human experience. By shifting the focus from cause to impact it places all health conditions on an equal footing allowing them to be compared using a common metric – the ruler of health and disability. Furthermore ICF takes into account the social aspects of disability and does not see disability only as a 'medical' or 'biological' dysfunction. By including Contextual Factors, in which environmental factors are listed ICF allows to records the impact of the environment on the person's functioning.

Components of ICF

- Body Functions: Mental, Sensory etc.
- Body Structure: Nervous System etc.
- Activities and Participation:
  - General Tasks and Demand (ADL, IADL)
  - Major Life Areas (economic life, religion and spirituality, community, social and civic life)
- Environmental Factors:
  - Products and technologies

5 Dimensions of Physical/Mental Health

- Healthy
- Diseases, Conditions, and Impairments:
  - stroke, dementia, depression, pain, amputated leg
- Functioning loss:
  - walking, hearing, vision
- Disability:
  - ability to perform personal activities, independent living, work
- Death

Health States and Health Transitions
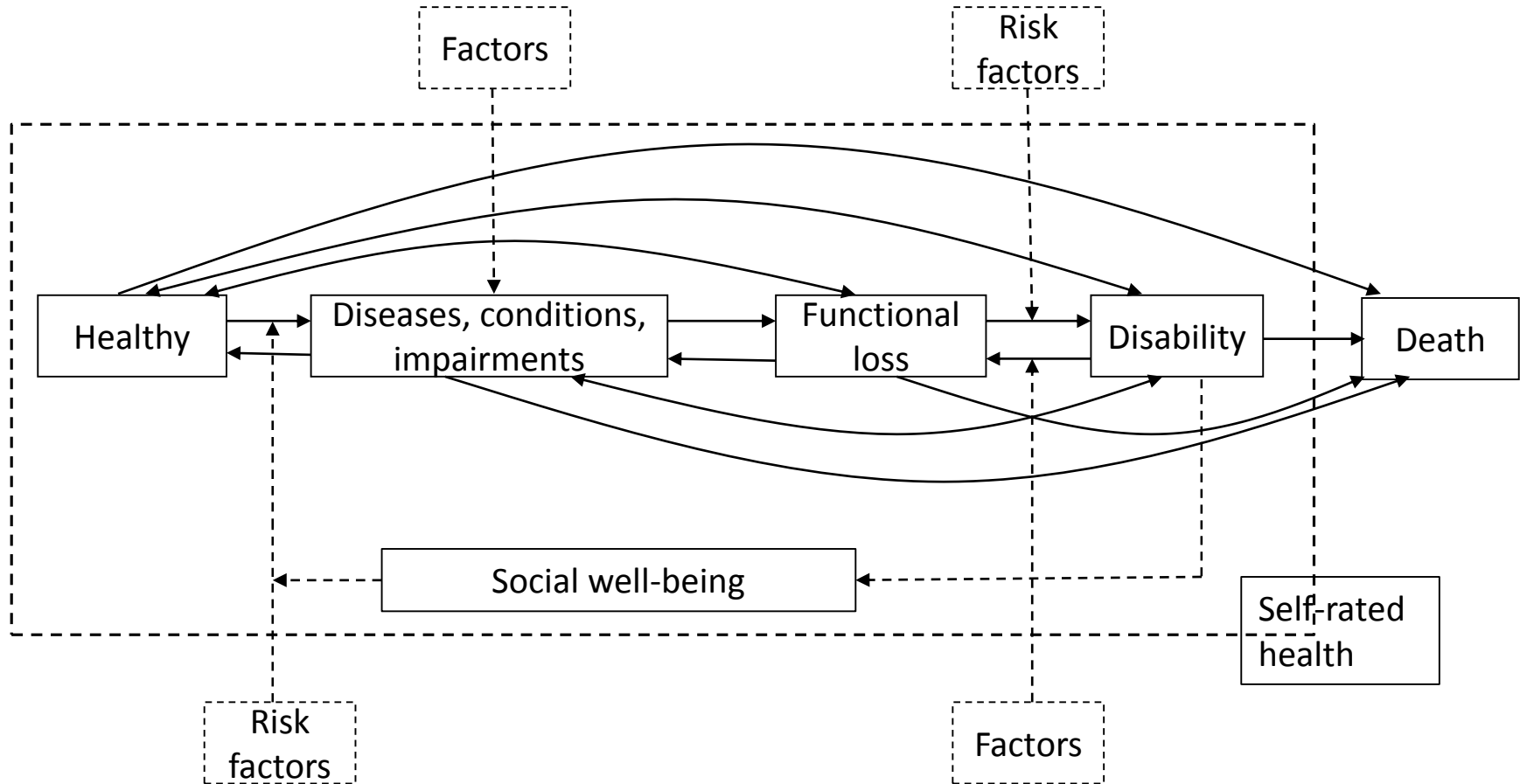
Acronyms of Summary Measure

- Health Expectancy
  - **DFLE**: Disability-Free Life Expectancy
  - **ALE**: Active Life Expectancy
  - **HLY**: Healthy Life Years
- WHO
  - **DALY**: Disability-Adjusted Life Year
  - **HALE**: Health-Adjusted Life Expectancy
  - **DALE**: Disability-Adjusted Life Expectancy
  - **HLE**: Healthy Life Expectancy

Health Expectancy in Policy

- EU: EuroStat--Healthy life years as indicator of population health

- EU: Target for a two-year increase in healthy life years at birth from 2010 to 2020

- USA: First appeared in "Healthy People 2000" as one of priorities and continued in "Healthy People 2010" and "Healthy People 2020"

- Japan: First priority to increase health expectancy for the next decades in the health promotion guideline released in 2012 by the MHLW

- WHO: DALY, DALE, HALE, healthy life expectancy
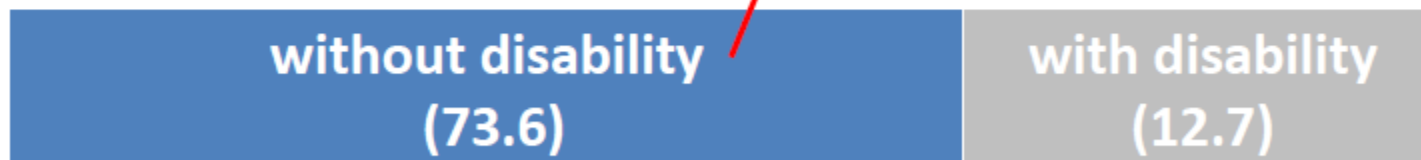
Current estimates in 2010

❑ Male LE: 79.5 years

88.5%

without disability (70.4)	with disability (9.1)

Disability-Free Life Expectancy (DFLE)

❑ Female LE: 86.3 years

85.3%

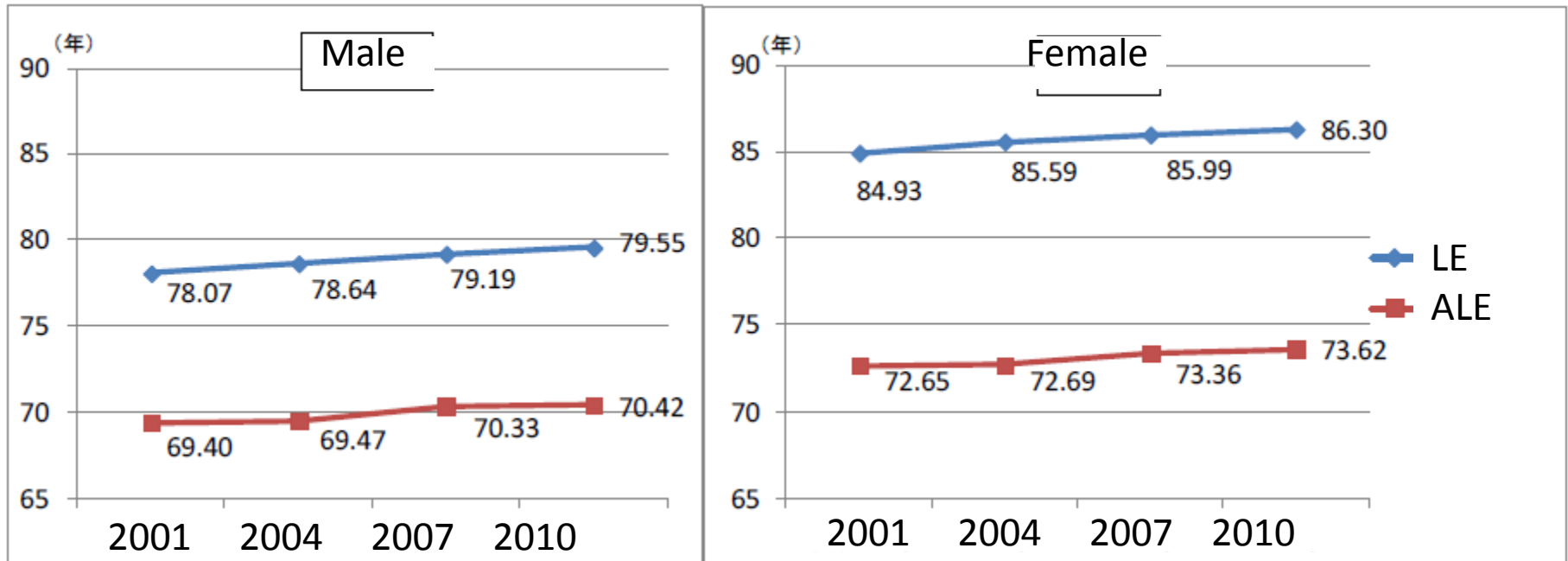| without disability (73.6)	with disability (12.7)

Note: Data from 2010, Ministry of Health, Labour, and Welfare of Japan

Changes in Life Expectancy and Active Life Expectancy by Sex: 2001 to 2010

Source: Ministry of Health, Labor and Welfare, Japan, 2012

MHLW's Life Expectancy and
Active Life Expectancy: 2010 and 2001

	Males		Females	
Year	2001	2010	2001	2010
Life Expectancy	78.1	79.6	84.9	86.3
Active Life Expectancy	69.4	70.4	72.6	73.6
% Active	88.9	88.5	85.5	88.9

Life Expectancy and Healthy Life Expectancy: 1990 and 2010, Japan

	Males		Females	
Year	1990	2010	1990	2010
Life Expectancy	76.0	79.3	82.0	85.9
Active Life Expectancy	66.6	68.8	70.0	71.7
% Active	87.6	86.8	85.4	83.5

Source: Salomon et al., 2012, *Lancet*

Comparison of Estimated Health Expectancy for Japan

Publication	Year Published	Names of Summary Measures	Estimated Year	Estimated Value	
				M	F
World Health Report	2000	Disability-adjusted life expectancy	1999	71.9	77.2
World Health Report	2001	Healthy life expectancy	2000	71.2	76.3
World Health Statistics	2009	Healthy life expectancy	2007	73.0	78.0
Lancet	2012	Healthy life expectancy	1990	66.6	70.0
			2010	68.8	71.7

LE, DFLE and DLE

Table 5. Estimates of Life, Disability, and Disability-Free Life Expectancy Estimates for Men and Women Across Several Covariate Scenarios and Select Ages

Scenarios	Age	Men			Women		
		Years without disability	Years with disability	Total life expectancy	Years without disability	Years with disability	Total life expectancy
Medium level	65	16.76	1.69	18.45	19.20	3.20	22.40
Top level	65	24.28	1.45	25.73	29.89	3.01	32.89
Bottom level	65	11.46	1.80	13.26	12.99	3.29	16.29

Factors considered in the study are: age, sex education (high/low) occupation (while/others), income (high/low), life threatening diseases (yes/no), debilitating diseases (yes/no)

Source: Chan, Zimmer and Saito, 2010, *Journal of Aging and Health*

Concluding Remarks

- "Health Expectancy" can be a very good summary measure of population health.

- Are we living longer healthy lives as well as longer lives? -- For Japanese, may be not.

- Need to keep in mind "Health Expectancy" can be very different by definition of health and methods used.

- Need to examine factors affecting changes in "Health Expectancy."

Life Expectancy and Healthy Life Expectancy: 1990 and 2010, Mexico

	Males		Females	
Year	1990	2010	1990	2010
Life Expectancy	68.3	72.5	74.9	78.4
Active Life Expectancy	59.7	63.6	63.9	67.1
% Active	87.4	87.7	85.3	85.6

Source: Salomon et al., 2012, *Lancet*