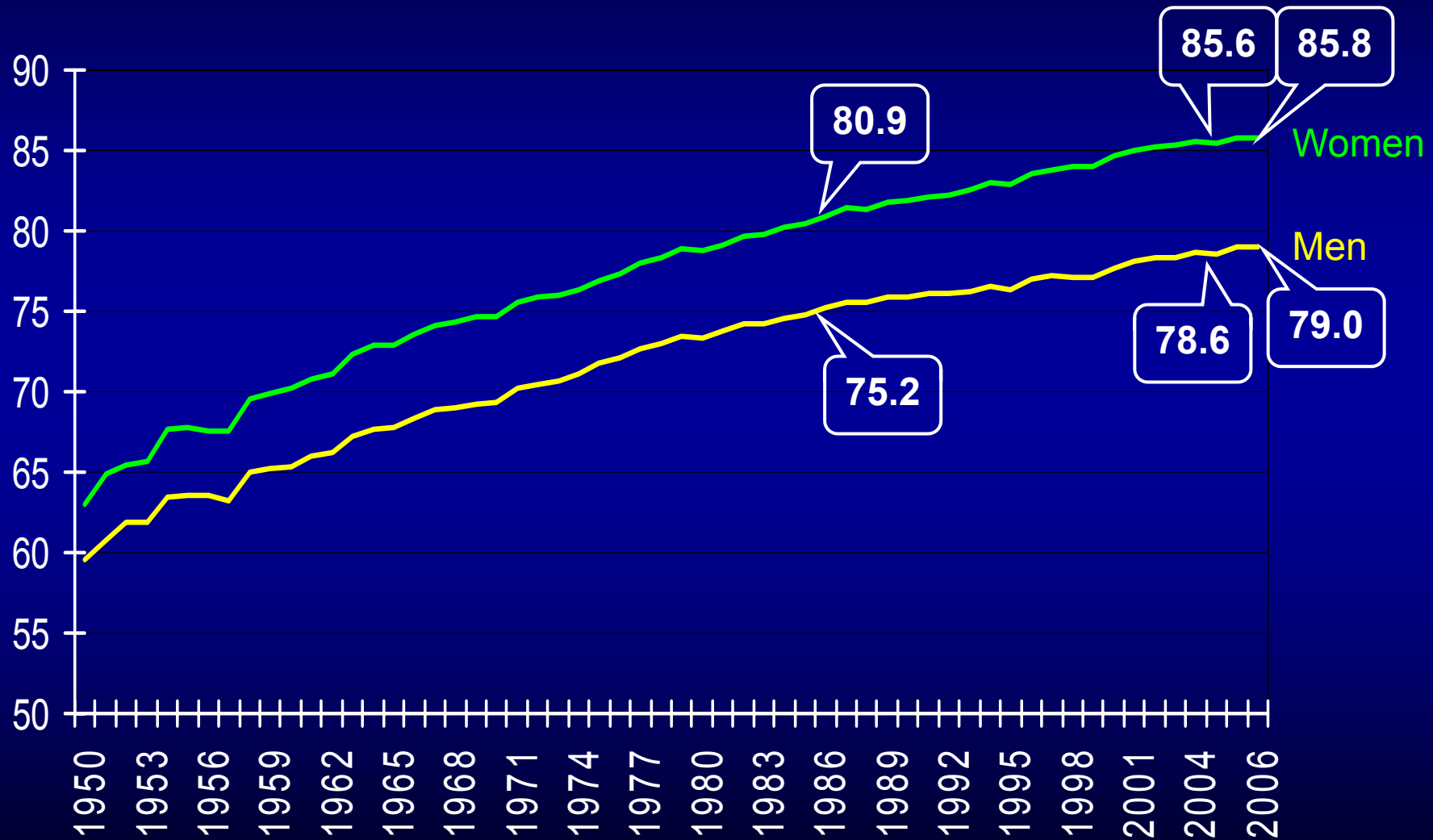


Trends in Healthy Life Expectancy in Japan: 1986-2004

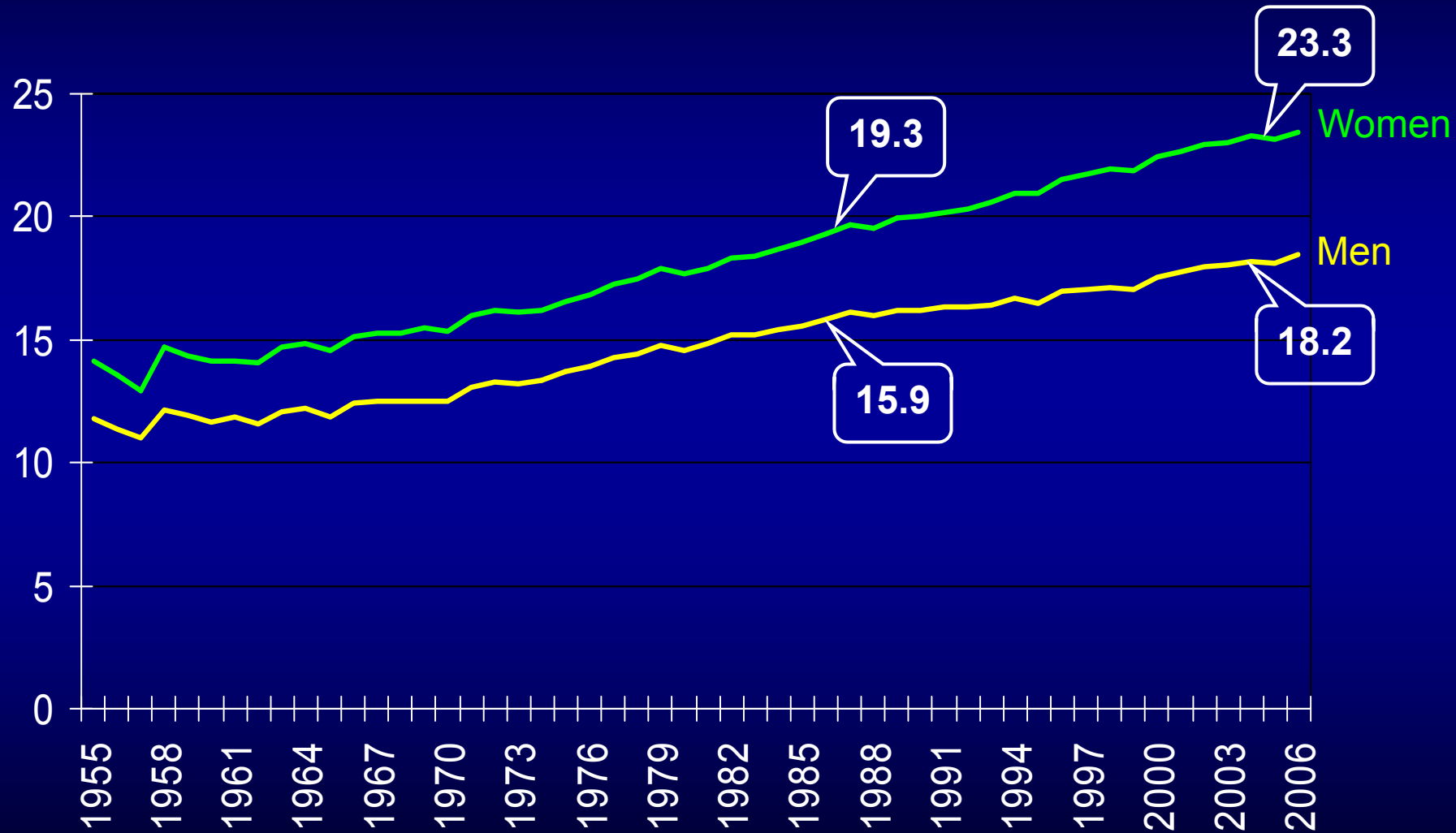
Vanessa Yong, Yasuhiko Saito
Nihon University

Prepared for 20th REVES Meeting
Pasig City, the Philippines
May 7-9, 2008

Life Expectancy at birth in Japan



Life Expectancy at 65 in Japan



Background

- 20.8% of Japanese population aged 65 and over*
- Longer lives = healthy lives?
- Improvements in health or worsening health over time?
- Compression or expansion of morbidity?
Or dynamic equilibrium?

* Source: Ministry of Health, Welfare and Labor, Japan, 2007

Self-rated health

- Various indicators used to measure health
- Self-rated health
 - Fundamental and single indicator of overall health
 - Takes into account a variety of social, physical and emotional factors
 - Usually measured in large population health surveys
 - Strong predictor of subsequent illness and all-cause and specific mortality (Ider and Benyami, 1997; Benjamin, 2004; Lyyra et al., 2006; Miller 2007)

Objective

- To examine the number of years and proportion of life lived in good versus poor self-rated health and how they have changed over time from 1986 to 2004

Data sources to compute HLE

- Sex-specific period life tables
 - Obtained from the Ministry of Health, Welfare and Labor, Japan
- Prevalence rates for self-rated health
 - National Survey on Everyday Life (*Kokumin Seikatsu Kiso Chosa*)
 - Cross-sectional study conducted in large scale every three years beginning 1986
 - Nationally representative, stratified sampling of census areas
 - 280,000 households surveyed; data on over 750,000 individuals collected
 - 7 time points available over 16-year period (1986, 1989, 1992, 1995, 1998, 2001, 2004)

Data (continued)

- Interview Question:

“In general, how would you describe your state of health?”

1. Very good
2. Good
3. Average
4. Not so good
5. Poor

Data (continued)

“In general, how would you describe your state of health?”

- | | | |
|------------------|---|---------|
| 1. Good | } | Good |
| 2. Above average | | |
| 3. Average | | Average |
| 4. Not so good | } | Poor |
| 5. Poor | | |

Method

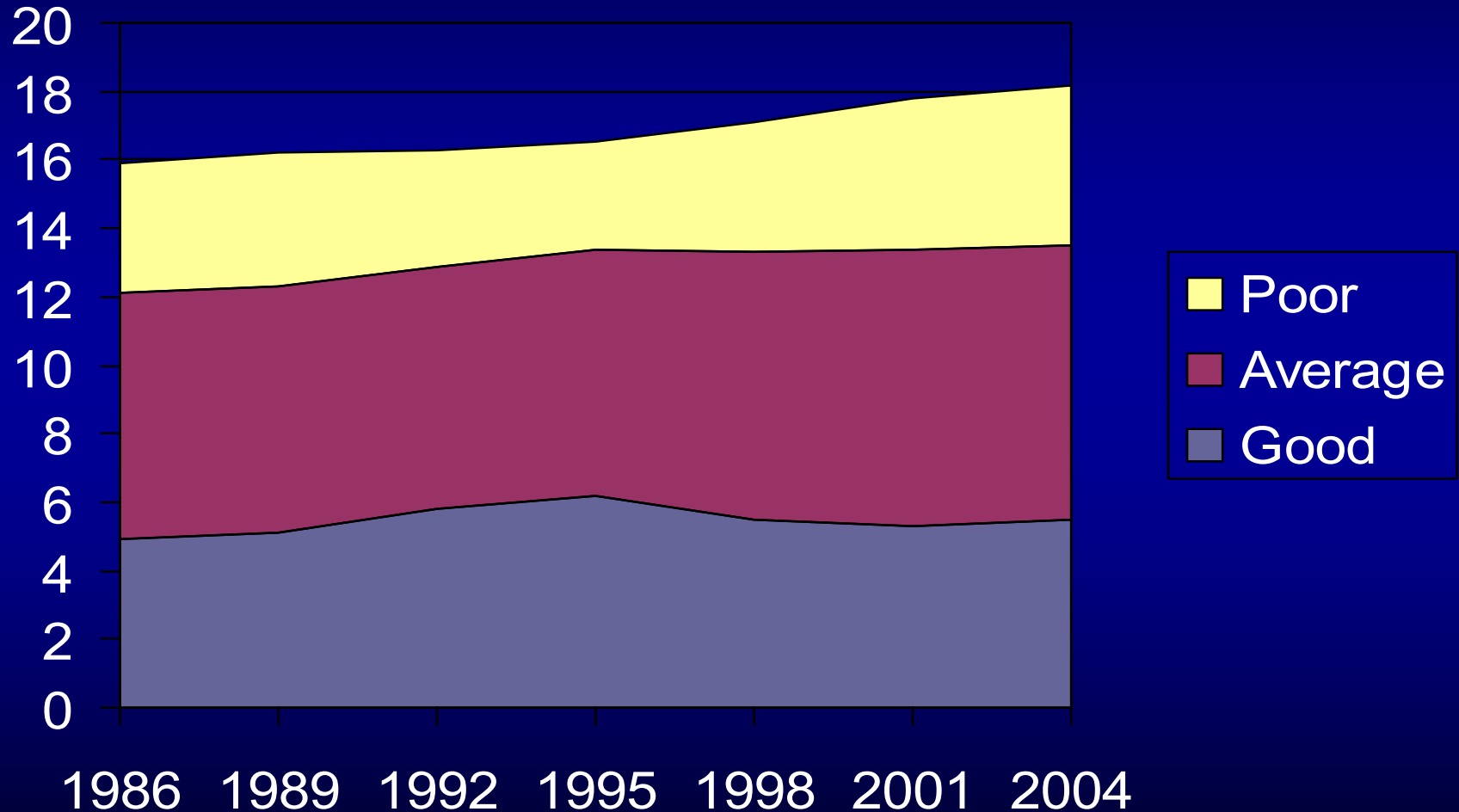
- Sullivan Method
 - Combines mortality data from life tables and morbidity data from national surveys
 - Partitions total life expectancy into healthy and unhealthy states

RESULTS

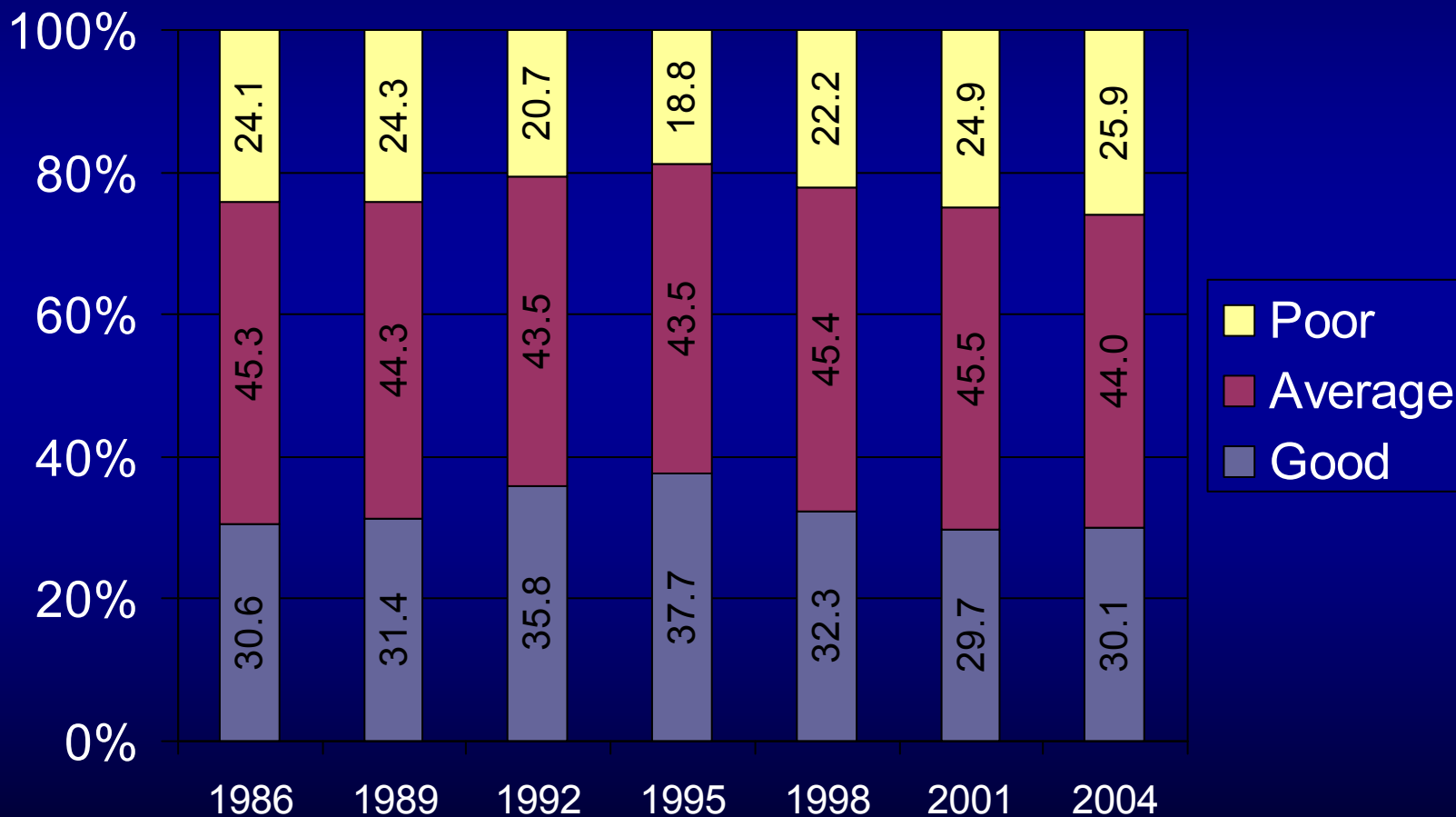
HLE of Japanese men at age 65

Year	e ⁶⁵	Health status:			% Gd./Avg.
		Good	Average	Poor	
1986	15.9	4.9 ■	7.2	3.8	75.9
1989	16.2	5.1 ■	7.2	3.9	75.7
1992	16.3	5.8 ■	7.1	3.4	79.3
1995	16.5	6.2 ■	7.2	3.1	81.2
1998	17.1	5.5	7.8	3.8 ■	77.8
2001	17.8	5.3	8.1	4.4 ■	75.1
2004	18.2	5.5	8.0	4.7 ■	74.1

Trend in HLE of men at age 65



Trend in proportion of HLE: Japanese men at age 65



Statistical Test of Difference

Between	Healthy Life Expectancy	Unhealthy Life Expectancy
1986 & 1995	**	**
1995 & 2004	**	**
1986 & 2004	**	**

** Significant at 0.01 level

* Significant at 0.05 level

HLE of Japanese women at age 65

Year	e ⁶⁵	Health status:			% Gd./Avg.
		Good	Average	Poor	
1986	19.3	4.7 ■	9.4	5.2	72.9
1989	20.0	5.0 ■	9.5	5.4	72.9
1992	20.3	5.9 ■	9.5	4.9	76.1
1995	20.9	6.5 ■	9.9	4.6	78.2
1998	22.0	5.8	10.6	5.6 ■	74.3
2001	22.7	5.5	10.5	6.6 ■	70.8
2004	23.3	5.8	10.6	6.8 ■	70.6

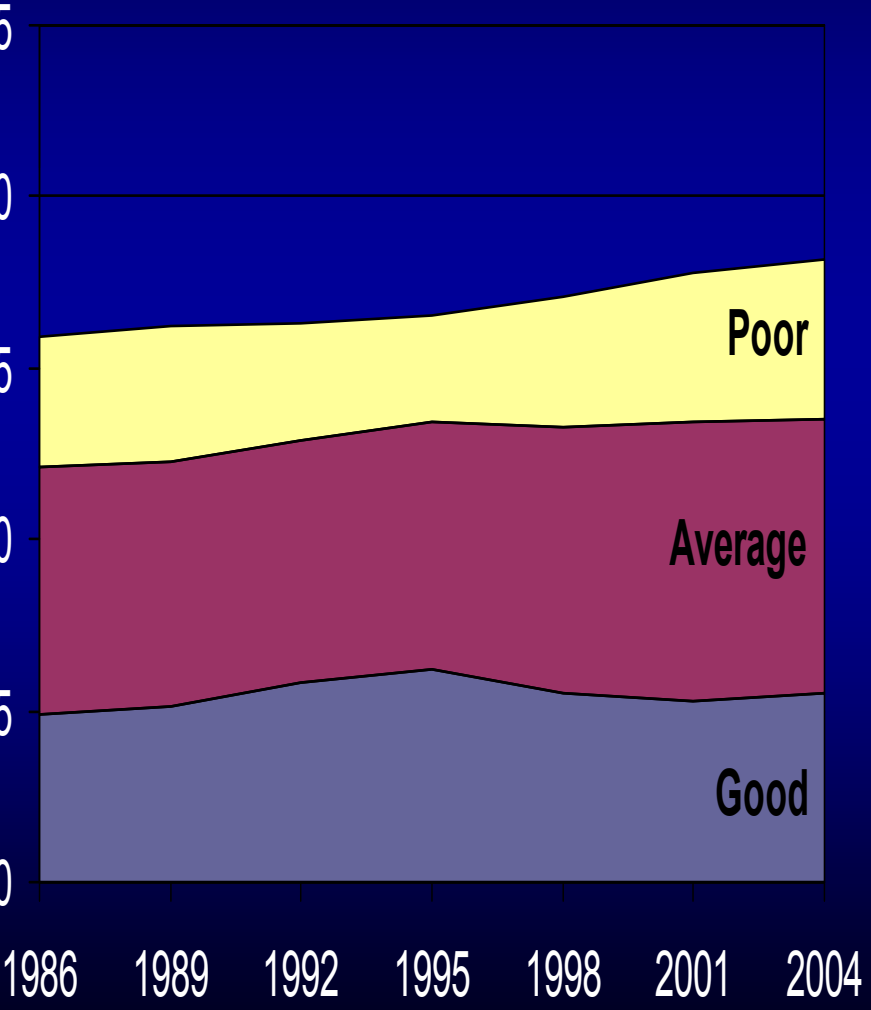
Men at age 65

Yr	e ⁶⁵	Health status:			% Gd./ Avg.
		Gd	Avg	Poor	
'86	15.9	4.9 ■	7.2	3.8	75.9
'89	16.2	5.1 ■	7.2	3.9	75.7
'92	16.3	5.8 ■	7.1	3.4	79.3
'95	16.5	6.2	7.2	3.1	81.2
'98	17.1	5.5	7.8	3.8 ■	77.8
'01	17.8	5.3	8.1	4.4 ■	75.1
'04	18.2	5.5	8.0	4.7	74.1

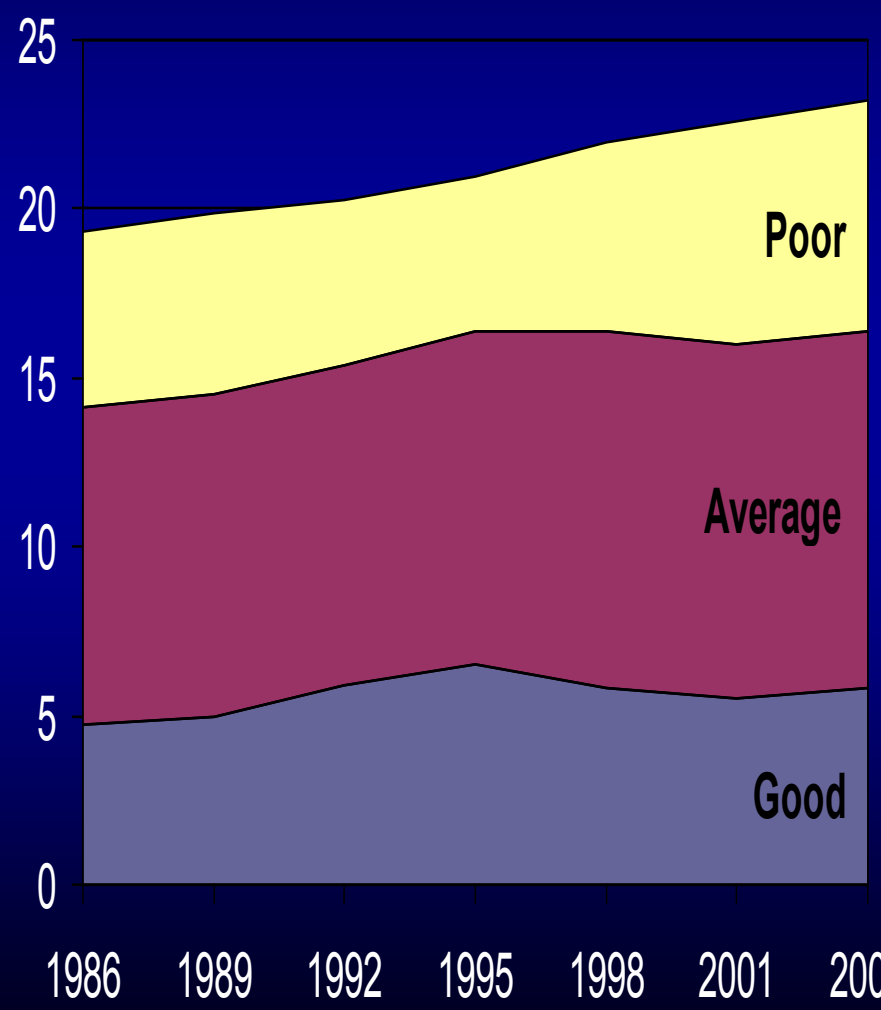
Women at age 65

Yr	e ⁶⁵	Health status:			% Gd./ Avg.
		Gd	Avg	Poor	
'86	19.3	4.7 ■	9.4	5.2	72.9
'89	20.0	5.0 ■	9.5	5.4	72.9
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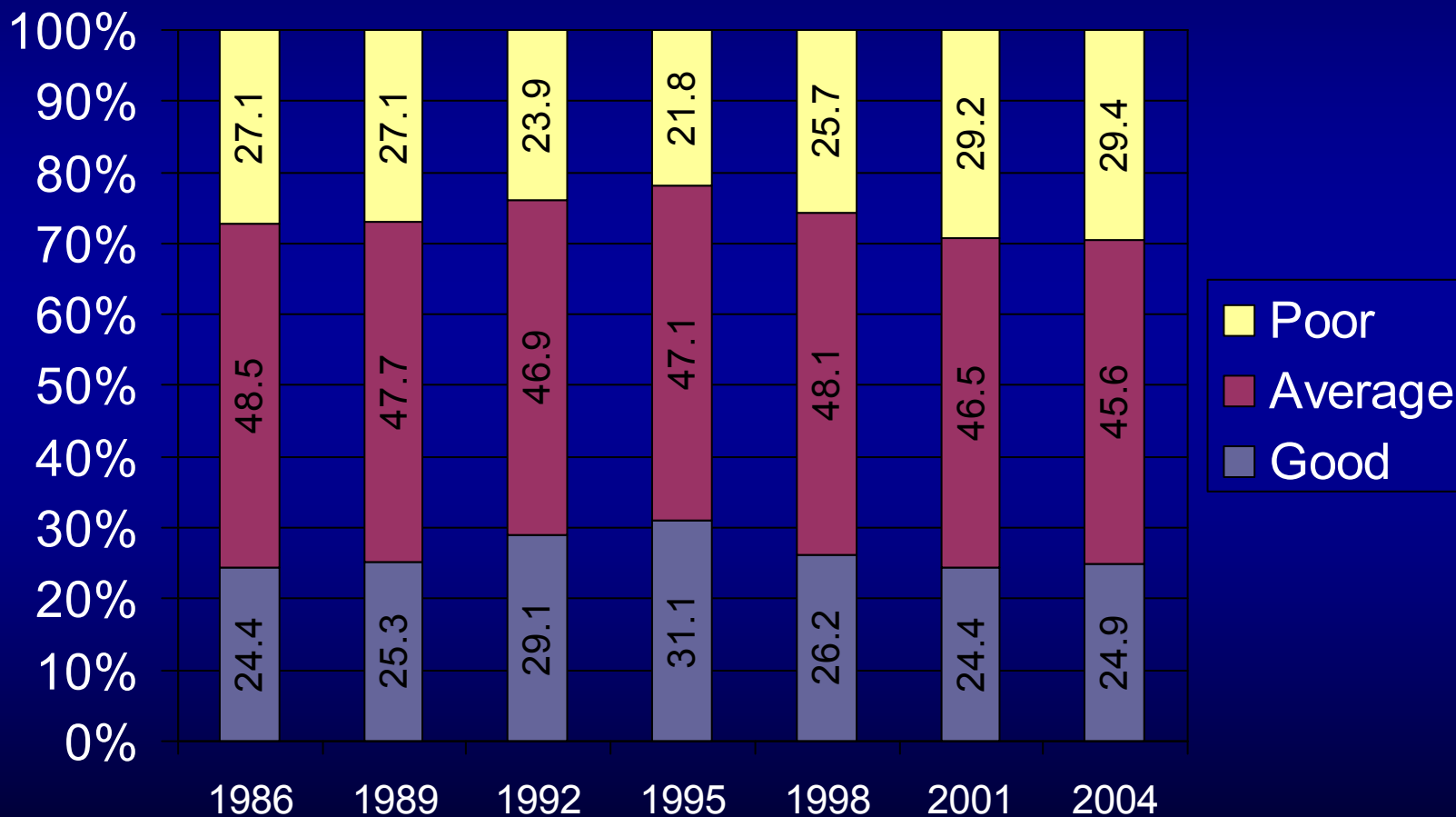
Men at age 65



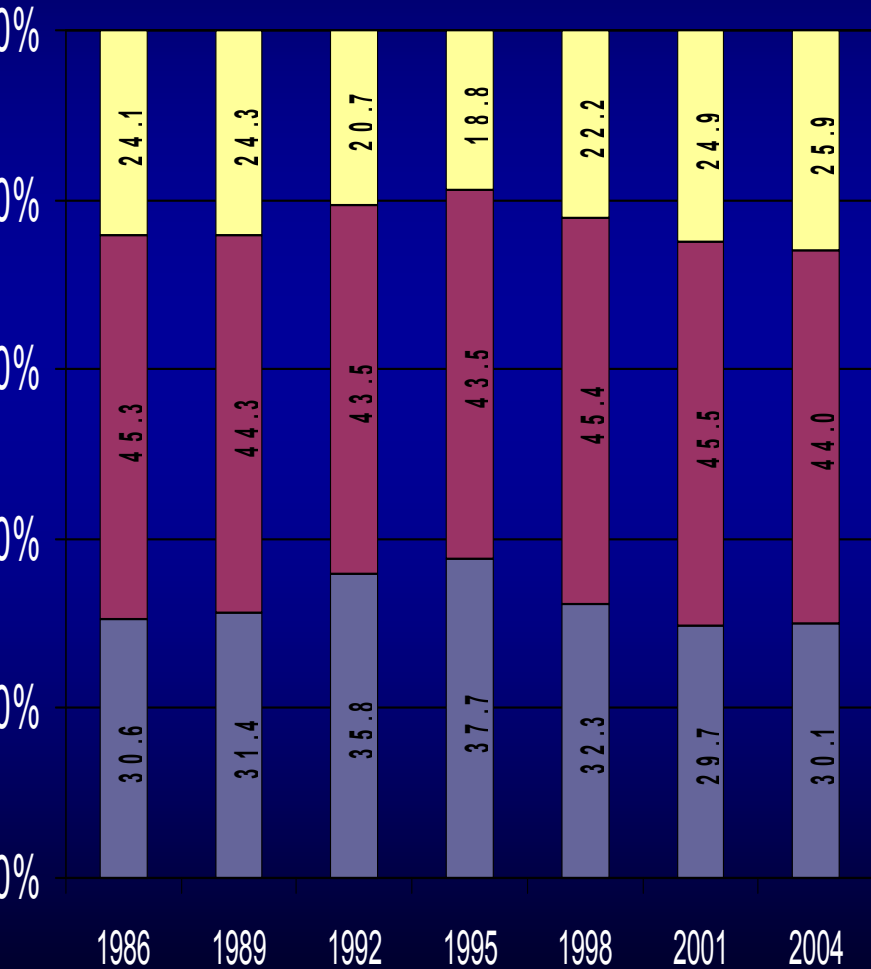
Women at age 65



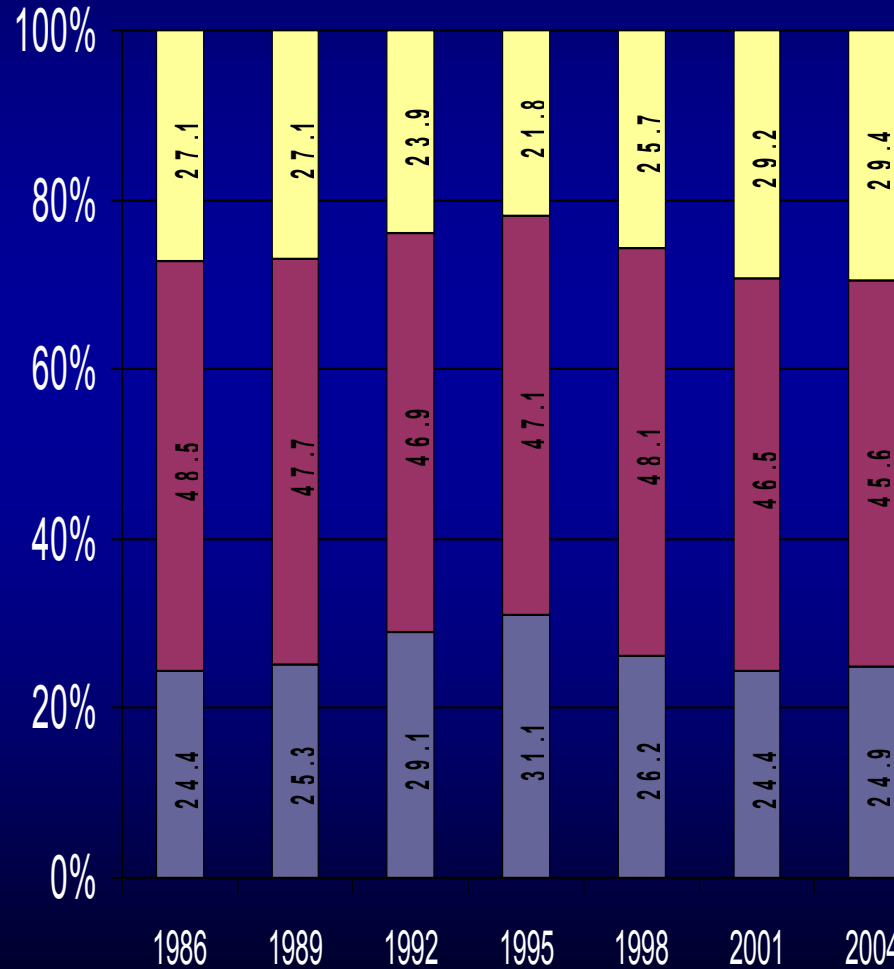
Trend in proportion of HLE: Japanese women at age 65



Men at age 65



Women at age 65



Statistical Test of Difference

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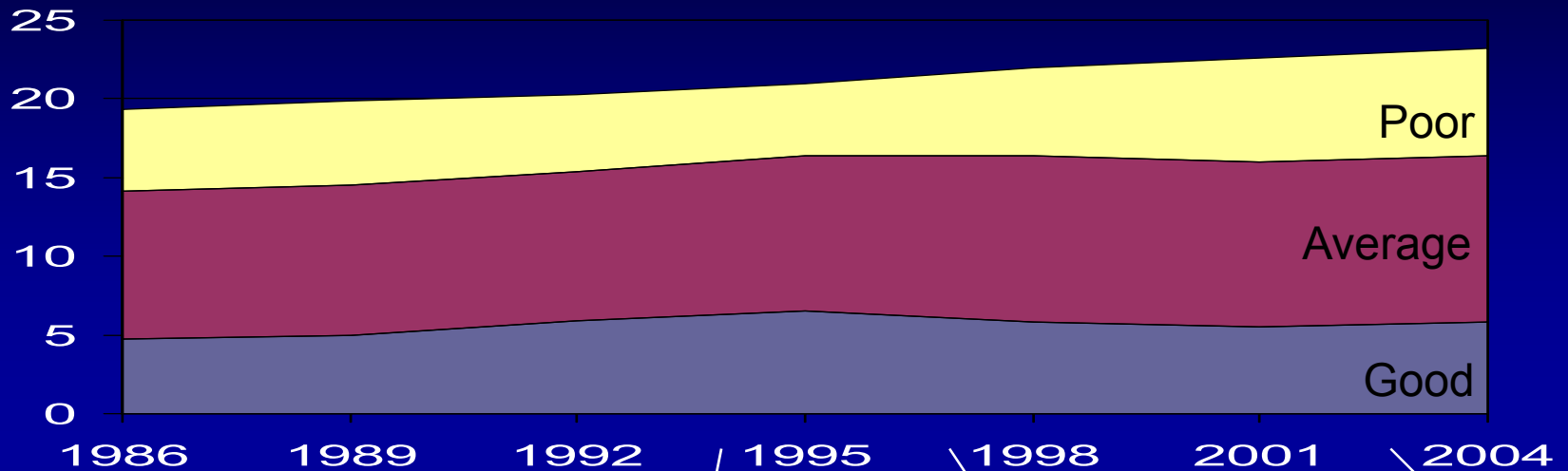
** Significant at 0.01 level

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Quick recap

- At age 65, compared with men, women:
 - will live longer, but can expect more years in average or poor health; the number of years in good health is about the same.
 - can expect to spend a smaller proportion of their lives in good health and a larger proportion in average or poor health
- Some evidence of compression of poor health until 1995 and expansion of poor health after 1995

Possible explanations for trend



1989

Implementation of the "Golden Plan" in Japan

- 10-year plan to promote health & welfare services for the aged
- Included home helper & short-stay services, day-care and senior centers, health care facilities

1994

Revised "New Golden Plan"

- Increase in the numerical targets of the 1989 plan

1997

Asian economic crisis

1998

Japanese economy bottomed out

- Fell short of Golden Plans' targets

2003

Signs of slight economic recovery

Comparison with NUJLSOA

- Nihon University Japanese Longitudinal Study of Aging (NUJLSOA)
 - 1999, 2001, 2003, 2006
 - 4,997 respondents aged 65 and over in 1999
 - refreshed samples in 2001 and 2003
 - Nationally representative of Japanese 65+
 - Face-to-face interviews using structured questionnaire
- To compare, data used cross-sectionally for 1999, 2001, 2003
- Similar question on self-rated health was used.

HLE for Japanese men at age 65

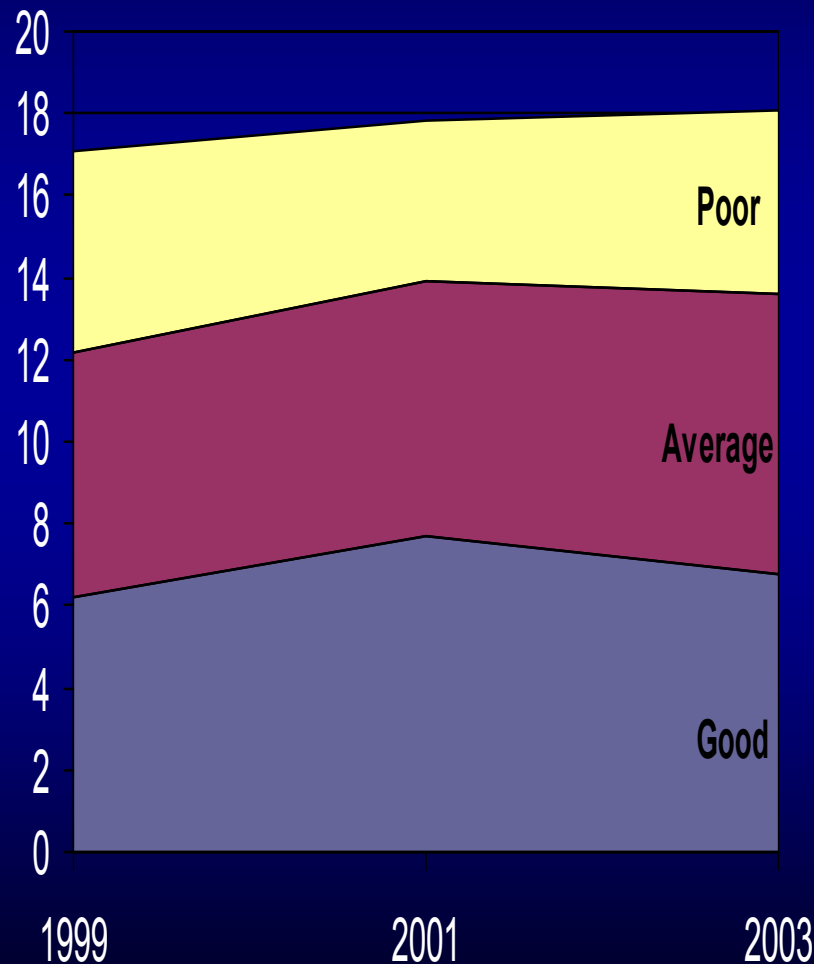
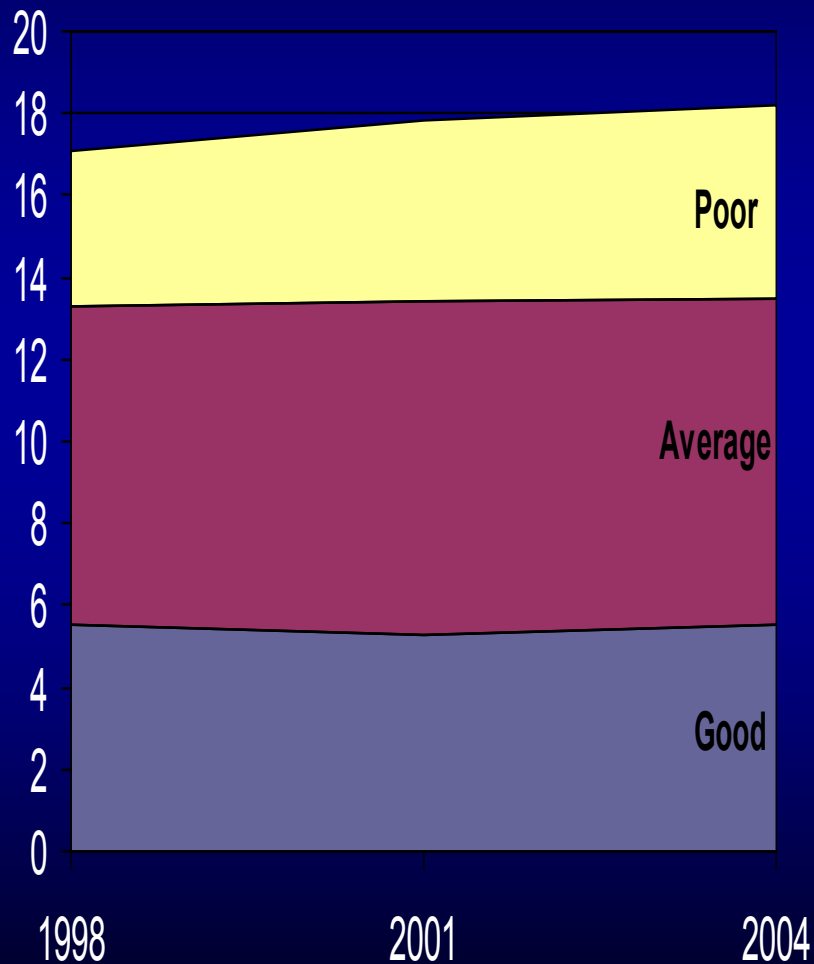
NUJLSOA

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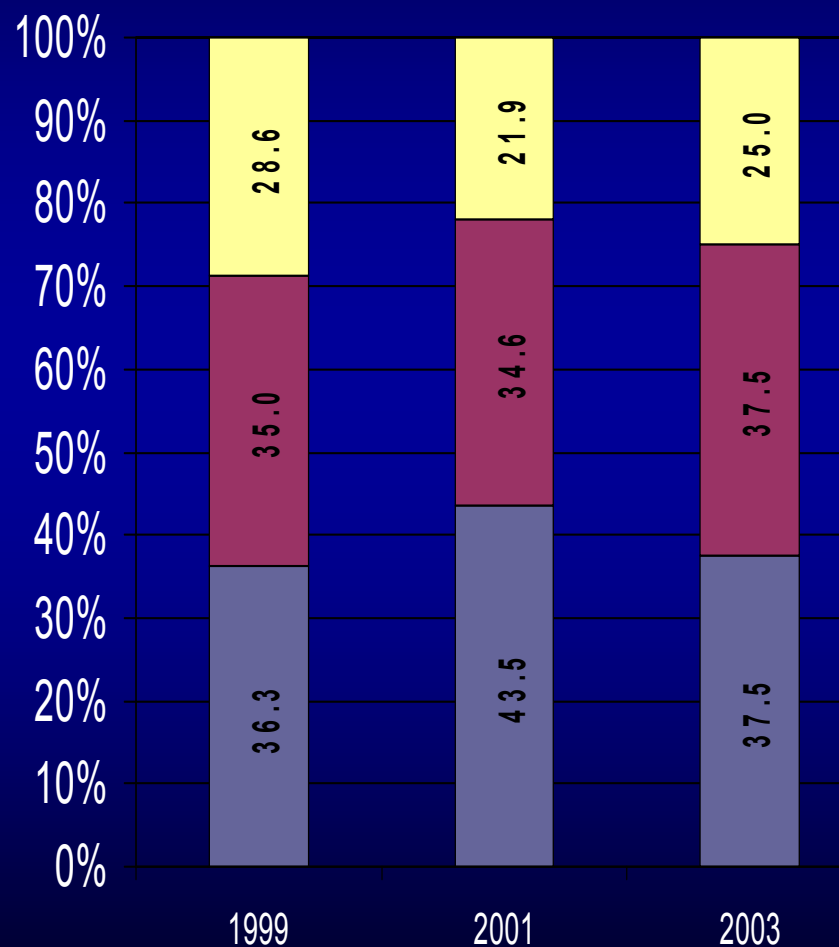
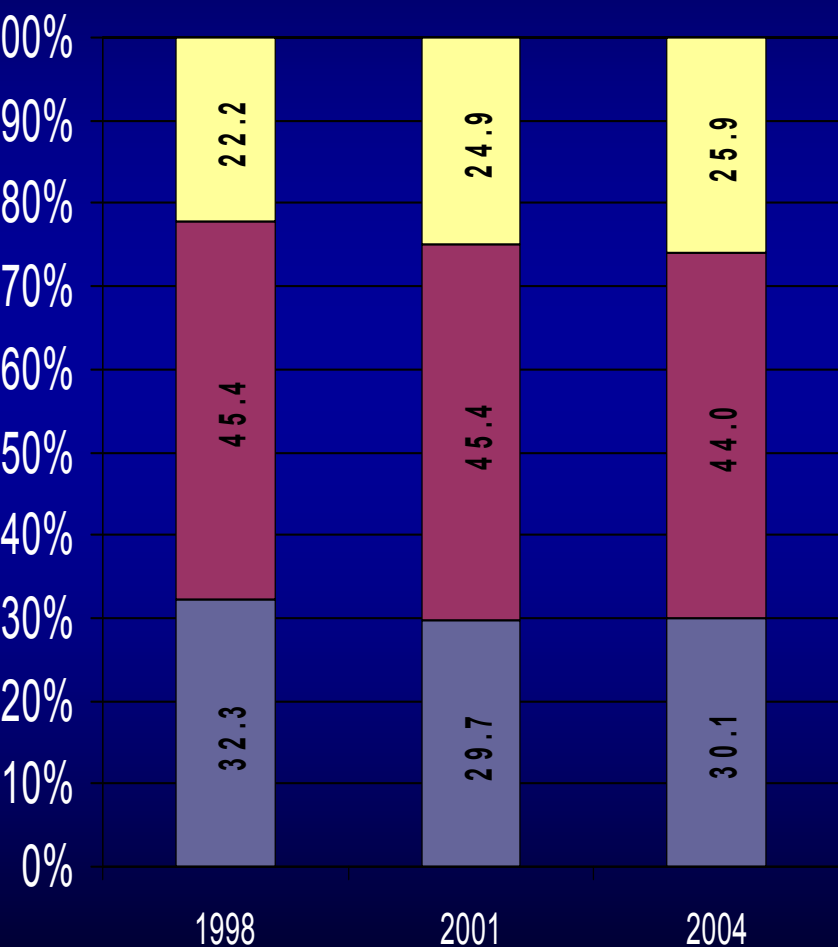
Trend in HLE of men at age 65

NUJLSOA



Trend in proportion of HLE: Men at age 65

NUJLSOA



HLE for Japanese women at age 65

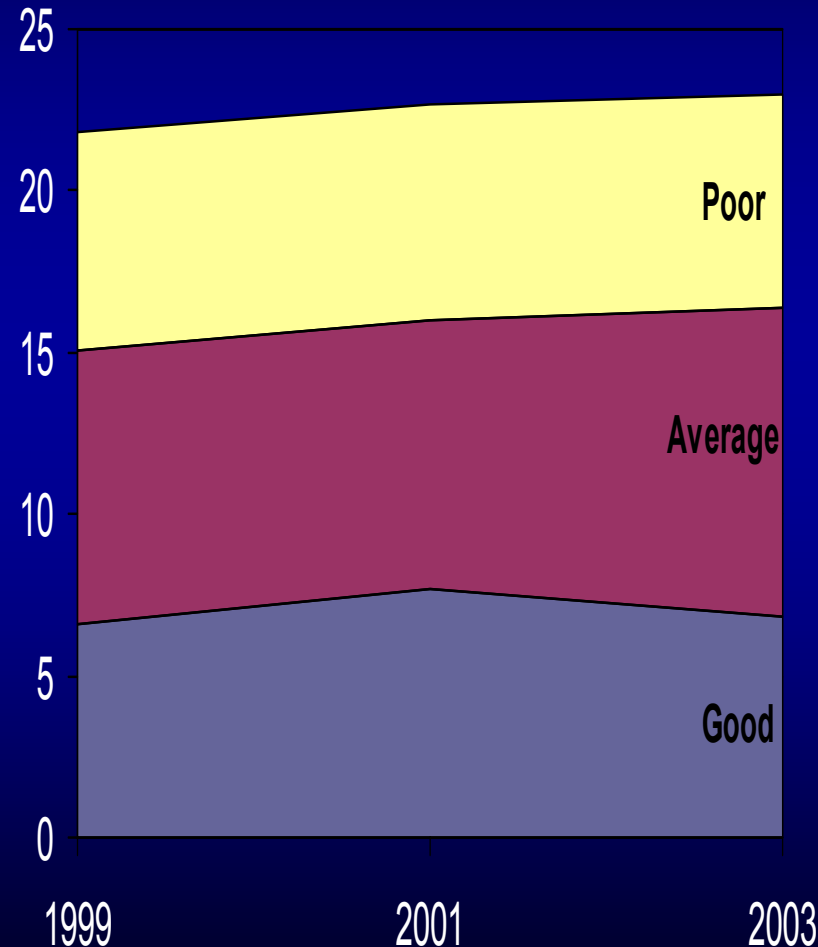
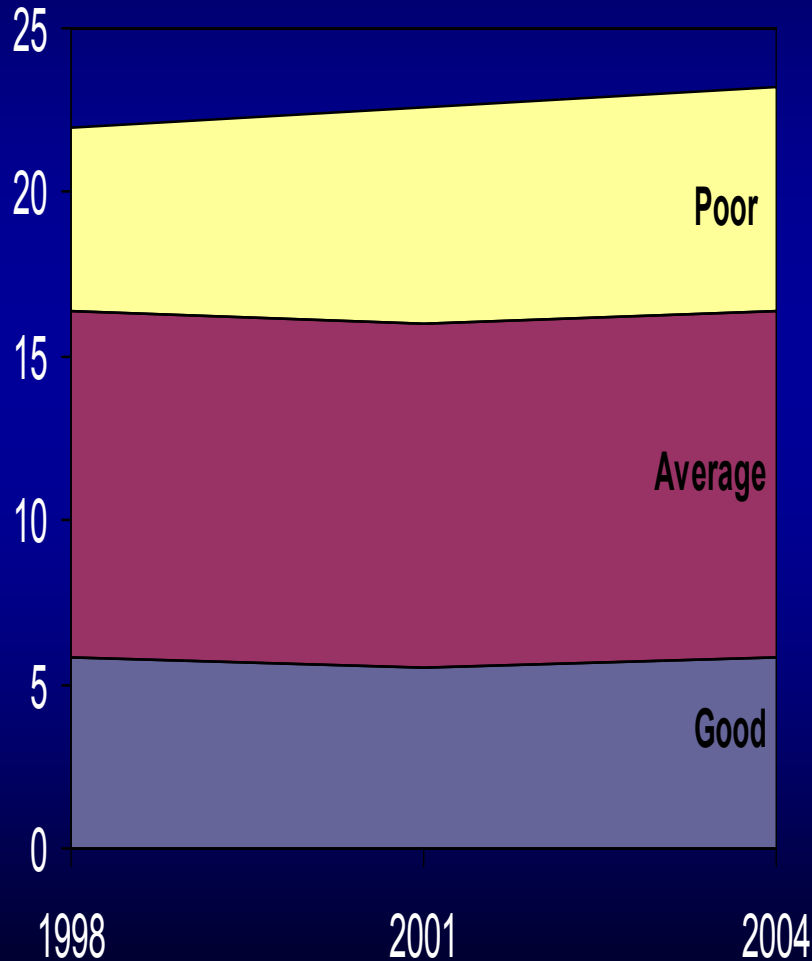
NUJLSOA

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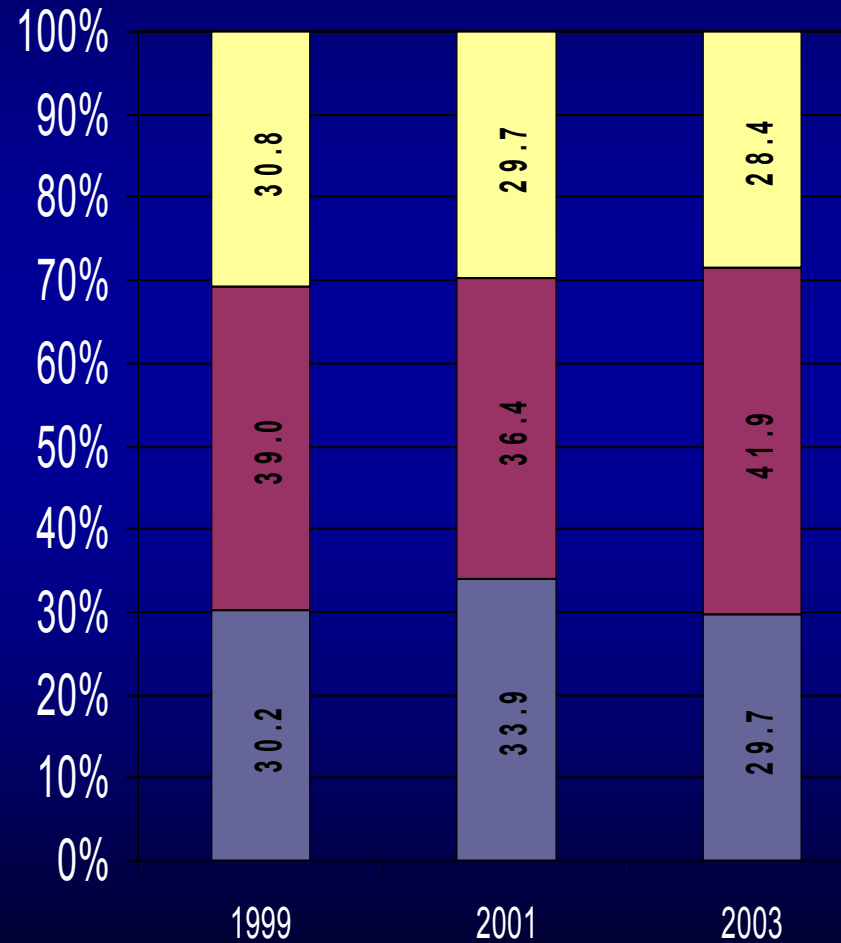
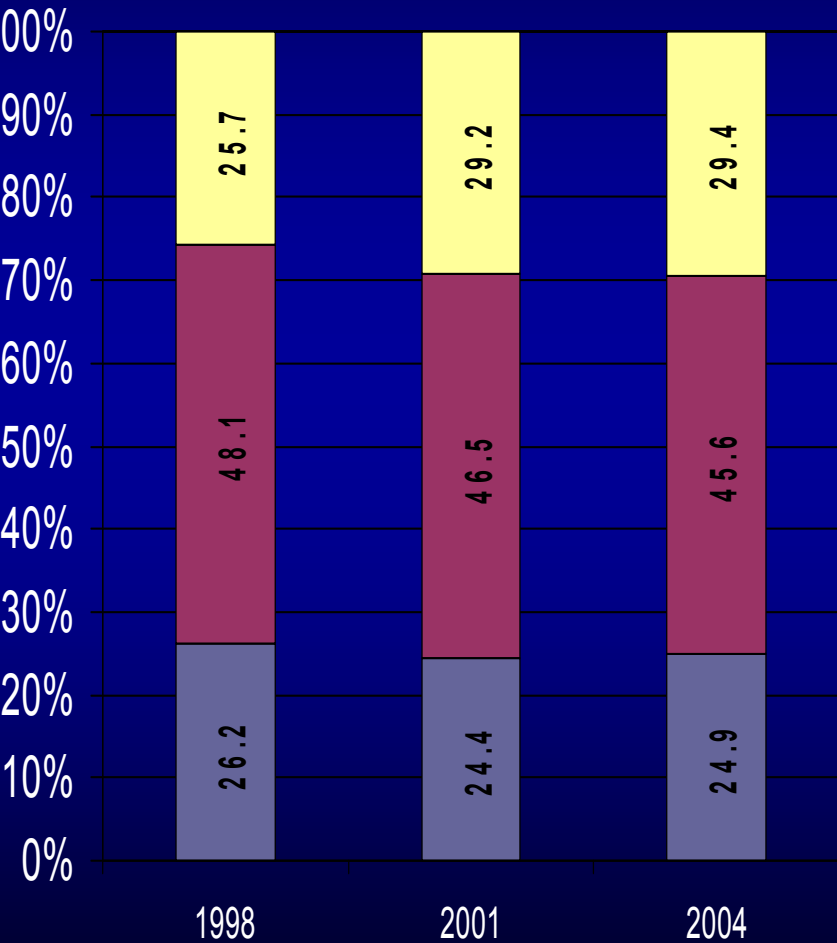
Trend in HLE of women at age 65

NUJLSOA



Trend in proportion of HLE: Women at age 65

NUJLSOA



Limitations

- Data on institutionalized population not available by age and sex
 - LE in good health could be over-estimated
- Biases in self-reports
 - Gender differences
- Data used are cross-sectional and do not allow for transition estimations