

Trends in Health Expectancy among 65-Year Old Danes

**19th Annual
REVES Meeting**

May 2007

*Fresh Approaches to
Population Health:
Health Behavior
and Bio-Demography*

St. Petersburg Beach
Florida, USA



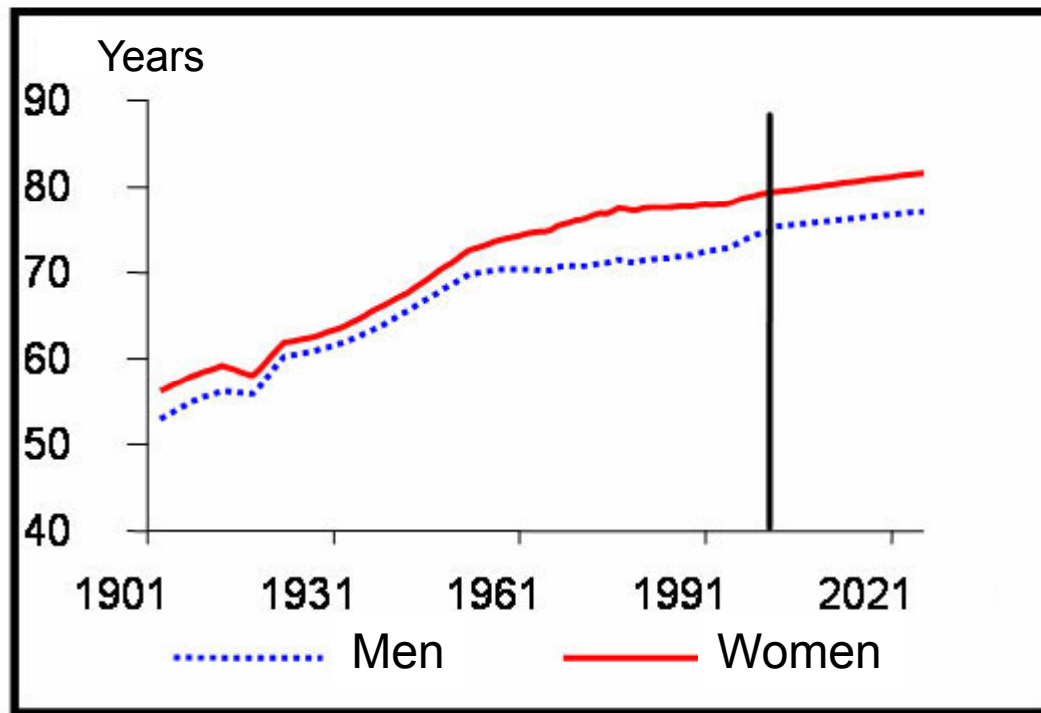
Bernard Jeune

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National Institute of Public Health

Life expectancy for men and women in Denmark



Source: Haldrup (2004)

Queen Margrethe II and mortality in Danish women



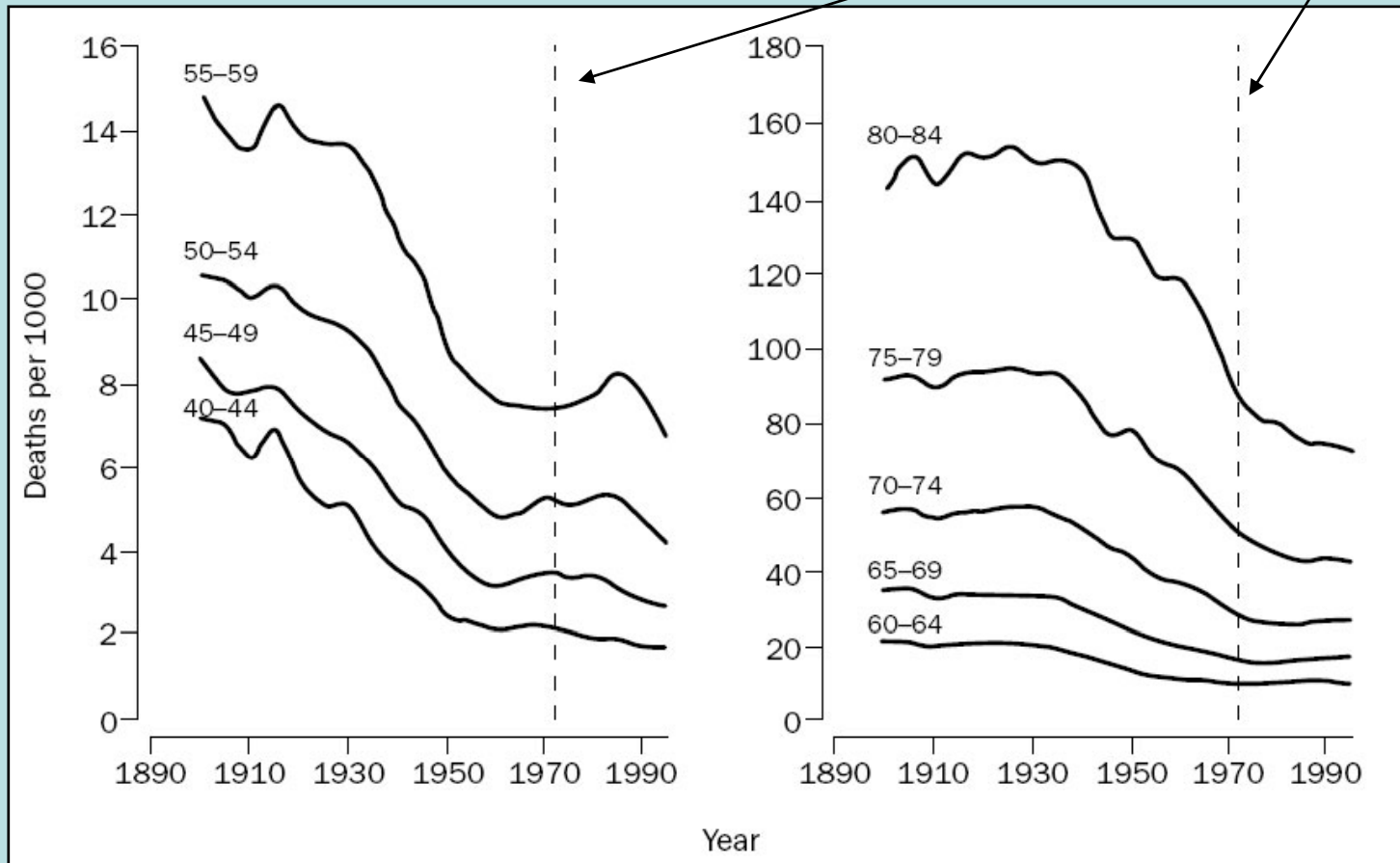
Halting of the decline in mortality occurred about 5 years after the ascension to the throne of Denmark by Queen Margrethe II. [...] As a role model for women, the Queen's example could offer an explanation for the unusual mortality in Danish women.

H. KESTELOOT: The Lancet, 2001; 357:871-2

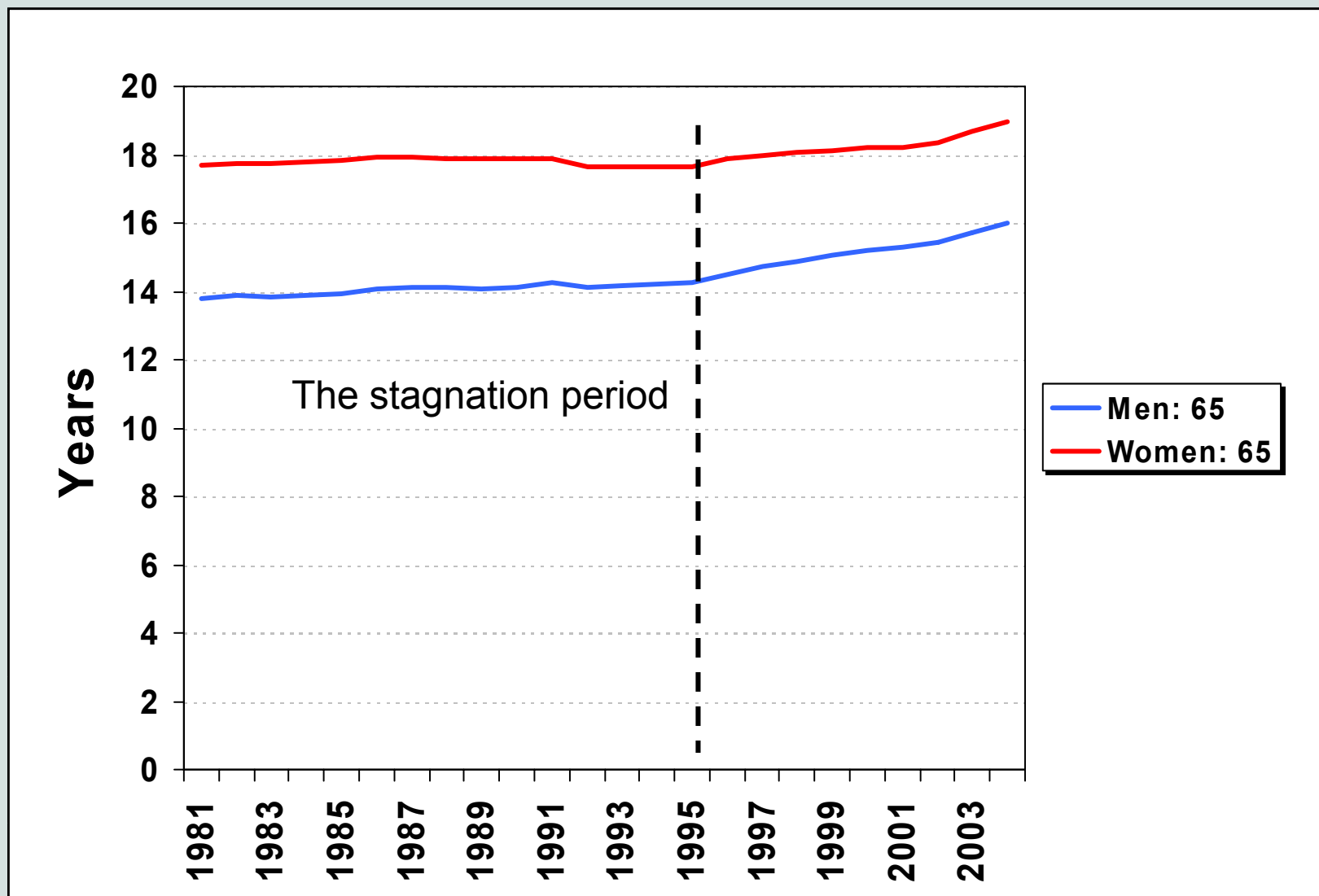
Politiken.dk_

Mortality in Danish women

Dashed line shows Queen Margrethe II's ascension to the throne in 1972



Life expectancy at age 65 in Denmark



The Danish Health Interview Surveys

Random samples of Danes aged 16 or more including people living in institutions.

Professionals from the Danish National Institute of Social Research visited and interviewed:

1987:	864 aged 65+	(76.5%)
1994:	827 aged 65+	(68.5%)
2000:	3,015 aged 65+	(70.2%)
2005:	3,012 aged 65+	(63.9%)

Health indicators

Self-rated health

‘How do you rate your present state of health in general?’

The five original response categories (very good, good, fair, poor, and very poor) were dichotomised into ‘good’ and ‘fair or poor’.

Health indicators

Long-standing illness

“Do you suffer from any long-standing illness, long-standing after-effect of injury, any ‘handicap’, or other long-standing condition?”

Whenever long-standing illness was reported, its nature was clarified by means of an open question.

Long-standing, limiting illness

Long-standing illness was considered to be limiting if it was stated to cause daily restrictions.

Health indicators

Mobility limitations

A person was considered to have mobility limitations if he/she could do one or more of the following activities only with difficulty or not at all:

walk 400 m without resting

walk up or down a staircase

from one floor to another without resting

carry 5 kg

Health indicators

Communication limitations

A person was considered to have communication limitations if he/she could do one or more of the following, only with difficulty or not at all:

read ordinary newspaper print

hear what is being said in a normal conversation between three or more persons, or

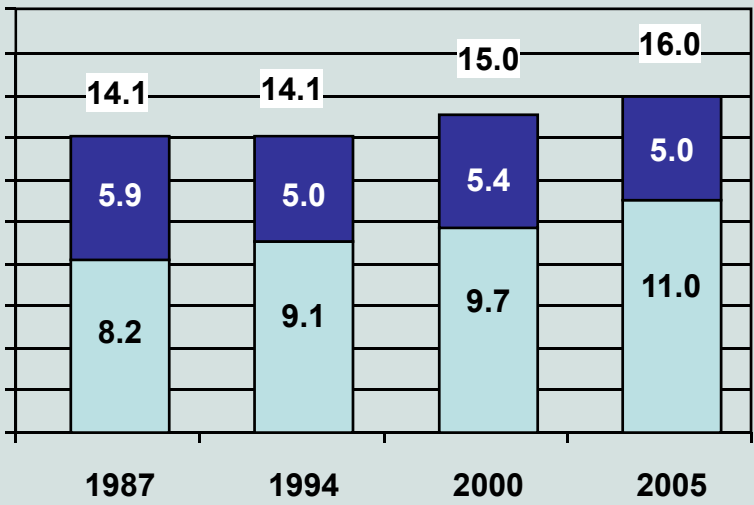
speak with minor or major difficulty
(assessed by the interviewer)

Methods

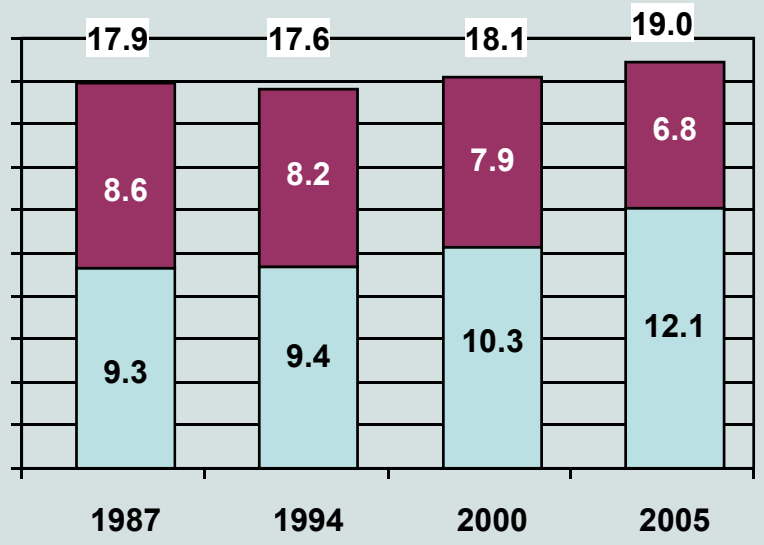
Standard life tables from Statistics Denmark for 1986–1987, 1993–1994, 1999–2000, and 2004–2005 were used to calculate health expectancy by Sullivan's method for each period.

Life expectancy, expected lifetime in self-rated good or poor health at age 65 in Denmark in 1987, 1994, 2000 and 2005

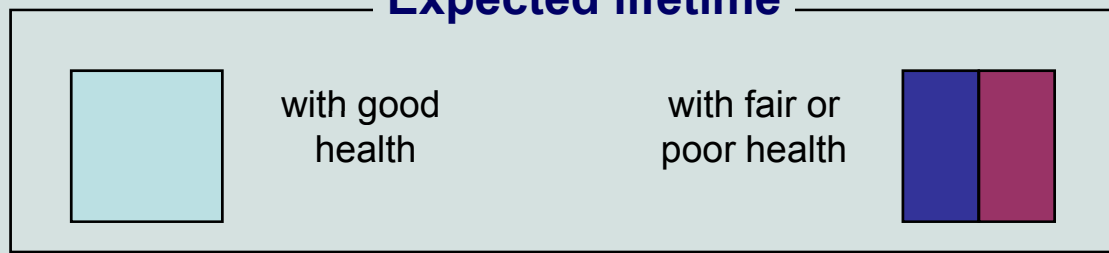
Men



Women



Expected lifetime

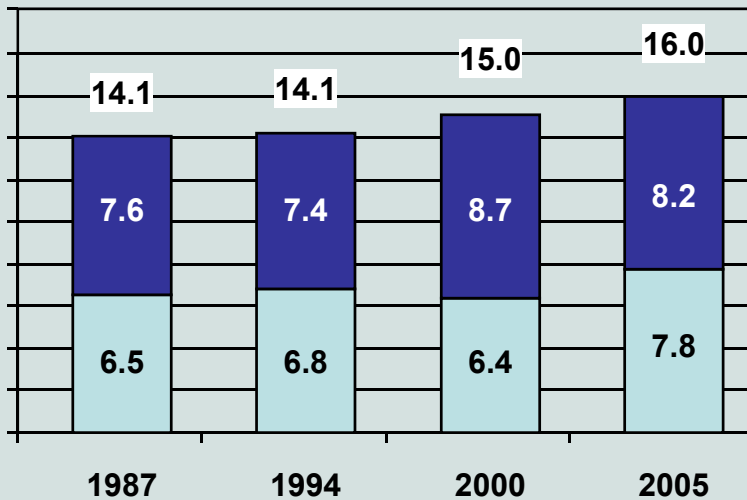


Proportion of expected lifetime in self-rated good health at age 65 in Denmark in 1987, 1994, 2000 and 2005

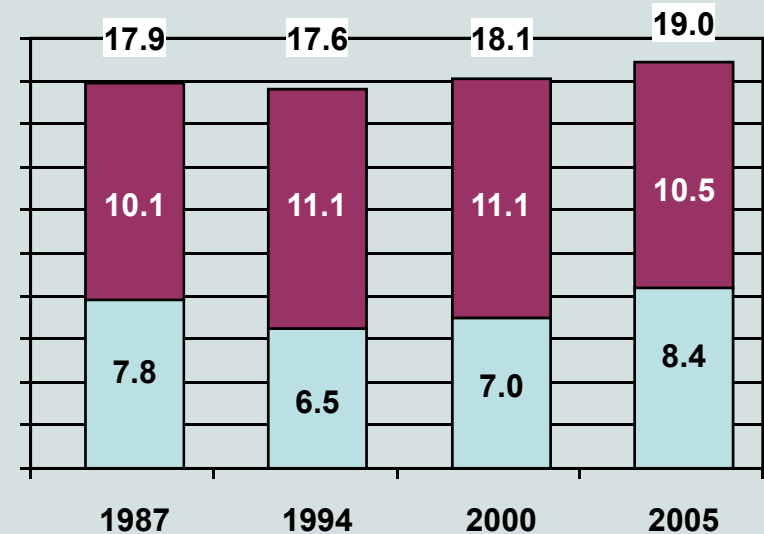
	Life expectancy	Expected lifetime in self-rated good health		Expected lifetime in self-rated fair or poor health		Proportion of expected lifetime in self-rated good health	
Calendar year	Years	Years	95% CI	Years	95% CI	%	95% CI
Men							
1987	14.1	8.2	7.5; 8.9	5.9	5.2; 6.6	58.2	53.2; 63.1
1994	14.1	9.1	8.4; 9.8	5.0	4.3; 5.7	64.4	59.5; 69.3
2000	15.0	9.7	9.3; 10.1	5.4	5.0; 5.7	64.3	61.8; 66.8
2005	16.0	11.0	10.6; 11.4	5.0	4.6; 5.4	68.6	66.1; 71.1
Women							
1987	17.9	9.3	8.4;10.1	8.6	7.8; 9.5	51.7	47.2; 56.2
1994	17.6	9.4	8.6;10.2	8.2	7.4; 9.0	53.5	48.9; 58.0
2000	18.1	10.3	9.8;10.7	7.9	7.4; 8.3	56.6	54.2; 59.0
2005	19.0	12.1	11.7;12.6	6.8	6.4; 7.3	64.0	61.7; 66.4

Life expectancy, expected lifetime with and without long-standing illness at age 65 in Denmark in 1987, 1994, 2000 and 2005

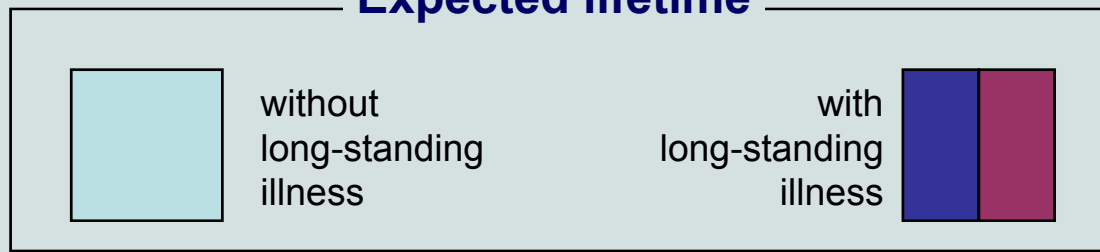
Men



Women



Expected lifetime

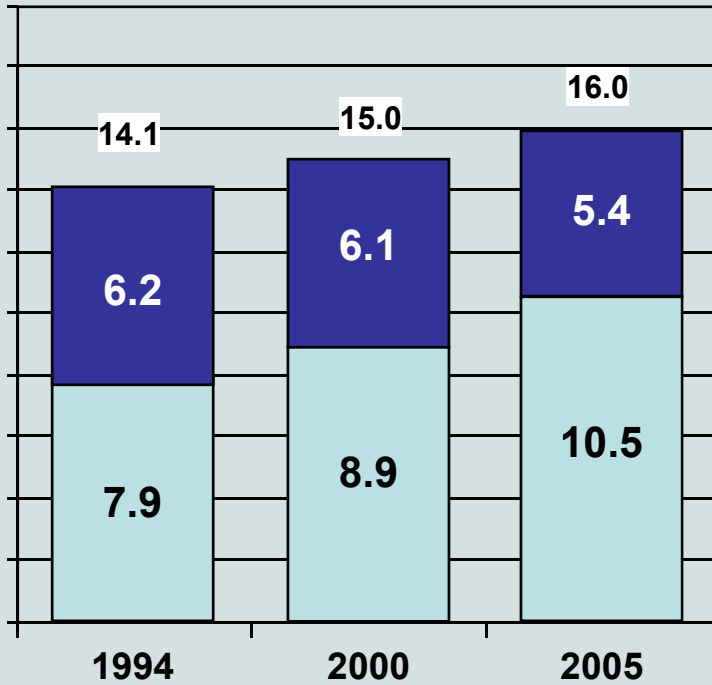


Proportion of expected lifetime without long-standing illness at age 65 in Denmark in 1987, 1994, 2000 and 2005

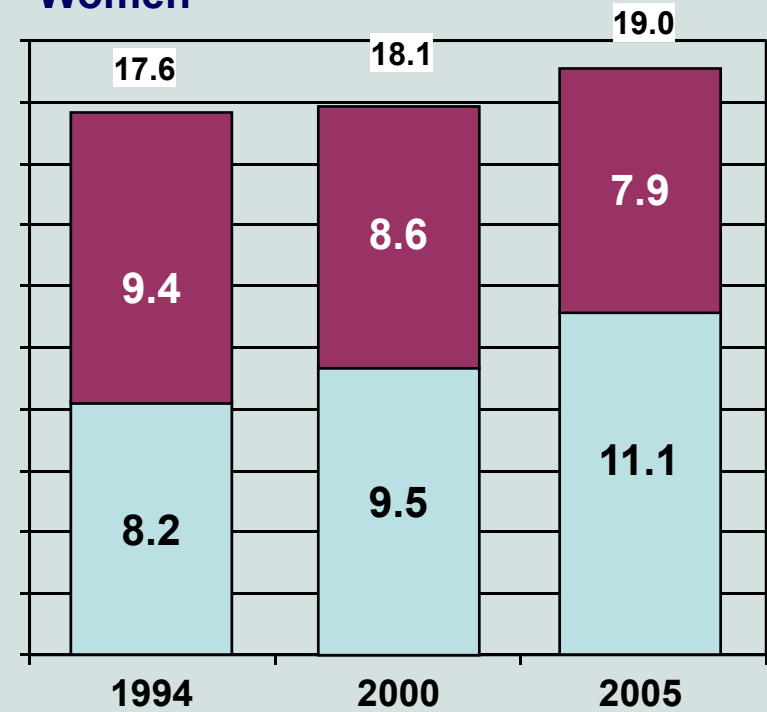
	Life expectancy	Expected lifetime without long-standing illness		Expected lifetime with long-standing illness		Proportion of expected lifetime without long-standing illness	
Calendar year	Years	Years	95% CI	Years	95% CI	%	95% CI
Men							
1987	14.1	6.5	5.8; 7.2	7.6	6.9; 8.3	46.3	41.3; 51.3
1994	14.1	6.8	6.0; 7.5	7.4	7.4; 8.1	47.8	42.7; 52.9
2000	15.0	6.4	6.0; 6.8	8.7	8.3; 9.1	42.4	39.8; 45.0
2005	16.0	7.8	7.4; 8.2	8.2	7.7; 8.6	48.9	46.2; 51.5
Women							
1987	17.9	7.8	7.0; 8.6	10.1	9.3; 10.9	43.7	39.2; 48.1
1994	17.6	6.5	5.7; 7.3	11.1	10.3; 11.9	36.8	32.4; 41.3
2000	18.1	7.0	6.6; 7.5	11.1	10.6; 11.5	38.9	36.5; 41.2
2005	19.0	8.4	7.9; 8.9	10.5	10.1; 11.0	44.4	41.9; 46.8

Life expectancy, expected lifetime with and without long-standing, limiting illness at age 65 in Denmark in 1994, 2000 and 2005

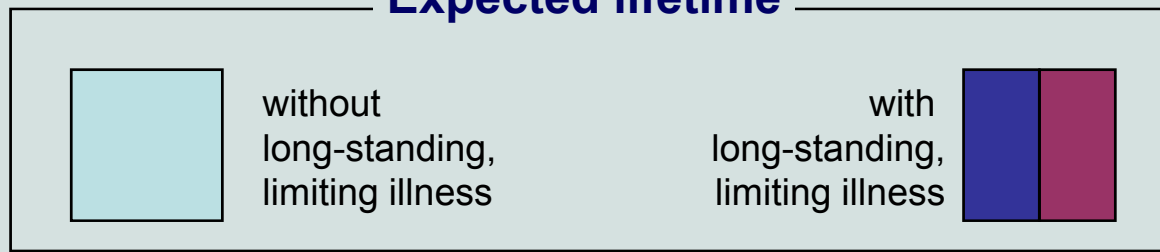
Men



Women



Expected lifetime

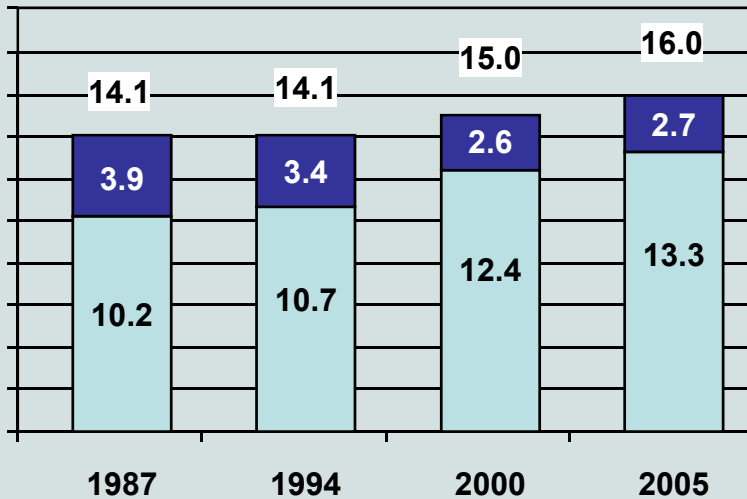


Proportion of expected lifetime without long-standing, limiting illness at age 65 in Denmark in 1994, 2000 and 2005

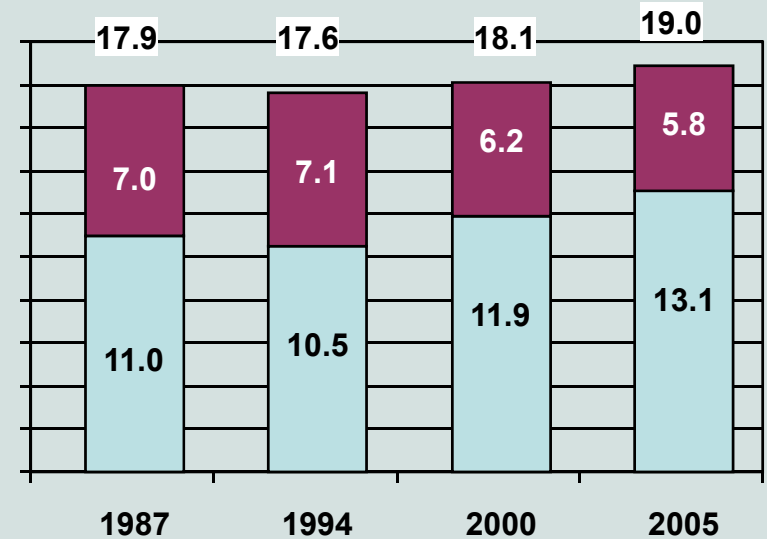
	Life expectancy	Expected lifetime without long-standing, limiting illness		Expected lifetime with long-standing, limiting illness		Proportion of expected lifetime without long-standing, limiting illness	
Calendar year	Years	Years	95% CI	Years	95% CI	%	95% CI
Men							
1994	14.1	7.9	7.2; 8.7	6.2	5.5; 6.9	56.2	51.2;61.3
2000	15.0	8.9	8.5; 9.3	6.1	5.8; 6.5	59.1	56.5;61.7
2005	16.0	10.5	10.1;10.9	5.4	5.0; 5.8	66.0	63.5;68.5
Women							
1994	17.6	8.2	7.4; 9.0	9.4	8.6;10.2	46.6	42.0;51.1
2000	18.1	9.5	9.0; 9.9	8.6	8.2; 9.1	52.3	49.9;54.7
2005	19.0	11.1	10.6;11.5	7.9	7.4; 8.3	58.4	56.0;60.9

Life expectancy, expected lifetime with and without mobility limitations at age 65 in Denmark in 1987, 1994, 2000 and 2005

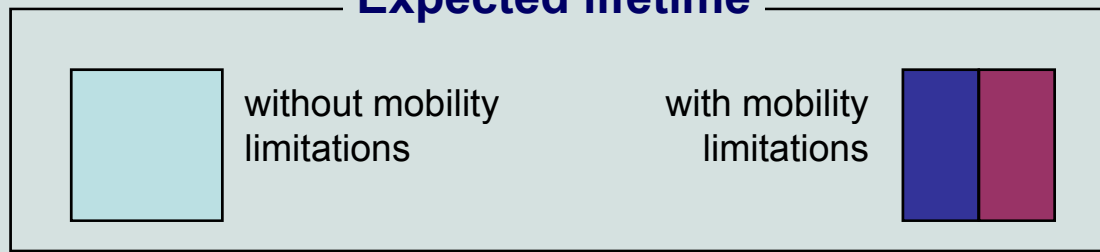
Men



Women



Expected lifetime

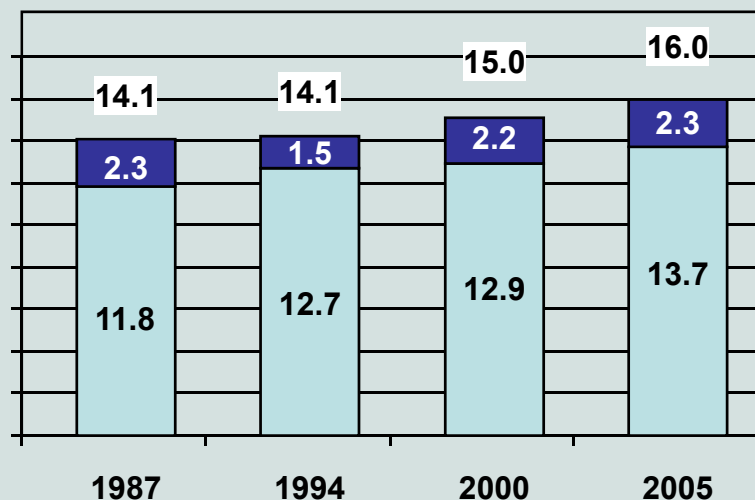


Proportion of expected lifetime without mobility limitations at age 65 in Denmark in 1987, 1994, 2000 and 2005

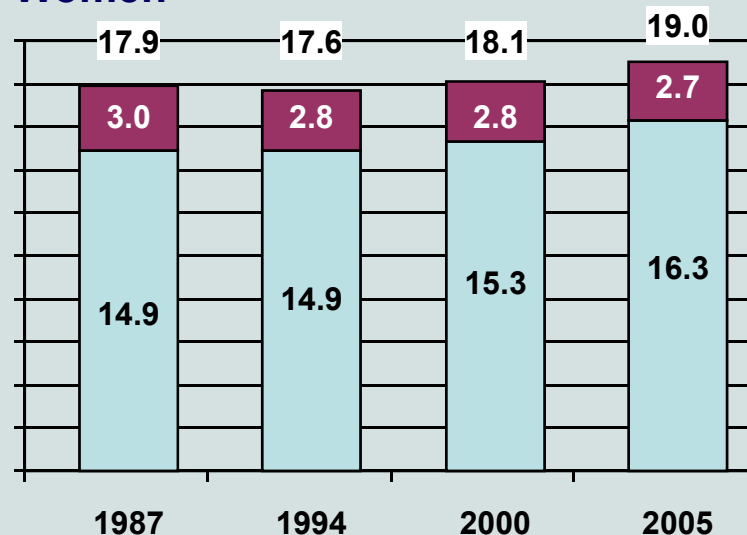
Calendar year	Life expectancy	Expected lifetime without mobility limitations		Expected lifetime with mobility limitations		Proportion of expected lifetime without mobility limitations	
	Years	Years	95% CI	Years	95% CI	%	95% CI
Men							
1987	14.1	10.2	9.6; 10.8	3.9	3.2; 4.5	72.6	68.3; 77.0
1994	14.1	10.7	10.1; 11.4	3.4	2.8; 4.0	75.9	71.7; 80.2
2000	15.0	12.4	12.1; 12.7	2.6	2.4; 2.9	82.4	80.4; 84.4
2005	16.0	13.3	12.9; 13.6	2.7	2.4; 3.0	83.0	80.9; 85.0
Women							
1987	17.9	11.0	10.2; 11.7	7.0	6.2; 7.7	61.1	56.8; 65.3
1994	17.6	10.5	9.8; 11.3	7.1	6.3; 7.9	59.8	55.5; 64.2
2000	18.1	11.9	11.5; 12.3	6.2	5.8; 6.6	65.6	63.4; 67.7
2005	19.0	13.1	12.7; 13.5	5.8	5.4; 6.3	69.2	67.0; 71.4

Life expectancy, expected lifetime with and without communication limitations at age 65 in Denmark in 1987, 1994, 2000 and 2005

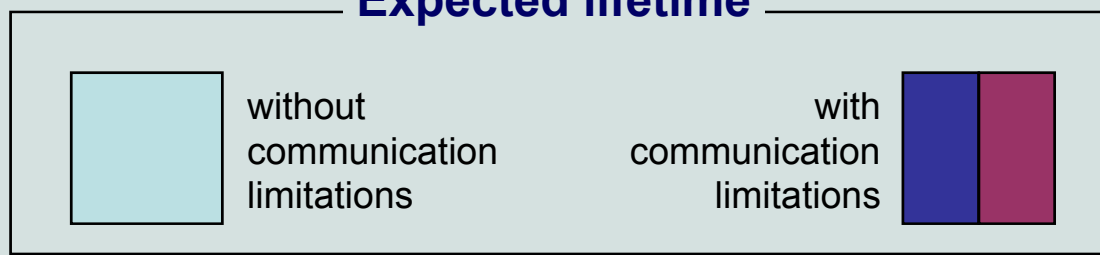
Men



Women



Expected lifetime



Proportion of expected lifetime without communication limitations at age 65 in Denmark in 1987, 1994, 2000 and 2005

	Life expectancy	Expected lifetime without communication limitations		Expected lifetime with communication limitations		Proportion of expected lifetime without communication limitations	
Calendar year	Years	Years	95% CI	Years	95% CI	%	95% CI
Men							
1987	14.1	11.8	11.2; 12.3	2.3	1.8; 2.8	83.6	80.0; 87.3
1994	14.1	12.7	12.2; 13.1	1.5	1.0; 1.9	89.6	86.5; 92.7
2000	15.0	12.9	12.6; 13.2	2.2	1.9; 2.4	85.7	83.9; 87.5
2005	16.0	13.7	13.4; 14.0	2.3	2.0; 2.6	85.5	83.6; 87.4
Women							
1987	17.9	14.9	14.3; 15.5	3.0	2.4; 3.6	83.1	79.8; 86.4
1994	17.6	14.9	14.3; 15.5	2.8	2.2; 3.3	84.3	81.1; 87.6
2000	18.1	15.3	15.0; 15.6	2.8	2.5; 3.1	84.3	82.7; 86.0
2005	19.0	16.3	15.9; 16.6	2.7	2.4; 3.0	85.8	84.1; 87.6

Prevalence of health indicators among 65+ years old Danes in 1987, 1994, 2000 and 2005

	Self-rated good health	No long-standing illness	No long-standing, limiting illness	No mobility limitations	No communication limitations
Calendar year	%	%	%	%	%
Men					
1987	58.2	46.5	-	72.9	83.8
1994	64.9	48.2	56.7	77.0	90.1
2000	64.3	42.4	59.1	82.5	85.8
2005	69.2	48.9	66.4	84.7	86.7
Women					
1987	51.7	43.7	-	61.8	83.8
1994	53.8	36.8	46.7	61.1	85.5
2000	56.6	38.9	52.3	66.0	84.7
2005	64.6	44.5	58.8	70.8	86.8

Use of assistive devices among 65+ years old Danes, 1987-2005

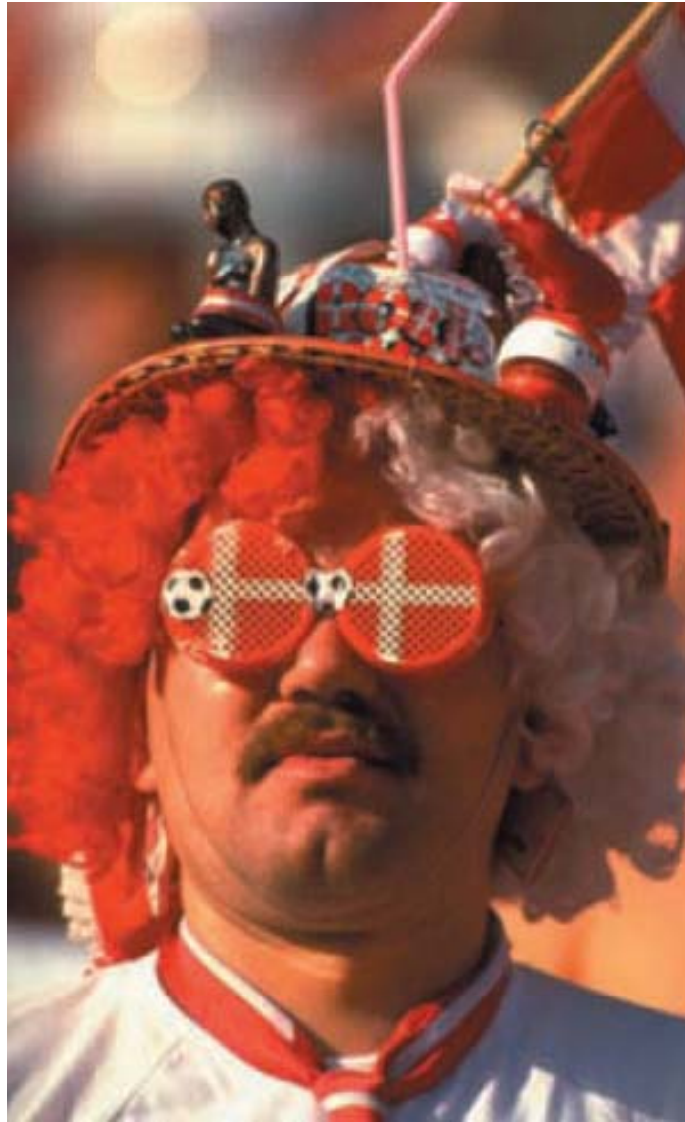
(Age adjusted percentages)

	1987	1994	2000	2005
Men				
Glasses / contact lenses	94.4	94.4	94.9	92.5
Hearing aid	13.8	13.1	20.9	22.2
Cane/ crutch/ walker/ wheelchair	19.3	19.9	22.0	18.7
Other devices	3.6	3.5	3.5	3.3
Women				
Glasses / contact lenses	94.2	95.9	96.4	94.6
Hearing aid	11.4	11.7	14.4	16.9
Cane/ crutch/ walker/ wheelchair	17.2	23.1	28.0	23.0
Other devices	7.0	4.9	3.7	5.2

Conclusion

For almost all health indicators health expectancies in Denmark increased more than life expectancy in both genders during the period 1987 – 2005, except for self-reported morbidity.

“Dane, at peace...”



Simon Burdy/ Getty Sport_

WHY DANES ARE SMUG:
**Comparative study of life
satisfaction in the
European Union**

**Kaare Christensen
Anne Marie Herskind
James W Vaupel**

BMJ

VOLUME 333 23-30 DECEMBER 2006; 1289-91

Thank you!



Six long living Danish sisters more than 90 years