

# Socioeconomic inequalities in Disability Free Life Years at age 25 in Belgium: The evolution between 1997 and 2004

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# OBJECTIVES

**To assess at age 25 the inequality by educational level in:**

- **Disability Free Life Expectancy (DFLE)**
- **Life Expectancy with disability (DLE) by severity level**

**To evaluate the evolution in inequality by educational level between the years 1997 and 2004 in Belgium**

# DATA

## **Mortality:**

**Follow-up census 1991, 2001 : 3 years**

**Life table: last interval 85-100 years**

## **Disability:Health interview survey 1997, 2004**

**Face to Face**

**N: about 10000 – 13000 each survey**

**Response rate : 60%**

# DISABILITY DEFINITION

## 7 ADL-functions:

- transfer in and out bed
- transfer in and out chair
- Dressing
- washing of hands and face
- Feeding
- going to the toilet
- continence

## mobility

## 2 sensorial functions

- seeing
- hearing

# DISABILITY DEFINITION (2)

For at least one of the functions

## Moderate limitations

- **ADL: difficulty doing**
- **Mobility: walking distance max 200 meters**
- **Seeing: ability to recognise a person within a distance of 4 meter**
- **Hearing: ability to follow a TV program with the volume turned harder than acceptable for others**

## Severe limitations

- **ADL: only able with health of a person**
- **Mobility: walking distance max a few steps**
- **Seeing: ability to recognise a person within a distance of 1 meter**
- **Hearing: not able to follow a TV program even with the volume turned harder than acceptable for others**

# Estimation Method

**Sullivan method to calculate health expectancy by age, sex and educational level**

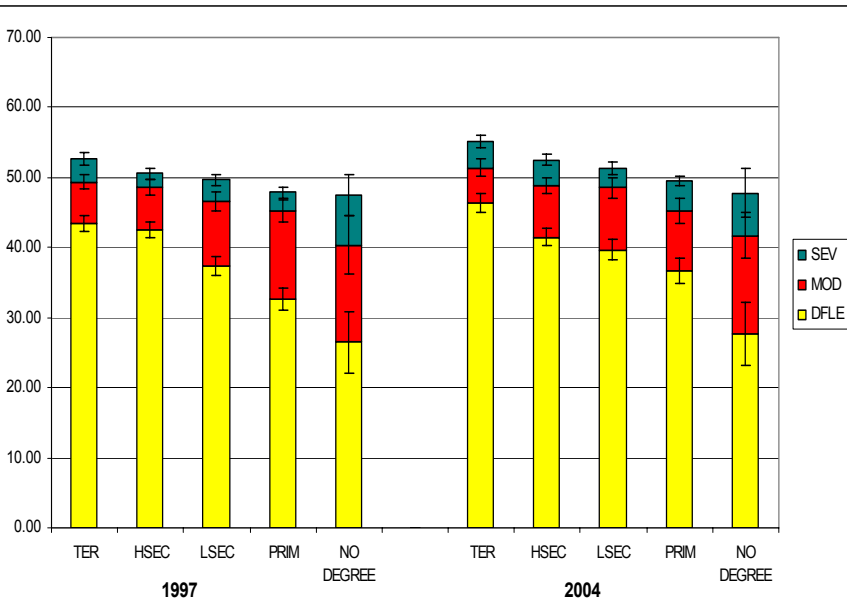
**5 categories of educational level :**

- **No diploma**
- **Primary (PRIM)**
- **Lower secondary (LSEC)**
- **Higher secondary (HSEC)**
- **Tertiary (TER)**

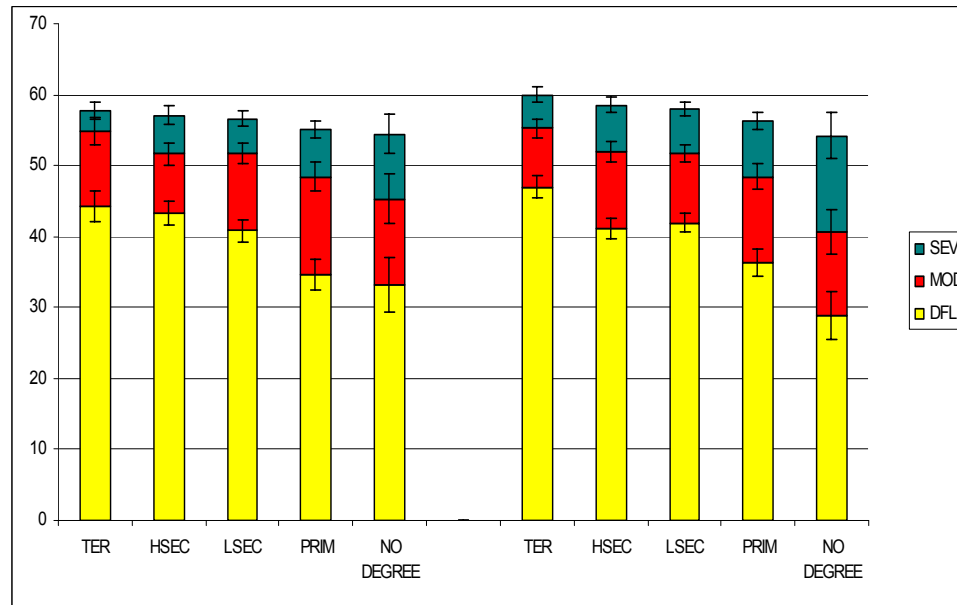
**Variance: excluded part due to mortality**

# Total Life Expectancy, Disability Free Life Expectancy and Life Expectancy with Disability by education at age 25, 1997-2004

## Males



## Females



## Change in inequality in LE, DFLE and DLE by education, at age 25, male, 1997-2004

		Inequality				
		LE	DFLE	DLE	MOD	SEV
HSEC	1997	2.09	0.86	1.23	-0.14	1.38
	2004	2.57	4.79	-2.22	-2.27	0.06
	Change	<b>0.48</b>	<b>3.93</b>	<b>-3.45</b>	-2.13	-1.32
LSEC	1997	3.02	6.05	-3.03	-3.35	0.32
	2004	3.75	6.61	-2.86	-3.82	0.96
	Change	<b>0.74</b>	<b>0.56</b>	<b>0.18</b>	-0.47	0.65
PRIM	1997	4.84	10.84	-6.00	-6.73	0.73
	2004	5.61	9.65	-4.04	-3.64	-0.39
	Change	<b>0.77</b>	<b>-1.19</b>	<b>1.97</b>	3.09	-1.12
NO DEGREE	1997	5.23	16.99	-11.77	-8.06	-3.71
	2004	7.26	18.55	-11.29	-8.88	-2.41
	Change	<b>2.03</b>	<b>1.56</b>	<b>0.48</b>	-0.82	1.30



# Change in inequality in LE, DFLE and DLE by education, at age 25, female, 1997-2004



		Inequality				
		LE	DFLE	DLE	MOD	SEV
HSEC	1997	0.59	0.91	-0.31	2.25	-2.56
	2004	1.39	5.75	-4.36	-2.49	-1.87
	Change	0.80	4.84	-4.05	-4.74	0.70
LSEC	1997	1.04	3.47	-2.43	-0.36	-2.06
	2004	1.93	5.03	-3.11	-1.60	-1.51
	Change	0.89	1.56	-0.68	-1.23	0.55
PRIM	1997	2.60	9.57	-6.97	-3.19	-3.78
	2004	3.69	10.70	-7.01	-3.91	-3.10
	Change	1.09	1.13	-0.04	-0.72	0.68
NO DEGREE	1997	3.22	11.01	-7.79	-1.44	-6.35
	2004	5.69	18.04	-12.35	-3.57	-8.78
	Change	2.47	7.03	-4.56	-2.13	-2.43

# Change in inequality in partial<sub>25-74</sub> LE, DFLE and DLE by education, male, 1997-2004



	1997				2004			
	LE	DFLE	LY-loss	HLY-loss	LE	DFLE	LY-loss	HLY-loss
TER	46.29	40.90	3.71	9.10	47.11	41.51	2.89	8.49
HSEC	45.26	40.09	4.74	9.91	45.94	40.59	4.06	9.41
LSEC	44.76	39.68	5.24	10.32	45.27	40.04	4.73	9.96
PRIM	43.61	38.77	6.39	11.23	44.29	39.27	5.71	10.73
NO DEGREE	43.47	38.68	6.53	11.32	44.33	39.33	5.67	10.67

## Inequality

	LY-loss		HLY-loss		LY-loss		HLY-loss	
	Diff	RR	Diff	RR	Diff	RR	Diff	RR
HSEC	1.03	1.28	0.81	1.09	1.17	1.40	0.92	1.11
LSEC	1.53	1.41	1.22	1.13	1.84	1.64	1.47	1.17
PRIM	2.68	1.35	2.13	1.13	2.82	1.98	2.24	1.26
NO DEGREE	2.82	1.38	2.22	1.14	2.78	1.96	2.18	1.26

## Change in inequality

	LY-loss		HLY-loss	
	Diff	RR	Diff	RR
HSEC	0.14	1.09	0.11	1.02
LSEC	0.31	1.16	0.25	1.04
PRIM	0.14	1.47	0.11	1.12
NO DEGREE	-0.04	1.42	-0.04	1.11

# Change in inequality in partial<sub>25-74</sub> LE, DFLE and DLE by education, female, 1997-2004



	1997				2004			
	LE	DFLE	LY-loss	HLY-loss	LE	DFLE	LY-loss	HLY-loss
TER	47.73	41.97	2.27	8.03	48.28	42.38	1.72	7.62
HSEC	47.50	41.78	2.50	8.22	47.77	41.99	2.23	8.01
LSEC	47.34	41.65	2.66	8.35	47.66	41.90	2.34	8.10
PRIM	46.92	41.33	3.08	8.67	47.05	41.42	2.95	8.58
NO DEGREE	46.71	41.18	3.29	8.82	46.85	41.27	3.15	8.73

	Inequality							
	LY-loss		HLY-loss		LY-loss		HLY-loss	
	Diff	RR	Diff	RR	Diff	RR	Diff	RR
HSEC	0.23	1.10	0.19	1.02	0.51	1.30	0.39	1.05
LSEC	0.39	1.17	0.32	1.04	0.62	1.36	0.48	1.06
PRIM	0.81	1.23	0.64	1.05	1.23	1.72	0.96	1.13
NO DEGREE	1.02	1.32	0.79	1.07	1.43	1.83	1.11	1.15

	Change in inequality			
	LY-loss		HLY-loss	
	Diff	RR	Diff	RR
HSEC	0.28	1.18	0.20	1.03
LSEC	0.23	1.16	0.16	1.02
PRIM	0.42	1.40	0.32	1.08
NO DEGREE	0.41	1.39	0.32	1.07

# Change in inequality in LE, DFLE and DLE by education, at age 65, male, 1997-2004



		Inequality				
		LE	DFLE	DLE	MOD	SEV
HSEC	1997	1.15	-0.83	1.98	0.25	1.73
	2004	1.38	2.37	-0.99	-1.29	0.30
	Change	<b>0.23</b>	<b>3.20</b>	<b>-2.97</b>	<b>-1.53</b>	<b>-1.44</b>
LSEC	1997	1.62	1.66	-0.04	-0.69	0.65
	2004	1.82	2.49	-0.67	-1.75	1.08
	Change	<b>0.20</b>	<b>0.83</b>	<b>-0.63</b>	<b>-1.07</b>	<b>0.43</b>
PRIM	1997	2.36	2.48	-0.11	-1.25	1.14
	2004	2.69	4.54	-1.85	-1.52	-0.33
	Change	<b>0.32</b>	<b>2.06</b>	<b>-1.74</b>	<b>-0.27</b>	<b>-1.48</b>
NO DEGREE	1997	2.72	4.86	-2.14	-2.98	0.83
	2004	3.72	5.96	-2.24	-2.34	0.10
	Change	<b>1.00</b>	<b>1.10</b>	<b>-0.09</b>	<b>0.63</b>	<b>-0.73</b>

# Change in inequality in LE, DFLE and DLE by education, at age 65, female, 1997-2004

		Inequality				
		LE	DFLE	DLE	MOD	SEV
HSEC	1997	0.33	1.62	-1.29	1.99	-3.28
	2004	0.79	2.50	-1.71	0.14	-1.85
	Change	0.46	0.88	-0.42	-1.85	1.43
LSEC	1997	0.62	2.46	-1.84	-0.31	-1.53
	2004	1.24	2.71	-1.47	0.19	-1.65
	Change	0.62	0.25	0.38	0.50	-0.12
PRIM	1997	1.87	5.50	-3.64	-0.50	-3.14
	2004	2.35	4.90	-2.55	0.10	-2.65
	Change	0.48	-0.60	1.09	0.60	0.49
NO DEGREE	1997	2.29	6.95	-4.67	0.17	-4.84
	2004	3.62	8.33	-4.71	0.88	-5.59
	Change	1.33	1.38	-0.04	0.70	-0.74

# Conclusion

**No evidence for closing the gap**

- **in life expectancy**
- **in DFLE**
- **both in males and females**
- **both at young age and older age**

# Next steps

**Account for cohort effect of education distribution in the population**

- **Relative position of SES**
- **Model based estimation of probability of death and health status prevalence at two SES extremes**

**Estimate change in health gap for other health outcomes**

**Evaluate the effect of in/exclusion of institutionalized population**

***THANKS***