

Multimorbidity and working life expectancy among adults aged ≥ 50 years: findings from the Finnish Public Sector Study



UNIVERSITY OF TURKU

Well-being through work

Finnish Institute of Occupational Health



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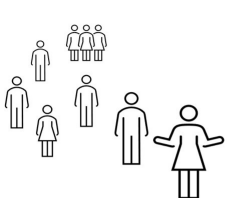
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Background and aim

- Population is ageing and old age dependency ratio increasing
- Policies to promote people working for longer
- Facilitators and barriers to working among older adults?
- Aim: to examine multimorbidity (the co-occurrence of multiple chronic diseases) as a determinant of working life expectancy (WLE) among adults aged ≥ 50 years**

Methods

- Multimorbidity: self-reported physician diagnoses of 8 chronic diseases, augmented with data from nationwide registers
- Work participation: time spent working at age 50 up to 68 years from **nationwide register of pensionable earnings**
- Multistate models to estimate working life expectancies (WLEs) and 95% confidence intervals
- R: **msm (multi-state survival models)** to predict transition probabilities across three states (working, not working and dead) and *elect* to estimate WLEs



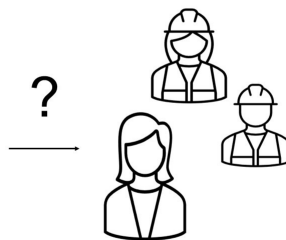
Key findings

- Multimorbidity at age ≥ 50 years --- > 2- 3 years shorter working life expectancy
- Similar pattern in women and men
- Shorter WLE (up to ~9 months) among workers in lower occupational positions

Results 1. Working life expectancy by sex

Multimorbidity	Men			Women		
	Number of diseases	WLE	95% CI	WLE	95% CI	95% CI
0		13.48	13.40 13.55	13.46	13.41 13.51	
1		13.06	12.97 13.14	13.06	13.01 13.10	
2		12.72	12.63 12.80	12.72	12.66 12.77	
3+		12.40	12.28 12.51	12.44	12.37 12.51	

- Physician-diagnosed chronic diseases:
- Respiratory disease*
 - Hypertension*
 - Coronary heart disease*
 - Musculoskeletal disease*
 - Migraine
 - Depression
 - Diabetes*
 - Cancer*
- * Augmented with register data



Results 2. Working life expectancy by sex and occupational position

Multimorbidity	Men									Women								
	Professional occupations			Intermediate occupations			Routine occupations			Professional occupations		Intermediate occupations		Routine occupations				
	WLE	95% CI	95% CI	WLE	95% CI	95% CI	WLE	95% CI	95% CI	WLE	95% CI	95% CI	WLE	95% CI	95% CI			
0	13.87	13.78	13.95	13.53	13.43	13.62	13.11	13.03	13.20	13.84	13.78	13.90	13.53	13.47	13.59	13.10	13.04	13.16
1	13.45	13.36	13.54	13.12	13.02	13.22	12.70	12.61	12.79	13.44	13.37	13.49	13.13	13.07	13.20	12.70	12.65	12.76
2	13.11	13.01	13.20	12.78	12.66	12.89	12.36	12.25	12.45	13.09	13.02	13.16	12.79	12.71	12.86	12.36	12.28	12.42
3+	12.80	12.68	12.91	12.46	12.31	12.58	12.04	11.89	12.17	12.82	12.72	12.89	12.51	12.42	12.60	12.08	11.99	12.16

Study participants

Age ≥ 50 years at baseline data collection in 2000-2002, 2004, 2008 or 2011-2012: 47 688

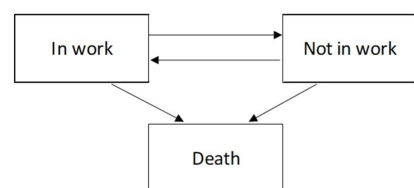
Incomplete data on chronic diseases, age, sex or socioeconomic position: 2 092 (4.4%)
 Incomplete data on work status in 2000-2018: 653 (1.4%)

Included in the analyses: 44 943

- Finnish Public Sector study
- Dynamic, occupational cohort linked to registers
- Employees in 10 municipalities and 21 public healthcare hospitals
- Age 18 to 64
- 80% women, predominantly White



Multistate model to estimate working life expectancy



Earnings and Accrual Register

- Data on pensionable earnings for all people resident in Finland
- Age 18 up to 68 years