Appendix 1. Age standardized prevalence of comorbid conditions per 10 000 inhabitants with 95% confidence intervals in the Tromsø study cohorts

Comorbid conditions	Assigned weight [a]	Tromsø 4 (1994/5)		Tromsø 5 (2001)		Tromsø 6 (2007/8)	
		Rate	95% CI	Rate	95% CI	Rate	95% CI
Chronic bronchitis	1	688	(652 - 724)	318	(279 - 358)	316	(286 - 346)
Migraine	1	1464	(1415 - 1513)	1386	(1255 - 1518)	1237	(1159 - 1315)
Gastric or ventricular ulcer	2	723	(682 - 764)	750	(671 - 829)	596	(552 - 640)
Asthma	2	677	(639 - 715)	754	(656 - 852)	836	(777 - 895)
Thyroid disease	2	370	(340 - 400)	547	(478 - 617)	695	(647 - 743)
Arthritis [b]	2	2799	(2594 - 3004)	2729	(2532 - 2926)	2073	(1916 - 2229)
Myocardial infarction	2	165	(144 - 187)	191	(163 - 219)	192	(169 - 215)
Cerebrovascular stroke	2	368	(336 - 400)	358	(318 - 398)	383	(353 - 414)
Diabetes (T1 or T2)	2	208	(184 - 231)	287	(237 - 336)	372	(336 - 407)
Osteoporosis	3	177	(154 - 200)	207	(179 - 234)	287	(260 - 315)
Angina	3	457	(431 - 483)	349	(318 - 380)	320	(293 - 347)

[a] Assigned weights for each condition the participant has according to the Health Impact Index that are used to measure comorbidity. The total equals the score, e.g. a patient with angina (3) and diabetes (2) will have a full contextual score of 3+2=5.
[b] Includes only subjects above 70 years of age.

Appendix 2. Regression coefficients with bias corrected standard errors for mediated effect of age on self-reported health. Confidence intervals and standard errors are based on 1000 bootstrap samples.

Consequent 1994

Antecedent		M1 (Medical conditions)				M2 (Mental health)				REACTION (Self-reported health)		
		Coeff.	[95% Conf. Interval]			Coeff.	[95% Conf. Interval]			Coeff.	[95% Conf. Interval]	
Constant	i_{M1}	-0.733	-0.810	-0.656	i_{M2}	1.48526	1.467446	1.503073	i_y	4.421846	4.382292	4.461401
X (Age)	a_1	0.0390	0.037	0.041	a_2	0.000	-0.000315	0.0004202	c'	-0.014	-0.014472	-0.013333
M1 (Medical condition)		---	---	---	d_{12}	0.0297326	0.0262572	0.033208	b_1	-0.0704918	-0.074957	-0.066027
M2 (Mental health)		---	---	---		---	---	---	b_2	-0.5594842	-0.57862	-0.540348
		R-squared = 0.1002				R-squared = 0.0169				R-squared = 0.2882		
		Wald χ2(1) = 1826.35 p < .001				Wald χ2(2) = 309.30, p<.001				Wald χ2(3) = 8907.28, p < .001		

Consequent 2001

Antecedent		M1 (Medical conditions)				M2 (Mental health)				REACTION (Self-reported health)		
		Coeff.	[95% Conf. Interval]			Coeff.	[95% Conf. Interval]			Coeff.	[95% Conf. Interval]	
Constant	i_{M1}	-1.520	-1.677	-1.363	i_{M2}	1.341679	1.304584	1.378773	i_y	4.217373	4.13278	4.301967
X (Age)	a_1	0.0551	0.052	0.058	a_2	-0.003	-0.003269	-0.0020216	c'	-0.010	-0.011255	-0.009182
M1 (Medical condition)		---	---	---	d_{12}	0.0378559	0.03291	0.0428018	b_1	-0.0772212	-0.084309	-0.070134
M2 (Mental health)		---	---	---		---	---	---	b_2	-0.6020822	-0.644952	-0.559213
		R-squared = 0.1180				R-squared = 0.0451				R-squared = 0.2734		
		Wald χ2(1) = 1339.28 p < .001				Wald χ2(2) = 239.84, p<.001				Wald χ2(3) = 2295.51, p < .001		

Consequent 2007/8

Antecedent		M1 (Medical conditions)				M2 (Mental health)				REACTION (Self-reported health)		
		Coeff.	[95% Conf. Interval]			Coeff.	[95% Conf. Interval]			Coeff.	[95% Conf. Interval]	
Constant	i_{M1}	-2.020	-2.194	-1.847	i_{M2}	1.425522	1.388859	1.462185	i_y	5.278	5.197401	5.358518
X (Age)	a_1	0.0627	0.059	0.066	a_2	-0.0034595	-0.004095	-0.0028236	c'	-0.0075404	-0.00861	-0.006471
M1 (Medical condition)		---	---	---	d_{12}	0.0409442	0.0366294	0.0452591	b_1	-0.0843211	-0.091595	-0.077048
M2 (Mental health)		---	---	---		---	---	---	b_2	-0.7412179	-0.77872	-0.703716
		R-squared = 0.1229				R-squared = 0.0471				R-squared = 0.2529		
		Wald χ2(1) = 1501.87 p < .001				Wald χ2(2) = 358.15 p<.001				Wald χ2(3) = 3165.11, p < .001		