

## Supplemental tables

**Supplementary table 1** Cause-specific mortality rates (per 1000 people per year) by baseline characteristics (N=21,031): AGES cohort , 2003-2007.

	Men ( N=9,602 )					Women (N=11,429)				
	n	Cancer	CVD	Other	Tobacco cancer	n	Cancer	CVD	Other	Tobacco cancer
Age group (years)										
65-69	3,349	7.8	3.9	1.1	2.4	3,477	2.3	1.7	1.0	0.3
70-74	2,917	10.4	5.3	2.1	2.9	3,277	4.2	2.1	1.2	0.7
75-79	2,042	16.7	10.0	6.7	4.2	2,636	5.7	4.3	2.5	1.3
80+	1,294	24.3	19.8	13.5	5.9	2,039	10.5	14.9	9.9	1.3
Marital status										
Married	8,472	12.0	6.3	3.8	3.1	6,175	3.7	3.2	1.6	0.6
Widowed/separated	1,069	15.9	15.8	5.4	5.6	4,922	6.4	6.4	4.7	0.9
Never married	61	5.4	20.6	4.5	0.9	333	8.0	5.5	2.3	3.4
Educational attainment										
9 years or less	5,583	13.4	8.5	4.6	3.5	7,150	5.1	5.2	3.2	0.8
10+ years	4,019	11.0	5.9	3.1	3.1	4,279	4.7	3.5	2.4	0.8
Type of housing										
Own home	8,990	12.4	7.3	4.0	3.3	10,492	4.9	4.7	2.8	0.8
Rent housing	334	6.8	9.0	3.3	3.6	542	5.0	4.0	4.5	1.3
Public or company housing	163	13.3	12.2	7.4	5.5	261	4.7	2.2	3.3	0.0
Other housing	115	22.7	7.6	0.0	2.5	134	12.3	2.0	6.1	2.0
Medical care need										
No	2,746	9.7	4.6	2.6	2.4	2,688	3.5	3.3	2.6	0.6
Yes, but not utilized by personal choice	779	12.0	5.3	4.1	2.5	1,072	4.2	3.3	1.2	1.0
Yes, currently	6,077	13.7	9.1	4.7	3.9	7,669	5.6	5.3	3.2	0.8
Smoking										
Never	2,878	8.9	6.4	4.3	1.4	10,527	4.7	4.5	2.8	0.6
Ex	4,541	12.2	7.2	3.8	3.4	620	5.8	6.7	4.3	2.0
Current	2,183	17.2	9.2	4.1	5.7	283	14.5	3.9	3.9	6.8
Alcohol consumption										
None	4,037	15.7	10.5	4.9	4.3	9,776	5.2	4.9	3.0	0.7
Less than 270ml /day	4,674	9.9	5.5	3.3	2.6	1,615	3.5	2.8	2.2	1.1

270ml or more/day	891	10.2	3.7	3.7	2.7	38	0.0	0.0	7.7	0.0
Time of walking a day										
Less than 30 minutes	3,502	15.9	10.4	5.5	4.6	4,454	5.7	5.8	3.9	1.2
30-60 minutes	3,439	11.3	7.4	3.5	2.8	3,983	4.7	4.3	2.4	0.7
60-90 minutes	1,451	9.4	4.0	3.0	1.8	1,631	4.3	3.0	2.1	0.3
90 or more minutes	1,210	9.4	3.5	2.4	3.1	1,360	4.0	3.5	2.2	0.4
Health checkups										
Yes, in the last 2-3 years	6,073	10.9	6.0	2.6	3.1	7,461	4.3	3.6	2.1	0.7
Yes, 4 years ago or before	1,547	14.9	10.4	6.4	4.0	1,327	5.3	5.7	2.7	0.7
Never	1,983	15.2	9.9	6.8	3.6	2,642	6.8	7.1	5.2	1.0
Depressive symptoms (GDS score)										
None ( $\leq 5$ )	6,760	10.4	5.5	2.5	2.9	7,682	4.1	3.7	2.2	0.8
Mild-Moderate (6-10)	2,343	16.5	11.8	7.4	5.0	3,116	6.6	6.3	4.3	0.8
Severe (11+)	499	22.7	14.5	9.8	2.4	631	7.4	7.7	5.4	1.0

CVD, cardiovascular diseases, Tobacco cancer, tobacco-related cancers (cancers of lip, oral cavity, pharynx, trachea, tracheal branch, and lung).

**Supplementary table 2.** Hazard ratios (95% confidence intervals) for cardiovascular mortality among men: AGES cohort data 2003-2007.

	Univariate		Sociodemographics adjusted		Fully adjusted	
Relative deprivation defined by:						
(1)sex and municipality of residence*	1.23	(1.09-1.38)	1.54	(1.11-2.13)	1.45	(1.04-2.03)
(2)sex and age groups*	1.19	(1.06-1.34)	1.60	(1.03-2.48)	1.54	(0.98-2.42)
(3)sex, age group, and municipality of residence*	1.19	(1.06-1.34)	1.50	(1.09-2.08)	1.42	(1.02-1.98)
Household equivalized income*	0.82	(0.70-0.94)				
Age group (years)						
65-69	1	ref.	1	ref.	1	ref.
70-74	1.37	(0.94-1.99)	1.28	(0.88-1.87)	1.21	(0.83-1.77)
75-79	2.61	(1.82-3.73)	2.30	(1.60-3.30)	2.06	(1.43-2.97)
80+	5.24	(3.70-7.43)	4.24	(2.95-6.09)	3.78	(2.61-5.46)
Marital status						
Married	1	ref.	1	ref.	1	ref.
Widowed/separated	2.50	(1.86-3.36)	1.90	(1.39-2.58)	1.71	(1.25-2.33)
Never married	3.24	(1.24-8.49)	3.12	(1.18-8.23)	2.89	(1.10-7.57)
Educational attainment						
9 years or less	1	ref.	1	ref.	1	ref.
10+ years	0.69	(0.53-0.91)	0.87	(0.65-1.15)	0.88	(0.66-1.17)
Type of housing						
Own home	1	ref.	1	ref.	1	ref.
Rent housing	1.22	(0.58-2.55)	1.08	(0.49-2.36)	0.96	(0.44-2.08)
Public or company housing	1.68	(0.76-3.71)	1.61	(0.72-3.63)	1.50	(0.68-3.32)
Other housing	1.04	(0.33-3.24)	0.69	(0.22-2.18)	0.62	(0.20-1.96)
Medical care need						
No	1	ref.	1	ref.	1	ref.
Yes, but not utilized by personal choice	1.16	(0.64-2.11)	1.02	(0.56-1.85)	0.93	(0.51-1.70)
Yes, currently	1.97	(1.41-2.76)	1.72	(1.23-2.41)	1.55	(1.09-2.20)
Smoking						
Never	1	ref.			1	ref.
Ex	1.13	(0.81-1.57)			1.21	(0.86-1.68)
Current	1.44	(1.03-2.01)			1.73	(1.23-2.43)
Alcohol consumption						
None	1	ref.			1	ref.
Less than 270ml/day	0.52	(0.40-0.67)			0.64	(0.49-0.83)
270ml or more/day	0.35	(0.19-0.64)			0.45	(0.25-0.84)
Time of walking a day						
Less than 30 minutes	2.96	(1.70-5.17)			2.10	(1.19-3.69)
30-60 minutes	2.10	(1.20-3.67)			1.79	(1.01-3.16)
60-90 minutes	1.14	(0.56-2.31)			1.02	(0.50-2.09)
90 or more minutes	1	ref.			1	ref.
Health checkups						
Yes, in the last 2-3 years	1	ref.			1	ref.
Yes, 4 years ago or before	1.66	(1.24-2.24)			1.12	(0.83-1.53)
Never	1.74	(1.21-2.49)			1.33	(0.91-1.93)
Depressive symptoms (GDS score)						
None ( $\leq 5$ )	1	ref.			1	ref.

Mild-Moderate (6-10)	2.15 (1.62-2.84)	1.53 (1.13-2.05)
Severe (11+)	2.62 (1.59-4.31)	1.73 (1.01-2.97)

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\*per 1 standard deviation unit increase. Estimates for income were not obtained for multivariate models as those models are income-stratified proportional hazard regression. Three values of relative deprivation (1)-(3) were separately modeled with the same set of covariates. Only the hazard ratios of those covariates in the model for (1) were shown here. They were almost identical to the estimates for the covariates in other two models.

**Supplementary table 3** Hazard ratios (95% confidence intervals) for cause specific mortalities, using non-imputed data: AGES cohort data 2003-2007.

	Variables adjusted for:	Men		
		Cancer	CVD	All other
<b>MEN</b>				
Relative deprivation defined by:				
(1)sex and municipality of residence*	None	1.11 (1.01 to 1.22)	1.22 (1.08 to 1.39)	1.07 (0.90 to 1.27)
(2)sex and age groups*		1.09 (0.99 to 1.21)	1.20 (1.05 to 1.36)	1.10 (0.92 to 1.31)
(3)sex, age group, and municipality of residence*		1.09 (0.99 to 1.21)	1.20 (1.06 to 1.36)	1.04 (0.87 to 1.24)
(1)sex and municipality of residence*	Demographic + SES	1.14 (0.94 to 1.39)	1.36 (1.06 to 1.75)	1.06 (0.75 to 1.49)
(2)sex and age groups*		1.13 (0.90 to 1.41)	1.39 (1.04 to 1.84)	1.34 (0.92 to 1.95)
(3)sex, age group, and municipality of residence*		1.12 (0.92 to 1.37)	1.34 (1.04 to 1.72)	1.04 (0.73 to 1.47)
(1)sex and municipality of residence*	+ health behavior and depression	1.07 (0.86 to 1.33)	1.24 (0.94 to 1.62)	0.99 (0.67 to 1.45)
(2)sex and age groups*		1.05 (0.83 to 1.34)	1.25 (0.92 to 1.70)	1.32 (0.87 to 2.01)
(3)sex, age group, and municipality of residence*		1.05 (0.85 to 1.30)	1.21 (0.92 to 1.59)	0.96 (0.65 to 1.40)
<b>WOMEN</b>				
(1)sex and municipality of residence*	None	1.13 (0.96 to 1.32)	1.13 (0.94 to 1.35)	0.83 (0.62 to 1.12)
(2)sex and age groups*		1.13 (0.96 to 1.33)	1.14 (0.94 to 1.37)	0.84 (0.62 to 1.13)
(3)sex, age group, and municipality of residence*		1.13 (0.97 to 1.33)	1.15 (0.96 to 1.38)	0.88 (0.66 to 1.17)
(1)sex and municipality of residence*	Demographic + SES	1.25 (0.90 to 1.74)	1.18 (0.81 to 1.71)	0.96 (0.54 to 1.70)
(2)sex and age groups*		1.27 (0.86 to 1.88)	1.22 (0.79 to 1.90)	0.87 (0.44 to 1.70)
(3)sex, age group, and municipality of residence*		1.20 (0.86 to 1.65)	1.13 (0.79 to 1.63)	0.98 (0.56 to 1.70)
(1)sex and municipality of residence*	+ health behavior and depression	1.22 (0.86 to 1.74)	1.05 (0.71 to 1.57)	0.92 (0.49 to 1.73)
(2)sex and age groups*		1.21 (0.79 to 1.85)	1.10 (0.69 to 1.75)	0.76 (0.36 to 1.59)
(3)sex, age group, and municipality of residence*		1.14 (0.81 to 1.62)	1.02 (0.69 to 1.50)	0.93 (0.50 to 1.71)