

Multimedia Appendix 6. Hazard ratios for dementia risk factors in the Cox hazards regression model with repeated measurements (HR-R) from the development datasets from the National Health Insurance Service-Health Screening Cohort.

| Variable | All-cause dementia ^a | | | | | | Alzheimer's dementia ^a | | | | | | |
|---------------------------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|---------------------------------------|-------------------|--------|
| | 40–79 years of age | | 40–59 years of age | | 60–79 years of age | | 40–79 years of age | | 40–59 years of age | | 60–79 years of age | | |
| | HR ^b (95% CI) ^c | P | HR ^b (95% CI) ^c | P | HR ^b (95% CI) ^c | P | HR ^b (95% CI) ^c | P | HR ^b (95% CI) ^c | P | HR ^b (95% CI) ^c | P | |
| Age per 5 years | 1.39 (1.38, 1.40) | < .001 | 1.43 (1.39, 1.47) | < .001 | 1.33 (1.31, 1.35) | < .001 | 1.46 (1.44, 1.47) | < .001 | 1.54 (1.47, 1.62) | < .001 | 1.37 (1.34, 1.40) | < .001 | |
| Female | 1.01 (0.98, 1.04) | .663 | 1.04 (0.98, 1.12) | .202 | 1.02 (0.99, 1.06) | .213 | 1.06 (1.02, 1.12) | .009 | 1.16 (1.04, 1.29) | .009 | 1.07 (1.01, 1.13) | .013 | |
| Body mass index per kg/m ² | Mean | 1.06 (1.01, 1.11) | .030 | 1.04 (0.94, 1.15) | .469 | 1.12 (1.05, 1.19) | < .001 | 0.99 (0.92, 1.07) | .823 | 0.96 (0.83, 1.12) | .604 | 1.09 (1.00, 1.18) | .061 |
| | SD ^d | 1.35 (1.28, 1.43) | < .001 | 1.61 (1.41, 1.84) | < .001 | 1.36 (1.28, 1.45) | < .001 | 1.29 (1.19, 1.40) | < .001 | 1.66 (1.38, 2.00) | < .001 | 1.32 (1.20, 1.44) | < .001 |
| Systolic blood pressure per 10 mmHg | Mean | 1.00 (0.95, 1.05) | .997 | 1.01 (0.91, 1.13) | .804 | 1.01 (0.95, 1.08) | .661 | 1.02 (0.94, 1.10) | .678 | 1.05 (0.88, 1.25) | .582 | 1.00 (0.92, 1.09) | .954 |
| | SD ^d | 1.03 (1.03, 1.04) | < .001 | 1.03 (1.02, 1.05) | < .001 | 1.04 (1.03, 1.05) | < .001 | 1.03 (1.02, 1.04) | < .001 | 1.03 (1.01, 1.06) | .003 | 1.04 (1.03, 1.06) | < .001 |
| Diastolic blood pressure per 5 mmHg | Mean | 1.02 (0.99, 1.06) | .227 | 0.96 (0.89, 1.04) | .292 | 1.01 (0.97, 1.06) | .563 | 0.99 (0.94, 1.05) | .784 | 0.93 (0.82, 1.04) | .211 | 0.99 (0.93, 1.06) | .832 |
| | SD ^d | 1.05 (1.04, 1.06) | < .001 | 1.08 (1.05, 1.10) | < .001 | 1.06 (1.05, 1.07) | < .001 | 1.04 (1.02, 1.05) | < .001 | 1.07 (1.03, 1.10) | < .001 | 1.04 (1.02, 1.06) | < .001 |
| Fasting plasma glucose per 10 mg/dL | Mean | 0.95 (0.93, 0.98) | < .001 | 0.98 (0.93, 1.02) | .247 | 0.96 (0.93, 0.99) | .009 | 0.96 (0.92, 1.00) | .027 | 0.99 (0.91, 1.07) | .729 | 0.93 (0.89, 0.98) | .002 |
| | SD ^d | 1.00 (1.00, 1.01) | .060 | 1.00 (0.99, 1.00) | .166 | 1.01 (1.00, 1.01) | .004 | 1.00 (1.00, 1.01) | .446 | 1.00 (0.99, 1.01) | .474 | 1.00 (1.00, 1.01) | .200 |
| Total cholesterol per 10 mg/dL | Mean | 0.99 (0.96, 1.01) | .292 | 0.98 (0.94, 1.03) | .445 | 1.00 (0.97, 1.02) | .720 | 1.00 (0.96, 1.03) | .767 | 1.02 (0.94, 1.09) | .660 | 1.00 (0.97, 1.05) | .831 |
| | SD ^d | 1.03 (1.02, 1.03) | < .001 | 1.03 (1.02, 1.03) | < .001 | 1.03 (1.02, 1.03) | < .001 | 1.03 (1.03, 1.03) | < .001 | 1.02 (1.01, 1.03) | < .001 | 1.03 (1.02, 1.03) | < .001 |
| Smoking | Mean | 0.99 (0.95, 1.03) | .620 | 1.04 (0.96, 1.13) | .295 | 0.99 (0.94, 1.05) | .824 | 1.04 (0.97, 1.12) | .241 | 1.06 (0.93, 1.22) | .400 | 0.96 (0.88, 1.04) | .267 |
| | SD ^d | 1.03 (0.95, 1.11) | .513 | 0.94 (0.81, 1.09) | .443 | 1.12 (1.02, 1.22) | .022 | 0.87 (0.77, 0.98) | .020 | 0.97 (0.76, 1.26) | .844 | 1.06 (0.92, 1.27) | .405 |
| No exercise | Mean | 1.26 (1.22, 1.30) | < .001 | 1.24 (1.17, 1.31) | < .001 | 1.33 (1.29, 1.37) | < .001 | 1.22 (1.17, 1.27) | < .001 | 1.25 (1.14, 1.37) | < .001 | 1.26 (1.20, 1.32) | < .001 |
| | SD ^d | 0.96 (0.92, 1.02) | .163 | 0.94 (0.85, 1.05) | .273 | 0.90 (0.85, 0.96) | .001 | 0.96 (0.89, 1.04) | .286 | 0.89 (0.75, 1.06) | .176 | 0.93 (0.85, 1.02) | .112 |
| Cardiovascular disease | 1.28 (1.24, 1.32) | < .001 | 1.44 (1.35, 1.52) | < .001 | 1.18 (1.14, 1.22) | < .001 | 1.21 (1.16, 1.27) | < .001 | 1.28 (1.16, 1.40) | < .001 | 1.12 (1.07, 1.18) | < .001 | |
| Diabetes | 1.12 (1.07, 1.16) | < .001 | 1.01 (0.92, 1.10) | .918 | 1.10 (1.05, 1.15) | < .001 | 1.08 (1.01, 1.14) | .017 | 1.04 (0.89, 1.20) | .645 | 1.21 (1.13, 1.29) | < .001 | |
| Hypertension | 0.91 (0.88, 0.94) | < .001 | 0.87 (0.81, 0.93) | < .001 | 0.91 (0.88, 0.94) | < .001 | 0.86 (0.82, 0.90) | < .001 | 0.86 (0.77, 0.96) | .006 | 0.83 (0.79, 0.87) | < .001 | |
| Psychiatric disorder | 1.16 (1.13, 1.19) | < .001 | 1.30 (1.22, 1.38) | < .001 | 1.11 (1.07, 1.14) | < .001 | 1.21 (1.16, 1.26) | < .001 | 1.49 (1.36, 1.64) | < .001 | 1.18 (1.12, 1.23) | < .001 | |
| Neurological disorder | 1.20 (1.16, 1.24) | < .001 | 1.33 (1.25, 1.43) | < .001 | 1.09 (1.05, 1.13) | < .001 | 1.17 (1.12, 1.23) | < .001 | 1.21 (1.09, 1.34) | < .001 | 1.07 (1.02, 1.14) | .010 | |

^aVariables in the parenthesis indicate 95% confidence intervals.

^bHR: hazard ratio; ^cCI: confidence interval; ^dSD: standard deviation.