### SUPPLEMENTARY TABLES

**Supplementary Table 1. Framingham general cardiovascular risk score (FGCRS) calculating for women.**

| Points | Age (years) | HDL-C (mg/dl) | TC (mg/dl) | SBP not treated (mm Hg) | SBP treated (mm Hg) | Smoker | Diabetic |
|--------|-------------|----------------|------------|-------------------------|---------------------|--------|----------|
| -3     | 60+         |                |            | <120                    |                     |        |          |
| -2     | 50-59       | 45-49          | <160       | 120-129                 | <120                | No     | No       |
| -1     | 30-34       | 35-44          | 160-199    | 130-139                 |                     |        |          |
| 0      | 35-39       | <35            | 140-149    | 120-129                 |                     |        |          |
| 1      | 40-44       | 200-239        | 130-139    |                         |                     | Yes    |          |
| 2      | 45-49       | 240-279        | 150-159    | 140-149                 |                     |        | Yes      |
| 3      | 50-54       | 160+           |            |                         |                     |        |          |
| 4      | 55-59       | 280+           | 160+       |                         |                     |        |          |
| 5      | 60-64       | 160+           |            |                         |                     |        |          |
| 6      | 65-69       | 150-159        |            |                         |                     |        |          |
| 7      | 70-74       | 150-159        |            |                         |                     |        |          |
| 8      | 75+         | 140-159        |            |                         |                     |        |          |

Points allotted: Total

Abbreviations: HDL-C, High-density lipoprotein cholesterol, SBP, Systolic blood pressure, TC, Total cholesterol.

**Supplementary Table 2. Framingham general cardiovascular risk score (FGCRS) calculating for men.**

| Points | Age (years) | HDL-C (mg/dl) | TC (mg/dl) | SBP not treated (mm Hg) | SBP treated (mm Hg) | Smoker | Diabetic |
|--------|-------------|----------------|------------|-------------------------|---------------------|--------|----------|
| -2     | 60+         |                |            | <120                    |                     |        |          |
| -1     | 50-59       | 45-49          | <160       | 120-129                 | <120                | No     | No       |
| 0      | 30-34       | 35-44          | 160-199    | 130-139                 |                     |        |          |
| 1      | 35-39       | <35            | 200-239    | 140-159                 |                     |        |          |
| 2      | 40-44       | 240-279        | 130-139    |                         |                     | Yes    |          |
| 3      | 45-49       | 280+           | 140-159    |                         |                     |        | Yes      |
| 4      | 50-54       | 280+           |            | 160+                    |                     |        |          |
| 5      | 55-59       |                |            |                         |                     |        |          |
| 6      | 60-64       | 160+           |            |                         |                     |        |          |
| 7      | 65-69       | 150-159        |            |                         |                     |        |          |
| 8      | 70-74       | 150-159        |            |                         |                     |        |          |
| 9      | 75+         |                |            |                         |                     |        |          |

Points allotted: Total

Abbreviations: HDL-C, High-density lipoprotein cholesterol, SBP, Systolic blood pressure, TC, Total cholesterol.
### Supplementary Table 3. Association of the covariates with the changes of pulmonary function.

| Variables            | Pulmonary function |   |   |   |
|----------------------|--------------------|---|---|---|
|                      | β (95% CI)*        | β (95% CI)* | β (95% CI)* | β (95% CI)* |
| Age                  | 0.49 (-0.57, -0.42) | -0.54 (-0.63, -0.46) | -0.52 (-0.60, -0.44) | -0.50 (-0.56, -0.40) |
| Sex                  | 1.15 (1.07, 1.24)  | 1.20 (1.10, 1.30)  | 1.22 (1.12, 1.31)  | 1.15 (1.05, 1.24)  |
| Education            | 0.02 (0.01, 0.03)  | 0.02 (0.00, 0.03)  | 0.02 (0.01, 0.03)  | 0.03 (0.02, 0.04)  |
| Body mass index      | -0.01 (-0.01, 0.00) | -0.01 (-0.02, 0.00) | -0.01 (-0.02, 0.00) | 0.00 (-0.01, 0.01) |
| Alcohol consumption  | 0.00 (-0.01, 0.01) | 0.00 (-0.01, 0.01) | 0.00 (-0.01, 0.01) | 0.00 (-0.01, 0.01) |
| Physical activity    | 0.17 (0.10, 0.24)  | 0.19 (0.11, 0.27)  | 0.19 (0.11, 0.27)  | 0.15 (0.07, 0.23)  |
| Social activity      | 0.10 (0.03, 0.17)  | 0.10 (0.02, 0.19)  | 0.07 (-0.01, 0.15) | 0.14 (0.06, 0.22)  |
| Depression           | -0.06 (-0.15, 0.03) | -0.06 (-0.16, 0.05) | -0.02 (-0.13, 0.08) | -0.11 (-0.21, -0.01) |
| Stroke               | -0.10 (-0.23, 0.03) | -0.09 (-0.23, 0.06) | -0.10 (-0.24, 0.04) | -0.13 (-0.27, 0.01) |
| Congestive heart failure | -0.33 (-0.50, -0.15) | -0.40 (-0.59, -0.20) | -0.38 (-0.58, -0.19) | -0.22 (-0.42, -0.03) |
| Heart diseases       | -0.08 (-0.20, 0.04) | -0.10 (-0.24, 0.04) | -0.04 (-0.18, 0.10) | -0.11 (-0.25, 0.03) |

*Model adjusted for sex, age, education, body mass index, alcohol consumption, physical activity, social activity, depression, stroke, congestive heart failure, and heart diseases.

**P < 0.05.**

Abbreviations: FVC, Forced vital capacity; FEV1, Forced expiratory volume in one second; PEF, Peak expiratory flow.

### Supplementary Table 4. Joint effect of high Framingham general cardiovascular risk score (FGCRS) and smoking status in relation to the decline on pulmonary function.

| FGCRS | Smoking status | No. of subjects | Pulmonary function* |
|-------|----------------|----------------|---------------------|
| Low   | Non-smokers    | 308            | Reference           |
| Low   | Smokersb       | 227            | -0.009 (-0.022 to 0.004) |
| High  | Non-smokers    | 550            | -0.016c (-0.027 to -0.006) |
| High  | Smokersb       | 357            | -0.015c (-0.026 to -0.004) |

*Model adjusted for sex, age, education, body mass index, alcohol consumption, depression, physical activity, social activity, and CVD.

**P-interaction > 0.05.**

bSmokers including former and current smokers.

Abbreviation: CI, confidence interval.

c**P < 0.05.**
Supplementary Table 5. Association of the Framingham general cardiovascular risk score (FGCRS) with the changes of pulmonary function after excluding pulmonary function at baseline and within first 2 year during the follow-up (N=1,007).

| FGCRS                        | Pulmonary function | FEV1            | FVC              | PEF              |
|------------------------------|--------------------|-----------------|------------------|------------------|
|                              | β (95% CI)^a       | β (95% CI)^a    | β (95% CI)^a     | β (95% CI)^a     |
| Baseline                     |                    |                 |                  |                  |
| Continuous FGCRS             | -0.018^b           | -0.019^b        | -0.018^b         | -0.022^b         |
|                              | (-0.030 to -0.006) | (-0.035 to -0.003) | (-0.017 to -0.002) | (-0.039 to -0.005) |
| Categories FGCRS             |                    |                 |                  |                  |
| Lowest                       | Reference          | Reference       | Reference        | Reference        |
| Middle                       | -0.014             | -0.003          | -0.007           | -0.014           |
|                              | (-0.131 to 0.102)  | (-0.137 to 0.132) | (-0.143 to 0.130) | (-0.159 to 0.131) |
| Highest                      | -0.081             | -0.072          | -0.070           | -0.132           |
|                              | (-0.204 to 0.041)  | (-0.213 to 0.068) | (-0.212 to 0.073) | (-0.282 to 0.018) |
| Longitudinal                 |                    |                 |                  |                  |
| Continuous FGCRS × time      | -0.001^b           | -0.001^b        | -0.001^b         | -0.001           |
|                              | (-0.002 to -0.000) | (-0.003 to -0.000) | (-0.003 to -0.000) | (-0.003 to 0.000) |
| Categories FGCRS × time      |                    |                 |                  |                  |
| Lowest                       | Reference          | Reference       | Reference        | Reference        |
| Middle                       | -0.011^b           | -0.010          | -0.011           | -0.014           |
|                              | (-0.020 to -0.002) | (-0.021 to 0.000) | (-0.023 to 0.001) | (-0.031 to 0.004) |
| Highest                      | -0.013^b           | -0.015^b        | -0.013^b         | -0.010           |
|                              | (-0.023 to -0.004) | (-0.025 to -0.004) | (-0.025 to -0.001) | (-0.028 to 0.007) |

^a Model adjusted for sex, age, education, body mass index, alcohol consumption, physical activity, social activity, depression, stroke, congestive heart failure, and heart diseases.

^b P < 0.05.