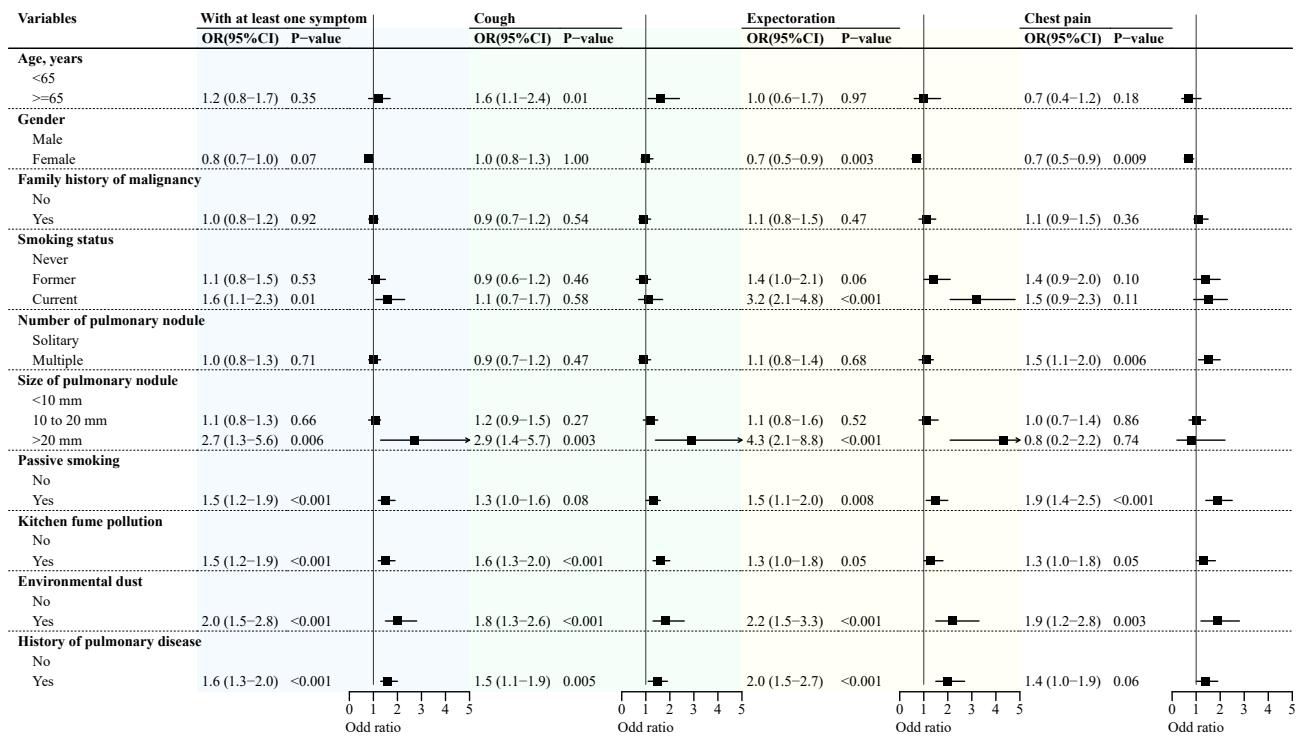
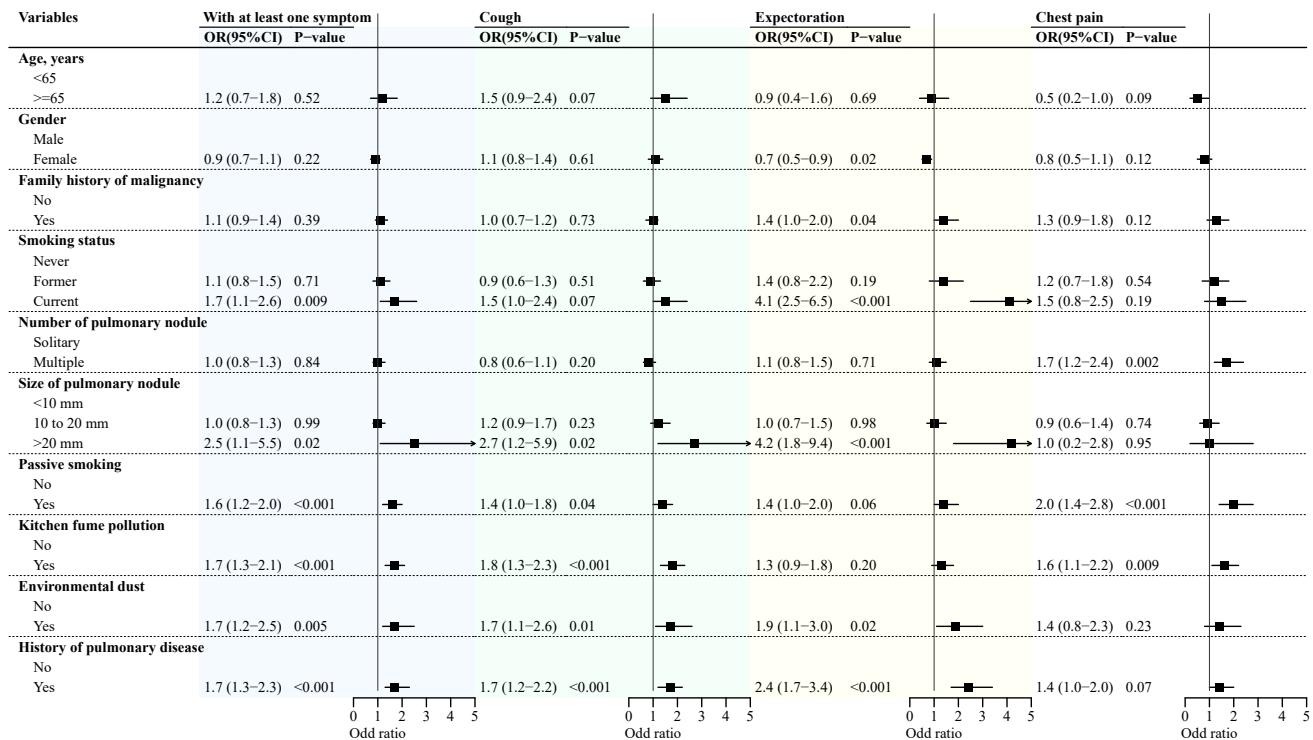


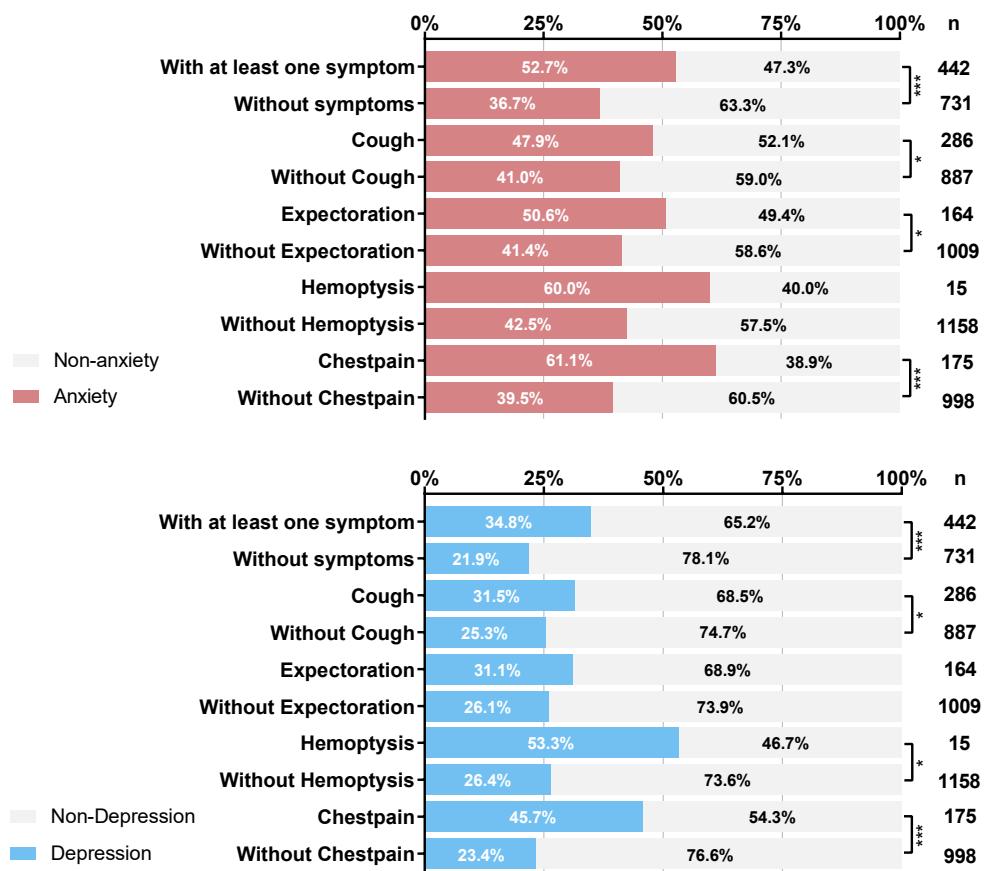
## Supplementary



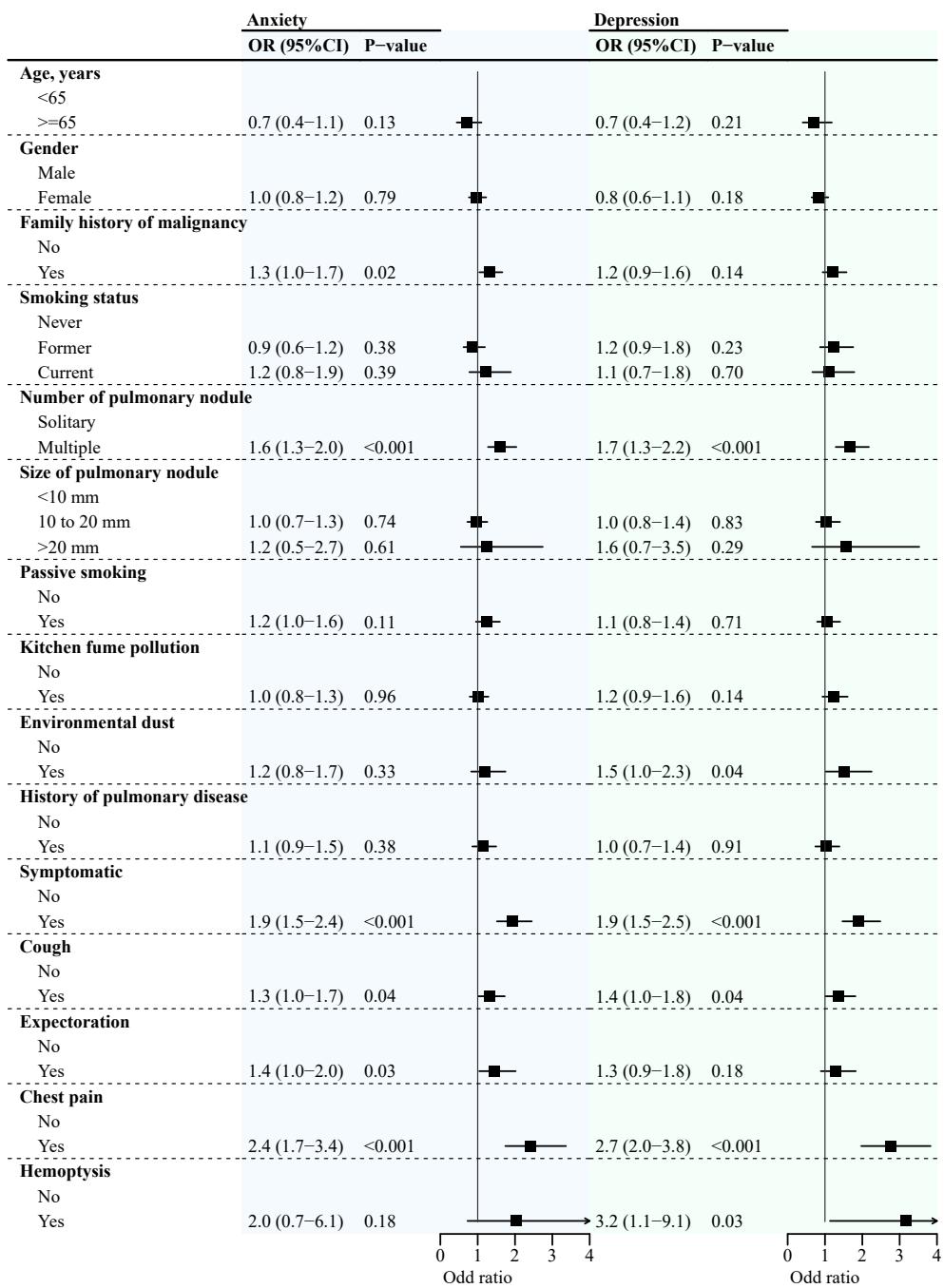
**Figure S1** Univariate logistic regression analysis for respiratory symptoms in the entire cohort. OR, odds ratio; CI, confidence interval.



**Figure S2** Univariate logistic regression analysis for respiratory symptoms in the health check-up cohort. OR, odds ratio; CI, confidence interval.



**Figure S3** Associations between the respiratory symptoms and the scores of HADS scale. \*, P<0.05; \*\*\*, P<0.001. HADS, Hospital Anxiety and Depression Scale.



**Figure S4** Univariate logistic regression analysis of risk factors for anxiety and depression. OR, odds ratio; CI, confidence interval.

**Table S1** Evaluation metrics for the multivariate logistics regression model

| Model                     | Max cook's distance | Max VIF | H-L test |         | LR test  |         |
|---------------------------|---------------------|---------|----------|---------|----------|---------|
|                           |                     |         | $\chi^2$ | P value | $\chi^2$ | P value |
| Entire cohort             |                     |         |          |         |          |         |
| With at least one symptom | 0.010               | 1.111   | 2.91     | 0.893   | 64.06    | <0.001  |
| Cough                     | 0.008               | 1.051   | 7.10     | 0.312   | 43.42    | <0.001  |
| Expectoration             | 0.010               | 1.801   | 14.72    | 0.065   | 73.99    | <0.001  |
| Chest pain                | 0.031               | 1.195   | 15.16    | 0.056   | 41.41    | <0.001  |
| Anxiety                   | 0.023               | 1.165   | 7.40     | 0.494   | 49.69    | <0.001  |
| Depression                | 0.024               | 1.187   | 10.41    | 0.108   | 54.58    | <0.001  |
| Health check-up cohort    |                     |         |          |         |          |         |
| With at least one symptom | 0.010               | 1.109   | 5.13     | 0.644   | 57.32    | <0.001  |
| Cough                     | 0.012               | 1.024   | 1.03     | 0.984   | 41.69    | <0.001  |
| Expectoration             | 0.016               | 1.740   | 4.74     | 0.784   | 65.14    | <0.001  |
| Chest pain                | 0.049               | 1.018   | 8.07     | 0.326   | 30.47    | <0.001  |

VIF, variance inflation factor; H-L, Hosmer-Lemeshow; LR, likelihood ratio.

**Table S2** Demographic and clinical characteristics of participants in the health check-up cohort (n=1,354)

| Variables                            | Values       |
|--------------------------------------|--------------|
| Age (years), n (%)                   |              |
| <35                                  | 192 (14.2)   |
| 35–65                                | 1,066 (78.7) |
| ≥65                                  | 96 (7.1)     |
| Gender, n (%)                        |              |
| Male                                 | 508 (37.5)   |
| Female                               | 846 (62.5)   |
| Family history of malignancy, n (%)  |              |
| Yes                                  | 742 (54.8)   |
| No                                   | 612 (45.2)   |
| Smoking status, n (%)                |              |
| Current                              | 102 (7.5)    |
| Former                               | 187 (13.8)   |
| Never                                | 1,065 (78.7) |
| Size of pulmonary nodule (mm), n (%) |              |
| <10                                  | 1,044 (77.1) |
| 10 to 20                             | 284 (21.0)   |
| >20                                  | 26 (1.9)     |
| Number of pulmonary nodules, n (%)   |              |
| Solitary                             | 687 (50.7)   |
| Multiple                             | 667 (49.3)   |
| Risk factor, n (%)                   |              |
| Passive smoking                      |              |
| Yes                                  | 344 (25.4)   |
| No                                   | 1,010 (74.6) |
| Kitchen fume pollution               |              |
| Yes                                  | 428 (31.6)   |
| No                                   | 926 (68.4)   |
| Environmental dust                   |              |
| Yes                                  | 118 (8.7)    |
| No                                   | 1,236 (91.3) |
| History of pulmonary disease, n (%)  |              |
| Yes                                  | 290 (21.4)   |
| No                                   | 1,064 (78.6) |