|  | Training cohort | | | Validation cohort | | |
| --- | --- | --- | --- | --- | --- | --- |
| Characteristic | survival, N = 1,5851 | death, N = 5521 | p-value2 | survival, N = 2,3441 | death, N = 7591 | p-value2 |
| time | 528 (228, 984) | 267 (116, 492) | <0.001 | 677 (305, 1,160) | 299 (151, 542) | <0.001 |
| gender |  |  | <0.001 |  |  | <0.001 |
| Female | 918 (58%) | 185 (34%) |  | 1,244 (53%) | 172 (23%) |  |
| Male | 667 (42%) | 367 (66%) |  | 1,100 (47%) | 587 (77%) |  |
| Age |  |  | <0.001 |  |  | <0.001 |
| (18,44] | 90 (5.7%) | 9 (1.6%) |  | 154 (6.6%) | 17 (2.2%) |  |
| (44,59] | 546 (34%) | 143 (26%) |  | 794 (34%) | 174 (23%) |  |
| (59,74] | 850 (54%) | 330 (60%) |  | 1,258 (54%) | 453 (60%) |  |
| (74,92] | 99 (6.2%) | 70 (13%) |  | 138 (5.9%) | 115 (15%) |  |
| Smoking |  |  | <0.001 |  |  | <0.001 |
| Never | 1,190 (75%) | 272 (49%) |  | 1,548 (69%) | 298 (43%) |  |
| Current | 202 (13%) | 174 (32%) |  | 298 (13%) | 252 (37%) |  |
| Former | 193 (12%) | 106 (19%) |  | 391 (17%) | 136 (20%) |  |
| Unknown |  |  |  | 107 | 73 |  |
| drinking |  |  | <0.001 |  |  | <0.001 |
| Never | 1,266 (80%) | 343 (62%) |  | 1,594 (79%) | 332 (62%) |  |
| Drinking | 319 (20%) | 209 (38%) |  | 423 (21%) | 206 (38%) |  |
| Unknown |  |  |  | 327 | 221 |  |
| Family history of lung cancer | 175 (11%) | 45 (8.2%) | 0.054 | 258 (11%) | 52 (7.2%) | <0.001 |
| Unknown |  |  |  | 97 | 35 |  |
| NSCLC |  |  | <0.001 |  |  | <0.001 |
| No | 92 (5.8%) | 110 (20%) |  | 88 (3.8%) | 128 (19%) |  |
| Yes | 1,493 (94%) | 442 (80%) |  | 2,221 (96%) | 553 (81%) |  |
| Unknown |  |  |  | 35 | 78 |  |
| Radiotherapy | 267 (17%) | 188 (34%) | <0.001 | 305 (13%) | 236 (31%) | <0.001 |
| CHEMO | 472 (30%) | 285 (52%) | <0.001 | 591 (25%) | 341 (45%) | <0.001 |
| Unknown |  |  |  | 6 | 5 |  |
| Targeted therapy | 291 (18%) | 227 (41%) | <0.001 | 298 (13%) | 252 (33%) | <0.001 |
| Unknown |  |  |  | 6 | 5 |  |
| COPD | 348 (22%) | 236 (43%) | <0.001 | 556 (24%) | 279 (37%) | <0.001 |
| pneumonia | 363 (23%) | 288 (52%) | <0.001 | 433 (18%) | 315 (42%) | <0.001 |
| Pleural effusion | 189 (12%) | 197 (36%) | <0.001 | 186 (7.9%) | 208 (27%) | <0.001 |
| hypertension | 500 (32%) | 177 (32%) | 0.8 | 714 (30%) | 196 (26%) | 0.015 |
| STAGE |  |  | <0.001 |  |  | <0.001 |
| I | 929 (59%) | 14 (2.5%) |  | 1,512 (68%) | 40 (6.1%) |  |
| II | 99 (6.2%) | 13 (2.4%) |  | 146 (6.6%) | 34 (5.2%) |  |
| III | 228 (14%) | 123 (22%) |  | 277 (12%) | 154 (23%) |  |
| IV | 329 (21%) | 402 (73%) |  | 288 (13%) | 428 (65%) |  |
| Unknown |  |  |  | 121 | 103 |  |
| URI | 106 (6.7%) | 30 (5.4%) | 0.3 | 125 (5.3%) | 37 (4.9%) | 0.6 |
| Lung abscess | 9 (0.6%) | 11 (2.0%) | 0.003 | 14 (0.6%) | 10 (1.3%) | 0.049 |
| Pulmonary embolism | 10 (0.6%) | 22 (4.0%) | <0.001 | 12 (0.5%) | 20 (2.6%) | <0.001 |
| Pulmonary heart disease | 22 (1.4%) | 35 (6.3%) | <0.001 | 21 (0.9%) | 35 (4.6%) | <0.001 |
| ILD | 34 (2.1%) | 36 (6.5%) | <0.001 | 47 (2.0%) | 43 (5.7%) | <0.001 |
| Respiratory failure | 19 (1.2%) | 46 (8.3%) | <0.001 | 10 (0.4%) | 37 (4.9%) | <0.001 |
| pneumothorax | 26 (1.6%) | 13 (2.4%) | 0.3 | 47 (2.0%) | 20 (2.6%) | 0.3 |
| Red blood cell |  |  | <0.001 |  |  | <0.001 |
| 0 | 535 (34%) | 147 (27%) |  | 844 (37%) | 190 (28%) |  |
| 1 | 570 (36%) | 170 (31%) |  | 748 (33%) | 180 (27%) |  |
| 2 | 480 (30%) | 235 (43%) |  | 671 (30%) | 304 (45%) |  |
| Unknown |  |  |  | 81 | 85 |  |
| Monocyte |  |  | 0.4 |  |  | 0.011 |
| 0 | 562 (35%) | 202 (37%) |  | 696 (31%) | 232 (34%) |  |
| 1 | 540 (34%) | 198 (36%) |  | 740 (33%) | 238 (35%) |  |
| 2 | 483 (30%) | 152 (28%) |  | 827 (37%) | 204 (30%) |  |
| Unknown |  |  |  | 81 | 85 |  |
| Eosinophil |  |  | <0.001 |  |  | <0.001 |
| 0 | 513 (32%) | 86 (16%) |  | 607 (33%) | 137 (22%) |  |
| 1 | 614 (39%) | 187 (34%) |  | 620 (34%) | 200 (32%) |  |
| 2 | 458 (29%) | 279 (51%) |  | 610 (33%) | 291 (46%) |  |
| Unknown |  |  |  | 507 | 131 |  |
| Fibrinogen |  |  | <0.001 |  |  | <0.001 |
| 0 | 692 (44%) | 83 (15%) |  | 156 (36%) | 50 (14%) |  |
| 1 | 575 (36%) | 155 (28%) |  | 151 (35%) | 108 (31%) |  |
| 2 | 318 (20%) | 314 (57%) |  | 130 (30%) | 194 (55%) |  |
| Unknown |  |  |  | 1,907 | 407 |  |
| Direct bilirubin |  |  | <0.001 |  |  | <0.001 |
| 0 | 549 (35%) | 272 (49%) |  | 607 (28%) | 281 (44%) |  |
| 1 | 554 (35%) | 169 (31%) |  | 749 (34%) | 201 (32%) |  |
| 2 | 482 (30%) | 111 (20%) |  | 851 (39%) | 150 (24%) |  |
| Unknown |  |  |  | 137 | 127 |  |
| 1Median (IQR); n (%) | | | | | | |
| 2Wilcoxon rank sum test; Pearson's Chi-squared test | | | | | | |