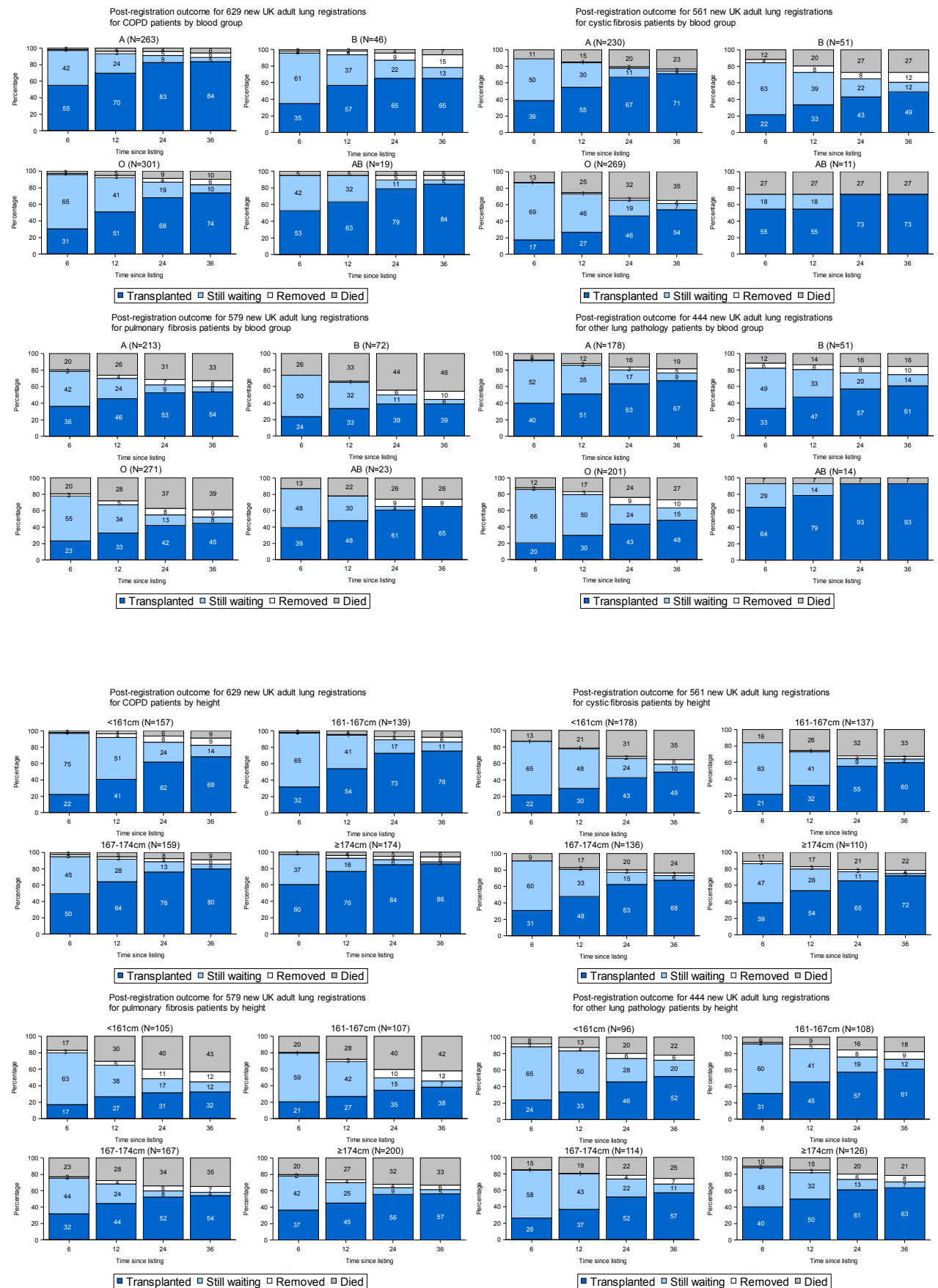


Supplement 1. Candidate factors considered in the time to transplant and time to death on the list models

| Factor  | % complete (n=2,213) | Categorisation and % observed data in each category or median (IQR) and mean (SD) for continuous factors |                            |
|---|----------------------|--|----------------------------|
| Blood group                                     | 100%                 | A (40%) B (9.9%) AB (3%) O (47.1%)   |                            |
| Age at registration (years)                     | 100%                 | 51 (36, 58)  | 46.4 (13.8)                |
| Ethnic group                                    | 99.8%                | White (96%)  | Non-white (4%)             |
| BMI   | 100%                 | 23 (20, 26.9)  | 23.5 (4.1)                 |
| Height at registration (cm)                     | 100%                 | 167 (161, 174)   | 167.5 (9.3)                |
| Weight at registration (cm)                     | 100%                 | 65 (54.2, 77)  | 66.4 (14.9)                |
| Previous thoracotomy                            | 99.9%                | Yes (8.2%)   | No (91.8%)                 |
| In hospital at registration                     | 99.9%                | Yes (3.8%)   | No (96.2%)                 |
| Sex   | 100%                 | Male (52.9%)   | Female (47.1%)             |
| Disease group                                   | 100%                 | CF (25.4%)<br>Other (20.1%)  | COPD (28.4%)<br>PF (26.2%) |
| Hypertension                                    | 99.7%                | Yes (8.4%)   | No (91.6%)                 |
| Vascular disease                                | 99.7%                | Yes (0.7%)   | No (99.3%)                 |
| Cerebrovascular disease                         | 99.7%                | Yes (0.4%)   | No (99.6%)                 |
| Diabetes  | 99.7%                | Yes (17.3%)  | No (82.7%)                 |
| Daily dose of prednisolone at registration (mg) | 97.6%                | Not given (57.2%)  | ≥15 (13.4%)<br><15 (29.4%) |
| Smoker  | 99.6%                | Yes (1.9%)   | No (98.1%)                 |
| Bilirubin at registration (µmol/l)              | 96.8%                | 9 (6, 13)  | 10.4 (6.9)                 |
| Creatinine at registration (µmol/l)             | 99.6%                | 70 (59, 84)  | 72 (19.6)                  |
| NYHA Class at registration                      | 99.1%                | I (1.1%)<br>III (82.1%)  | II (6.5%)<br>IV (10.3%)    |
| PAP mean at registration (mmHg)                 | 35.7%                | 26 (21, 33)  | 28.6 (11.4)                |
| Ejection fraction at registration (%)           | 39.8%                | 60 (55, 65)  | 60.8 (9.1)                 |
| FEV1 at registration (litres)                   | 97.5%                | 0.8 (0.6, 1.4)   | 1.1 (0.7)                  |
| FVC at registration (litres)                    | 97.5%                | 1.9 (1.4, 2.5)   | 2.0 (0.8)                  |
| If in hospital, ventilated at registration      | 97.6%                | Yes (1.2%)   | No (98.8%)                 |
| If in hospital, ECMO at registration            | 97.6%                | Yes (3.7%)   | No (96.3%)                 |

IQR: interquartile range, SD: standard deviation, BMI: body mass index, NYHA: New York Heart Association, PAP: pulmonary artery pressure, FEV1: forced expiratory volume in one second, FVC: forced vital capacity, ECMO: extracorporeal membrane oxygenation.

## Supplement 2. Post-registration outcomes according to blood group or height and lung disease group



Supplement 3a. Time to transplant model results

|   | <b>Factor</b>                   | <b>p-value</b> | <b>Hazard ratio (95%)</b> |
|---|---------------------------------|----------------|---------------------------|
| A | Sex                             | 0.02           |                           |
|   | Male                            |                | 1.22 (1.04, 1.42)         |
|   | Female                          |                | 1                         |
| B | Previous Thoracotomy            | <0.001         |                           |
|   | No                              |                | 1.65 (1.31, 2.07)         |
|   | Yes                             |                | 1                         |
| C | Blood Group                     | <0.001         |                           |
|   | A                               |                | 0.90 (0.73, 1.11)         |
|   | B                               |                | 1                         |
|   | AB                              |                | 2.02 (1.43, 2.85)         |
|   | O                               |                | 1.03 (1.02, 1.04)         |
| D | NYHA Class                      | 0.05           |                           |
|   | I                               |                | 1.27 (0.69, 2.32)         |
|   | II                              |                | 1.57 (1.16, 2.13)         |
|   | III                             |                | 1.24 (0.98, 1.56)         |
|   | IV                              |                | 1                         |
| E | Height at registration (linear) | <0.001         | 1.03 (1.02, 1.04)         |
| F | Primary disease group           | 0.02           | Incorporated through G    |
| G | Primary disease group*Centre    | <0.001         | See figure 7              |

Supplement 3b. Time to death on the list model results

|   | <b>Factor</b>                                      | <b>p-value</b> | <b>Hazard ratio (95%)</b> |
|---|--|----------------|---------------------------|
| A | Sex  | <0.001         |                           |
|   | Male   |                | 1.92 (1.55 – 2.39)        |
|   | Female   |                | 1                         |
| B | Disease group                                      | <0.001         |                           |
|   | CF   |                | 3.30 (2.11 – 5.16)        |
|   | COPD   |                | 1                         |
|   | Other  |                | 2.16 (1.50 – 3.09)        |
|   | PF   |                | 4.14 (2.91 – 5.90)        |
| C | Daily dose of prednisolone at registration         | <0.001         |                           |
|   | 0  |                | 0.57 (0.43 – 0.74)        |
|   | 1-14   |                | 0.78 (0.60 – 1.00)        |
|   | ≥15  |                | 1                         |
| D | In hospital at time of registration                | <0.001         |                           |
|   | Yes  |                | 1                         |
|   | No   |                | 0.39 (0.27 – 0.57)        |
| E | NYHA Class   | 0.001          |                           |
|   | I  |                | 0.66 (0.28 – 1.55)        |
|   | II   |                | 0.51 (0.30 – 0.86)        |
|   | III  |                | 0.48 (0.33 – 0.68)        |
|   | IV   |                | 1                         |
| F | Ethnic group                                       | 0.01           |                           |
|   | White  |                | 1.68 (1.08 – 2.61)        |
|   | Non- white   |                | 1                         |
| G | Body mass index (linear)                           | <0.001         | 0.95 (0.93 – 0.98)        |
| H | Forced vital capacity at registration (non-linear) | <0.001         |                           |
| I | Age at registration (non-linear)                   | 0.002          |                           |