**Table 1:** Overview of the stepwise model development process; models were developed separately by cause of admission.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Cause** | **Model** | **Model for zero-counts** | **Model for positive counts** | **AIC** | **dAIC** | **DF** |
| Stroke | 1 | After + Sex + Age + (1|ID) | Temporal Distance \* After + Sex + Age + (1|ID) | 1,014,319 | 753 | 17 |
| Stroke | 2 | After + Sex + Age + (1|ID) | Temporal Distance \* After + Sex \* After + Age + (1|ID) | 1,013,961 | 395 | 18 |
| Stroke | 3 | After + Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex + Age + (1|ID) | 1,013,925 | 359 | 19 |
| Stroke | 4 | After + Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex \* After + Age + (1|ID) | 1,013,566 | 0 | 20 |
| Stroke | 5 | After \* Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex \* After + Age + (1|ID) | 1,013,567 | 1 | 21 |
| MI | 1 | After + Sex + Age + (1|ID) | Temporal Distance \* After + Sex + Age + (1|ID) | 719,204 | 468 | 17 |
| MI | 2 | After + Sex + Age + (1|ID) | Temporal Distance \* After + Sex \* After + Age + (1|ID) | 718,932 | 195 | 18 |
| MI | 3 | After + Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex + Age + (1|ID) | 719,012 | 275 | 19 |
| MI | 4 | After + Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex \* After + Age + (1|ID) | 718,739 | 2 | 20 |
| MI | 5 | After \* Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex \* After + Age + (1|ID) | 718,737 | 0 | 21 |
| COPD | 1 | After + Sex + Age + (1|ID) | Temporal Distance \* After + Sex + Age + (1|ID) | 447,466 | 176 | 17 |
| COPD | 2 | After + Sex + Age + (1|ID) | Temporal Distance \* After + Sex \* After + Age + (1|ID) | 447,368 | 79 | 18 |
| COPD | 3 | After + Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex + Age + (1|ID) | 447,399 | 110 | 19 |
| COPD | 4 | After + Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex \* After + Age + (1|ID) | 447,302 | 12 | 20 |
| COPD | 5 | After \* Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex \* After + Age + (1|ID) | 447,289 | 0 | 21 |
| GIC | 1 | After + Sex + Age + (1|ID) | Temporal Distance \* After + Sex + Age + (1|ID) | 513,393 | 274 | 17 |
| GIC | 2 | After + Sex + Age + (1|ID) | Temporal Distance \* After + Sex \* After + Age + (1|ID) | 513,289 | 169 | 18 |
| GIC | 3 | After + Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex + Age + (1|ID) | 513,228 | 109 | 19 |
| GIC | 4 | After + Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex \* After + Age + (1|ID) | 513,123 | 3 | 20 |
| GIC | 5 | After \* Sex + Age + (1|ID) | lin.spline(Temporal Distance) \* After + Sex \* After + Age + (1|ID) | 513,119 | 0 | 21 |

*Note: (1|D) stands for individual random effect*