Supporting Information

Supplementary methods and results
This appendix was part of the submitted manuscript and has been peer reviewed. It is posted as supplied by the authors.

Appendix to: Reilly JR, Myles PS, Wong D, et al. Hospital costs and factors associated with days alive and at home after surgery (DAH30). Med J Aust 2022; doi: 10.5694/mja2.51658.
1. American Society of Anesthesiology (ASA) physical status classification
(https://www.asahq.org/standards-and-guidelines/asa-physical-status-classification-system)

ASA physical status is a validated classification system in almost universal clinical use that is used by anaesthetists to assess a patient prior to surgery. ASA physical status is correlated with surgical and anaesthesia risk, with higher categories associated with poorer outcomes. The system is summarised in the table below. The ASA classification system:

1 = A normal healthy patient
2 = A patient with mild systemic disease
3 = A patient with severe systemic disease that limits activity
4 = A patient with severe systemic disease that is a constant threat to life
5 = A moribund patient not expected to survive more than 24 hours without surgical intervention
6 = Brain dead patient whose organs are being removed for donation

2. MBS codes for the five surgical procedures of interest

| Procedure                              | MBS codes                      |
|----------------------------------------|--------------------------------|
| Total knee joint replacement           | 49517, 49581, 49521, 49524, 49534 |
| Total hip joint replacement            | 49315, 49318, 49321             |
| Hemicolecotomy                         | 32000, 32003, 32006             |
| Transurethral resection of the prostate| 37203, 37224                    |
| Common femoral endarterectomy          | 33515, 33518, 33521, 33539, 33542, 34103 |
3. Calculation of days alive and at home during 30 days after surgery (DAH\textsubscript{30})

DAH\textsubscript{30} was calculated using mortality and hospitalisation data from the date of the index surgery (= Day 0). The algorithm used to derive DAH\textsubscript{30}:

1. Identify index admission date ([\text{CimAdmitDt}]\text{)} and discharge date ([\text{CimDischrgDt}]\text{)}
2. Calculate length of stay of index admission ([\text{LOS1} = \text{CimDischrgDt} - \text{CimAdmitDt}]\text{)}
3. If [\text{LOS} \geq 30] then [DAH\textsubscript{30} = 0]
4. If died during index admission ([\text{SepMode} = 8]) then [DAH\textsubscript{30} = 0]
5. Calculate date of 30 days post-index admission ([\text{admit30} = \text{CimAdmitDt} + 30])
6. If any further admissions between [\text{CimDischrgDt}] and [\text{admit30}] then calculate additional number of inpatient days ([\text{LOS2, ..., LOSn}]\text{)}
7. If required hospital in the Home days ([\text{OutDays}]\text{)} then [DAH\textsubscript{30} = 30 + \text{OutDays} - (\text{LOS1} + ... + \text{LOSn}) , \text{DAH} \geq 0]
8. Otherwise, [DAH\textsubscript{30} = 30 \times (\text{LOS1} + ... + \text{LOSn}) , \text{DAH} \geq 0]
4. Charlson Comorbidity Index A score (CCI-A)

Each observation included 50 variables containing International Classification of Diseases, 10th edition, Australian Modification (ICD-10-AM) codes. These contain data on comorbid medical conditions that the patient either had prior to their admission or were diagnosed during the admission. Each consists of a five-character alphanumeric code associated with a specified condition. These codes were used to calculate the Charlson Comorbidity Index (CCI) A-score for each patient. The CCI is a validated score of selected comorbid conditions, used for predicting 10-year survival. It consists of two parts: A is a summary score of the selected conditions, while B is a score based on age. For the purposes of our investigation, only part A was used, as age was included in our analysis as a covariate.

Scores associated with the conditions that constitute the Charlson Comorbidity Index A-Score:

| Condition                              | Score |
|----------------------------------------|-------|
| Prior myocardial infarction            | 1     |
| Congestive heart failure               | 1     |
| Peripheral vascular disease            | 1     |
| Cerebrovascular disease                | 1     |
| Dementia                               | 1     |
| Chronic pulmonary disease              | 1     |
| Rheumatologic disease                  | 1     |
| Peptic ulcer disease                   | 1     |
| Mild liver disease                     | 1     |
| Diabetes                               | 1     |
| Hemiplegia                             | 2     |
| Moderate-to-severe renal disease       | 2     |
| Diabetes with chronic complications    | 2     |
| Cancer without metastases              | 2     |
| Leukaemia                              | 2     |
| Lymphoma                               | 2     |
| Moderate or severe liver disease       | 3     |
| Metastatic solid tumour                | 6     |
| Acquired immunodeficiency syndrome     | 6     |

Based on the table above, it was necessary to determine which ICD-10-AM codes captured the relevant conditions. A programmatic approach was then used to filter these codes, assign the relevant score, and sum them for each patient admission.
Figure 1. Selection of Medibank Private data records for our analysis

Medibank Private dataset: 2,213,760 cases

Inpatient records: 688,349

Surgery with anaesthesia: 282,048

First episode of surgery with anaesthesia: 226,853

Patients aged $\geq$ 18 years: 181,281

Complete case analysis: 126,788

Excluded
Same-day admissions: 1,525,411

Excluded
Non-surgical admissions: 406,301

Excluded
Subsequent episodes of surgery with anaesthesia: 55,195

Excluded
Aged < 18 years: 45,572

Excluded
Missing ASA-PS data: 54,493
Figure 2. Covariate effects in the multivariate model across the distribution of DAH_{30} values.
**Figure 3.** $\text{DAH}_{30}$ v patient age: spline regression

**Figure 4.** $\text{DAH}_{30}$ v surgery duration: spline regression
### Table 1. Multivariate regression, with or without B-spline regression for age

| Term                                      | With spline regression | Without spline regression |
|-------------------------------------------|------------------------|---------------------------|
|                                           | Estimate               | 95% CI                    | Estimate               | 95% CI                    |
| Intercept                                 | 29.517                 | [29.445, 29.589]          | 28.456                 | [28.365, 28.547]          |
| Charlson Comorbidity Index A score        |                        |                           |                          |
| 1                                         | -0.095                 | [-0.127, -0.062]          | -0.142                 | [-0.181, -0.103]          |
| 2                                         | -0.067                 | [-0.151, 0.018]           | -0.141                 | [-0.230, -0.052]          |
| 3+                                        | -2.498                 | [-2.94, -2.057]           | -2.808                 | [-3.253, -2.363]          |
| Patient sex (ref. Male)                   |                        |                           |                          |
| Female                                    | -0.376                 | [-0.399, -0.354]          | -0.437                 | [-0.460, -0.414]          |
| Binary covariates                         |                        |                           |                          |
| Emergency                                 | -2.062                 | [-2.180, -1.943]          | -2.192                 | [-2.323, -2.061]          |
| Public                                    | -0.205                 | [-0.488, 0.078]           | -0.162                 | [-0.515, 0.191]           |
| HDU/ICU                                   | -6.890                 | [-7.207, -6.573]          | -6.794                 | [-7.105, -6.483]          |
| Mechanical ventilation                    | -14.292                | [-14.617, -13.968]        | -14.473                | [-14.820, -14.130]        |
| Unplanned theatre                         | -0.604                 | [-0.759, -0.449]          | -0.633                 | [-0.821, -0.444]          |
| ASA physical status (ref. 1)              |                        |                           |                          |
| 2                                         | -0.056                 | [-0.073, -0.038]          | 0.002                  | [-0.022, 0.026]           |
| 3                                         | -0.399                 | [-0.432, -0.366]          | -0.472                 | [-0.52, -0.424]           |
| 4+                                        | -1.589                 | [-1.829, -1.35]           | -1.932                 | [-2.16, -1.705]           |
| Operating time (ref. <30 mins)            |                        |                           |                          |
| 30-60 mins                                | 0.198                  | [0.153, 0.243]            | 0.266                  | [0.218, 0.315]            |
| 60-120 mins                               | -0.060                 | [-0.104, -0.015]          | 0.005                  | [-0.043, 0.053]           |
| >120 mins                                 | -1.115                 | [-1.175, -1.055]          | -1.001                 | [-1.06, -0.941]           |
| Surgical severity (ref. Minor)             |                        |                           |                          |
| Intermediate                              | 0.167                  | [0.119, 0.216]            | 0.175                  | [0.104, 0.246]            |
| Major                                     | -1.038                 | [-1.097, -0.978]          | -1.069                 | [-1.149, -0.990]          |
| Complex major                             | -1.086                 | [-1.153, -1.02]           | -1.104                 | [-1.188, -1.020]          |
| State (ref. VIC)                           |                        |                           |                          |
| QLD                                       | 0.233                  | [0.208, 0.259]            | 0.258                  | [0.228, 0.289]            |
| NSW                                       | 0.059                  | [0.019, 0.100]            | 0.057                  | [0.018, 0.096]            |
| SA & NT                                   | 0.078                  | [0.052, 0.104]            | 0.116                  | [0.064, 0.167]            |
| WA                                        | 0.156                  | [0.127, 0.185]            | 0.223                  | [0.192, 0.253]            |
| TAS                                       | -0.019                 | [-0.069, 0.032]           | 0.014                  | [-0.053, 0.081]           |
| ACT                                       | 0.177                  | [0.090, 0.265]            | 0.219                  | [0.133, 0.305]            |

ASA=American Society of Anesthesiologists; HDU=high dependency unit; ICU=intensive care unit.
| Term                                      | Complete case analysis |                        | Imputed model     |                        |
|-------------------------------------------|------------------------|------------------------|-------------------|------------------------|
|                                           | Estimate 95% CI        |                        | Estimate 95% CI   |                        |
| Intercept                                 | 28.801 [ 28.742, 28.860] |                        | 28.749 [ 28.669, 28.829] |                        |
| **Age category (ref. <40 years)**         |                        |                        |                   |                        |
| 40-50 years                               | 0.165 [ 0.137, 0.192]  | 0.211 [ 0.175, 0.246]  |                   |                        |
| 50-60 years                               | 0.037 [ 0.010, 0.064]  | 0.098 [ 0.069, 0.128]  |                   |                        |
| 60-70 years                               | -0.273 [ -0.305, -0.241] | -0.166 [ -0.196, -0.136] |                   |                        |
| 70-80 years                               | -0.824 [ -0.876, -0.771] | -0.617 [ -0.664, -0.571] |                   |                        |
| >80 years                                 | -2.235 [ -2.373, -2.097] | -1.698 [ -1.817, -1.579] |                   |                        |
| **American Society of Anesthesiologists physical status (ref. 1/2)** |                        |                        |                   |                        |
| ASA 3+                                    | -0.438 [ -0.470, -0.407] | -0.429 [ -0.471, -0.386] |                   |                        |
| **Patient sex (ref. Male)**               |                        |                        |                   |                        |
| Female                                    | -0.347 [ -0.372, -0.322] | -0.347 [ -0.373, -0.321] |                   |                        |
| **State (ref. VIC)**                      |                        |                        |                   |                        |
| ACT                                       | 0.215 [ 0.185, 0.246]  | 0.144 [ 0.115, 0.172]  |                   |                        |
| NSW                                       | 0.033 [ 0.006, 0.066]  | 0.041 [ 0.008, 0.074]  |                   |                        |
| QLD                                       | 0.069 [ 0.035, 0.102]  | 0.027 [ -0.017, 0.072] |                   |                        |
| SA & NT                                   | 0.148 [ 0.112, 0.184]  | 0.108 [ 0.073, 0.142]  |                   |                        |
| TAS                                       | -0.006 [ -0.082, 0.070] | -0.116 [ -0.182, -0.05] |                   |                        |
| WA                                        | 0.177 [ 0.106, 0.248]  | 0.137 [ 0.064, 0.21]   |                   |                        |
| **Urgency (ref. Elective)**               |                        |                        |                   |                        |
| Emergency                                 | -2.149 [ -2.264, -2.033] | -1.752 [ -1.843, -1.662] |                   |                        |
| **Hospital type (ref. Private)**          |                        |                        |                   |                        |
| Public                                    | -0.217 [ -0.572, 0.138] | -0.379 [ -0.674, -0.084] |                   |                        |
| **Charlson A-score (ref. 0)**             |                        |                        |                   |                        |
| 1                                         | -0.101 [ -0.130, -0.072] | -0.147 [ -0.182, -0.111] |                   |                        |
| 2                                         | -0.085 [ -0.157, -0.013] | -0.290 [ -0.381, -0.200] |                   |                        |
| 3+                                        | -2.692 [ -3.114, -2.271] | -3.001 [ -3.376, -2.626] |                   |                        |
| **Surgical severity (ref. Minor)**        |                        |                        |                   |                        |
| Intermediate                              | 0.193 [ 0.143, 0.243]  | 0.168 [ 0.100, 0.237]  |                   |                        |
| Major                                     | -1.015 [ -1.077, -0.953] | -1.027 [ -1.101, -0.954] |                   |                        |
| Complex major                             | -1.078 [ -1.144, -1.011] | -0.879 [ -0.958, -0.800] |                   |                        |
| **Higher acuity covariates**              |                        |                        |                   |                        |
| High dependency/intensive care unit       | -7.407 [ -7.729, -7.085] | -6.424 [ -6.623, -6.224] |                   |                        |
| Mechanical ventilation                    | -14.419 [ -14.757, -14.082] | -15.396 [ -16.331, -14.461] |                   |                        |
| Unplanned theatre                         | -0.558 [ -0.725, -0.392] | -0.505 [ -0.639, -0.371] |                   |                        |
| **Operating time (ref. <30 mins)**        |                        |                        |                   |                        |
| 30-60 mins                                | 0.175 [ 0.142, 0.208]  | 0.214 [ 0.175, 0.253]  |                   |                        |
| 60-120 mins                               | -0.067 [ -0.098, -0.037] | -0.022 [ -0.060, 0.016] |                   |                        |
| >120 mins                                 | -1.108 [ -1.156, -1.061] | -1.156 [ -1.211, -1.102] |                   |                        |
| Term                                      | 25th centile | Median | 75th centile |
|-------------------------------------------|--------------|--------|--------------|
|                                           | Estimate     | 95% CI | Estimate     | 95% CI | Estimate     | 95% CI     |
| Intercept                                 | 26.674       | [26.227 , 27.121] | 28.456       | [28.365 , 28.547] | 29.058       | [29.034 , 29.082] |
| **Age (continuous)**                      |              |        |              |        |              |            |
| Age, centred at mean 59 years             | -0.053       | [-0.054 , -0.051] | -0.023       | [-0.024 , -0.022] | -0.008       | [-0.009 , -0.008] |
| **Charlson comorbidity A Score (ref. 0)** |              |        |              |        |              |            |
| 1                                         | -0.519       | [-0.638 , -0.4] | -0.142       | [-0.181 , -0.103] | -0.051       | [-0.066 , -0.036] |
| 2                                         | -0.776       | [-1.106 , -0.446] | -0.141       | [-0.23 , -0.052] | -0.039       | [-0.074 , -0.004] |
| 3+                                        | -6.842       | [-7.431 , -6.252] | -2.808       | [-3.253 , -2.36] | -0.853       | [-0.989 , -0.717] |
| **Binary covariates**                     |              |        |              |        |              |            |
| Female                                    | -1.023       | [-1.073 , -0.973] | -0.437       | [-0.46 , -0.414] | -0.164       | [-0.174 , -0.154] |
| Emergency admission                       | -5.190       | [-5.505 , -4.875] | -2.192       | [-2.323 , -2.061] | -0.939       | [-0.991 , -0.888] |
| Public hospital                           | -2.101       | [-2.617 , -1.585] | -0.162       | [-0.515 , 0.191] | 0.059        | [-0.032 , 0.149] |
| Required HDU                              | -9.974       | [-10.441 , -9.507] | -6.794       | [-7.105 , -6.483] | -5.289       | [-5.478 , -5.1] |
| Mechanical ventilation                    | -7.784       | [-8.765 , -6.803] | -14.473      | [-14.82 , -14.126] | -9.355       | [-11.458 , -7.252] |
| Unplanned theatre                         | -1.062       | [-1.242 , -0.882] | -0.633       | [-0.821 , -0.444] | -0.170       | [-0.226 , -0.114] |
| **ASA physical status (ref. 1)**         |              |        |              |        |              |            |
| 2                                         | 0.178        | [0.129 , 0.227] | 0.002        | [-0.022 , 0.026] | -0.064       | [-0.073 , -0.056] |
| 3                                         | -1.539       | [-1.688 , -1.391] | -0.472       | [-0.52 , -0.424] | -0.190       | [-0.204 , -0.177] |
| 4+                                        | -5.247       | [-5.752 , -4.743] | -1.932       | [-2.16 , -1.705] | -0.720       | [-0.824 , -0.617] |
| **Operating time (ref. <30 mins)**        |              |        |              |        |              |            |
| 30-60 mins                                | 0.663        | [0.585 , 0.742] | 0.266        | [0.218 , 0.315] | 0.055        | [0.046 , 0.065] |
| 60-120 mins                               | 0.590        | [0.512 , 0.668] | 0.005        | [-0.043 , 0.053] | -0.092       | [-0.099 , -0.085] |
| >120 mins                                 | -1.192       | [-1.322 , -1.063] | -1.001       | [-1.06 , -0.941] | -0.635       | [-0.648 , -0.622] |
| **Surgical severity (ref. minor)**        |              |        |              |        |              |            |
| Intermediate                              | 0.366        | [-0.07 , 0.802] | 0.175        | [0.104 , 0.246] | 0.060        | [0.037 , 0.083] |
| Major                                     | -2.202       | [-2.64 , -1.764] | -1.069       | [-1.149 , -0.99] | -0.393       | [-0.422 , -0.365] |
| Complex major                             | -1.531       | [-1.974 , -1.088] | -1.104       | [-1.188 , -1.02] | -0.649       | [-0.684 , -0.614] |
| **State (ref. VIC)**                      |              |        |              |        |              |            |
| QLD                                       | 0.625        | [0.551 , 0.7] | 0.258        | [0.228 , 0.289] | 0.058        | [0.046 , 0.07] |
| NSW                                       | -0.140       | [-0.231 , -0.05] | 0.057        | [0.018 , 0.096] | 0.027        | [0.015 , 0.039] |
| SA or NT                                  | 0.666        | [0.589 , 0.743] | 0.116        | [0.064 , 0.167] | -0.013       | [-0.027 , 0.001] |
| WA                                        | 0.790        | [0.715 , 0.865] | 0.223        | [0.192 , 0.253] | 0.045        | [0.034 , 0.056] |
| TAS                                       | 0.601        | [0.463 , 0.738] | 0.014        | [-0.053 , 0.081] | -0.040       | [-0.071 , -0.01] |
| ACT                                       | 0.479        | [0.256 , 0.702] | 0.219        | [0.133 , 0.305] | 0.114        | [0.09 , 0.137] |

ASA=American Society of Anesthesiologists; HDU=high dependency unit; ICU=intensive care unit.
Table 4. DAH\textsubscript{30} for specific surgical procedures (complete cases only), with case characteristics

| Characteristic                  | Overall | TURP   | CFEA   | Hemicolecotomy | THR   | TKR   |
|--------------------------------|---------|--------|--------|----------------|-------|-------|
| Patients                        | 14,364  | 4,009  | 337    | 1,498          | 6,943 | 1,577 |
| DAH\textsubscript{30} (days), median (IQR) | 25 (19, 27) | 28 (26, 28) | 25 (19, 27) | 23 (17, 25) | 24 (16, 26) | 25 (17, 26) |
| Patient age                     | 70 (63, 77) | 72 (66, 78) | 73 (64, 79) | 70 (60, 78) | 70 (62, 76) | 68 (61, 75) |
| Patient sex                     | M: 8,739 (61%) | 4,008 (100%) | 213 (63%) | 692 (46%) | 3,091 (45%) | 735 (47%) |
|                                | F: 5,625 (39%) | 1 (<0.1%) | 124 (37%) | 806 (54%) | 3,852 (55%) | 842 (53%) |
| ASA physical status             | 1: 1,646 (11%) | 492 (12%) | 16 (4.7%) | 190 (13%) | 816 (12%) | 132 (8.4%) |
|                                | 2: 6,889 (48%) | 1,895 (47%) | 53 (16%) | 583 (39%) | 3,511 (51%) | 847 (54%) |
|                                | 3: 5,395 (38%) | 1,514 (38%) | 220 (65%) | 644 (43%) | 2,444 (35%) | 573 (36%) |
|                                | 4+: 434 (3.0%) | 108 (2.7%) | 48 (14%) | 81 (5.4%) | 172 (2.5%) | 25 (1.6%) |
| Admission type                  | Elective: 13,547 (94%) | 3,802 (95%) | 318 (94%) | 1,306 (87%) | 6,640 (96%) | 1,481 (94%) |
|                                | Emergency: 817 (5.7%) | 207 (5.2%) | 19 (5.6%) | 192 (13%) | 303 (4.4%) | 96 (6.1%) |
| Charlson comorbidity A score    | 0: 11,081 (77%) | 2,726 (68%) | 237 (70%) | 1,036 (69%) | 5,772 (83%) | 1,310 (83%) |
|                                | 1+: 3,283 (23%) | 1,283 (32%) | 100 (30%) | 462 (31%) | 1,171 (17%) | 267 (17%) |
| Hospital type                   | Public: 44 (0.3%) | 9 (0.2%) | 3 (0.9%) | 20 (1.3%) | 11 (0.2%) | 1 (<0.1%) |
|                                | Private: 14,320 (100%) | 4,000 (100%) | 334 (99%) | 1,478 (99%) | 6,932 (100%) | 1,576 (100%) |
| Operating time                  | <1 h: 2,410 (17%) | 1,915 (48%) | 42 (12%) | 176 (12%) | 218 (3.1%) | 59 (3.7%) |
|                                | 1-2 h: 6,013 (42%) | 1,824 (45%) | 92 (27%) | 309 (21%) | 3,016 (43%) | 772 (49%) |
|                                | 2-2.5 h: 2,759 (19%) | 190 (4.7%) | 46 (14%) | 258 (17%) | 1,936 (28%) | 329 (21%) |
|                                | >2.5 h: 3,182 (22%) | 80 (2.0%) | 157 (47%) | 755 (50%) | 1,773 (26%) | 417 (26%) |
| State                           | VIC: 5,234 (36%) | 1,446 (36%) | 122 (36%) | 562 (38%) | 2,431 (35%) | 673 (43%) |
|                                | ACT: 260 (1.8%) | 55 (1.4%) | 5 (1.5%) | 15 (1.0%) | 169 (2.4%) | 16 (1.0%) |
|                                | NSW: 2,880 (20%) | 981 (24%) | 49 (15%) | 285 (19%) | 1,415 (20%) | 150 (9.5%) |
|                                | QLD: 3,167 (22%) | 918 (23%) | 73 (22%) | 411 (27%) | 1,438 (21%) | 327 (21%) |
|                                | SA/NT: 1,044 (7.3%) | 193 (4.8%) | 11 (3.3%) | 74 (4.9%) | 510 (7.3%) | 256 (16%) |
|                                | TAS: 532 (3.7%) | 139 (3.5%) | 13 (3.9%) | 49 (3.3%) | 311 (4.5%) | 20 (1.3%) |
|                                | WA: 1,247 (8.7%) | 277 (6.9%) | 64 (19%) | 102 (6.8%) | 669 (9.6%) | 135 (8.6%) |

ASA=American Society of Anesthesiologists; IQR = interquartile range; TURP=transurethral resection of the prostate; CFEA=common femoral endarterectomy; THR=total hip replacement; TKR=total knee replacement
Figure 5. DAH$_{30}$ data distributions for five specific surgical procedures

The figure below illustrates the distribution of DAH$_{30}$ across the five procedures. The most striking difference is the DAH$_{30}$ for patients undergoing prostate surgery with a more pronounced left skew indicating longer time at home after the procedure. This may be due to the less invasive nature of the procedure relative to the others, which may mean shorter post-procedural recovery time.

Figure 6. Patient age distribution for five specific surgical procedures

The age distribution amongst the five procedures is notable for a wider left tail amongst patients undergoing femoral endarterectomy and hemicolecotomy. This indicates that these are procedures that may be performed on younger patients; joint replacements and prostate surgery are more likely to be performed for conditions that become more prevalent with increasing age.
Figure 7. Proportion of cases according to Charlson Comorbidity Index

The majority of patients included in the analysis had a CCI-A score of 0, with the highest proportion of these in patients undergoing joint replacement (>80%). This indicates a low estimated 10-year mortality. It is also the justification for dichotomising CCI-A into 0 vs 1+ due to the relatively low numbers of patients who scored on the CCI-A scale.

Figure 8. Proportion of cases according to ASA physical status

The distribution of ASA physical status was similar between the procedures with the exception of femoral endarterectomy. For this procedure, there was a relatively large proportion classified as ASA 3. This may be because CFEA is performed for vascular disease, and is therefore more likely to be associated with diseases such as diabetes mellitus and coronary artery disease that would increase an individual’s ASA physical status class.
Figure 9. Distribution of operating time for five specific surgical procedures

Operating time varied widely between the procedures, which may be an indication of the relative complexity of the patients and/or the relative technical difficulty of the procedures.

TURP=transurethral prostatectomy; CFEA=common femoral endarterectomy; THJR=total hip joint replacement; TKJR=total knee joint replacement
### Table 6. DAH<sub>30</sub> and hospital costs: multivariate analysis

| Term                              | Estimate | 95% CI       |
|-----------------------------------|----------|--------------|
| (Intercept)                       | 18321    | 17760, 18898 |
| DAH<sub>30</sub>                  | 0.958    | 0.957, 0.959 |
| Patient age, years                | 1.002    | 1.002, 1.002 |
| Female sex                        | 0.957    | 0.952, 0.962 |
| **State (ref. VIC)**              |          |              |
| QLD                               | 0.955    | 0.948, 0.962 |
| NSW                               | 0.930    | 0.923, 0.937 |
| SA or NT                          | 0.919    | 0.909, 0.929 |
| WA                                | 1.051    | 1.042, 1.061 |
| TAS                               | 0.977    | 0.962, 0.993 |
| ACT                               | 0.965    | 0.947, 0.983 |
| Emergency surgery                 | 0.912    | 0.904, 0.921 |
| Public hospital                   | 0.354    | 0.343, 0.366 |
| 1                                 | 0.987    | 0.979, 0.994 |
| 2                                 | 1.010    | 0.999, 1.022 |
| 3+                                | 1.009    | 0.990, 1.028 |
| 2                                 | 1.049    | 1.042, 1.057 |
| 3                                 | 1.077    | 1.068, 1.086 |
| 4+                                | 1.227    | 1.209, 1.246 |
| Intermediate                      | 0.882    | 0.859, 0.906 |
| Major                             | 1.273    | 1.240, 1.307 |
| Complex major                     | 1.462    | 1.423, 1.502 |
| HDU/ICU admission                 | 1.710    | 1.683, 1.737 |
| Post-operative mechanical ventilation | 1.399    | 1.334, 1.467 |
| Unplanned reoperation             | 1.143    | 1.122, 1.165 |
| 30-60 minutes                     | 1.128    | 1.117, 1.140 |
| 60-120 minutes                    | 1.468    | 1.453, 1.483 |
| >120 minutes                      | 1.962    | 1.942, 1.982 |

R-squared = 0.589
HDU=high dependency unit; ICU=intensive care unit.