**Appendix**

1. **Parameters of the study.**

**Table I**

Unit costs in euros for the year 2018 and the utility.

|  |  |
| --- | --- |
| **Costs** | |
| *Prosthesis cost* |  |
| Total | 2,508.64 € |
| Partial | 847.59 € |
| *Cost per minute of operating room time (traumatology)* | 21.78 € |
| *Hospitalisation cost per stay (traumatology)* | 642.18 € |
| *Cost per point of* diagnosis-related group *(complications)* |  |
| Cardiology | 4,465.71 € |
| General surgery | 4,699.69 € |
| Vascular surgery - angiology | 4,265.60 € |
| Infectious diseases | 5,414.82 € |
| Haematology | 5,133.14 € |
| Internal medicine | 4,343.07 € |
| Long stay internal medicine | 7,754.04 € |
| Respiratory | 3,992.68 € |
| Traumatology | 4,447.94 € |
| **Utilitya** | |
| *Utility with hip prosthesis* | 0.730 |

a Utility obtained from Garcia-Perez L, Ramos-Garcia V, Serrano-Aguilar P, et al. EQ-5D-5 L utilities per health states in Spanish population with knee or hip osteoarthritis. Health Qual Life Outcomes. 2019;17:164.

1. **Seemingly unrelated regression (SUR) models.**

**Table II**

Seemingly unrelated regression models for incremental cost (euros) and effectiveness (quality-adjusted life years) without any interaction.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total** | **Cost** | | | | | **QALYs** | | | | |
| **β** | **Standard error** | **Low CI** | **High CI** | **pa** | **β** | **Standard error** | **Low CI** | **High CI** | **pa** |
| Constant | 7,991.51 | 81.55 | 7,831.66 | 8,151.35 | 0.00 | 3.46 | 0.03 | 3.40 | 3.52 | 0.00 |
| Time to surgery (days) | 892.77 | 7.24 | 878.58 | 906.95 | 0.00 | −0.03 | 0.00 | −0.03 | −0.02 | 0.00 |
| Age: ≥80 years | −417.93 | 52.49 | −520.81 | −315.05 | 0.00 | −0.60 | 0.02 | −0.63 | −0.56 | 0.00 |
| Sex: male | 243.01 | 56.07 | 133.12 | 352.90 | 0.00 | −0.33 | 0.02 | −0.37 | −0.29 | 0.00 |
| Socioeconomic status: low | 61.76 | 50.86 | −37.91 | 161.44 | 0.23 | 0.10 | 0.02 | 0.06 | 0.13 | 0.00 |
| Hospital type: large (≥200 beds) | 215.40 | 62.09 | 93.70 | 337.10 | 0.00 | 0.12 | 0.02 | 0.08 | 0.16 | 0.00 |
| Anticoagulant/antiplatelet drug use: yes | −240.00 | 58.43 | −354.52 | −125.48 | 0.00 | −0.56 | 0.02 | −0.60 | −0.52 | 0.00 |
| Type of anaesthesia: general | 898.54 | 66.37 | 768.46 | 1,028.61 | 0.00 | 0.12 | 0.02 | 0.08 | 0.17 | 0.00 |
| Charlson index: with comorbidity | 954.82 | 52.68 | 851.56 | 1,058.08 | 0.00 | −0.78 | 0.02 | −0.81 | −0.74 | 0.00 |
| ASA class: high (III-IV) | 581.61 | 51.89 | 479.91 | 683.30 | 0.00 | −0.31 | 0.02 | −0.35 | −0.28 | 0.00 |
| Procedure: total hip arthroplasty | 2,464.93 | 50.83 | 2,365.30 | 2,564.56 | 0.00 | 0.42 | 0.02 | 0.38 | 0.45 | 0.00 |

ASA: American Society of Anesthesiologists; QALYs: quality-adjusted life years.

a Calculated using seemingly unrelated regression models.

**Table III**

Seemingly unrelated regression models for incremental cost (euros) and effectiveness (quality-adjusted life years) for patients with less than 80 years calculated as a function of the interaction between procedure and ASA class.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Age: < 80 years** | **Cost** | | | | | **QALYs** | | | | |
|  | **β** | **Standard error** | **Low CI** | **High CI** | **pa** | **β** | **Standard error** | **Low CI** | **High CI** | **pa** |
| Constant | 7,699.98 | 170.49 | 7,365.83 | 8,034.13 | 0.00 | 3.54 | 0.06 | 3.43 | 3.66 | 0.00 |
| Time to surgery (days) | 829.21 | 13.07 | 803.58 | 854.83 | 0.00 | −0.04 | 0.00 | −0.04 | −0.03 | 0.00 |
| Sex: male | 193.37 | 110.46 | −23.13 | 409.88 | 0.08 | −0.31 | 0.04 | −0.39 | −0.24 | 0.00 |
| Socioeconomic status: low | 141.71 | 103.81 | −61.76 | 345.18 | 0.17 | 0.12 | 0.04 | 0.05 | 0.19 | 0.00 |
| Hospital type: large (≥200 beds) | 858.15 | 139.39 | 584.95 | 1,131.36 | 0.00 | −0.03 | 0.05 | −0.12 | 0.07 | 0.57 |
| Anticoagulant/antiplatelet drug use: yes | −466.74 | 128.73 | −719.05 | −214.43 | 0.00 | −0.59 | 0.04 | −0.67 | −0.50 | 0.00 |
| Type of anaesthesia: general | 855.18 | 133.63 | 593.26 | 1,117.09 | 0.00 | 0.21 | 0.05 | 0.12 | 0.30 | 0.00 |
| Charlson index: with comorbidity | 1,060.03 | 109.49 | 845.43 | 1,274.63 | 0.00 | −0.79 | 0.04 | −0.86 | −0.71 | 0.00 |
| ASA class: high (III-IV) | 424.94 | 151.20 | 128.59 | 721.30 | 0.01 | −0.50 | 0.05 | −0.60 | −0.39 | 0.00 |
| Procedure: total hip arthroplasty | 2,235.97 | 128.79 | 1,983.55 | 2,488.39 | 0.00 | 0.48 | 0.04 | 0.39 | 0.57 | 0.00 |
| Procedure: total hip arthroplasty # ASA class: high (III-IV | 689.04 | 212.24 | 273.05 | 1,105.02 | 0.00 | 0.42 | 0.07 | 0.28 | 0.57 | 0.00 |

ASA: American Society of Anesthesiologists; QALYs: quality-adjusted life years.

a Calculated using seemingly unrelated regression models.

**Table IV**

Seemingly unrelated regression models for incremental cost (euros) and effectiveness (quality-adjusted life years) for patients with 80 or more years calculated as a function of the interaction between procedure and ASA class.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Age: ≥80 years** | **Cost** | | | | | **QALYs** | | | | |
|  | **β** | **Standard error** | **Low CI** | **High CI** | **pa** | **β** | **Standard error** | **Low CI** | **High CI** | **pa** |
| Constant | 8,073.56 | 86.81 | 7,903.40 | 8,243.71 | 0.00 | 2.94 | 0.03 | 2.88 | 3.00 | 0.00 |
| Time to surgery (days) | 1,125.73 | 11.10 | 1,103.98 | 1,147.49 | 0.00 | 0.00 | 0.00 | −0.01 | 0.01 | 0.92 |
| Sex: male | 385.81 | 66.99 | 254.51 | 517.12 | 0.00 | −0.36 | 0.02 | −0.41 | −0.32 | 0.00 |
| Socioeconomic status: low | −130.86 | 57.13 | −242.83 | −18.90 | 0.02 | 0.04 | 0.02 | 0.00 | 0.08 | 0.04 |
| Hospital type: large (≥200 beds) | −660.37 | 62.57 | −783.01 | −537.73 | 0.00 | 0.16 | 0.02 | 0.11 | 0.20 | 0.00 |
| Anticoagulant/antiplatelet drug use: yes | −101.15 | 58.98 | −216.75 | 14.44 | 0.09 | −0.53 | 0.02 | −0.57 | −0.49 | 0.00 |
| Type of anaesthesia: general | 938.66 | 76.04 | 789.63 | 1,087.69 | 0.00 | −0.05 | 0.03 | −0.10 | 0.01 | 0.08 |
| Charlson index: with comorbidity | 659.88 | 57.73 | 546.73 | 773.03 | 0.00 | −0.73 | 0.02 | −0.77 | −0.69 | 0.00 |
| ASA class: high (III-IV) | −15.30 | 77.10 | −166.41 | 135.81 | 0.84 | −0.28 | 0.03 | −0.34 | −0.23 | 0.00 |
| Procedure: total hip arthroplasty | 2,044.84 | 76.28 | 1,895.32 | 2,194.35 | 0.00 | 0.13 | 0.03 | 0.08 | 0.19 | 0.00 |
| Procedure: total hip arthroplasty # ASA class: high (III-IV) | 530.73 | 108.65 | 317.77 | 743.68 | 0.00 | −0.13 | 0.04 | −0.20 | −0.05 | 0.00 |

ASA: American Society of Anesthesiologists; QALYs: quality-adjusted life years.

a Calculated using seemingly unrelated regression models.