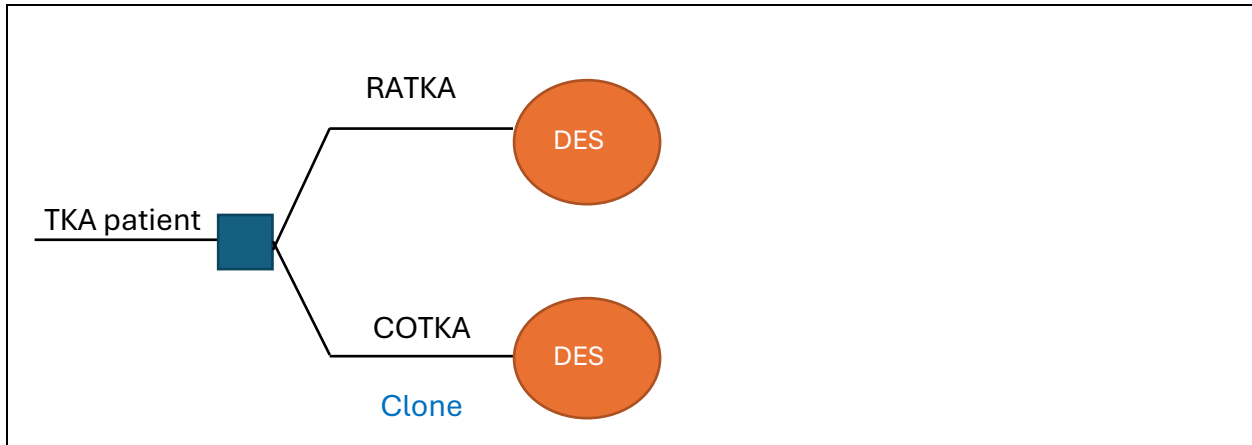
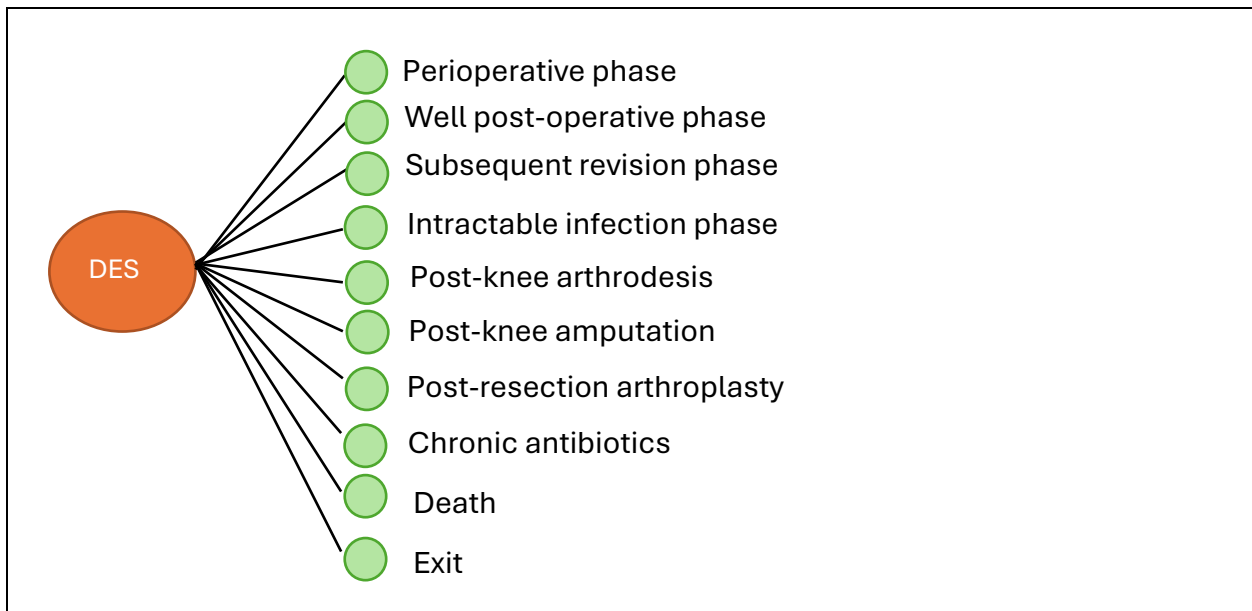


Supplementary Figure 1.1. Each individual patient was modelled to undergo RATKA then COTKA as the primary TKA surgery: A particular individual experiences both counterfactual strategies in turn.



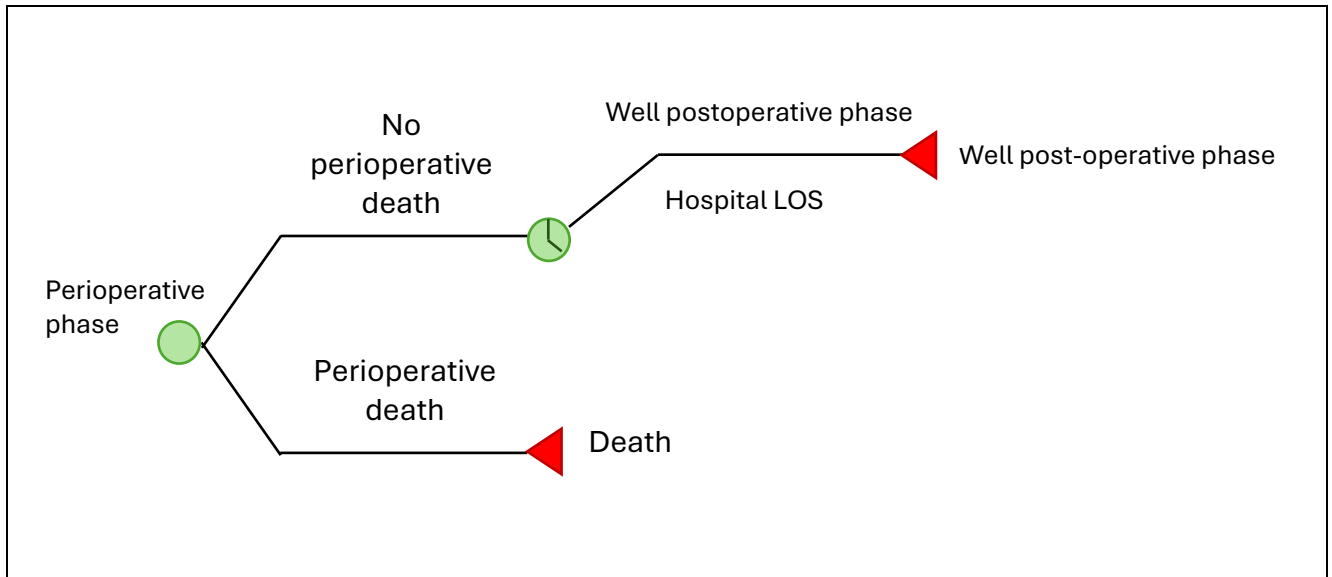
Note: RATKA – robotic-assisted total knee arthroplasty, COTKA – conventional total knee arthroplasty, TKA – total knee arthroplasty, DES – discrete event simulation

Supplementary Figure 1.2. The phases of disease represented as branches of the DES node.



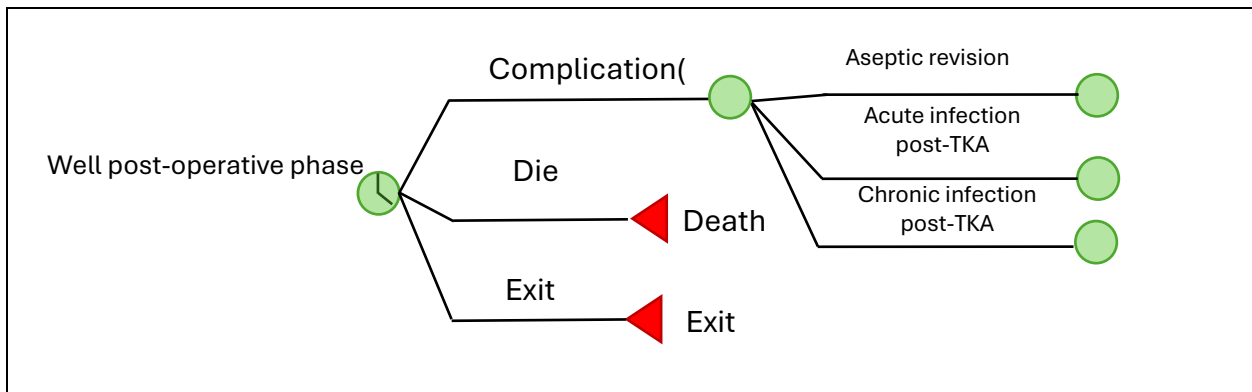
Note: DES – discrete event simulation

Supplementary Figure 1.3. Events after perioperative phase.



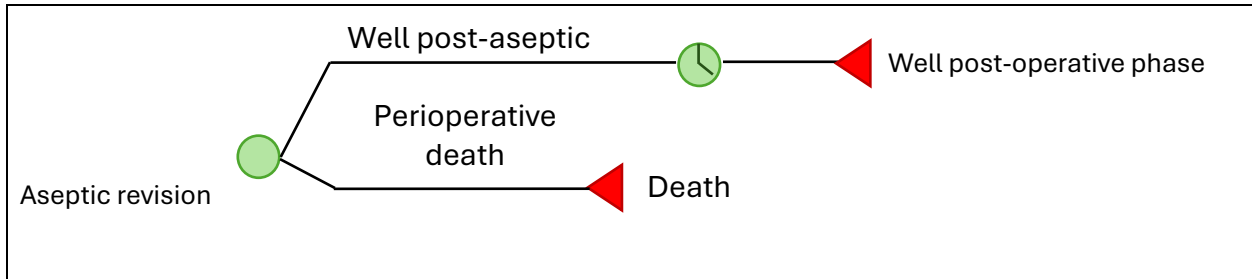
Note: LOS – length of stay

Supplementary Figure 1.4. Tree structure for the well-postoperative phase.

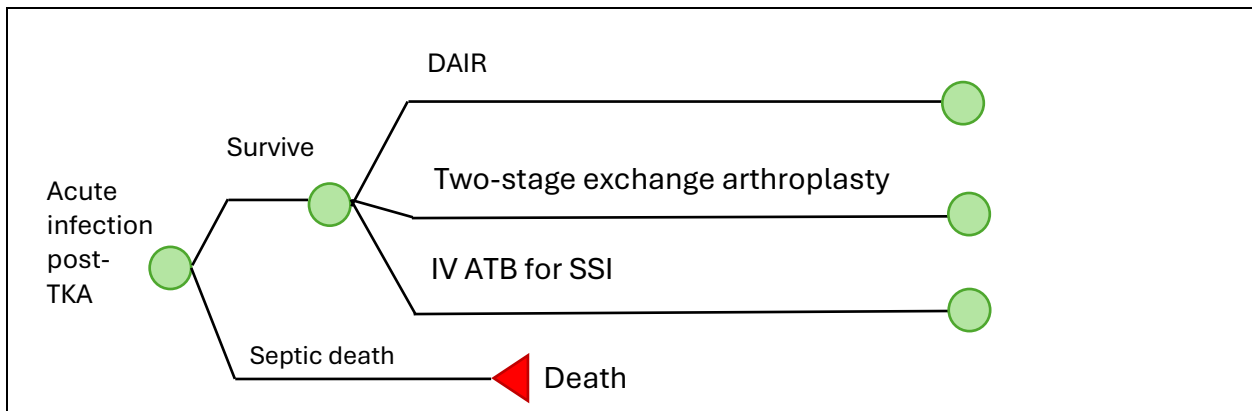


Note: TKA – total knee arthroplasty

Supplementary Figure 1.5. Subsequent events after aseptic revision.

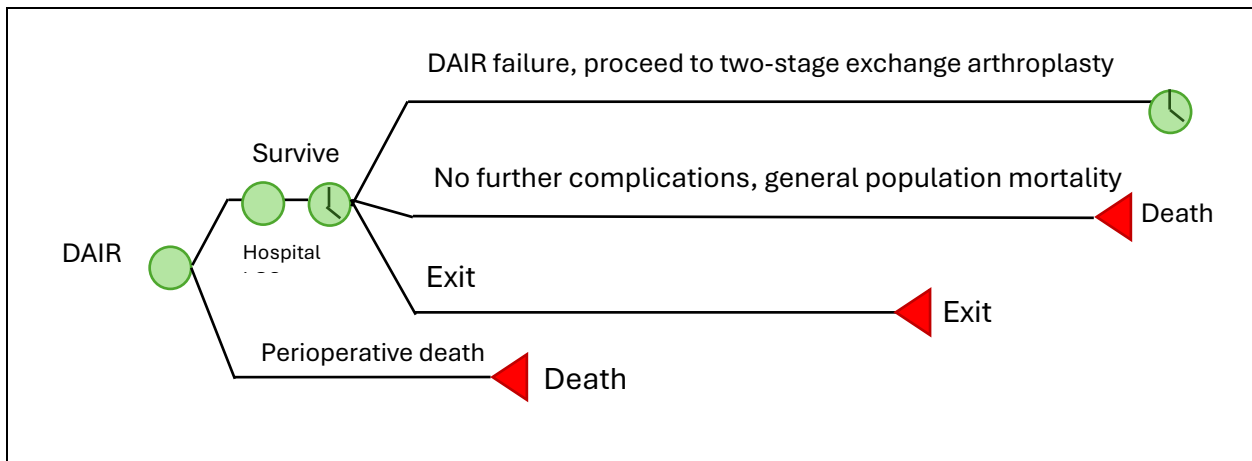


Supplementary Figure 1.6. Tree structure for individuals who suffer an acute peri-prosthetic joint infection.



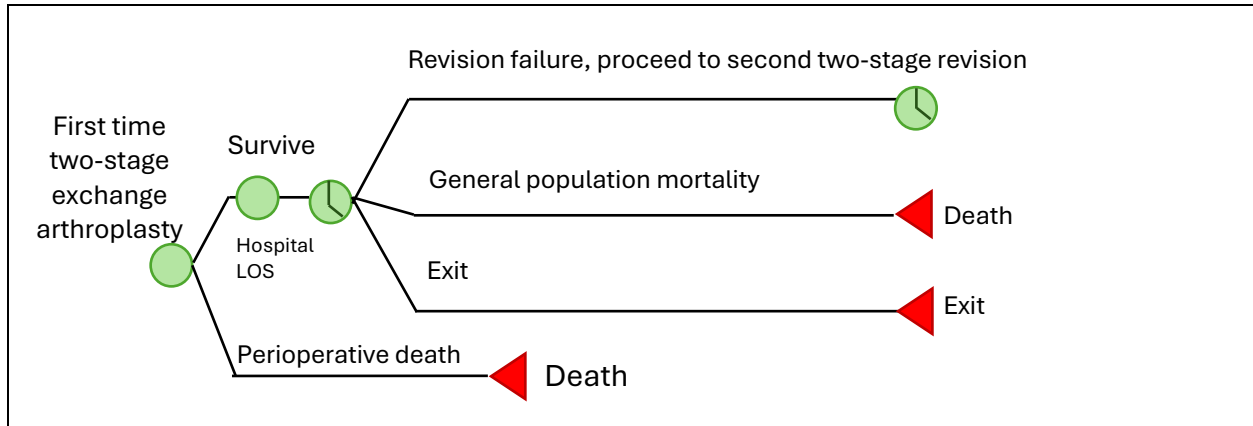
Note: TKA – total knee arthroplasty, DAIR- Debridement, antibiotics, and implant retention, IV ATB- Intravenous antibiotics, SSI- Superficial skin infection.

Supplementary Figure 1.7. Subsequent events after DAIR phase.



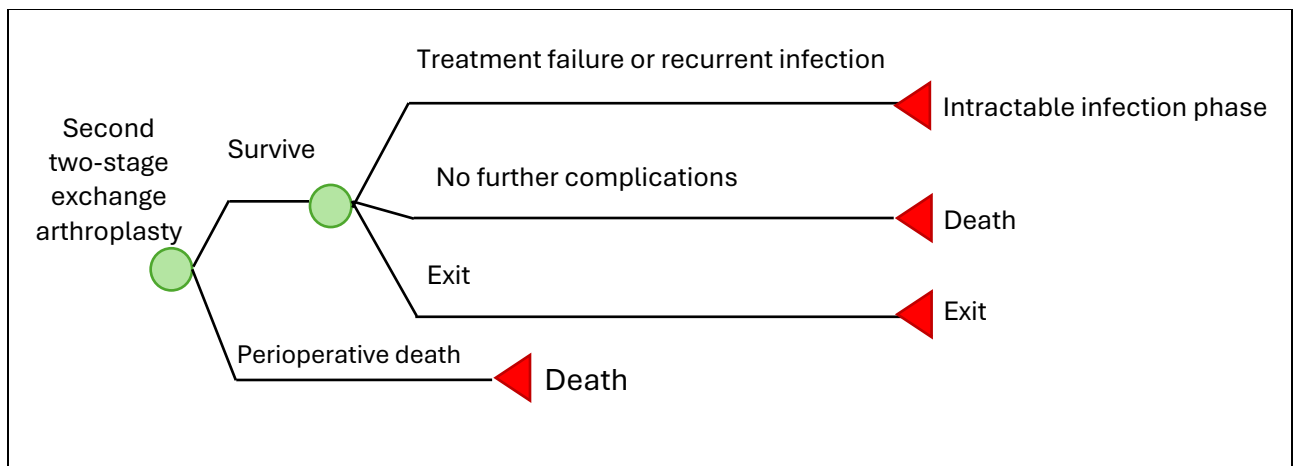
Note: DAIR - Debridement, antibiotics, and implant retention.

Supplementary Figure 1.8. Subsequent events after two-stage exchange arthroplasty.

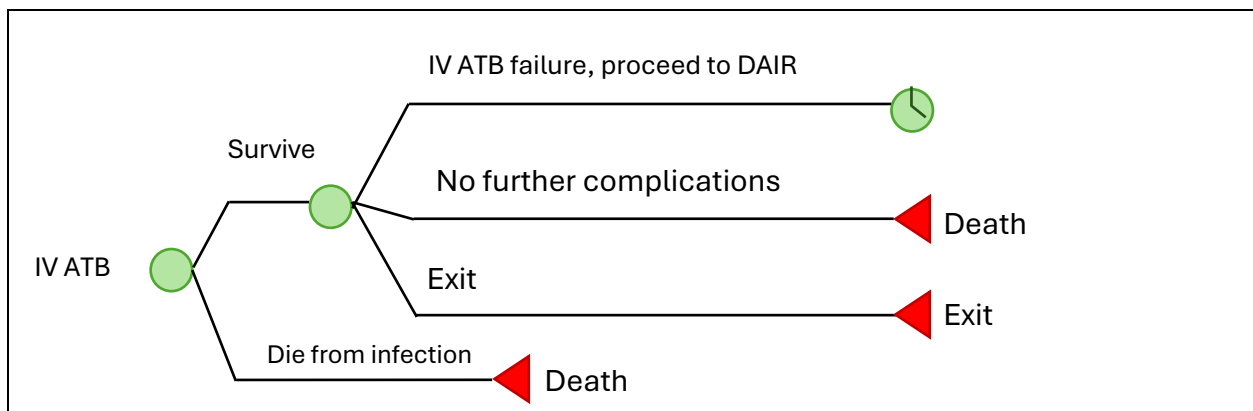


Note: LOS - length of stay

Supplementary Figure 1.9. Subsequent events after second two-stage revision.

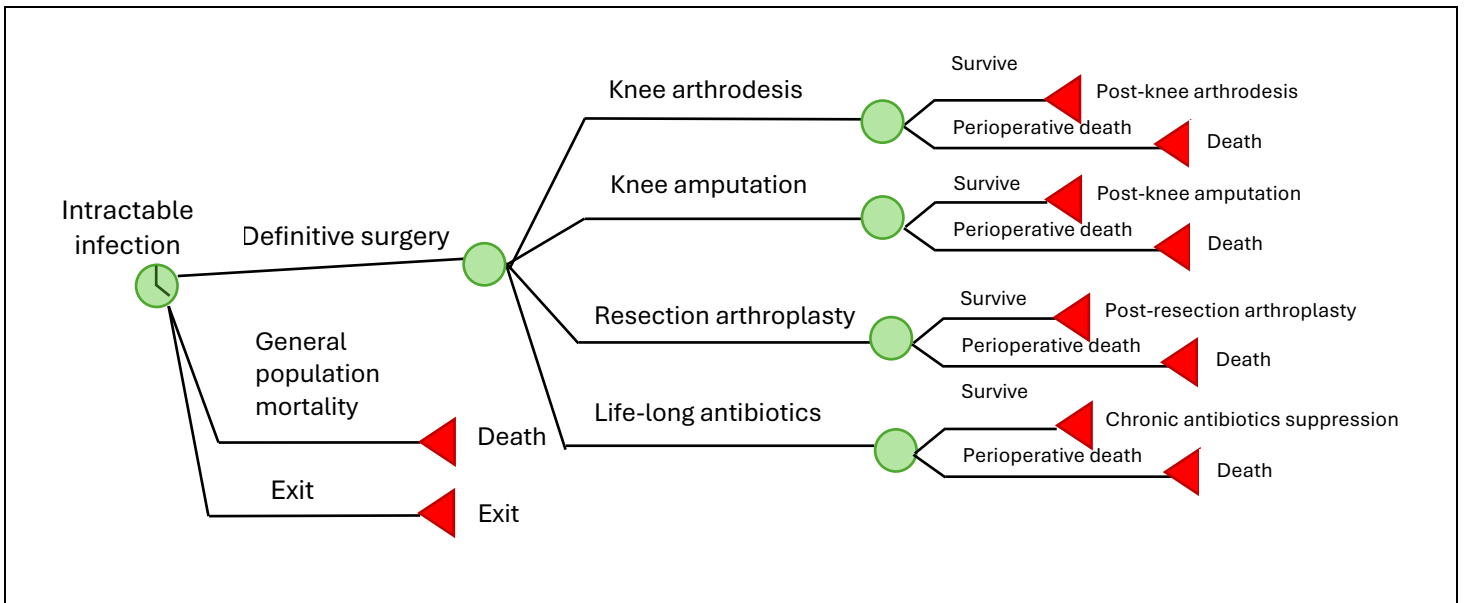


Supplementary Figure 1.10. Subsequent events after IV ATB for acute infection post-total knee arthroplasty.

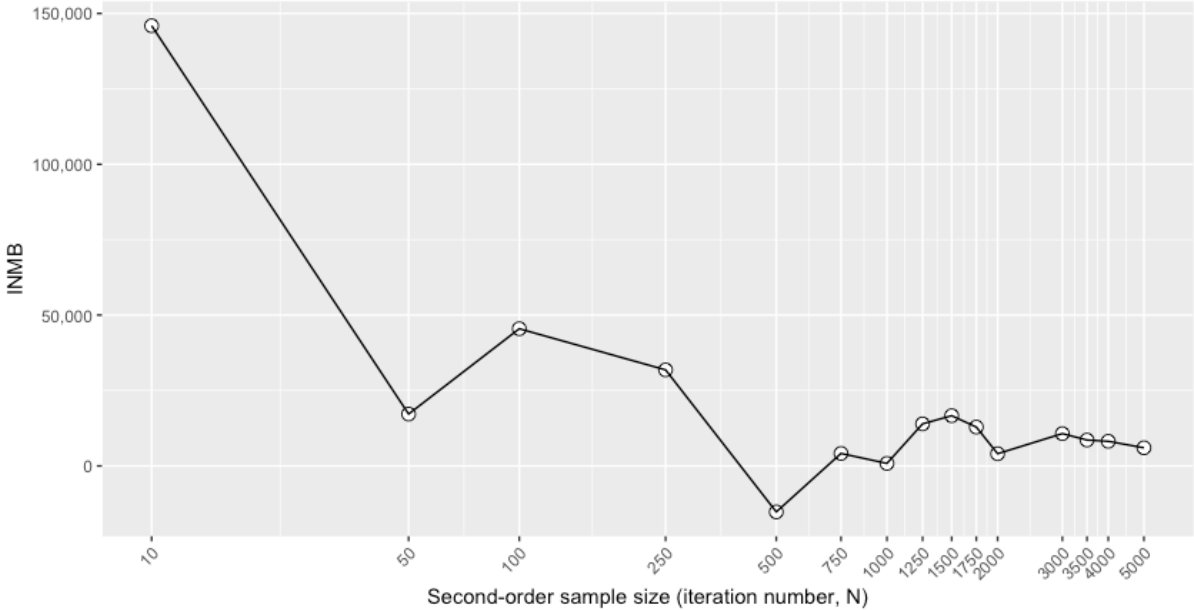


Note: IV ATB - Intravenous antibiotics, DAIR - Debridement, antibiotics, and implant retention.

Supplementary Figure 1.11. Tree structure for the intractable infection disease phase.

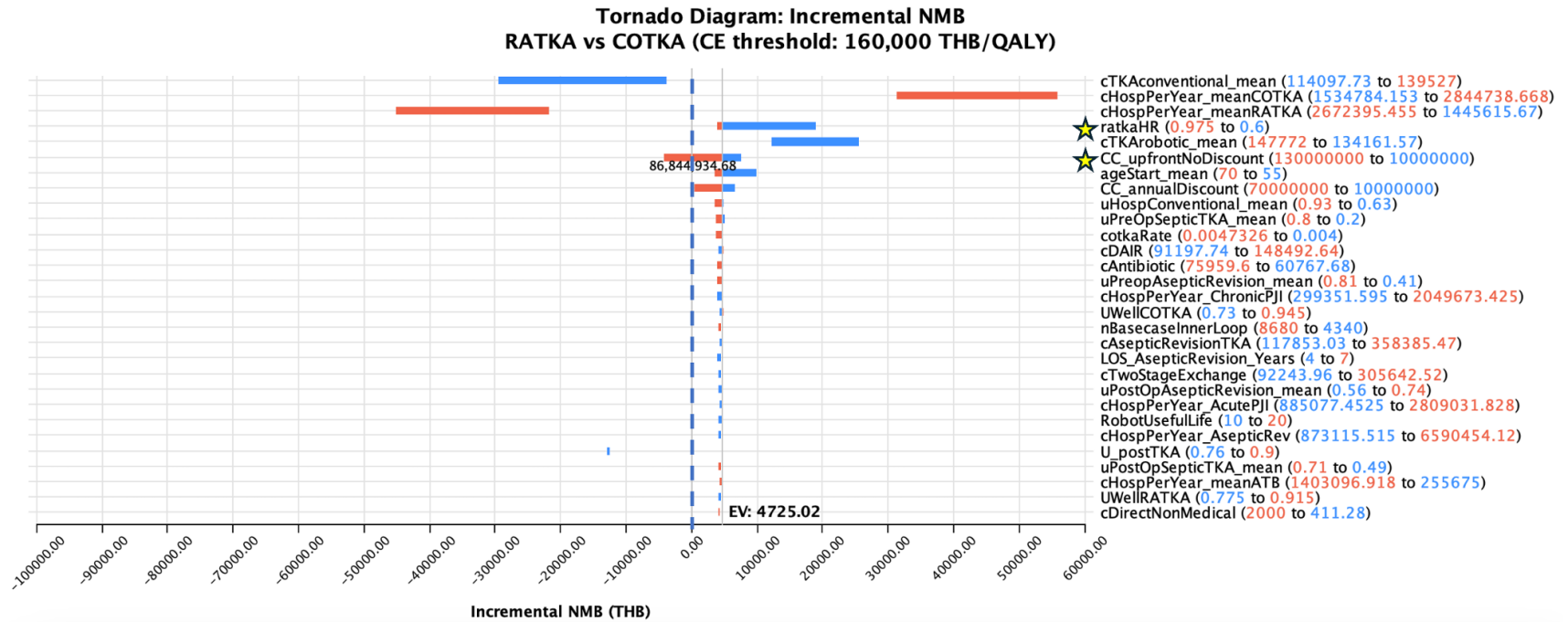


Supplementary Figure 2. The incremental net monetary benefit stabilized at a second-order sample size of 3,500 iterations.



Note: INMB – incremental net monetary benefit

Supplementary Figure 3. The Tornado diagram for the one-way deterministic sensitivity analyses.



Note: NMB – net monetary benefit, RATKA – robotic-assisted total knee arthroplasty, COTKA – conventional total knee arthroplasty, CE – cost-effectiveness, THB – Thai Baht, QALY – quality-adjusted life year