

**Table S7. Total ICU cost differences between the study treatment groups in the different sensitivity analyses (S1-S8), based on MIDE X**

<b>Sensitivity analysis of MIDE X: dexmedetomidine vs. midazolam</b>	<b>Difference in mean costs, €</b>	<b>Difference in median costs, €</b>
S1. Standard sedative set to cost zero	- 2,467	- 3,466
S2. Dexmedetomidine cost increased to €22 per 200 mcg (€0.11 per 1 mcg)	- 2,476	- 3,557
S3. Cost of a NIV day (24 hr) decreased to € 1,390	- 2,519	- 3,557
S4. Cost of a NIV day (24 hr) increased to €1,850	- 2,541	- 3,573
S5. Patients with observed data available from all three time periods (without any censoring or imputations)	- 3,900	- 3,675
S6. MIDE X patients of those 18 study centers, from which routine ICU costs were available. N (dexmedetomidine):63; propofol: 58	- 907	- 3,351
S7a. TISS-based total ICU costs, at unit cost €40 per TISS point	- 2,444	- 2,364
S7b. TISS-based total ICU costs, at unit cost of €50 per TISS point	-3,105	-2,972
S8a. Only declining, direct variable daily costs included, assuming they represent 25% of the total ICU costs	-483	-704
S8b. Only the periodically declining, direct variable costs considered, assuming they represent 50% of the total ICU costs	-1,167	-1,772

NIV= non-invasive ventilation, TISS= Therapeutic Intervention Scoring System

**Table S8. Total ICU cost differences between the study treatment groups in the different sensitivity analyses (S1-S8), based on PRODEX**

<b>Sensitivity analysis of PRODEX: dexmedetomidine vs. propofol</b>	<b>Difference in mean costs, €</b>	<b>Difference in median costs, €</b>
S1. Standard sedative set to cost zero	- 606	- 1,265
S2. Dexmedetomidine cost €22 per 200 mcg (€0.11 per 1 mcg)	- 668	- 1,234
S3. Cost of a NIV day decreased to €1,390 per 24 hours	- 1,022	- 1,266
S4. Cost of a NIV day increased to €1,850 per 24 hours	- 1,614	- 2,552
S5. Patients with observed data available from all three time periods (without any censoring or imputations)	- 2,486	- 1,182
S6. PRODEX patients of those 18 study centers, from which routine ICU costs were available. N (dexmedetomidine):108; propofol: 110	- 2,571	- 2,207
S7a. TISS-based total ICU costs, at unit cost of €40 per TISS point	- 517	- 781
S7b. TISS-based total ICU costs, at unit cost of €50 per TISS point	-700	-1,089
S8a. Only the declining, direct variable daily costs included, assuming they represent 25% of the total ICU costs	-25	-660
S8b. Only declining, direct variable daily costs included, assuming they represent 50% of the total ICU costs	-266	-1,550

NIV= non-invasive ventilation, TISS= Therapeutic Intervention Scoring System