SUPPLEMENTARY DOCUMENT

MATERIAL COSTS

Material costs took into account the main materials used in transcatheter aortic valve implantation (TAVI) procedures and surgical aortic valve replacement (SAVR). Minor materials (e.g., scalpels, gauze, compresses, sheets) were not included, as they carry less importance in the overall procedure cost. An exemplification of materials accounted for cost evaluation, for surgical patients and TAVI patients, can be seen in Supplementary Table 1.

Material values were assessed individually for TAVI and surgical patients.

Supplementary Table 1 – Example of Materials accounted for in a surgical patient and a TAVI patient

SAVR Patient	TAVI Patient
FLOPUMP CENTRIFUGAL PUMP	20 X 40 BALLOON CATHETER
36 X 46F WIRE REINFORCED OVAL CANNULA	CRIMPING FOR VALVE
ADULT BLOOD CARDIOPLEGIA	SUTURING SEALING DEVICE
ADULT TUBE SET	SUTURING SEALING DEVICE
ADULT MEMBRANE HEMOCONCENTRATOR	0,035 X 275 SAFARI 2 GUIDEWIRE
ADULT CANNULA KIT	ADULT 06 FR RADIAL INTRODUCER
ADULT OXYGENATOR	ADULT 07FR FEMORAL INTRODUCER
EPIC 25 VALVE	14 FR INTRODUCER SYSTEM
	DELIVERY SYSTEM
	TRANSCATHETER HEART VALVE 21,5

HUMAN RESOURCES COSTS

Human resources costs were accounted for intra-procedurally. Through direct questionnaires and electronic medical record evaluation, we determined the standard component members of an SAVR procedure and a TAVI procedure at the institution and the average time directly involved in each procedure.

Based on the average salary of these components, weighted by the hours involved in the procedure, we arrived at the amount expended on human resources in each of the procedures. For TAVI, the average value per procedure was R$ 1,464.23, and for SAVR R$ 3,426.49. These were the values used for calculating the total cost in all procedures. In supplementary tables 2 and 3, one can observe the standard teams per procedure that were used for cost calculation. The salary values of each individual component will not be provided due to institutional confidentiality reasons.

Supplementary Table 2 - Professionals involved and time dedicated per TAVI procedure

Professionals	Number of professionals	Time dedicated per TAVI procedure
Anesthesiologists		
Senior anesthesiologist	1	3 hours
Fellow anesthesiologist	1	3 hours
Interventional Cardiologists		
Senior Interventional Cardiologist	2	1 hour
Structural Interventional Fellow	1	2 hours
Fellow Interventional Cardiologist	1	2 hours
Other		
Nurse	1	3 hours
Nurse technician	2	4 hours
Senior Ecochardiographist	1	1 hour
Fellow Echocardiographist	1	2 hours

Supplementary Table 3 – Professionals involved and time dedicated per SAVR procedure

Professionals	Number of professionals	Time dedicated per SAVR procedure
Anesthesiologists		
Senior anesthesiologist	1	6 hours
Fellow anesthesiologist	1	6 hours
Cardiovascular surgeon		
Senior Cardiovascular surgeon	2	4 hours
Fellow Cardiovascular surgeon	3	6 hours
Other		
Nurse	1	7 hours
Nurse technician	2	7 hours
Perfusionist	1	5 hours
Surgical Instrument technician	1	6 hours

HOSPITALIZATION AND TREATMENT UNIT COSTS

Both surgical and TAVI patients are directed to the same hospital ward and are monitored by the valvular heart disease team, consisting of the same professionals. The estimated daily-bed cost for this ward was R$ 717.54 and used equivalently for both groups.

Surgical patients are transferred to the post-operative ICU immediately after surgery, which had an estimated daily-bed cost of R$ 2,585.34. TAVI patients requiring ICU admission are transferred to a separate unit from surgical patients, called the Coronary Care Unit, which had an estimated daily-bed cost of R$ 1,514.60.

All estimated daily-bed costs were calculated based on data from the hospital's Cost Center. These costs include direct expenses, such as healthcare professionals' salaries and administrative costs, as well as indirect expenses, including utilities (e.g., water, electricity), security, laundry services, and electronic systems. Indirect costs were allocated proportionally based on the area occupied by each unit within the hospital complex. Due to institutional confidentiality, the specific values of these components will not be disclosed.

Supplementary Table 4. Summary of estimated values used for cost calculation in the entire evaluated population

	Estimated Cost (R$)
Procedural Human Resources	
TAVI	1,464.23
SAVR	3,426.49
Inpatient Unit	**Daily-bed cost**
Ward	717.54
Post-opperative ICU – Post SAVR	2,585.34
Coronary Care Unit – Post TAVI	1,514.60