



Budget Impact of Implementing an Advanced Interventional Suite Platform for Interventional Procedures

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OBJECTIVES

A budget impact model was developed to examine the costs to the hospital of implementing an advanced interventional suite platform to perform interventional procedures.

BACKGROUND

Interventional suites are complex, resource intensive environments. New-generation interventional suite platforms aim to target procedural consistency and operational efficiency by providing enhanced usability and workflow.

The Philips Azurion Interventional Suite is an image-guided therapy system. Interventional procedures performed in these suites consist of percutaneous coronary interventions, structural heart interventions, such as transcatheter aortic valve replacements, and other interventional procedures.



Fig 1. Azurion Interventional Suite



Fig 2. Interventional Procedure

METHODS

A budget impact model from the US hospital perspective was developed. Clinical inputs were obtained from a hospital workflow study based on upgrading from an existing interventional suite to the new Azurion interventional suite. The workflow study was conducted at St. Antonius Hospital located in The Netherlands. Details on the study design are provided in Table 1.

Procedures were compared before and after the implementation of the new system for patient preparation time, procedure time, and post-procedure time.

Table 1. Azurion Workflow Study Details

Site	St. Antonius Hospital
Country	The Netherlands
Number of procedures	775
Outcomes measured	Patient preparation time, procedure time, post-procedure time, No. of cases finished late, Staff movement between exam and control room
Staff involved	6 Physicians, 12 X-Ray Techs

Lab room cost per minute was taken from Potter (2019)¹ and Childers (2018)². Unit costs were estimated at \$38 per minute (Table 2). Costs were inflated to 2022 dollars using the US medical consumer price index³ and averaged to derive a unit cost per minute.

Table 2. Unit Costs

	Potter (2019)	Childers (2018)
Cost per minute reported	\$43.59	\$20.40
Medical CPI inflation factor	1.18	1.26
Adjusted cost per minute	\$51.38	\$25.61
Cost per minute average	\$38.50	

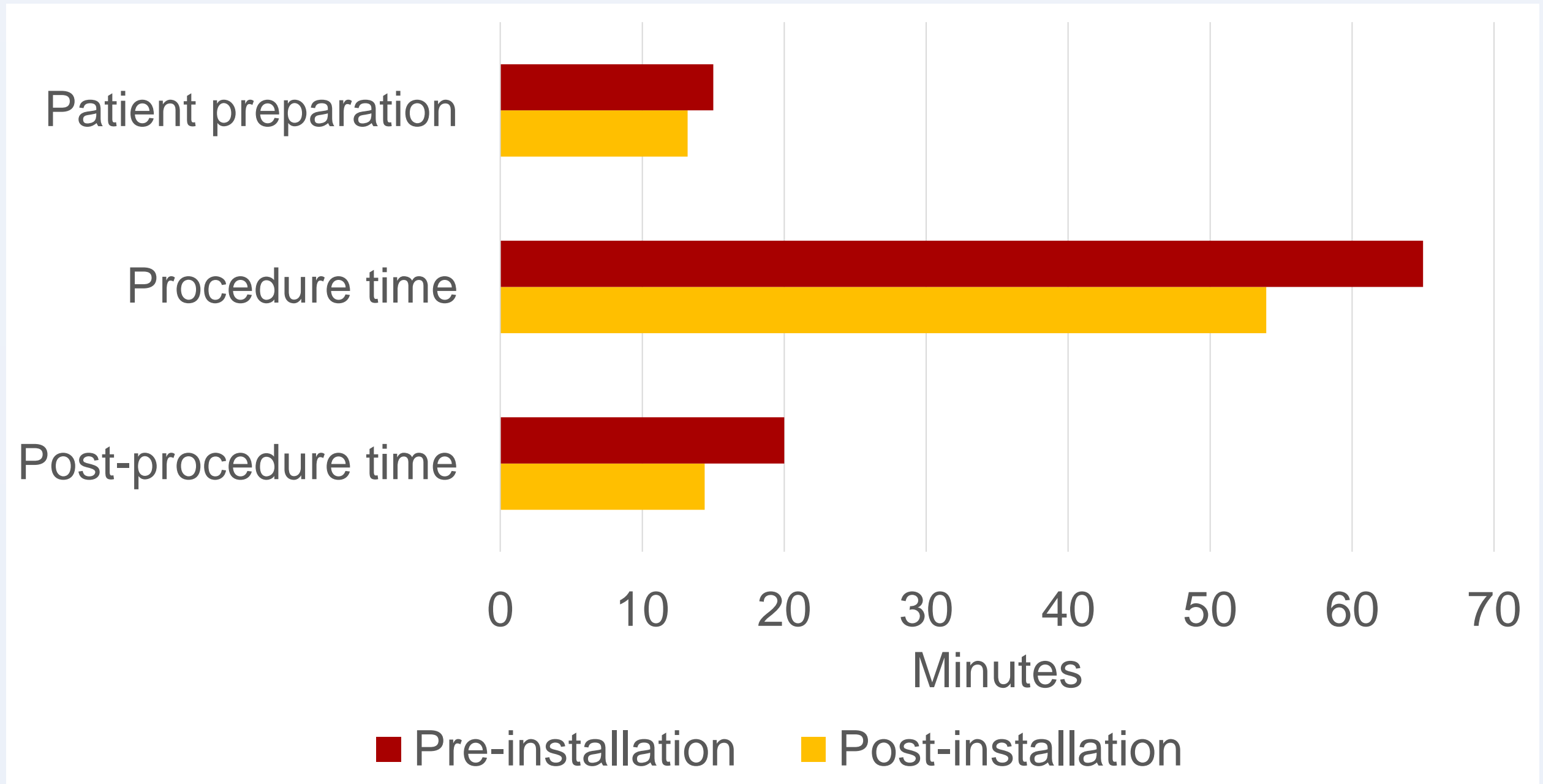
*CPI = Consumer Price Index

Cost per minute includes labor/staff and supplies that are not separately charged. It excludes anesthesia, blood products, pathology, diagnostic radiology, and the supplies separately charged in the supply department (e.g., stents, balloons).

RESULTS

In an interventional suite with the new platform, the clinical workflow study showed a reduction of 12% in patient preparation time ($p=0.003$), 17% in procedure time ($p=0.010$), and 28% in post-procedure time ($p<0.001$).

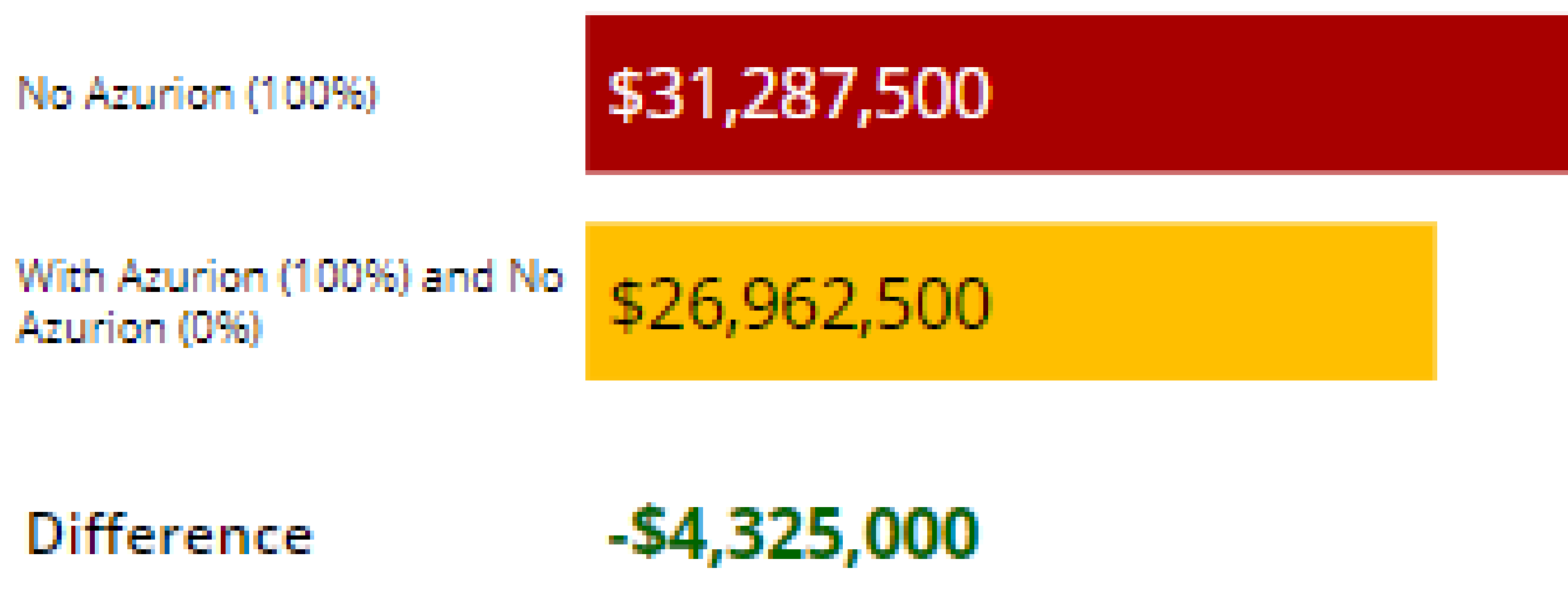
Fig 3. Interventional Suite Time Pre- and Post-Installation



The efficiency gained by the new platform led to a decrease of \$710 per procedure when considering the total time saved. When only considering the procedure time saved, this led to a decrease of \$425 per procedure.

For high volume hospitals conducting 2,500 procedures annually and taking into consideration the cost of the Azurion platform (\$1m); approximately \$4m worth in savings is realized over a 5-year period.

Fig 4. Hospital Costs with Azurion versus without



CONCLUSIONS

Hospitals could benefit from upgrading their systems to an advanced interventional suite by reducing procedure times, which can lead to reductions in lab room costs.

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