



Hospital Equipment Procurement Analysis



By: Ajagunna Ruth Omolara
Date: 05/05/2024

Hospital Equipment Procurement Analysis

Equipment

All

Supplier

All

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Cost Analysis



Total Procurement Cost

\$21.6M

Total Installation Cost

\$275.7K

Total Maintenance Cost

\$462.6K

Average Maintenance Cost

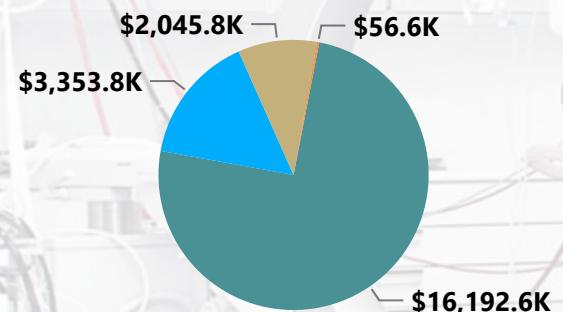
\$1.8K

Total Quantity

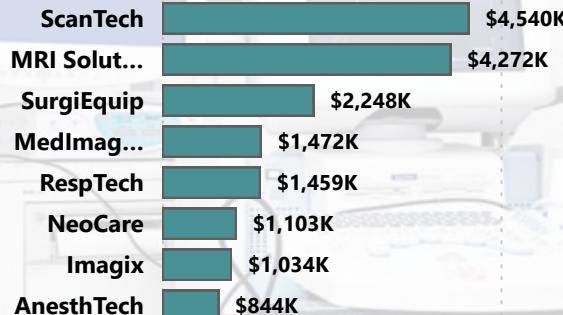
612

Procurement Cost by Equipment Condition

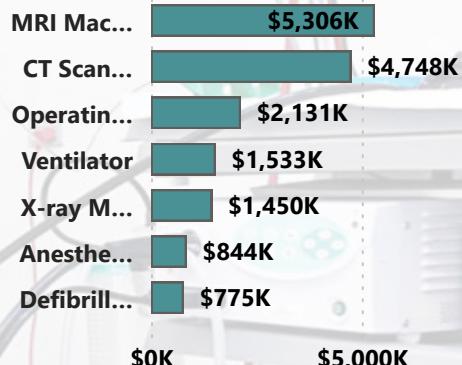
New (Dark Teal) Used - Good (Light Blue) Refurbished (Yellow) Fairly-Used (Orange)



Procurement Cost by Supplier

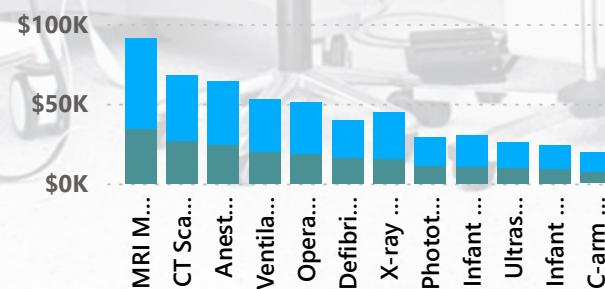


Procurement Cost by Equipment



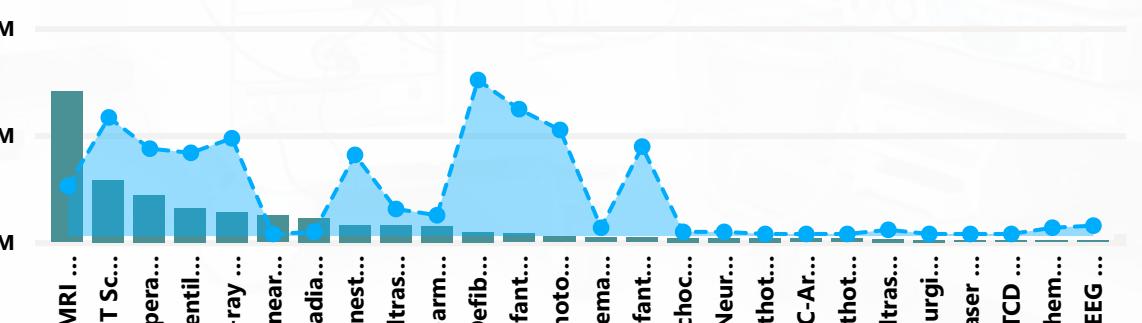
Installation and Maintenance Cost Across Equipment

Sum of Installation Cost (Blue) Sum of Maintenance Cost (Red)



Equipment Unit Price and Quantity

Sum of Unit Price (USD) (Teal) Sum of Quantity (Blue)



Supplier Performance



Date Ordered

1/10/2024 4/20/2024

Date Delivered

2/5/2024 5/15/2024

Supplier

All

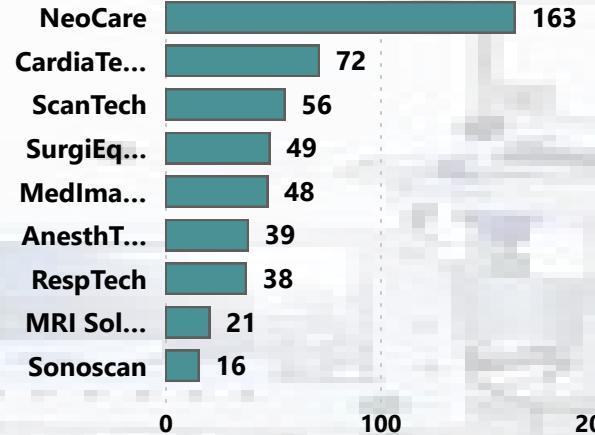
Equipment

All

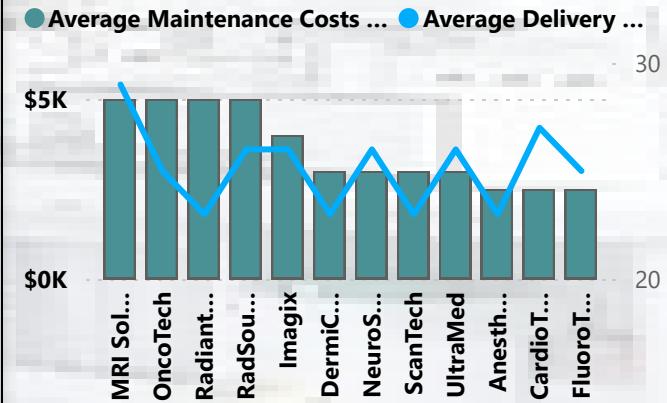
Supplier Country

All

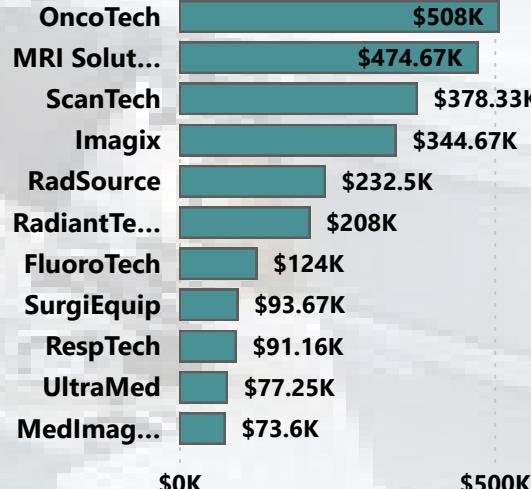
Equipment Quantity by Supplier



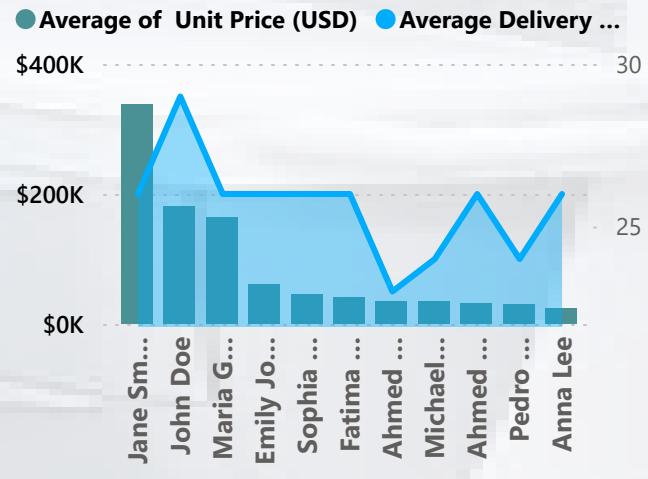
Average Maintenance Cost and Delivery Time by Supplier



Average Total Procurement Cost by Supplier



Average Unit Price and Delivery Time by Supplier Contact

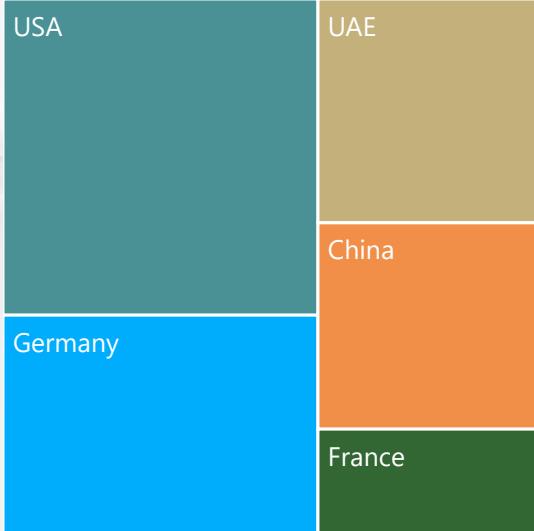


Equipment

Supplier

Equipment	Supplier
Anesthesia Machine	AnestTech
Audiometer	HearTech
Blood Analyzer	HemoTech
Blood Bank Refrigerator	BioTech
Bone Densitometer	OrthoTech
C-arm Fluoroscopy	FluoroTech
C-Arm Machine	NeuroSurg
Cast Cutter	OrthoTech
Cautery Machine	SurgiEquip

Top 5 Supplier Country by Unit Price



Equipment Condition Analysis



Equipment Condition

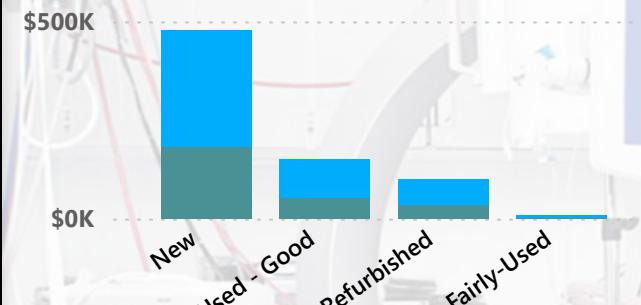
- New
- Refurbished
- Used - Good
- Fairly-Used

Equipment

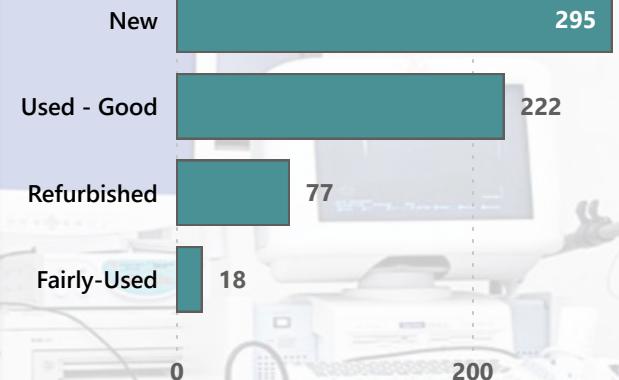
All

Installation Cost and Maintenance Cost by Equipment Condition

● Sum of Installation Cost (USD) ● Sum of Maintenance C...

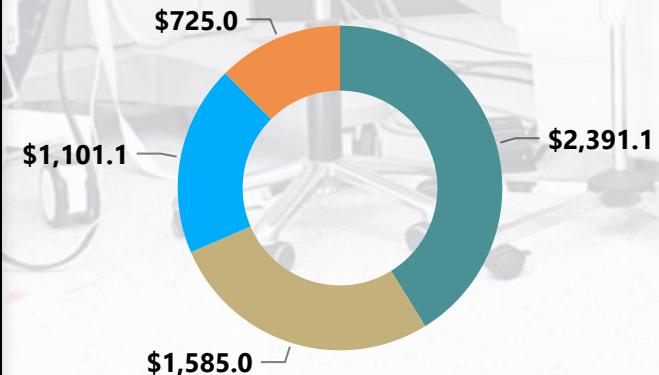


Quantity by Equipment Condition



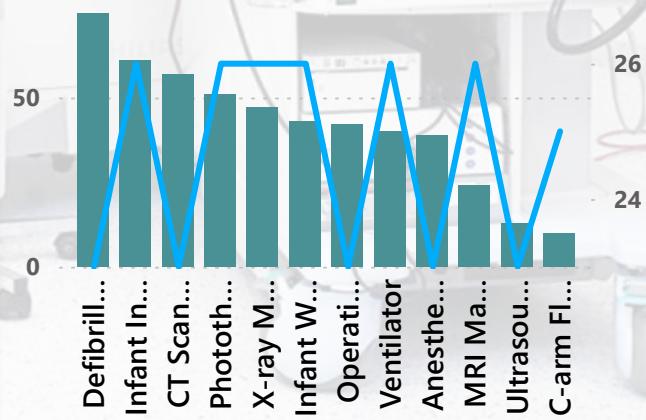
Average Maintenance Cost by Equipment Condition

● New ● Refurbished ● Used - Good ● Fairly-Used



Equipment Quantity and Delivery Duration

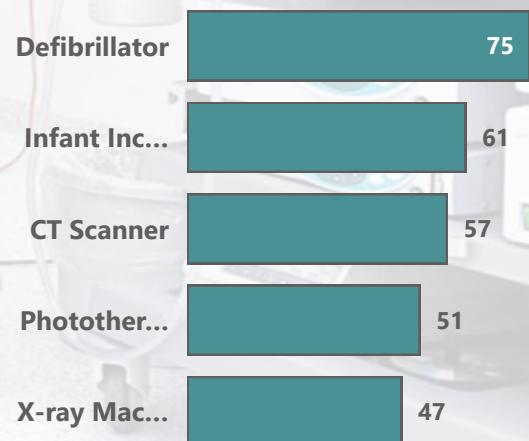
● Sum of Quantity ● Delivery Duration (Days)



Equipment Condition (groups)

Equipment	Equipment Condition (groups)
Anesthesia Machine	New
Audiometer	New
Blood Analyzer	Refurbished
Blood Bank Refrigerator	New
Bone Densitometer	New
C-arm Fluoroscopy	New
C-Arm Machine	Refurbished
Cast Cutter	Fairly-Used

Top 5 Most Procured Equipment



Hospital Equipment and Warranty Analysis



Department

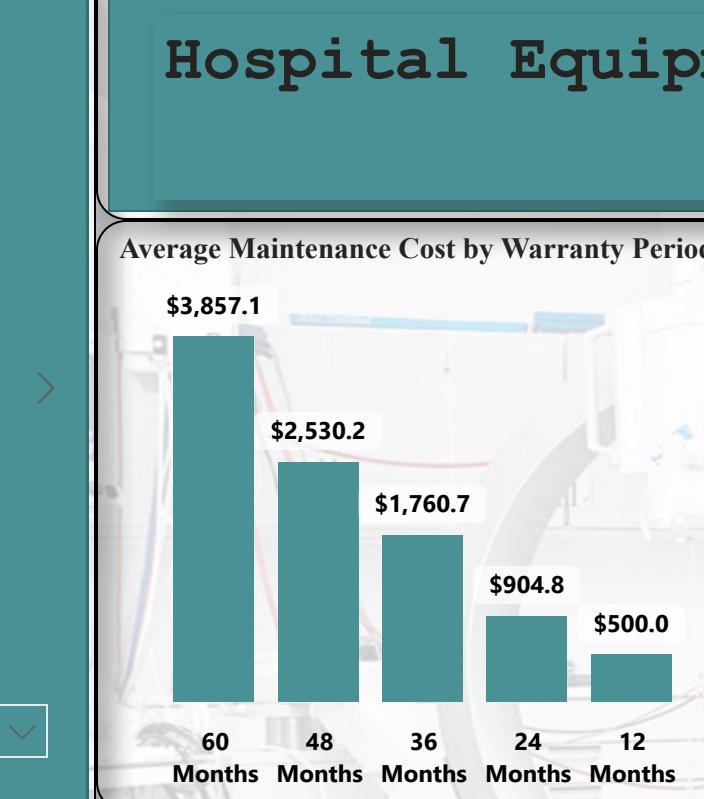
Cardiology

Dermatology

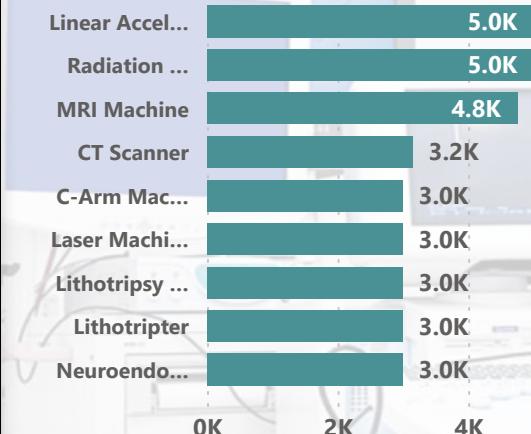
Emergency Care

Hospital

All



Average Maintenance Cost for Equipment with Warranties



Hospital

Equipment

Sum of Quantity

Equipment Condition

Aba Medical Center

Abakaliki General Hospital

Abakaliki Hospital

Abakaliki Hospital

Abeokuta General

Abeokuta General Hospital

Infant Warmers

Defibrillator

Cystoscope

Lithotripsy Machine

Laser Machine

CT Scanner

3

New

1

Refurbished

1

Refurbished

7

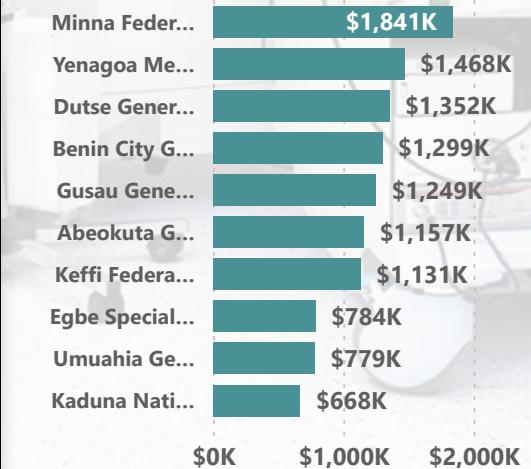
New

Equipment

All

Equipment	Warranty Period
Anesthesia Machine	36 Months
Audiometer	24 Months
Blood Analyzer	48 Months
Blood Bank Refrigerator	48 Months
Bone Densitometer	48 Months
C-arm Fluoroscopy	48 Months
C-Arm Machine	36 Months
Cast Cutter	24 Months
Cautery Machine	36 Months
Chemotherapy Pump	36 Months
Chemotherapy Pump	48 Months

Total Procurement Cost by Hospital



Top 5 Departments In Terms of Cost and Maintenance

Radiology

Oncology

Neurosurgery

Surgery

Emergency Care

\$226K

\$208K

\$168K

\$79K

\$63K

SUMMARY

Equipment Distribution:

The most common equipment procured includes Defibrillators and Infant Incubators with 79 and 61 Units procured respectively. CT Scanner and Phototherapy Unit follow closely.

Procurement Timelines:

The average procurement timeline from order to delivery is approximately 25 days, with a standard deviation of about 1.5 days. The fastest delivery took 23 days, and the longest took 29 days.

Supplier Performance:

The performance varies by supplier, with some able to deliver as quickly as within 23 days of ordering, while others take up to 29 days. Top Three Suppliers in Terms of Delivery Time and Cost-Effectiveness include ENT Solutions, Bio Tech and Physicare. The USA, Germany and China are top Supplier Countries.

Equipment Conditions:

Most of the equipment procured is new (295 units), followed by used but in good condition (222 units). There are also refurbished 77 units and 18 used units in fair condition.

Cost Analysis:

Total Procurement Cost: The total procurement cost, including unit prices, installation costs, and maintenance expenses, amounts to \$21,648,800. This highlights the significant financial investment in medical equipment procurement.

Warranty Analysis:

Warranty Utilization: The average maintenance cost increases with the warranty period, indicating that longer warranties might be associated with more complex or higher-end equipment which could inherently have higher maintenance costs.

RECOMMENDATION

Optimize Procurement Costs:

Consider a balanced procurement strategy that includes a mix of new, refurbished, and used equipment based on usage intensity and critical need, to optimize both cost and reliability.

Enhance Warranty Utilization:

Negotiate longer warranties for high-cost equipment to potentially reduce annual maintenance costs. Also Develop a maintenance schedule that aligns with warranty periods to maximize warranty claims and reduce out-of-pocket expenses.

Improve Equipment Quality and Reliability:

Regularly review equipment performance metrics and maintenance records to identify equipment that frequently requires repairs or has high maintenance costs. Also Increase training for staff on the proper use and routine maintenance of equipment to extend its lifespan and performance.

Strategic Equipment Upgrades:

Prioritize upgrading equipment that is consistently in the "Used - Fair" condition category to newer or refurbished models to reduce the frequency and cost of repairs.