Beyond Traditional Metrics: Assessing Value in Carpal Tunnel Surgeries

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Beyond Traditional Metrics: Assessing Value in Carpal Tunnel Surgeries
Meet Patel¹, Emily Mazier², Megan Carulla¹, Trae Hill¹, Alex Lindahl², Charles S. Day³
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Introduction:
To control healthcare costs, one must consider cost-effectiveness and quality of care metrics. This study compares the value of carpal tunnel release (CTR) performed in the ambulatory surgical center (ASC) to the hospital outpatient department (HOPD).

Methods:
Costs were determined by the Time-Driven Activity-Based Costing (TDABC) methodology. All steps of a patient care pathway for CTR performed in ASC and HOPD were organized into a process map. Costs were categorized into the following:

- Direct Variable: Staff salaries directly involved in patient care
- Direct Fixed: Materials, supplies, and building fees
- Indirect: Maintenance, administration, and marketing

Differences in pre-operative and 3-month post-operative PROMIS UE and PI scores were multiplied by average life-years remaining for each patient to determine quality-adjusted life-years (QALY). Costs were divided by QALY_{UE} and QALY_{PI} to determine incremental cost-effectiveness ratios (ICER), denoted as ICER_{UE} and ICER_{PI}.

Results
16 HOPD patients were compared to 18 ASC patients. Costs were significantly lower in the ASC by $951.15, or 30.5% (p<0.001). HOPD QALY_{UE} was greater than ASC QALY_{UE} (0.858 vs 0.702) (p=0.899). HOPD QALY_{PI} was greater than ASC QALY_{PI} (1.274 vs 0.988) (p=0.796). ICER_{UE} was greater in the HOPD by $6097/QALY. ICER_{PI} was greater in the HOPD by $3325.69/QALY.

Discussion:
Higher ICER values indicate the HOPD provides less value, despite having better outcomes compared to the ASC. The significant decrease in cost shows the ASC to be more cost-effective.

Significance/Clinical relevance:
As healthcare costs continue to rise, value-based care will maintain a pivotal role. Combining TDABC and PROs to determine value can aid clinicians in decision-making.