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Title: Cost Minimization Analysis Of Post Anesthesia Care Unit (PACU) Recovery Versus Short Stay Hospital Admission For Outpatient Procedures

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NO CONFLICT TO DISCLOSE

Our disclosure is in the Final AOFAS Mobile App.

The authors have no potential conflicts with this presentation.
Introduction

A common decision facing orthopaedic surgeons is whether to utilize Post Anesthesia Care Unit (PACU) resources beyond normal operating hours versus short stay hospital admission for patients undergoing outpatient procedures and requiring extended recovery. The purpose of this study is to define these two postoperative treatment modes from a financial perspective in order to aid health systems in cost-conscious value-based decision-making. Our hypothesis was that short stay hospital admission has lower costs compared with prolonged PACU care.

Methods

Institutional cost accounting data at a major tertiary care center was reviewed to develop itemized cost estimation models for patient stay in two recovery treatment areas: PACU and short stay hospital. Based on institutional cost accounting principles the PACU alternative was further divided into “inpatient” and “outpatient” subgroups owing to discrepant costs for these separate visit types. Costs were analyzed using Time-Driven Activity Based Costing (TDABC)—a novel accounting methodology defined by Kaplan and Porter. After thorough process mapping, the TDABC methodology—projected to more closely approximate actual medical center costs—was employed to delineate labor costs for the PACU and short hospital stay settings with several assumptions made: 1) inpatient PACU and outpatient PACU labor cost differences are negligible at our facility; 2) patients with routine postoperative recovery have no significant difference in acuity after the first hour; 3) non-labor costs (supplies, equipment, hospital administration, housekeeping, utilities, laundry/linens, etc) are similar between PACU and short stay cohorts and can reasonably cancel each other out from the value equation; 4) long-term outcomes of patients at the end of their care cycle are independent of PACU versus short stay hospital admission thus leaving cost as the difference in the value proposition.

Results

Based on institutional standard cost accounting methods, the accrued total cost for inpatient and outpatient PACU stays were both initially cheaper than short stay hospital admission costing the medical center $263, $366 and $591 for the first hour of postoperative care, respectively. Between 2-2.5 hours postoperatively, the cost of short stay admission was more efficacious than outpatient PACU. Similarly, short stay hospital admission became less expensive than inpatient PACU treatment after 3.5 hours of care (Figure 1). When analyzing labor costs per the TDABC perspective, we found that short stay hospital admission labor is considerably more cost efficient and that savings increase quickly over time with nearly $800 less invested by the medical center during a 6 hour stay when compared to extended PACU activity during the same period (Figure 2). Further sensitivity analyses were undertaken to stratify cost by varying numbers of patients as well as increased hourly wages for PACU workers staying past the end of their shifts to provide care.

Discussion

While there has been much investigative work in postoperative outcomes in orthopaedic surgery, the area of postoperative cost minimization has not been rigorously analyzed. In a global payment model, cost minimizing strategies will be increasingly employed. Our hypothesis of improved cost savings with short stay hospital admission in place of extended PACU care was supported in a cost center based tertiary care facility. Short stay hospital admission appears to be a practical and economical alternative to PACU care when PACU stays are anticipated to extend beyond 2.5 to 3.5 hours.
REFERENCES:


