Goldilocks and the Three ORs: Rightsizing Your OR to Be Just Right

OPERATIONAL FACTORS IMPACTING OR EFFICIENCY
Factors Impacting Operating Room Utilization

Scheduling

- Effective Scheduling Policies and Procedures
- Appropriate hours of operation
- Efficient and optimal scheduling access
- Surgeon satisfaction with scheduling process
- Adequate Anesthesia Services support
- Correct length of time booked for procedures
- Clear schedule management guidelines
- Effective advance reviews of schedule
Enhancement of Scheduling Policies and Procedures

Incorporate key elements

• Define procedures as to: Elective, Urgent, Emergent
• Identify hours of operation by days of week
• Include operative definitions
• Document operative protocols (i.e. “bumping”, scheduling conflicts, etc.)
• Define required scheduling information
• Clarify scheduling access
Factors Impacting Operating Room Utilization

Block Allocation/Management

- Comprehensive Block Allocation Policy and Procedure
- Effective Block Committee for allocation of block time and adherence to approved Block P&P
- Physician champion
- Optimal surgeon/service allocation based on utilization data
- Accurate block allocation grid
Enhancement of Block Allocation Policies and Procedures

Incorporate key elements

- Percent of required utilization for allocation
- Methodology for data collection and analysis
- Action steps for block allocation revision
- Conflict resolution process
- Block release times
  - Unused day-to-day block time
  - Out of office extended time (i.e. vacation)
- New surgeon requests for block time
Factors Impacting Operating Room Utilization

Patient Related Services

- Preadmission and Testing
  - Clinic visit or phone assessment
  - Procedure verification
  - Anesthesia services
- Day of surgery
  - Admission time
  - Surgeon and anesthesia orders
  - Preop preparation and admission requirements
- Throughput
Example Data Analysis of Pre, PACU and Phase II Post-Operative Patient Volume and Flow
Factors Impacting Operating Room Utilization

First Case On-Time Start Targets

- Documentation of what start time is: in the room time or cut time?
- Data collection: absolute at 07:30 or give a 5 minute grace period
- Accurate documentation of first case start delays
- Implementation of consequences for consistently last starts (surgeons, anesthesia, staff)
- Document delay causes
- Track day of surgery cancellations
Example OR Data Analysis of First Case On-Time Start

- Case start is defined as "Surgical Time Start".
- With no designated scheduled start time, only first cases starting within 1 hour of 7:30 were analyzed.
Factors Impacting Operating Room Utilization

Room Turnover (Downtime)/Case Turnover

- Definitions
- Documentation of Specialty Service specific goals
- Review Service specific benchmark data
- Implementation of multi-disciplinary Schedule Management Team
Example Data Analysis of “Room ” Turnover (the Staff Perspective from Patient Out to Next Patient In)
Example Data Analysis of “Case” Turnover (the Surgeon Perspective from Incision Close to Next Incision)

Actual Case Turnover (Close to Next Incision Open) vs. Benchmark
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ACTIONABLE STEPS
Leading Causes of Wrong Sized ORs

Potential areas of focus

- Insufficient and inaccurate utilization data
- Number of rooms does not meet demand
- Absence of comprehensive Scheduling and Block Allocation Policies and Procedures
- Unsatisfactory days and/or hours of operation
- Inappropriate Block allocation grid
- Ineffective schedule management
- Unsatisfactory day-to-day operations
- Limited medical staff involvement and oversight
- Poor team communications
Step # 1: Understand current work processes and potential barriers to success by conducting an operational assessment

- Conduct interviews and observe work processes
- Review and summarize data
- Summarize interviews, observations and data analysis
- Develop associated recommendations/strategies for change for the identified key issues
- Prioritize opportunities with leadership and begin the work through work process redesign teams
OR Work Process Redesign

Potential areas of focus

- Case scheduling revision
- Define Block policies/procedures and allocation
  - Redesign of scheduling grid to optimize utilization based on utilization goals
  - Surgeon and Anesthesia collaboration
  - Overall Surgical Services policies/procedures
- Patient flow/throughput/patient care processes
- Regulatory compliance
- Technology and availability of data for data driven decisions
- Preference Cards/Case Carts/SPD
- Committee and leadership interaction
OR Work Process Redesign

What is required

• Leadership commitment
• Collaborative team approach (leadership, surgeon, anesthesia, nursing/technical/support, and interfacing departments)
  • Patient personal experience of care is made the priority
• Outcome focused
• Technology and access to data to make data driven decisions, consistent and fair, not personal and political
• Staff development
• Sustainability, culture change
Design, Implementation and Monitoring Activities

Based on the Assessment Results with Perioperative Steering Committee Approval, Redesign Team Process Owner(s) should:

- Develop Action Plan(s) identifying action items, timelines and process owners for the Implementation Phase
- Discuss/develop implementation strategies with OR leadership
- Be an active participant in meetings with department leaders and staff for process design/redesign work
- Provide expertise, support and oversight throughout implementation process
- Develop monitoring tools for pre- and post-implementation measures for success
Enhancing Surgeon Participation – 4 C’s

Key Steps to Surgeon Participation

• Identify a physician champion
• Increase surgeon collaboration
  • Include on Teams,
  • Hold one-on-one meetings
  • Include surgeons in problem solving activities and seek input
• Identify effective communication methodologies
  • Newsletters, bulletin boards, meeting minutes
  • AM breakfasts
  • Award service excellence
• Enhance committee involvement
  • SS Administrative
  • Scheduling and Block Allocation
  • Schedule management
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TOOLS AND KEY MEASURES OF SUCCESS
Success Performance Measures

- Maintain a balanced perspective with the continuous monitoring of current processes and outcomes to drive appropriate performance improvement initiatives to ensure you are doing the right things within the right-sized ORs

Patient Experience
- SCIP Measures
- Satisfaction /HCAHPS
- Quality outcomes

Operational Processes
- First Case On-Time Start
- Room and Block Utilization
- Turnover time
- Overtime percentage

Financial
- Revenue/case
- Cost per case/service line
- WH/Unit of Service
- Supply Inventory
- Supply cost per case

Growth
- Surgeon recruitment, new services
- Equipment (new & replacement)
- Case volume
- Staff and Physician satisfaction/engagement
Tools

Example OR interactive Dashboard tool summarizes and trends financial reports for each department leader and finance

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### Perioperative Services

**Daily FTE Calculation for OR**

*Instructions: Enter the total Daily volumes in the corresponding unit’s "UOS" (unit of service) field. Target FTEs at the 35th percentile will calculate below & the cumulative total FTE will calculate at the bottom of the worksheet. Enter Total Actual Hours Worked in the second Green set of cells and the Actual FTEs (daily) will calculate.*

<table>
<thead>
<tr>
<th>UOS: Total OR Minutes:</th>
<th>1,634.37</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Actual Hours Worked:</td>
<td>16.34</td>
</tr>
<tr>
<td>100 OR Minutes:</td>
<td>16.34</td>
</tr>
<tr>
<td>35th Percentile Ratio:</td>
<td>12.73</td>
</tr>
<tr>
<td>Target FTEs at the 35th Percentile:</td>
<td>26.01</td>
</tr>
<tr>
<td>Actual FTEs</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### Productivity Ratios

<table>
<thead>
<tr>
<th>Dept-Intensive Care</th>
<th>Current Quarter</th>
<th>Previous Quarter</th>
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</thead>
<tbody>
<tr>
<td>Normalized HW/UOS</td>
<td>Hours Worked per Equivalent Patient Day</td>
<td>17.57</td>
</tr>
<tr>
<td>Department Percentile Ranking</td>
<td>Intensive Care Host Rank</td>
<td>15.38%</td>
</tr>
<tr>
<td>Sample Size</td>
<td>Sample Size</td>
<td>14.0</td>
</tr>
<tr>
<td>30th Percentile (HW/UOS)</td>
<td>30th Percentile</td>
<td>18.87</td>
</tr>
<tr>
<td>35th Percentile (HW/UOS)</td>
<td>35th Percentile</td>
<td>19.38</td>
</tr>
<tr>
<td>40th Percentile (HW/UOS)</td>
<td>40th Percentile</td>
<td>19.78</td>
</tr>
<tr>
<td>FTEs Based on 35th Percentile</td>
<td>FTEs Based on 35th Percentile</td>
<td>113.32</td>
</tr>
<tr>
<td>Normalized FTEs</td>
<td>Current Department Normalized FTEs</td>
<td>102.75</td>
</tr>
<tr>
<td>Actual FTEs</td>
<td>Current Department Actual FTEs</td>
<td>104.32</td>
</tr>
<tr>
<td>Normalized FTEs vs FTEs Based on 35th Percentile</td>
<td>(10.57)</td>
<td>(11.90)</td>
</tr>
</tbody>
</table>

**Total FTEs Normalized In/Out**

<table>
<thead>
<tr>
<th>Current Quarter</th>
<th>Previous Quarter</th>
</tr>
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<tbody>
<tr>
<td>-1.57</td>
<td>-1.80</td>
</tr>
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</table>

**12.57%**
## Tools

### Example OR Scorecard Performance Measures

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Target</th>
<th>Baseline</th>
<th>1st Q</th>
<th>2nd Q</th>
<th>3rd Q</th>
<th>4th Q</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td><strong>Satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Operational Processes/Quality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Surgical Infection Rate</td>
<td>&lt; 3 %</td>
<td>&lt;1%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pre-admission % Surgical Cases Assessed</td>
<td>98 %</td>
<td>50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR Suite Downtime</td>
<td>20 min</td>
<td>32 min</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>OR Case Turnover</td>
<td>(45 min.)</td>
<td>(61 min)</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>In to Cut-15 Downtime -20</td>
<td>In:19 Out: 10 DT: 32</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>% First Case On-Time Start</td>
<td>&gt;75 %</td>
<td>33.5 % @ 5' 55.5 % @ 10'</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>% Cases Cancelled</td>
<td>&lt; 3%</td>
<td>10%</td>
<td></td>
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</tr>
<tr>
<td>Blocked/Open Rooms</td>
<td>70 % / 30 %</td>
<td>100% / 0%</td>
<td></td>
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<tr>
<td><strong>Financial</strong></td>
<td></td>
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</tr>
<tr>
<td>Case Volume/month</td>
<td>10% increase</td>
<td>892/month avg. Jan-Aug</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Inventory</td>
<td>$100K/open room</td>
<td>150K/open rm</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Worked Hours Per Case</td>
<td>13-14 WHPC (budget)</td>
<td>16.1 WHPC Jan-Aug</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Overtime %</td>
<td>&lt;2.6 % (budget)</td>
<td>4.3 %</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Staff Turnover %</td>
<td>&lt; 4%</td>
<td>14%</td>
<td></td>
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<tr>
<td><strong>Development &amp; Growth</strong></td>
<td></td>
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</tr>
<tr>
<td>Staff CPR credentialed</td>
<td>100%</td>
<td></td>
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<tr>
<td>% staff attending education/inservice program in addition to mandatory updates</td>
<td>95 %</td>
<td>35%</td>
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CASE STUDY
OR Case Study

Project Scope
• Hospital engaged Soyring Consulting to provide OR Operational Assessment and Transitional Leadership assistance

Project Approach
• Operational assessment and data analysis through interviews, observations and data analysis
• Implemented improved case scheduling to eliminate incorrect/outdated information hindering billing
• Partnering between OR leadership, OR Medical Director and Division Chiefs, interfacing department leaders

Project Outcomes
• Improved block scheduling and monitoring process
• Improved supervisor on-boarding and the role in the department to improve staff satisfaction with leadership
• Reduced number of open rooms and developed new staffing schedule with correct skill mix
Results

Block Redesign Project

- Block Policy presented to Division Chiefs with collaborative plan to progressively move toward utilization goals
  - First block analysis period April 15, 2012 – May 26, 2012 required surgeons to achieve utilization of 25%
    - Block was eliminated under 25% allowing one room in the MOR/HCH to be closed daily
    - One room daily was open (unblocked) allowing for an add-on room
  - Second block analysis period September 9, 2012 – October 20, 2012 required surgeons to achieve utilization of 45%
    - Block was eliminated under 45% allowing an average of 2 additional rooms to be closed per day in MOR/HCH/ASC
    - One room daily was open (unblocked) allowing for an add-on room One room daily open for surgeons without block to accommodate their cases
  - Next block period March 3, 2013 – May 11, 2013 and requires surgeons to achieve 55%
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DISCUSSION