Leveraging EHR Data to Improve OR Operations: A University Hospital Case Study

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Agenda

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• Why We’re Here – Motivation
• What We Did
• Marketplace for Open Time
• Customized OR Management
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Learning Objectives

1. Examine how Saint Peter’s increased OR access during standard business hours for both new and existing surgeons using data from their EHR

2. Review how Saint Peter’s increased accountability with actionable, surgeon-centric utilization metrics, resulting in significant improvement to their OR capacity management

3. Describe why adding visibility helped Saint Peter’s surgeons better understand the “WHY” behind OR metrics
About Saint Peter’s University Hospital

- New Brunswick, NJ
- University teaching hospital
- 10 ORs in 1 location
- 600+ cases a month
- 100+ active surgeons
- Allscripts Paragon
Challenges

- Expensive, “perishable” OR capacity
- Poor access to available open time
- Significant demand variability among block owners
- Proactive scheduling team with manual processes
- Minimal insight into data through EHR
- Challenges in enforcing accountability for blocks
Why We’re Here - Motivation

OR Time Is Precious and Never Available….

…Yet “Reserved Time” is Left on the Table Each Day.

• Each operating room minute is worth $100 - $300
• A 500-minute day is worth $50,000 - $150,000
• 1% improvement is worth $125,000 - $375,000 per operating room per year
• On average, for a 20 operating room hospital, improving utilization 3% is worth $15,000,000 per year
What We Did

**Accessibility**

No such thing as a perfect block allocation - Block time will never be used exactly as planned…

How can we ensure advance time release, create visibility into open time, and making it simple to request time – “a liquid marketplace for open time”

**Accountability**

The current process for right-sizing blocks is broken… “Block utilization” is not actionable

”Collectable time” is far more surgeon-centric and actionable

**Visibility**

Is reporting “admiring the problem” or driving decisions? Are providers and administrators engaged in credible data?

Becoming more data and hypothesis-driven and bring reporting into the 21st century?
Marketplace for Open Time

Increased Access

• Transparency into open time for surgeon clinics
• Transparency into demand for OR schedulers
• Ability to release time with proactive interventions
• Flexible, real-time configuration to set equipment and staffing constraints to reflect real availabilities
• Effective use of robot
Customized OR Management

Configurable for How You Run Your ORs

- Run fewer rooms than you have
- Enforce service line maximum
- Make robot rooms do robot cases
Scheduler Effectiveness

The Right Tools for Your Schedulers

- Centralize transaction management
- Establish an organized audit trail
- Enable OR schedulers to hold time for special needs (transplant, etc.)
Results

30 Blocks per Month Released

80 Blocks per Month Requested

70% Requests From Surgeons Without Block Time

15 days Average Release Proactivity
Deep Visibility into Metrics

Adopting a Single Source of Truth

- Formalized and standardized set of KPIs with goals
- Comprehensive, accurate, and timely information
- Deep drill-downs into the data to granular level
- Ad-hoc hypothesis testing with "Explorer"
Open Marketplace as a Recruitment Tool
Better Capacity Identification for Tighter Allocation
Diagnostic Insight into Current State
Multi-Channel Access

Engage Your Surgeons Anywhere, Anytime

- Web
- Email
- Mobile
- SMS
- Chat-bot
- Paper
Delight Providers

Surgeon-Centric Experience

• Access to performance metrics on both mobile and web platforms

• Weekly text summary of personalized KPIs “pushed” to surgeons

• Linked to the mobile web experience for deeper engagement
Data-Driven Block Right-Sizing

Enforcing Accountability

*Collectable Time* made it easier to take blocks away:

- Surgeon-centric, defensible, and actionable methodology
- Enables conversations with underperforming block owners
- High defensibility of data mitigates back-and-forth for quick decisions

Identify the **right capacity**, and then **put it to work**.
Large Contiguous Portions of Unused Time

Abandoned Time

Releases Beyond a Certain Threshold
Then...

**OR and Clinic Scheduling was a Manual, Cumbersome Process**

- OR schedulers and clinic schedulers dealt with fax, emails, calls, sticky notes etc.
- Clinic schedulers had no visibility into true open time inventory
- OR schedulers had no visibility into true patient flexibility
- No way for OR schedulers to request or release block ownership in the EHR
Then...

Creating, Accessing, and Crediting Open Time is a Broken Process

• No mechanism to broadcast open time
• No way to release time in EHR
• No incentive or trigger to release time
• No way to track releases
• Periop leadership relied on paper notes to credit surgeons for releases
Clinic schedulers now have full visibility into open time, and can self-balance based on patient flexibility

OR schedulers can now focus on managing OR constraints and outlier cases

OR schedulers have visibility into most demanded times to accommodate as much volume as possible

An organized audit trail for scheduling activities

Back-and-forth conversations significantly reduced through digitization

...and Now

OR and Clinic Scheduling is a Highly Streamlined, Centralized, Digital Process
...and Now

Scheduling statistics provide insights to guide decision-making

- Statistics such as “request and release proactivity” help the OR make data-driven decisions to set policies
- Transparency into transactional activities from metrics such as release-request fill rate helps identify opportunities
- Ability to easily monitor the effectiveness of OR initiatives
Then…

Poor Visibility Into Performance and Lack of Trust in Existing Data Led to Surgeon Disconnect with Operational Reality

- Lack of reliable reporting directly from EHR
- Spent days each month on creating metric spreadsheets that were manual and error-prone
- Definitions and goals were decentralized
- Data was not surgeon-centric
- Information was disseminated through email or paper, which was inconvenient for busy surgeons
…and Now

Surgeons are Actively Engaging with Individual and Institutional Data

• Primary motivation for initial engagement

• Definitions and goals are clearly displayed on an interactive dashboard

• Weekly text summary of KPIs – linked to a mobile web experience for deeper engagement

• Surgeons often interact, challenge, and directly engage with the data

• Surgeons are active participants in having data-driven conversations about their own performance
Then...

Challenges in Repurposing Allocated Block Time

- Challenging to synthesize block utilization data in a timely manner
- Inconsistent enforcement of block policy
- Block utilization was frequently challenged by block owners
- Limited physician involvement in block management
...and Now

Decision-Centric Approach to Block Right-Sizing

• OR Committee is able to make data-driven decisions through the *Collectable Time* methodology

• Focus on large opportunities and reusable portions of time

• Repeatable and defensible logic that accounts for flaws in block utilization calculation

• Easily generate customizable block letters for actions taken
Questions

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