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Maximize da Vinci system utilization with data-supported block scheduling

This Midwest healthcare network manages 14 hospitals including seven with a total of 19 robotic ORs equipped with da Vinci® surgical systems by Intuitive. Here's how the organization has leveraged data collection and smart scheduling to triple volume over a decade and increase the use of the modality by new specialties.

Data-driven scheduling tools support surgeons and service lines while optimizing da Vinci utilization

Automating key data collection

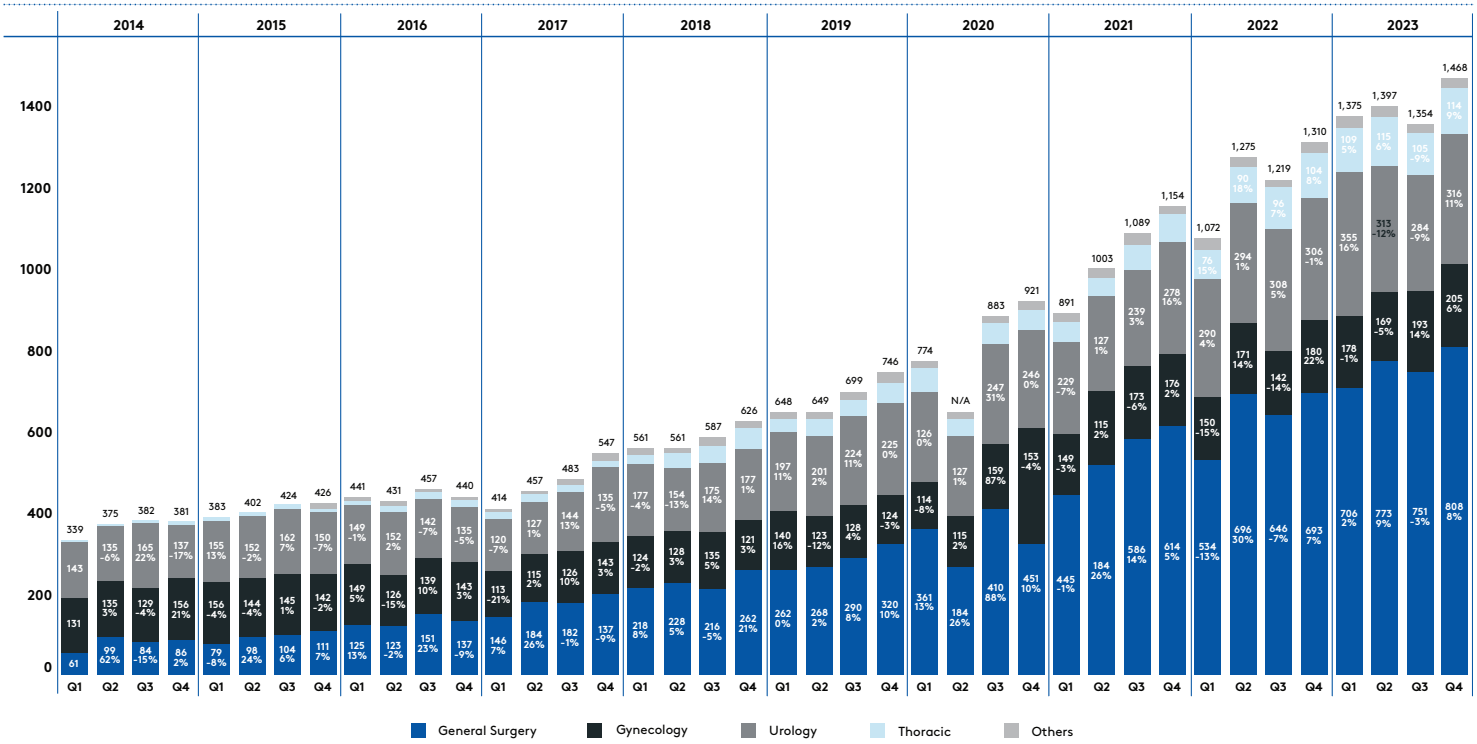
Once aiming for two da Vinci procedures per OR per day, the organization now meets a goal of 80% utilization enabled by a data-driven block scheduling model. First, they identified the data required to meet this goal and developed automated collection and reporting.

> "How do you manage 500 robotic cases a month essentially across seven different institutions? Well, scheduling starts with data. If you don't have good numbers to validate what you're doing, then that makes it really difficult."
>
> Senior Manager for Data and Analytics for Perioperative Services at the Midwestern, multi-state healthcare organization

Collecting data for effective block scheduling

Volume:	Year-over-year programmatic growth, volume per service line, and volume per surgeon are tracked to guide growth and identify new service opportunities.
Productivity:	Utilization data per service line and per surgeon (schedule block owners) reveals gaps that guide better time allocation and service line growth.
Capacity planning:	Tracking da Vinci system utilization in each OR informs resource optimization and identifies when and where additional platforms are needed.
Efficiency:	To help establish right-size block allocation and reduce turnaround delays, scheduled time is tracked against the actual duration of surgery and OR turnaround times.

Robotic volume by specialty



The result

Since implementing its scheduling model 10 years ago, da Vinci procedure volumes have tripled and the range of specialties utilizing the modality has expanded. Data management is automated, capturing and presenting EMR data in real time. The multi-state healthcare organization keeps its da Vinci program on track across seven sites with hospital and system-wide governance groups, and annual volumes continue to grow.

Tool	Implementation strategy	Result
#1 Block schedule only da Vinci cases in da Vinci ORs	Da Vinci surgery volume grew significantly after transitioning to scheduling only da Vinci surgeries in robotic-designated ORs. Block time is allocated to service lines and individual surgeons on a recurring basis (the first Monday of the month, two days a week, etc.), as well as first-come, first-served during a monthly scheduling period. Without other cases blocking access to the da Vinci technology, utilization has room to grow. Volume, productivity, capacity, and efficiency are easily tracked and block owners are held accountable for unused or under-used blocks that impact system utilization.	Closing robotic ORs to other surgical modalities expanded surgeons' access to the systems, which increased utilization and case volume. Leadership was able to capitalize on new data tracking by boosting accountability for used and wasted time, enabling them to work with surgeons and service lines to improve time estimates, scheduling accuracy, and utilization.

Tool	Implementation strategy	Result
#2 Open up blocks for a full, flexible schedule	The organization sets a goal for 80% utilization of its da Vinci platforms, which requires flexibility. Static blocks leave little flexibility for both routine and urgent scheduling and limit utilization to cases with long lead times. To alleviate these problems, leadership allows block owners sole access to scheduling cases until two weeks before surgery, when blocks open automatically. Da Vinci surgeons receive an email listing available times to schedule on a first-come, first-serve basis. In rare instances when space is still available seven days out, it can be reserved for any surgical modality. They also sets aside one block per month in each hospital for "work-in-time," allowing da Vinci surgeons to reserve time starting five days before the scheduled surgery date.	Following these strategies, the organization frequently has a da Vinci OR schedule that's not only 100% allocated but also well above the 80% utilization goal. The built-in flexibility allows surgeons to schedule last-minute cases, which is essential to meet the needs of every service line. It also gives urgent services the opportunity to expand their use of da Vinci systems—a change that enriches both the program and patient care.
#3 Use data to right-size block allocation and reduce turnaround time	The health system used historical data to arrive at a goal for scheduling accuracy: completing 70% of surgeries within 20% of their scheduled time. As surgical teams record cases in the EMR, the scheduling software automatically color-codes blocks in green (on target), yellow (under >20%), and red (over >20%). If red or yellow blocks persist for a quarter, leaderships talks to the individuals or services about how to improve. For example, they might suggest a surgeon shave off one day per month and offer tips for increasing volume in the future, or they might offer more blocks to services in the red. They also set a key related goal of 30-minute OR turnovers. Credentialed RNFAs scheduled in the da Vinci ORs facilitate quick turnaround.	Right-sizing block allocation has helped the health system meet its 70% scheduling accuracy goal and often achieves 90-100% platform utilization. Showing surgeons their under-use or over-use of the da Vinci ORs has helped them estimate case times more accurately and, with input from leadership, increase their case volume per block. In the process, service lines that are newer to the da Vinci modality have gained space to meet their needs. The organization has also driven down turnaround time from an average of 47 minutes to 35, bringing them closer to their 30-minute goal.

Tool	Implementation strategy	Result
#4 Coordinate the program with governance councils	To coordinate an efficient schedule for 500 da Vinci cases per month at seven hospitals while keeping everyone on the same track, the health system has a robotic governance structure. Each hospital has a robotic steering committee that meets each month. A system-wide Robotic Surgery Governance Council meets every other month, with representatives from each hospital, including senior leadership, perioperative leaders, da Vinci surgeons, and a representative from Intuitive.	Routine meetings allow parties systemwide to stay on top of da Vinci platform enhancements and new technologies. Members maintain a big-picture view with data from across the network, including volumes, scheduling discrepancies, utilization opportunities, and compliance with industry agreements. The governance groups ensure that the hospitals' da Vinci programs get the support they need, utilize data to meet the organization's goals, and stay ahead of important decisions and trends.

To learn more about how Intuitive can work with you to discover what your surgical trends and cost data reveal, contact:

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