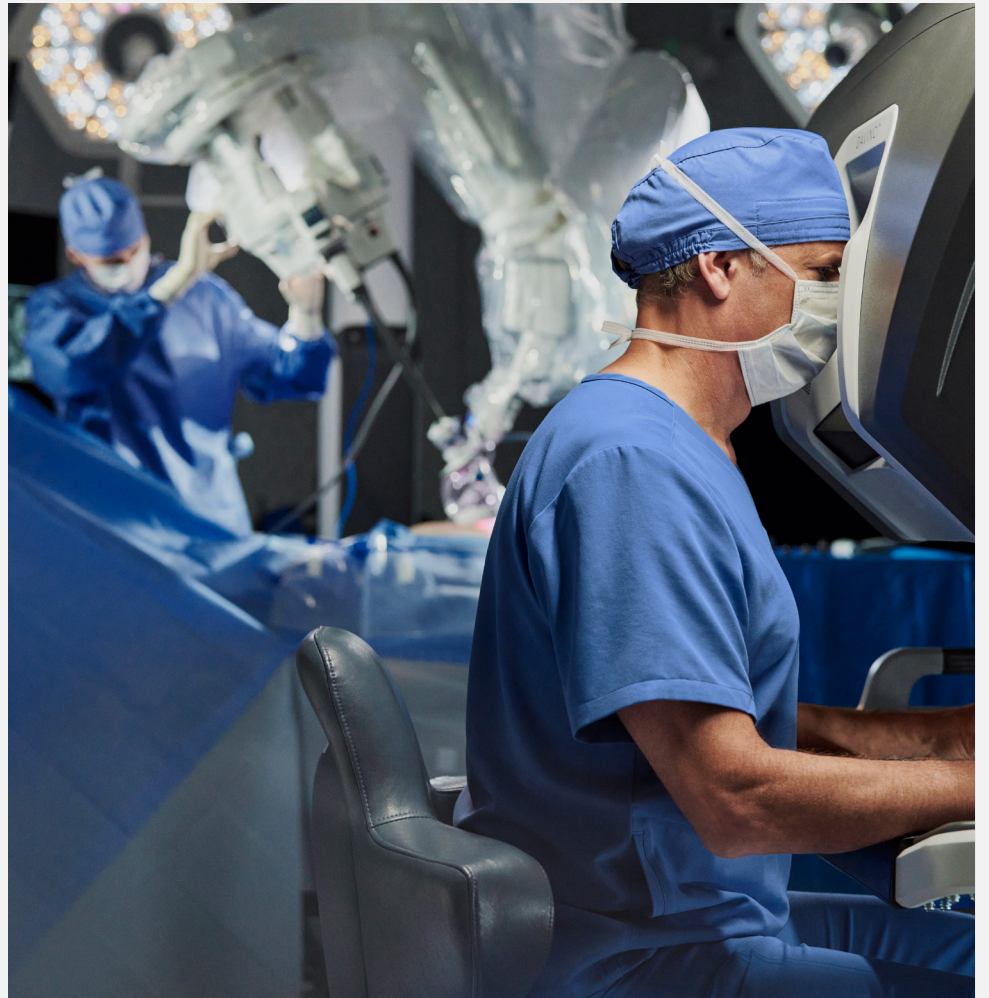


INTUITIVE

Technology, People, Strategy

Cornerstones of surgical excellence





Surgery is a continuously evolving discipline and a foundational component of medicine. Establishing and maintaining effective and safe surgical lines is not only essential for the patients, but it's also imperative for a hospital's financial well-being.

In a 2019 study published in the *Journal of Healthcare Management*¹, researchers examined data from more than 1,000 hospitals and identified an association between safer surgery and hospital financial health. Increased attention to safe care delivery may allow hospitals to generate additional patient care earnings, improve margins, and create capital to advance hospital financial position," concluded the researchers.

The financial pressure on hospitals prior to the COVID-19 pandemic was already intense. Now, after the pause in elective surgeries and added costs for treating patients with the virus, U.S. hospitals may see an impact of more than \$200 billion from March 1, 2020, to June 30, 2020, according to *estimates*² from the American Hospital Association.

In the months and weeks to come, hospital leaders will focus on both financial recovery and getting the most out of their organization's surgical service lines. In fact, many may want to conduct an honest and thorough assessment of overall surgical performance. With the Quadruple Aim as their guide, healthcare leaders can recalibrate their organizations' surgery lines.

With the current challenges in mind, this eBook provides an overview of three components of surgical excellence: technology, people, and strategy. It also offers details about resources available to hospital leaders that can further strengthen these essential mechanisms of surgery.

Technology

The art and science of surgery is always evolving—and technology plays a major role in this evolution. However, the vast number of technology solutions available can overwhelm hospital leaders looking to leverage new technology to improve care. It's important for hospital leaders with limited resources to separate what works from what doesn't when it comes to selecting technology solutions to boost the clinical performance of surgical teams. Technology alone may not solve all of an organization's problems, but the right solutions may help.

Here are two essential pieces of technology that may help support a surgical service line:

- **Minimally invasive technology:** The market for minimally invasive surgery (MIS) is growing. In 2018, the global MIS market was worth \$36.5 billion. By 2024, that figure is projected to increase by nearly 60 percent to \$58.2 billion, according to estimates³ from Research and Markets.

In a study⁴ conducted by physicians with Johns Hopkins Medicine in Baltimore, researchers found that if U.S. hospitals increased the number of minimally invasive procedures by 50 percent, patients would experience 3,578 fewer complications, overall hospital stay would decline by 144,863 days, and hospitals would collectively save \$288 million a year.

- **Surgical data:** Robotic-assisted surgery systems designed to support minimally invasive procedures have become more sophisticated in recent years. The da Vinci Xi[®] surgical system, for example, is outfitted with an operating system that supports the real-time data capture of surgical performance including procedure time, and what instruments were used. This data can be used to evaluate overall operating room efficiency.

Terry Loftus, MD, founder of the consulting firm Loftus Health and the former medical director for surgical services and clinical resources for Banner Health in Phoenix, AZ, describes data as the “backbone of performance improvement” in his manual⁵, “The Robotics Program: A How-to-Guide for Physician Leaders on Starting up a Successful Program.”

In the manual, Dr. Loftus argues that data used to support a robotic-assisted surgery line “should focus on quality, utilization, cost, and patient/provider experience.”



People

For hospitals to get the most out of their surgical technology investments, they have to set the surgical staff up for success and put programs in place to support continuous process improvement. As Dr. Loftus put it: “People, process, and culture are just as important as the technology for determining outcomes and therefore the success of robotic-assisted surgery programs.”

Here are three areas of focus to help support the human element of robotic-assisted surgery:

Executive buy-in: Executive buy-in is one element of a successful surgical program. Executive-level leaders must be committed to not only investing in cutting-edge surgical technology but making the most out of these investments by committing to maximize the use of the technology. Leaders should look to increase surgical volumes, recruit new surgeons who want to work with advanced surgical technologies, and track revenues related to surgery. A number of hospitals participating in the Executive Education Enrich programs offered by Intuitive have developed robust robotic-assisted surgery programs. These participating sites include:

- University Medical Center, Hackensack, NJ
- Regional Medical Center, Orlando, FL
- Hoag Memorial Hospital Presbyterian, Newport, CA
- St. Elizabeth Edgewood Hospital, Edgewood, KY

At each of these hospitals, an executive leads the charge on robotic-assisted surgery. Responsibilities held by these executives might include setting the strategy and vision for the program, aligning the surgical services with the Quadruple Aim, and scaling best practices across the organization, among other duties.

Clinical champions: For a surgical robotics program to succeed, surgeons and surgical teams must feel supported and have a clear understanding of program goals. In addition to the commitment of executive leadership, the surgical programs at the hospitals mentioned above share another feature. Each of the mentioned organizations has a physician leader in charge of overseeing clinical excellence and supporting surgical teams. Responsibilities shared by these leaders include communicating value to executives, championing data collection, and ensuring care team members receive appropriate training and credentialing.





Operational support: When developing an optimized surgical robotics program, it's important to ensure operational teams are educated on program goals and that everyone on the team understands their role. Programs with efficient operational teams can potentially see positive benefits due to faster turnovers, reductions in operational variance, and savings related to standardization. Data is also important. It provides insights and actionable intelligence that enables care team members to analyze case details, optimize block time scheduling, and identify potential opportunities for increased efficiencies.

Strategy

Strategy is the glue of a top-performing surgical service line. It helps align technology and people so hospitals can achieve maximum efficiency and optimal outcomes. It starts by setting goals tailored to the organization that are based on factors specific to individual organizations, such as current surgical volumes and the level of buy-in from surgical staff.

Here are two components that can help support a surgical robotics strategy:

Infrastructure: Dr. Loftus described the infrastructure needed to support a robotic-assisted surgery program as the “people, process, technology, and cultural elements that are required for the successful implementation, management, and sustainability of a program.” Beyond people and technology, key process components that flesh out an organization’s surgical infrastructure include regular meetings with a selected surgical robotics committee, establishing goals, and conducting regular data reviews. Program architects should also establish clear communication pathways for leadership and staff.

Purpose: This is the “why” of the robotic-assisted surgery program. Each person involved in the program should be able to succinctly describe the reason the program is important to the organization. This can be essential to building a culture that generates thriving surgical lines.

“How you describe your robotic-assisted surgery program is really how you describe your robotic-assisted surgery culture,” Dr. Loftus wrote. “Keep in mind though, building an effective culture begins with having a purpose.”

When the purpose, or “why” component, of the program is clearly communicated and well-understood, it promotes widespread buy-in among staff and leadership and allows for the development of more defined program structures where each stakeholder is working to achieve a clear goal.

The sturdier the structure, the greater the surgical volume the program may be able to support. “Highly structured programs with busy surgeons also tend to be highly productive facilities,” Dr. Loftus wrote.

“The robotic-assisted surgery program must have a consistent method of communicating important information from the program to its stakeholders, as well as a consistent method of hearing back from them. This can be everything from a monthly newsletter, to a blast email, to regular town hall meetings. It is entirely dependent on the size, complexity, and culture of your hospital. Whatever you do, it must be regular, consistent, easy to access, easy to interpret, and reliable.”

Terry Loftus, MD

Founder Loftus Health

The Intuitive da Vinci maturity model provides you a pathway to excellence

	Phase 1	Phase 2	Phase 3	World class
C-suite engagement	None	Partial	Active	Champion
Program structure	No formal structure	Quarterly steering committee	Special task force	Collaborating with Intuitive
Technology innovation	Third-generation technology	Third- and fourth-generation technology	Fourth-generation technology standardization	Fourth-generation advanced technologies and OS4 utilization
Service line	25% addressable procedures	25-50% addressable procedures	50-75% addressable procedures	75-100% addressable procedures
Access	Urology and/or gynecology >60% utilization	Urology and/or gynecology <60% utilization	Multiple specialties >60% utilization	Multiple specialties unfettered (<40%)
Productivity	25th percentile in peer group	50th percentile in peer group	75th percentile in peer group	90th percentile in peer group
Data insights	Fully rely on customer portal for data	Non-dedicated employee pulling data on-demand	Hospital data analyst pulling da Vinci data and benchmark	Collaborating with Intuitive to share data to change da Vinci program

An enduring commitment to the Quadruple Aim

When communicating the purpose of a robotic-assisted surgery program, leaders can look to the Quadruple Aim for guidance. The Quadruple Aim provides a framework for the delivery of high quality, affordable care that places a heavy emphasis on improving both the patient and provider experience. Goals of Intuitive’s technology align to the tenets of the Quadruple Aim.

The Intuitive maturity model facilitates collaboration with hospitals to help them build and implement sustainable, robotic-assisted surgery programs. Critical milestones outline steps for advancement through each of four phases, providing a pathway to excellence with an integrated ecosystem of resources to help hospitals achieve these goals and to support them throughout the journey.

The Intuitive integrated ecosystem of resources includes training and educational opportunities as well as actionable intelligence that provides sophisticated benchmarking and analytics. For more than two decades, Intuitive has been refining its technology innovations and educational curriculum and has helped train more 32,800 surgeons in the U.S. alone.

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To learn more about Intuitive and da Vinci robotic-assisted surgical systems, [click here](#).

Some of the information presented are the views and opinions of independent surgeons and healthcare professionals based on their experience and the experience of their institution with the da Vinci surgical system. Their experience may or may not be reproducible and is not generalizable. The independent healthcare professionals quoted in this document have received compensation from Intuitive for consulting and/or educational services.

Important Safety Information

For Important Safety Information, indications for use, risks, full cautions and warnings, please refer to intuitive.com/safety.