



The case for financial viability in the innovative OR

How da Vinci surgery in a value-based foundation can impact economic value

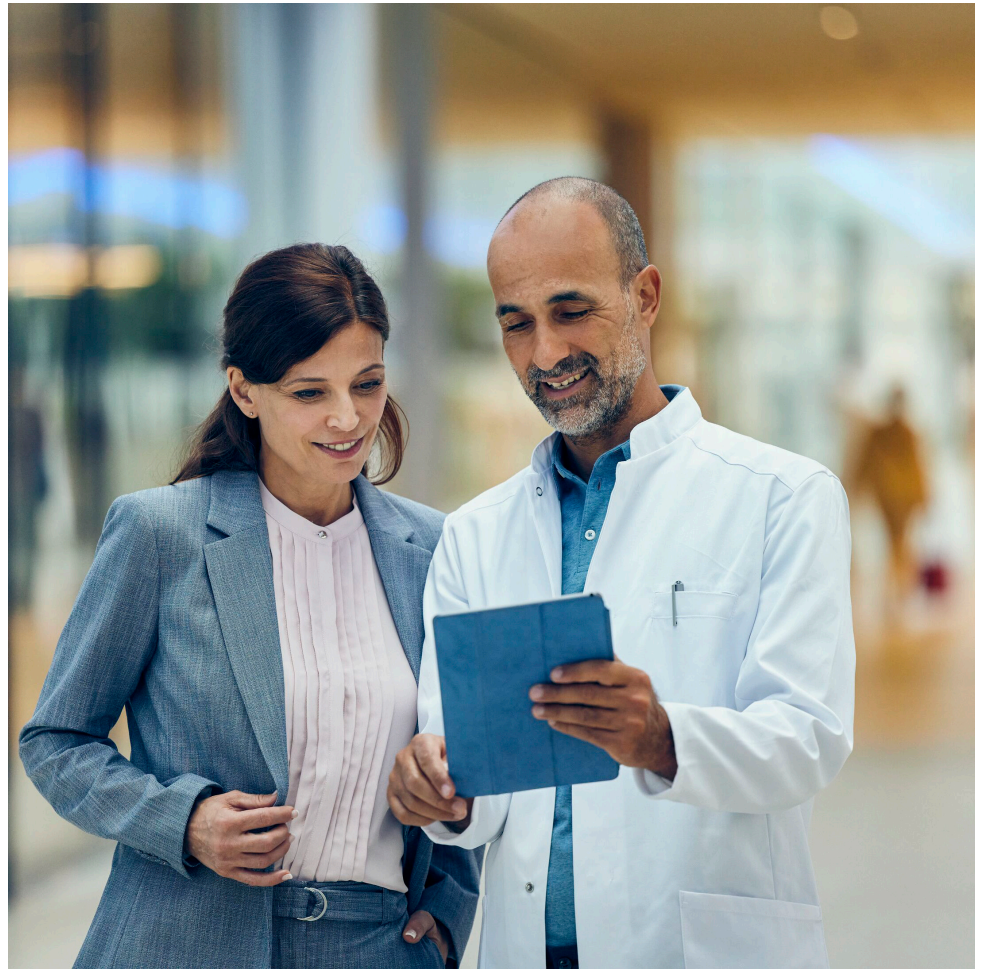


Surgeons are among some of the most innovative thinkers in the medical field and, like all physicians, want to deliver their patients the best care possible. The desire for continuous clinical advancement is one of the driving factors behind the development and increased adoption of minimally invasive procedures as it has the potential to impact clinical outcomes, such as length of stay and complications.

The association between minimally invasive procedures and better care outcomes reflects the rapid growth in the robotic surgery market. Under the control of surgeons, the da Vinci® surgical system can perform minimally invasive procedures and can be found in operating rooms around the world.

According to estimates from Fortune Business Insights release in February 2021, the global robotic surgery market was valued at \$5.3 billion in 2019 and could reach more than \$19 billion by 2027.¹

As robotic surgical platforms advance and demand for minimally invasive procedures continues to grow, the case for integrating surgical robots into the OR becomes more compelling. However, some healthcare executives are still hesitant to invest in surgical robots due to cost concerns. The financial benefits of da Vinci surgery can help hospitals reduce overall treatment costs by helping to reduce length of stays and complications.



In 2023, surgeons at Los Angeles-based Cedars Sinai performed the health system's 18,450th da Vinci case. "Our robotics program has grown dramatically in the last 10 years," said Harry Sax, MD, the health system's executive vice chair of surgery. Dr. Sax said Cedars Sinai is committed to the delivery of the best care possible and that this pursuit has led to operational and financial benefits.

"You certainly have to have margin to have mission. We have had challenges with capacity. Our hospital is sometimes full or over full. Because of this, reducing length of stay, complications and readmissions has become mission critical. The use of minimally invasive technology, including robotic platforms, has helped us achieve those goals."

Harry Sax, M.D.

Executive Vice Chair of Surgery
Cedars Sinai


The importance of a value-based foundation + 4 steps for da Vinci surgery to impact economic value


Da Vinci surgery has also helped hospitals in ProMedica Health System address capacity challenges and increase patient volumes, according to Scott Fought, Chief Financial Officer, Provider Division with ProMedica Health System.


“ProMedica avoided over 3,000 bed days in 2022, which has significant value to us – about \$2.5 million in reduced cost for caring for those patients over less time,” said Mr. Fought. Da Vinci has also helped to free up capacity in the inpatient units to accept more patients. “This has been an issue for us over the last couple of years due to staffing constraints,” said Mr. Fought, adding that ProMedica is very focused on reducing length of stay.


In an increasingly value-based reimbursement landscape, better surgical outcomes and reduced readmissions can yield significant financial benefits to healthcare organizations. Below is an overview of the foundational elements of one financially viable robotic surgery program, plus four steps health systems can take to help impact economic value.

Tenets of the Quintuple Aim

 Better outcomes

 Better patient experience

 Better care team experience

 Lower total cost of care

 Improve patient access



Clinical and financial alignment

Sound and strong da Vinci programs align clinically and financially upon the tenets of the Quintuple Aim, which call for the simultaneous pursuit of better outcomes at a reduced total cost, a better patient and care team experience, and equitable access to care. Assessing the success of a robotics program must account for performance under each of these tenets. The cost of robotic equipment should be factored in to the total cost to treat, not as a siloed expense. “Robotic surgery is financially feasible for us and a significant growing component of to our topline,” said Mr. Fought, “When we first evaluated the expansion of our da Vinci program, we were concerned that the contribution margin per case would erode. Over time, we found that the contribution margin per case across several outpatient procedure types is actually higher with da Vinci RAS versus both laparoscopic and open modalities.”

According to Allen Harrison, president and CEO of Medical City Healthcare, HCA Healthcare’s North Texas Division, which has 46 da Vinci surgical systems and five Ion systems across 16 facilities, transitioning to da Vinci surgery from open surgical procedures will ultimately drive down costs. On its face, this claim may seem inaccurate as the price tag for robotic-assisted surgical systems outweighs the surgical supplies necessary to perform open procedures. But, any reduction of hospital stays should be factored in along with other outcomes.

“The perceived costs related to robotic [equipment] that scares people away from investing in a robotics program has not been our reality,” Mr. Harrison said during the virtual panel. “In our experience, transitioning from open to robotic for MIS eligible patients, the costs went down.”

Allen Harrison

President and CEO

Medical City Healthcare, HCA Healthcare’s North Texas Division

Four steps hospitals can take to help drive economic value

Measure downstream savings: To truly understand costs and potential savings generated by robotic surgery programs, hospitals must look beyond the initial investment costs, and track the programs influence on clinical outcomes over time. Outcomes to track include length of stay, surgical site infections, and readmissions.

Assess surgical performance: Hospitals and health systems should measure specific clinical outcomes across various types of surgical procedures. Identifying the specific rates of readmissions, complications, and operative time between open and da Vinci surgical procedures, for example, can help identify the true cost of care.

Identify opportunities: Program leaders should work to expand minimally invasive procedures consistently associated with positive outcomes. Colectomy procedures, for example, is one procedure group where minimally invasive technology has proven effective. Studies²⁻⁶ have shown that patients who underwent a robotic-assisted colectomy compared to an open colectomy procedure may present more favorable outcomes including shorter hospital stay, lower rate of complications after surgery, lower rate of blood transfusion and lower or comparable rate of readmission to the hospital within 30 days of surgery, and lower or comparable rate of deaths during or within 30 days of surgery. Other comparable results include rate of anastomotic leaks and rate of reoperation within 30 days. Additionally, longer operation times were reported, although one study reported comparable surgery times.

Leverage robotics as a market differentiator: According to Mr. Fought, ProMedica's executive leadership is committed to creating equitable access to the appropriate surgical modality for patients and surgeons throughout their health system. By creating more access to da Vinci surgery to provide eligible patients with the same level of care 24 hours a day, ProMedica is positioning itself as a leader in the market.

"We want to make sure surgeons have the right access to the right technology. Since 2018, when we implemented our da Vinci program strategy, we've had about a 12% annual compound growth rate in da Vinci procedures. For us, the da Vinci robotic growth is real, and it is projected to continue to increase in the future."

Scott Fought

Chief Financial Officer,
Provider Division
ProMedica Health System



The financial flexibility hospitals need

While investment in technology is essential for maintaining clinical excellence and market relevance, many hospitals and health systems operate under intense margin pressure, leaving little room for financial flexibility. Intuitive, the maker of da Vinci® robotic-assisted surgical systems, understands the financial constraints of providers and offers flexible financing options so hospitals and health systems of all sizes and means can have access to the innovative surgical technology.

Here are four aspects of Intuitive's financing options:

Evolve with technology: Intuitive has the option to allow customers to maintain the most up-to-date equipment and replace the leased technology with latest models.

Easy purchase renewal options: At the end of the lease, hospitals can choose to purchase equipment, upgrade to newer technology, or continue to finance at substantial savings.

Broad terms: Financing terms can be established for periods as long as 84 months.

Flexible leasing solutions: Creative structures such as rentals, bridge financing, or step leases are available.

Taking advantage of financing options allows hospitals and health systems to conserve capital, maintain cash flow, and share risk with a technology partner. For more information on Intuitive and financing options, [click here](#).⁷

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This material represents the views, experiences, and opinions of hospital executives and surgeons based on their experiences with the the da Vinci surgical system. This experience may or may not be reproducible and is not generalizable.

Important safety information

For intended use and/or indications for use, risks, cautions, and warnings and full prescribing information, refer to the associated user manual(s) or visit: <https://manuals.intuitivesurgical.com/market>.

Limitations of marketing guidance

The implementation of a da Vinci program is practice and hospital specific. Results may vary. Past customer experience does not imply any guarantee of results in practice or program success.

When considering cost-effectiveness of an advanced technology like Intuitive products, we recommend that hospitals perform a full cost-benefit analysis, considering not just the operating room costs but the costs associated with hospital stays, procedure-related complications and hospital re-admissions.

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