



The case for financial viability in the innovative OR

How robotic-assisted 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, surgical robots can perform minimally invasive procedures and can be found in operating rooms around the world.

According to estimates from Fortune Business Insights release in June 2020, in 2017, the value of the robotic surgery market was more than \$3.9 billion—and could reach more than \$13.2 billion by 2025.

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 robotic surgery consists of patient outcomes and total cost to treat.

In 2020, surgeons at Los Angeles-based Cedars Sinai performed the health system's 10,000th robotic 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, during a virtual panel at the Intuitive 360 conference in October 2020. 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 robotics to impact economic value

Robot-assisted surgery has also helped hospitals in WellStar Health System address capacity challenges and increase patient volumes, according to Caswell Samms, former CFO of WellStar's Kennestone and Windy Hill hospitals in Marietta, Ga. "We're an organization that is consistently at 90-plus percent occupancy, so addressing length of stay is a huge opportunity for us," said Mr. Samms during the virtual panel, adding that the health system performs approximately 5,000 robotic surgeries annually.

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 Quadruple Aim



Better patient outcomes.



Lower total cost of treatment per patient episode.



Better patient experience throughout the process.



Better care team experience.



Clinical and financial alignment

Sound and strong robotic surgery programs align clinically and financially upon the tenets of the Quadruple Aim, which call for the simultaneous pursuit of better outcomes at a reduced total cost, and a better patient and care team experience. 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.

According to Allen Harrison, president and CEO of Methodist Healthcare in San Antonio, which has 22 robotic-assisted surgical systems across eight hospitals, transitioning to robotic 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 Chief Executive Officer
Methodist Healthcare

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 robotic 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. Studies¹⁻⁵ 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: As Mr. Samms puts it, patients have become more discerning consumers and are consistently seeking out care at institutions with reputations for innovation and excellence.

“Patients want to be sure they’re getting care from the best and the brightest. From a marketing standpoint, investment in robotics is critical to attracting more patients from both commercial and Medicare markets.”

Caswell Samms

Former Chief Financial Officer
WellStar Kennestone and Windy Hill Hospitals



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](#).⁶

References

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Important safety information

Serious complications may occur in any surgery, including da Vinci® surgery, up to and including death. Examples of serious or life-threatening complications, which may require prolonged and/or unexpected hospitalization and/or reoperation, include but are not limited to, one or more of the following: injury to tissues/organs, bleeding, infection and internal scarring that can cause long-lasting dysfunction/pain.

Risks specific to minimally invasive surgery, including da Vinci surgery, include but are not limited to, one or more of the following: temporary pain/nerve injury associated with positioning; a longer operative time, the need to convert to an open approach, or the need for additional or larger incision sites. Converting the procedure could result in a longer operative time, a longer time under anesthesia, and could lead to increased complications. Contraindications applicable to the use of conventional endoscopic instruments also apply to the use of all da Vinci instruments.

For important safety information, indications for use, risks, full cautions and warnings, please also refer to www.intuitive.com/safety.

Individuals' outcomes may depend on a number of factors, including but not limited to patient characteristics, disease characteristics, and/or surgeon experience.

Material disclosure

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.

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