



Is da Vinci robotic-assisted surgery worth it?

Implementing a robotic surgery program may necessitate an upfront investment, but managing costs requires so much more than the initial capital outlay. Assessing the success of a robotics program and the cost of robotic equipment should be factored into the total cost to treat, not as a siloed expense.

Consider the convergence of:

- Improved patient experience
- Better surgical outcomes
- Clinician well-being
- Lower costs
- Breadth of specialties and procedures
- Staff and patient attraction
- Site of care strategies

The impact of da Vinci robotic-assisted surgery (RAS) is well established

Total cost to treat includes downstream cost savings that result from improved clinical outcomes. When you consider the average length of stay can cost a hospital \$3,405 or \$6,234 in the ICU,¹ the question becomes: what could these benefits mean for the hospital? For patient care? Increase procedural volume? Higher throughput? Staffing resource alleviation? Less spend on ICU infrastructure?

Metric	Estimated cost savings (-) or increases (+) ²	Vs. lap ³	Vs. open ³
Length of Stay (General hospital) ⁴	-\$3,405	0.4 days shorter	1.9 days shorter
Blood Transfusion ⁵	-\$1,517	28% less likely	70% less likely
Conversions ⁶	-\$4,706	55% less likely	
30-Day Readmissions ⁷ (average)	-\$16,003	23% less likely	Comparable
Operative Time ⁴	+\$29	18.8 min longer	37.3 min longer
30-day Complications ⁸	-\$22,714	14% less likely	39% less likely
30-day Mortality		33% less likely	57% less likely

Estimated cost savings with da Vinci RAS



-\$16,003

estimated cost savings for 30-day readmissions⁷

-\$22,714

estimated cost savings for 30-day complications⁸

Managing direct costs with Intuitive

Our da Vinci robotic-assisted surgical systems are not merely a cost, but an investment—in delivering a stronger financial profile.

More than 45 multifunctional instruments with integrated use on the da Vinci Xi and X systems grant surgeons greater autonomy. Instruments can be used across ~70 representative uses spanning numerous clinical specialties.

[Real-time feedback](#) and data can also help standardize and optimize surgical outcomes.

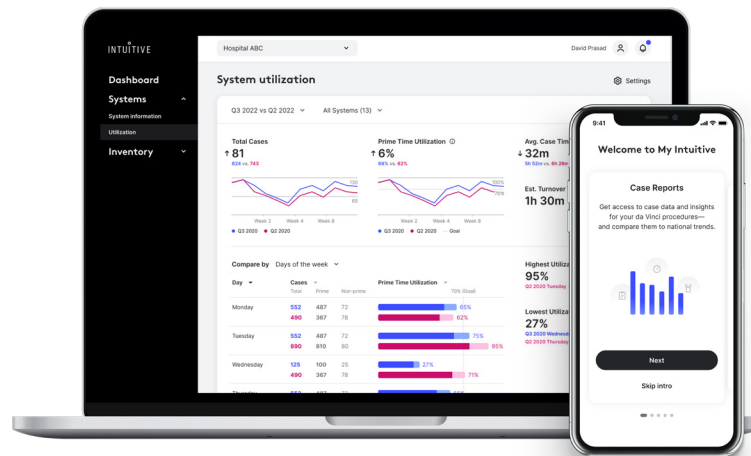
Extended use program

Our [extended use program](#), which extends the number of uses for many of the most common da Vinci X/Xi instruments, led to an average reduction of costs per case by 24%.⁹ The majority of U.S. customers can also expect instrument cost savings of 9% to 15%¹⁰ through the program.



24% average cost reductions per case

Our **Genesis consultancy** service can help hospital teams implement best practices, optimize efficiencies, standardize workflows, and reduce variability—and with digital insights from real-time data, extending benefits by reducing instrument use per case by 10%.¹¹



Our **OnSite program** offers 24/7 service with > 99% uptime across all Intuitive surgical systems.¹² Through data-driven insights, 45% of potential issues were caught before happening through our proactive monitoring.¹¹

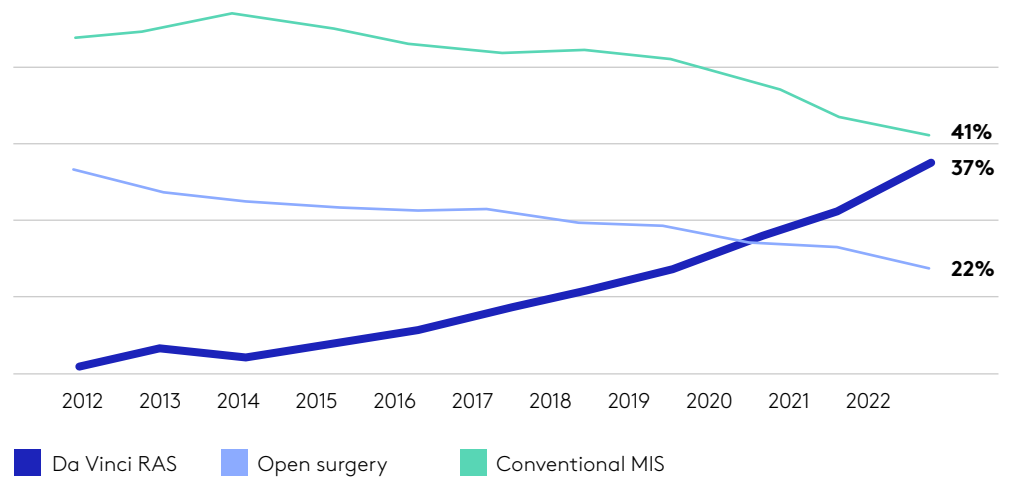
We offer in-house financing options that allow for customized models to address hospitals' evolving needs.

Growth in da Vinci surgery

Over the last decade, da Vinci surgery has experienced a 27% increase in soft tissue surgery, while traditional lap and open surgery has declined 13% and 14%.¹³ To take on this growth efficiently, we've helped customers increase their current system utilization by 38%¹⁴ and designed our systems to be capable of performing 475+ cases per year to help lower capital cost per case.

10-Year growth trends in da Vinci surgery

U.S. modality trends¹³



System utilization



38% increase in system utilization

475+ cases per year

Reach a point of possibility with Intuitive

The short- and long-term value of this technology is evident. Our RAS systems aren't merely purchases; they're investments. And the return on those investments could mean clinical, operational, and financial impacts that achieve both direct and downstream savings for hospitals.

Many hospitals have grown their programs to include more than seven of our Intuitive systems, further highlighting the possibilities and impact of this technology.



Learn more about the total cost to treat patients and how Intuitive can help you achieve downstream savings.

- 1 Analysis excludes the da Vinci stapler. Data on file.
- 2 Values are adjusted for inflation.
- 3 Results are based on an internal meta-analysis of peer reviewed literature for robotic-assisted procedures (right colectomy, LAR/TME, prostatectomy, partial nephrectomy, lobectomy, hysterectomy for endometrial and cervical cancer) published between 2010-2020. The summary of clinical results are reflective of a pooled analysis of 7 systematic literature reviews, presented by outcome across different surgical procedures. Data on file at Intuitive.
- 4 Intuitive data on file. 2019 Premier Data Analysis.
- 5 Shander, A., et al., Activity-based costs of blood transfusions in surgical patients at four hospitals. *Transfusion*, 2010. 50(4): p. 753-65.
- 6 Intuitive analysis derived from Shah, P.C., et al., Impact of type of minimally invasive approach on open conversions across ten common procedures in different specialties. *Surg Endosc*, 2022. Analysis utilizes Length of Stay Cost data referenced above. Data on file.
- 7 HCUPnet. 2022 2022/04/29/; Available from: <https://hcupnet.ahrq.gov>.
- 8 Healy, M.A., et al., Hospital and Payer Costs Associated With Surgical Complications. *JAMA Surg*, 2016. 151(9): p. 823-30.
- 9 Intuitive implemented program to da Vinci instruments in 2020. Life of instruments extended from 2 to 8 times beyond prior 10 use limit, realizing average reduction in price per use of 24%.
- 10 Estimated annual savings determined using the per case cost difference between current and future pricing on affected instruments applied to total instrument uses consumed in procedures during 2019. Actual savings may differ depending on future case mix and procedure growth.
- 11 Intuitive data on file.
- 12 Intuitive 2022 ESG Report. Intuitive Surgical. <https://www.intuitive.com/en-us/-/media/ISI/Intuitive/Pdf/2022-intuitive-esg-report.pdf>. Published February 14, 2023.
- 13 Intuitive analysis of hospital inpatient and outpatient procedure data available from IQVIA (formerly IMS Health) for 2012-2021, with 2022 estimates extrapolated from 2021, including: Bariatrics, Cholecystectomy, Colorectal, Foregut, Inguinal Hernia, Ventral Hernia, Hysterectomy - Benign & Malig., Lung Resection, Nephrectomy - Partial & Radical, and Prostatectomy procedures. Data on file at Intuitive.
- 14 38% is a national average increase on da Vinci procedures per system, from 2013 to 2022. Data on file at Intuitive.

Important safety information

Serious complications may occur in any surgery, including surgery with a da Vinci system, 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 surgery with a da Vinci system, 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, including surgical risks and considerations, please also refer to [intuitive.com/safety](https://www.intuitive.com/safety). For a product's intended use and/or indications for use, risks, full cautions, and warnings, please refer to the associated user manual(s).

Individual outcomes may depend on a number of factors, including but not limited to patient characteristics, disease characteristics, and/or surgeon experience. The demonstration of safety and effectiveness for the representative specific procedures did not include evaluation of outcomes related to the treatment of cancer (overall survival, disease-free survival, local recurrence) or treatment of the patient's underlying disease/condition. Device usage in all surgical procedures should be guided by the clinical judgment of an adequately trained surgeon.

Da Vinci Xi/X system precaution statement

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