

Standardization Decreases Surgical Supply Costs by 69 Percent



69 percent relative reduction in supply costs for laparoscopic appendectomy in just a few months, **avoiding more than \$400K in unnecessary costs** annually.

PRODUCTS

- Health Catalyst® data platform

EXECUTIVE SUMMARY

Surgeons have control over disposable supply costs but frequently lack insight into how their decisions impact variation for overall costs. Children's Hospital of Orange County (CHOC) suspected increased costs weren't producing higher-quality outcomes, so to correlate data with clinical outcomes, it leveraged its data platform. Using the high-value data and analytics, the organization was able to effectively reduce surgical supply costs while maintaining high-quality patient outcomes.

ANALYZING SURGICAL SUPPLY COSTS

Operating room (OR) costs account for 40 percent of hospital costs, and while surgeons have control over disposable supply costs, they frequently lack insight into how their supply decisions impact costs. This leads to supply costs that often vary between surgeons but can't be explained, depending on case volume, surgery length, or surgeon practice experience.¹

COMPARING COST VERSUS CLINICAL OUTCOMES

CHOC believed it had excessive variation in supply costs for appendectomies—its most commonly performed procedure. CHOC suspected the increased costs weren't producing higher-quality outcomes, but it couldn't be confident since it didn't have a good way to correlate actual cost data with clinical outcomes. Because the organization's cost and clinical systems didn't "talk" to each other, it impeded improvement efforts. CHOC needed a solution that would allow it to assess and understand drivers of variation and identify opportunities for improvement.

INTEGRATING COST AND CLINICAL DATA

CHOC established an improvement project to make laparoscopic appendectomies safer and more cost-effective. The organization leveraged the Health Catalyst® data platform and a robust suite of analytics applications to integrate cost and clinical data, gaining new insight into the actionable, high-quality data and analytics required for improvement.

The organization identified the highest-cost supply items, comparing the clinical outcomes for patients who received care with high-priced items to those who received care using lower-priced items. There were no meaningful differences in outcomes, increasing confidence that surgeons could move to lower-priced supplies without negatively impacting patient care or outcomes.

CHOC surgeons standardized their surgical supplies and preference cards, adopting lower-priced supplies. It now uses an analytics application to visualize patient outcomes over time, paying particular attention to the impact of supply changes on operative time and complication rates.

After implementing the lower-priced supplies, the organization's cost data didn't immediately demonstrate a reduction. Leaders dug into the data, identifying an opportunity to improve documentation and charge capture processes. The organization audited OR charge processes, identifying gaps in the processes, including outdated and missing charges that often resulted in inaccurate charges and underpayment. The organization then redesigned OR documentation processes to ensure that charges accurately reflect supply utilization for each case.



ABOUT CHILDREN'S HOSPITAL OF ORANGE COUNTY

Consistently named one of the nation's best children's hospitals by U.S. News & World Report, Children's Hospital of Orange County (CHOC), a pediatric healthcare system in Orange County, California, includes two state-of-the-art hospitals and a regional network of primary and specialty care clinics, providing the highest levels of care for the most serious pediatric illnesses and injuries, physical and mental.



The Health Catalyst data platform allowed us to obtain the actual cost data correlated to clinical data in real-time. Without high-quality data and analytics, we wouldn't have been able to effectively reduce costs and improve charge capture.

David Gibbs, MD, Medical Director Trauma and Pediatric Surgery, Children's Hospital of Orange County

RESULTS

CHOC's data-informed supply standardization effectively reduced surgical supply costs while maintaining high-quality patient outcomes. Results include:

- **69 percent relative reduction in supply costs** for laparoscopic appendectomy in just a few months, **avoiding more than \$400K in unnecessary costs** annually.
 - The reduction in surgical supply costs didn't result in increased surgical case length, and patients didn't experience any surgical complications or unnecessary admissions to the hospital.
- In addition to the confirmed reduction in surgical supply costs, the **supply standardization efforts are generating additional savings** by **improving OR efficiency** and **decreasing labor costs**.



WHAT'S NEXT

CHOC plans to roll out this data-informed improvement methodology to more commonly performed procedures. The organization plans to partner with additional surgical medical staff, connecting them to their cost and resource data in a productive and meaningful way, improving the value of the care for the patients they serve. 🏆

REFERENCES

1. Acker, S. N., et al. (2022). Variation in cost of disposable operating room supplies at a children's hospital. *J Pediatr Surg.* 58(3), 518-523. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/35973858/>

ABOUT HEALTH CATALYST

Health Catalyst is a leading provider of data and analytics technology and services to healthcare organizations, committed to being the catalyst for massive, measurable, data-informed healthcare improvement. Our customers leverage our cloud-based data platform—powered by data from more than 100 million patient records, and encompassing trillions of facts—as well as our analytics software and professional services expertise to make data-informed decisions and realize measurable clinical, financial, and operational improvements. We envision a future in which all healthcare decisions are data informed.

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