HealthCatalyst®

Analytics Driven Improvement Efforts Reduces Surgical Supply Costs by $3.2M

Banner Health®

HEALTHCARE ORGANIZATION

Integrated Delivery System

PRODUCTS

› Health Catalyst® Data Operating System (DOS™) platform

EXECUTIVE SUMMARY

Banner Health identified considerable variation in surgical supply use across its facilities. The health system desired a collaborative, data-driven strategy that would allow it to maintain high-quality outcomes while simultaneously decreasing costs across all procedures systemwide. To standardize supply use, Banner Health implemented an analytics application to help identify high-volume, high-cost surgical procedures that varied across the system. It then built standardized surgical preference cards for the high-volume procedures. Results include:

› $3.2M reduction in surgical supply costs for laparoscopic appendectomy, laparoscopic cholecystectomy, robotic assisted hysterectomy, and total hip and knee replacements, in just 15 months.

HIGH COST OF SURGICAL SUPPLY VARIATION

Controlling costs is a top priority for healthcare organizations. In the U.S., hospitals' annual average supply costs exceed $3.7 million, with surgical supplies being the costliest.[1] Varied and inaccurate preference cards, which list the supplies a surgeon requires to complete a procedure in the OR, can cost a single hospital more than $1 million in overspend annually.[2]

Banner Health is regarded and recognized as a top health system in the country for clinical quality care. The nonprofit organization is headquartered in Phoenix, Arizona, and operates 28 hospitals, including three academic medical centers, and other related health entities and services in six states.

INCONSISTENT SUPPLY USE INCREASES COSTS

Banner Health identified considerable variation in surgical supply use across its facilities. The organization lacked a standard process for preference cards and surgical supplies, reducing the efficiency of inventory management. Supply contracts were not standardized, resulting in over 20 different vendor options, negatively impacting pricing.

Supply cost and charge data were contained in separate databases managed by separate teams, making it time-consuming and inefficient to identify improvement opportunities for supply procurement, supply use, and supply waste. Disparate data sources contributed to inconsistencies in documenting supplies used during surgery, resulting in substantial free text order entry and subsequent gaps in charge capture, which negatively impacted revenue.

Meaningful supply chain data was difficult to obtain, limiting the understanding of supply costs, and hindering the organization's ability to effectively contain escalating supply costs. Banner Health desired a collaborative, data-driven strategy that would allow it to maintain high-quality outcomes while simultaneously decreasing costs across all procedures throughout its system.

DATA-DRIVEN INSIGHTS STANDARDIZE SURGICAL PREFERENCE CARDS

Banner Health executive leaders established the Surgical Procedural and Value Alignment Program (SPVAP), which includes a physician champion, operational leaders from finance, nursing, and supply chain, improvement specialists, and data analysts. The centralized team engages operational leaders and surgeons at each Banner Health facility in implementing strategies to standardize clinical care and reduce costs throughout the health system while maintaining high-quality outcomes.

Banner Health leverages the Health Catalyst® Data Operating System (DOS™) platform and a robust suite of analytics applications, including a SPVAP Benchmarking and Analytics Application, to understand organizational performance, identify opportunities for improvement, and evaluate the impact of these enhancement efforts on patient, financial, and organizational outcomes. The SPVAP Benchmarking and Analytics Application enables near real-time visibility into opportunities for supply chain improvement, integrating data from the EMR and supply chain source systems (see Figure 1).

FIGURE 1: SPVAP BENCHMARKING AND ANALYTICS APPLICATION SAMPLE VISUALIZATION

1. Filters to time frame of interest, facility, procedure, case priority, region, and surgeon.

2. Displays cost breakdown.
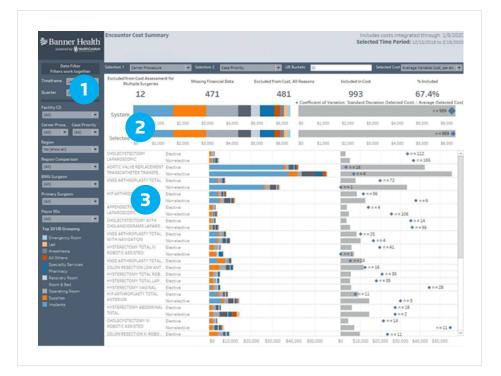
3. Graphs performance by procedure.

Figure 1. SPVAP Benchmarking and Analytics Application sample visualization

Using the analytics application, Banner Health can easily visualize surgical supply data, including preference card contents, supply costs, and waste, helping identify opportunities for improvement, along with the activities required to decrease supply chain spend and increase charge capture.

Banner Health reviewed historical data to identify high-volume, high-cost surgical procedures that varied across the system, using data and analytics to develop collaborative strategies to standardize surgical preference cards. The organization used data and analytics to understand where cost opportunities existed, then created draft preference cards to share with surgeons, soliciting their feedback and approval.

The organization built standard preference cards based upon an analysis of supply use and order history for 80 percent of the high-volume procedures performed, and limited purchasing vendor options to the three most utilized vendors. The standardized surgical preference cards support easy supply documentation within the EMR, reducing free text documentation and streamlining charge capture. A centralized resource facilitates preference card standardization and maintenance at each facility.

> " Our dedicated team, ability to share meaningful data using the SPVAP Benchmarking and Analytics Application, and partnership with clinical and supply chain experts, have allowed us to reduce costs, saving $3.2M annually.
>
> Martina Brooks, MHI, CSSBB
> Surgical and Procedural
> Standardization
> Program Director
> Banner Health "

Banner Health uses the SPVAP Benchmarking and Analytics Application to share surgeon and specialty-specific supply use, including cost data, with its surgeons, enabling transparency, improving understanding about the cost of various surgical supplies, and supporting surgeons in making cost-effective supply decisions. Surgeons, including new hires, receive ongoing education about the opportunity and processes used by Banner Health to improve surgical quality and reduce costs.

The analytics application also helps Banner Health sustain and further refine preference cards and supply use. The SPVAP team meets bi-weekly, reviewing usage and charge capture data within the analytics application, identifying ongoing opportunities to standardize clinical care and reduce costs.

RESULTS

Banner Health's data-driven supply chain standardization efforts have substantially reduced supply costs in just 15 months. The organization has achieved a:

- $3.2M reduction in surgical supply costs for laparoscopic appendectomy, laparoscopic cholecystectomy, robotic assisted hysterectomy, and total hip and knee replacements, in just 15 months.

WHAT'S NEXT

Banner Health will broaden its use of standardized clinical pathways, allowing it to risk stratify its patients and quantify the impact of supply chain standardization on patient outcomes. ◊

REFERENCES

1. Abdulsalam, Y. & Schneller, E. (2019). Hospital Supply Expenses: An Important Ingredient in Health Services Research. *Medical Care Research and Review. 76.* 240-252. Retrieved from https://www.research gate.net/ publication/318660591_Hospital_Supply_Expenses_An_Important_ Ingredient_in_Health_Services_Research
2. Simco, S. & DuBose, D. (2016). Found money: How to clean up preference cards to cut inventory spend and boost margins. *Becker's Hospital CFO Report.* Retrieved from https://www.beckershospitalreview.com/finance/ found-money-how-to-clean-up-preference-cards-to-cut-inventory-spend- and-boost-margins.html

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. Learn more at www.healthcatalyst.com.

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