

Colon Cancer Care Transformation Team Leverages Data to Reduce Mortality and Length of Stay



HEALTHCARE ORGANIZATION

Community Hospital

PRODUCTS

- Health Catalyst® Data Operating System (DOS™) Platform
- Colorectal Surgery Analytics Accelerator

SERVICES

- Professional Services

EXECUTIVE SUMMARY

Colorectal cancer (CRC) accounts for \$16 billion in healthcare costs, and with 142,250 new cases annually, it's the second leading cause of cancer deaths in the U.S. Healthcare organizations are striving to reach a win-win scenario with CRC—to save more lives with CRC prevention and detection and save billions of dollars at the same time.

Thibodaux Regional Health System had implemented evidence-based screening and oncology treatment guidelines for colon cancer, yet it still needed to meet organizational goals for early diagnosis and colon cancer survival. With support from the CEO and senior executive leadership, a collaborative approach to tackling CRC diagnosis rates, and a robust suite of analytics applications to deliver accurate data, Thibodaux Regional improved CRC outcomes and patient satisfaction.

- Zero deaths in more than eight months for people undergoing colorectal surgery.
- 40.4 percent relative reduction in LOS for colorectal admissions—patients were able to spend 86 more days at home.
- \$171.6K in direct cost reduction, the result of 2,079-hour reduction in LOS.

THIBODAUX REGIONAL STRIVES TO IMPROVE COLORECTAL CANCER OUTCOMES

Colorectal cancer (CRC) is the second leading cause of cancer deaths in the U.S., accounting for \$16 billion in healthcare costs and 142,250 new cases annually. Sixty percent of deaths from colorectal cancer can be avoided with early screening to facilitate early treatment.^{1,2}

Thibodaux Regional Health System, a nationally recognized medical center, is committed to providing high-quality, cost effective, comprehensive services.



Having a team approach is key—everybody’s input matters. From bedside nursing to the physician to pathology, to be successful requires a team approach.

Ashley Becnel, RN, LSSGB
Quality Improvement
Coordinator
Thibodaux Regional
Health System

LACK OF PROCESSES IMPEDES COLORECTAL CANCER OUTCOMES IMPROVEMENT

Despite having implemented evidence-based screening and oncology treatment guidelines for CRC, Thibodaux Regional was not meeting organizational goals. The hospital lacked a standardized approach to facilitate the early detection of CRC, which caused a delay in diagnosis and treatment and increased the number of patients diagnosed with an advanced stage of CRC.

There were no standardized processes for CRC perioperative care, which extended the length of stay (LOS) and increased costs. Thibodaux Regional lacked actionable data it could use to focus on CRC prevalence and screening rates, operating room (OR) efficiency, and perioperative practices that optimize recovery after surgery.

Thibodaux Regional needed a comprehensive, data-driven approach to improve early screening, reduce perioperative costs, and improve survival rates.

COLLABORATIVE APPROACH AND DATA EQUAL SUCCESS

With the support of the CEO and senior executive leadership, Thibodaux Regional established a colon care transformation team—an interdisciplinary team responsible for developing and implementing a CRC improvement plan.

Thibodaux Regional utilized the Health Catalyst® Data Operating System (DOS™) and a robust suite of analytics applications, including the Colorectal Surgery Analytics Accelerator, to monitor and analyze CRC screening and care, identifying specific opportunities to improve CRC clinical outcomes and reduce CRC care costs.

The Colorectal Surgery Analytics Accelerator provides data focused on colon cancer prevalence and screening rates, OR efficiencies, and perioperative practices that optimize recovery after surgery (see Figure 1).

FIGURE 1. COLORECTAL SURGERY ANALYTICS ACCELERATOR SAMPLE VISUALIZATION

- 1 Filters to select data of interest.
- 2 Summarized outcomes measures.
- 3 LOS data.
- 4 CRC screening rates.
- 5 30-day readmission rate data.

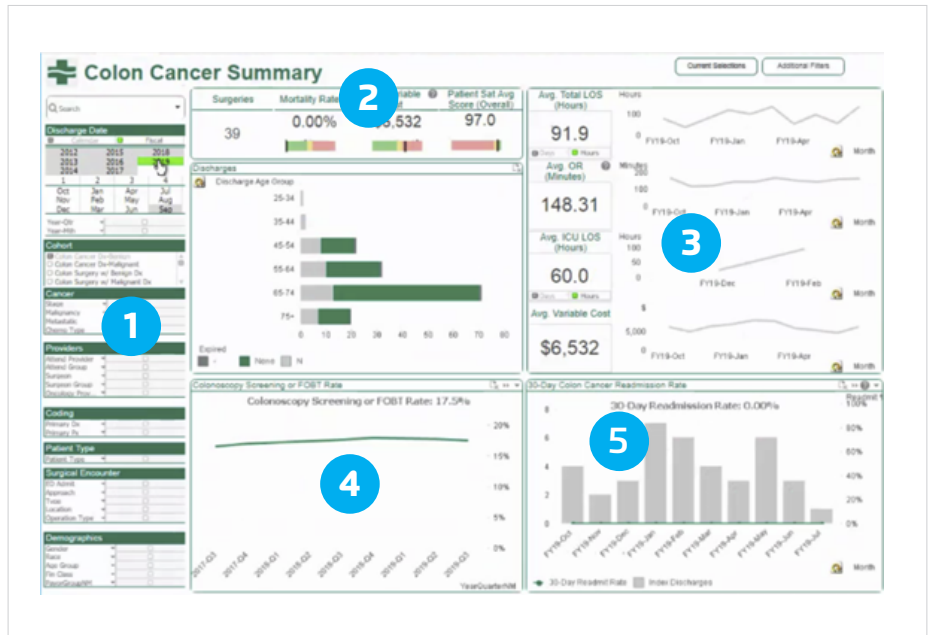


Figure 1: Colorectal Surgery Analytics Accelerator sample visualization

Using data from the analytics accelerator, Thibodaux Regional identified variability across CRC screening, inpatient care processes impacting perioperative care, and mortality rates. With that data, it subsequently prioritized its improvement efforts, focusing on improving initial CRC screening to increase survival rates and standardizing CRC care to improve patient outcomes.

To gain insight into the community population, physician leaders retrospectively analyzed colonoscopies for pathology, staging at time of diagnosis, and lymph node recovery rates (identifying the opportunity to improve lymph node recovery rates). Medical oncologists, pathologists, general and specialty physicians, and frontline nursing staff took ownership of the CRC improvement work.

To improve early screening and aid in the reduction of CRC, physician leaders provided education throughout the community and incorporated questions regarding recent screenings into the hospital’s admission questionnaire. They also developed educational materials addressing risk factors, such as smoking and sedentary lifestyle, and provided CRC screening and treatment options to patients.



At the outset, you never really know what the outcome of a program will be. It's been a collaborative effort and we've seen some really positive results and it's been awesome.

Mark Hebert, MD
Thibodaux Regional
Health System

Thibodaux Regional incorporated process changes to optimize recovery for patients undergoing CRC surgery, implementing enhanced recovery after surgery (ERAS) protocols and embedding the ERAS standards in its pre-, intra-, and postoperative workflows and associated order sets. Thibodaux Regional also optimized the process changes, order sets, screening, and educational materials by aligning them with physician and staff workflow.

The workflows include best practices and evidence-based standards for the following:

- **Preoperative education:** When CRC is suspected, or diagnosed, the physician and office staff provide and discuss educational materials and review the perioperative process preparing the patient for surgery.
- **Preoperative care:** Patients receive nutritional screening; those who could benefit from improved nutritional status receive support from a dietitian, and patients receive a carbohydrate-rich supplement before surgery. Patients receive a dose of antibiotics 60 minutes prior to incision. Surgical site prep is standardized, and glucose is controlled throughout each phase of care.
- **Intraoperative care:** The intraoperative phase includes ongoing glucose control; goal-directed IV fluids; normal patient temperature control; prophylactic management of nausea; surgical approaches that minimize surgical trauma, preserve lymph nodes, and prevent disruption of the gut; and judicious use of opioids.
- **Postoperative care:** Postoperative care includes early post-procedure mobilization and activity progression, early removal of tubes and drains, early feeding, pain control using multimodal pain management, management of postoperative nausea, early transition to oral pain medications, and DVT prophylaxis.

Thibodaux Regional leverages the analytics accelerator to monitor performance for both process and outcome measures, including protocol compliance, LOS, variable costs, 30-day readmission rate, postoperative complications, and mortality rate. It can now review data in aggregate or can drill down to view individual patient-, unit-, or provider-level performance data.



Our team was a bit hesitant about the changes. We were so used to doing things a certain way, but they showed us the ‘why’ behind the interventions. We’ve been surprised and pleased with the outcomes.

Kay Arceneaux
Operations Director
Thibodaux Regional
Cancer Center

The colon care transformation team uses data from the analytics accelerator to drive unified care, identify opportunities for improvement, and identify success, providing the staff and physicians with regular feedback about performance to clearly link the impact of interventions to patient outcomes.

RESULTS

Thibodaux Regional’s data-driven CRC improvement efforts have raised the consistency and quality of care it provides to its patients, positively impacting clinical outcomes, and patient satisfaction.

- Zero deaths in more than eight months for people undergoing colorectal surgery.
- 40.4 percent relative reduction in LOS for colorectal admissions—patients were able to spend 86 more days at home.
- \$171.6K in direct cost reduction, the result of 2,079 hour reduction in LOS.

WHAT’S NEXT

Thibodaux Regional will continue to use a data-driven approach to improve the care it provides to patients. The organization plans to use the analytics accelerator to evaluate the impact of specific interventions on patient outcomes and will use the data to further improve outcomes for patients with CRC.📢

REFERENCES

1. National Cancer Institute of Health. (2019). *Financial burden of cancer care*. Retrieved from https://progressreport.cancer.gov/after/economic_burden
2. Fight Colorectal Cancer. (2019). *Facts and stats*. Retrieved from <https://fightcolorectalcancer.org/prevent/about-colorectal-cancer/facts-stats/>

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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