

# Revolutionizing Perioperative Care A Journey Towards Enhanced Recovery and Patient Well-Being Powered by Vertex AI

## About Client

A globally recognized healthcare institution, ranking among the largest teaching trusts in the UK. Renowned for its commitment to research and innovation, this healthcare provider plays a pivotal role in advancing medical treatments and technologies, including significant contributions to the development of the COVID-19 vaccine. With an unwavering dedication to delivering top-tier care, the institution is committed to ensuring the best possible outcomes for its patients.

## The Challenge

**Around 44% of people suffer post operative complications.** This can lead to serious health problems and can increase health care costs. Committed to enhance patient well-being, our esteemed client, a leading healthcare provider in the UK, is dedicated to optimizing perioperative care systems.

The healthcare institution encountered staff variability in policy implementation, an absence of Length of Stay (LOS) metric tracking due to text-based recording, manual patient outcome data analysis, and error-prone Enhanced Recovery After Surgery (ERAS) compliance monitoring. These challenges hindered the timely flagging of clinical risks and made comprehensive audit reporting unfeasible.

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## Solution

In response to the challenges faced, Acuvate implemented an Enhanced Recovery After Surgery (ERAS) compliance solution — a collaborative approach applied post-surgery to mitigate complications. The solution plays a crucial role in pinpointing patients requiring additional care, offering early alerts for potential complications, and assessing readiness for safe discharge.

It transforms unstructured clinical content into actionable insights by extracting information from diverse sources. It allows the user to choose their graphical outputs to improve quality and safety in clinical care

## Key Features

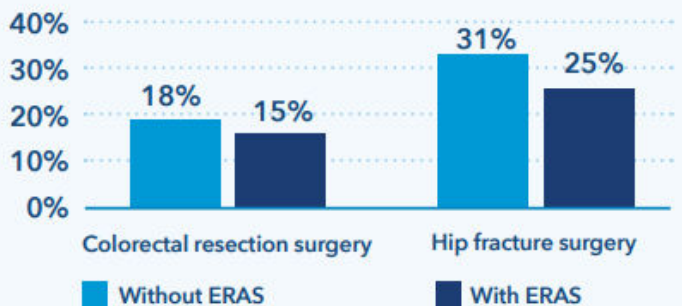
### Timely Patient Care Alerts

Trigger proactive alerts for timely interventions, enhancing patient care.

### Comprehensive Patient Overview

Provide a holistic view of patients, integrating structured (EPR) and unstructured (notes) data from the day of surgery until discharge.

### Postoperative complication rates



www.kpihp.org

### AI/ML-Powered Predictive Care

Utilize Artificial Intelligence (AI)/Machine Learning (ML) predictions to proactively identify parameters affecting Length of Stay (LOS), contributing to recovery.

### Monitor ERAS Adherence and Produce Comprehensive Audit Reports

Generate comprehensive audit reports for continuous process enhancement.

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## Technology Used

Vertex AI

Google Cloud Storage GCS

Compute Engine

BigQuery

## RESULTS



### Reduced Length of Stay

Streamlining patient recovery processes has resulted in 45% reduction in the Length of Stay, improving overall efficiency.



### Decreased Readmissions

A decrease in readmissions points to improved post-operative outcomes, reflecting the effectiveness of the solution.



### Accelerated Recovery

Proactive care and predictive insights contribute to faster recovery times for patients.



### Enhanced Patient Satisfaction

Timely care alerts not only improve patient satisfaction but also reduce complication risks through early warning triggers, ensuring a safer recovery.



### Streamlined Decision-Making

The solution has streamlined decision-making processes, empowering healthcare professionals to make faster and more informed decisions.



### Improved Productivity

Optimized surgery planning, resource utilization, and bed management collectively contribute to enhanced overall productivity in healthcare operations.