

Alberta Emergency Healthcare Business Problem

The emergency healthcare system in Alberta is currently grappling with a surge in demand for emergency services, resulting in prolonged patient wait times and overcrowded emergency rooms. The primary goal of this project is to streamline the patient experience in the emergency department, particularly for Laparoscopy Appendectomy and Cholecystectomy cases, by addressing bottlenecks and process gaps. This effort aims to expedite the delivery of medical care, ensuring patients receive prompt and efficient attention. Through comprehensive data analysis, the project seeks to uncover and compare trends among different practitioners, with the aim of process enhancement and wait time reduction.

Furthermore, the Alberta Emergency Health System faces the significant challenge of effectively managing the increased patient load and healthcare demands brought about by the ongoing COVID-19 pandemic. The critical role of data analysis in this context is to gain insights into the population's healthcare needs, the specific types of medical services required, and the overall demand and capacity of the healthcare system. This data-driven approach ensures that the system is adequately equipped and supported to meet these evolving challenges. Additionally, data analysis enables the identification and prioritization of areas in need of improvement, whether it be processes or resource allocation, while also aiding in the identification and mitigation of potential risks.

The importance of this data analysis cannot be overstated, as it serves as a cornerstone in guaranteeing that the healthcare system delivers high-quality care and effectively addresses the needs of Alberta's population. By enhancing the quality of care, reducing wait times, and optimizing resource allocation, the Alberta Emergency Health System can safeguard the health and well-being of Albertans not only during the pandemic but also in the post-pandemic era.

Stakeholder List: -

Stakeholder	Team Lead	Key Responsibilities & Activities
Patient		
Admitting Clerk	Dept Head/Manager	The receptionist greets and registers patients.
Emergency nurses (ED/ER)	Charge Nurse	Provide emergency or urgent care to patients that need to be evaluated by medical staff when patients arrive at the ED/ER.
Triage Nurse	Charge Nurse	Perform assessments on incoming patients to evaluate their symptoms so they can triage them appropriately
Trauma Nurse	Charge Nurse	Recognize the signs of deterioration in unstable patients, give first aid, emergency medications, CPR, or other emergency medical care as needed.
Charge Nurse	Nursing Supervisor/ Manager	Coordinating daily administrative duties, including schedules, nursing assignments and patient care. Supervising nursing staff and overseeing their needs.
Physician	Senior Physician	Order tests and analyze their results. Refer patients to specialists. Create treatment plans.
Lead Surgeon for Procedure	Head of Surgical Department	Examine patients to diagnose whether they need surgery. Create a surgical and treatment plan based on the patient's medical history.

Project Design after interview with client

Anesthesiologists	Senior Anesthesiologists	Anesthesiologists might have extra knowledge in particular surgery specialties. This could be neurosurgical anesthesia or cardiac anesthesia. The anesthesiologist participates in three stages of surgery: before, during, and after.
Surgical Technologist	Registered Nurse/Senior Technologist	Surgical Technologist help with the surgery by providing a sanitary operating room. They give the surgeon the tools they need during surgery.
Residents/ Medical Students	Senior Physician	Resident doctors in training and medical students are a part of the surgical team in most training hospitals.
Physician Assistant	Senior Physician	Physician assistants put into practice medicine under the supervision of doctors. They also help to close incisions with stitches (sutures) or staples.

Process Map: -

Registration
<ol style="list-style-type: none">1. Upon arrival, the patient enters the Emergency Department.2. A receptionist warmly welcomes and registers the patient.
Triage
<ol style="list-style-type: none">3. A nurse conducts an initial assessment of the patient.4. Once the assessment is complete, the nurse promptly notifies a physician.5. The physician reviews the assessment and prescribes necessary tests and treatments.6. A nurse and/or physician explains the treatment plan to the patient.
Examination
<ol style="list-style-type: none">7. The patient is directed to the appropriate area, such as a treatment room or the x-ray department.8. Tests are performed, and treatments are administered as needed.9. Patients are provided with suitable discharge instructions.10. The patient and/or their family are informed about any follow-up instructions, including appointments11. The patient is discharged from the Emergency Department.
Operation
<ol style="list-style-type: none">12. Surgical procedures are carried out as required.13. After surgery, the patient is transferred to the recovery room for post-operative care.