**Surgery admissions redefined: Interface design and logistics innovations for improved patient outcomes**

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**ABSTRACT**

Achieving excellence in surgical services in today's changing healthcare environment requires an intuitive interface with effective logistics catered to the surgical industry. By enhancing patient involvement and cultivating a feeling of collaboration between healthcare providers and patients, these interfaces establish the groundwork for improved healthcare results. The paper presents a comprehensive approach that aims to minimize patient wait times, and maximize resource utilization to improve patient experiences by streamlining patient flow within the hospital.

The proposed methodology involves using an interactive Graphical User Interface (GUI) employed with dynamic scheduling and resource allocation development, suggesting optimal surgical schedules using improved algorithms to minimize downtime between operations. Surgical logistics challenges identified through interface usage and healthcare professionals feedback informs the development of targeted strategies, including optimization in scheduling, resource allocation and communication improvements. The study highlights the usage of Artificial Intelligence and Machine Learning solutions to improve patient flow by assisting in administrative tasks, making a real time data analysis for decision making, predicting patient readmissions and length of stay, demand management and so on.

A patient-centric interface is designed that seamlessly integrates the overall logistics of the procedure, including patient wait times, administering vitals, filling out paperwork, and full-length examinations, has been designed. Targeted process reengineering initiatives may be undertaken using process mapping and analysis to identify bottlenecks and inefficiencies in the patient journey. Implementing this strategy facilitates smooth transitions within the internal processes, increased surgical throughput, and optimized healthcare logistics. It reduces patient wait times and eliminates the problem of delays.

The intricate challenges of patient flow management are addressed by the strategy implemented in the paper. Emphasizing patient-centric interface design and logistics strategy would improve patient satisfaction, operational efficiency, aftercare standards and enhance surgical healthcare quality. Future developments in patient-centric healthcare delivery for the surgical department are made possible by investigating their integration.