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## Towards a lean emergency department: Redesigning processes to meet rising demand

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Situated in the densely populated metropolis of Karachi, the Emergency Department(ED) at The Aga Khan University Hospital is arguably one of the most complex clinical settings, catering to the highest acuity patients. Inefficient processes in the ED delayed key activities resulting in a high average LOS of 10.3 hours for admitted patients, and 3.25 hours for discharged patients (2017). Consequently, the number of times an ED bed could be turned over in 24 hours went as low as 4 restricting ED bed supply. Hence in 2017: 4,741 patients left ED because of unavailability of bed (LBUEB) leading to a potential revenue loss of \$2.8 million to the hospital.

A thorough data analysis and time and motion study by the Business Process Reengineering (BPR) team revealed that wastages in the existing processes prolonged decision and transfer times to 4.75 hours and 1.8 hours respectively. To achieve faster throughput, it was imperative that clinical decisions were accelerated, staff roles were reorganized and manual activities were eliminated from work flows.

The project aimed to achieve a 'leaner ED' by aligning existing systems to meet user requirements, automating the bed tracking and standardizing the patient transfer process (SBAR). Furthermore, inter-disciplinary communication within ED staff was improved by introducing nursing team-leads in each area and a non-clinical shift-lead to expedite operational activities and reinforce smoother communication between ED and Inpatient Area.

As a result, length of stay reduced by 1.7 hours for an admitted patient and 0.25 hours for a discharged patient. Subsequently, overcrowding reduced: 84% of P1 patients were assigned an ED bed within 10mins of Triage and LBUEB reduced by 44%.

Sustaining these results will potentially yield 50,200 additional ED bed hours annually. Capitalizing on 75% of these hours ED can potentially admit 20 more patients per day, earning the hospital an annual revenue of \$4.1million.



### Biography

Erum Gonsalves is a Manager, Business Process Reengineering at The Aga Khan University, a leading tertiary care 660 bedded hospital in a large metropolis, where demand for high quality healthcare is on the rise. She has been actively involved with major projects in the University hospital aimed at improving efficiency, eliminating bottlenecks and improving service quality to maximize value for patients. Streamlining the Inpatient Discharge Process was a major project she successfully implemented, facilitating annual bed hour savings of over 100,000 through reduction in discharge process time. This project was also awarded a gold award in innovation in hospital management category at the Hospital Management Asia Aug, 2017. Currently she is working with the hospital's Emergency Department to increase patient throughput and Outpatient Clinics to minimize turnaround times. Besides her BPR centric work at the hospital, she has also been involved in various projects with the university.

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