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**Reducing Average Length Of Stay In A  
Minor Treatment Centre**

**A Kaizen Event**

# Healthcare Kaizen Case Study: Reducing the Average Length Of Stay In A Minor Treatment Centre

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This case study presents a kaizen event conducted in the Minor Treatment Centre in the Emergency Department at a Miami Hospital. The goal of the event was to reduce the patients' average length of stay (ALOS) while maintaining or improving the overall treatment effectiveness. By application of the kaizen approach using lean techniques, **the team was able to reduce the ALOS by over 50% in just 4.5 days.**

## Project Background

The Minor Treatment Centre (MTC) had historically been capacity constrained with long patient wait times. The situation was getting worse and the number of patients leaving without being seen was gradually increasing causing a loss in revenue. ALOS was anywhere from 6 hours to 36 hours.

The same process had already been the target of a Six Sigma project for a period of about a year with only a 5% reduction in ALOS.

Using a team approach comprising representation of all stakeholders in the process, the event was led by a Charge Nurse and facilitated by an SBTI Consultant following the kaizen roadmap (Current State, Concept & Detail Design, Implement, Refine & Control). The scope of the event was limited to only those patients discharged through the MTC and not those admitted to the main hospital. The aim was to reduce the patient ALOS while maintaining or increasing treatment effectiveness.

## Current State

After a brief training introduction to the lean tools, the team mapped the entire MTC process in detail using a Value Stream Map. This identified any possible target areas of non-value added (NVA) activity. Pointed comments during the mapping were that there appeared to be considerably more NVA than value-added (VA) activity in the process. The team took many photographs of the MTC prior to making changes to highlight just how much

had been achieved once the event was complete.



Fig 1: Physicians work area prior to changes

## Concept & Detail Design

From the Value Stream Map the team identified a number of key areas to focus on:

- Layout of equipment, information and general housekeeping in the MTC
- Inconsistencies in the registration process day vs. night
- Patient travel to the MTC from the main entrance
- Patient flow from the main entrance through ED Triage then back to the MTC
- Visibility of process flow
- Moving the discharge of patients out of the MTC to free up capacity
- Loss of vital Tech resource walking to the lab and back

## Implementation

Despite lengthy prep of the affected hospital functions regarding the pace of change, the team struggled initially to break the inertia. However once all concerned realized that the management team were serious in allowing rapid change to occur, the flood gates opened and (to quote the team)...

"It usually takes 6 months to move a computer, we've moved 3 today"

"It usually takes 2 months to move an Omnicell, we did it in hours"

"Knock a new doorway in a wall in a busy Emergency Department at 2pm on a Wednesday afternoon and people realize it's serious!"

Changes made included:

- giving Spectralink phones to Techs to prevent unneeded walks to the lab
- a "Yellow Brick Road" guiding line from the main entrance to the MTC to allow the majority of patients to make the trip unaccompanied



- a separate discharge area remote to the MTC to take patients from the MTC sooner

- re-inventorying the Omnicells and Pixus in the MTC to contain the most frequently used items and remove the slow moving expensive items
- Making crash carts more accessible
- Repairs to MTC equipment and placing in more appropriate locations, whilst removing unused items



- Painting the MTC area
- Clear triage instructions for the Meeter / Greeters to isolate MTC patients before sending them

through main ED Triage

- Standardizing registration to be Fast Track 24hrs a day
- Reduced paper trail in MTC to prevent hold-ups due to information flow

## Refine & Control

Making improvements to a process is often straightforward; sustaining them is more difficult and is the key to a successful event.

The team spent considerable time ensuring the correct metrics, roles, responsibilities and accountabilities were in place. All affected stakeholders were trained on the new process.

## General Results and Conclusions

By Day 4 of the event the ALOS was dropping considerably – at the event report-out, the team proudly displayed an ALOS of 3'04", a figure never seen before.

The full implementation of changes continued for a full month after the event during which time the variability in stay reduced, as well as the average.

3 months later, the ALOS was stable at a further reduced level and remained below 3hrs for the majority of days.

The secondary metric of patients leaving without being seen reduced so much that the volume of patients through the MTC doubled whilst still maintaining the low ALOS.

The team and management thrill over the event have led them to schedule further events throughout the hospital.



Fig 2: Physicians work area post changes