

Reducing Average Length of Stay in a Minor Treatment Center - A Kaizen Event

Project Background

The Minor Treatment Center (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 nearly a year with only a 5% reduction in ALOS.

Using a team approach comprising representation from 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.

In 50 Words or Less

- A kaizen event at a Minor Treatment Center in a Miami hospital's Emergency Department addressed lengths of stay
- Goal: Reduce patients' average length of stay while maintaining or improving overall treatment effectiveness.
- Result: Using the kaizen approach, the team reduced ALOS over 50% in just 4.5 days.



Figure 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 during the 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 preparation of 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 was serious in allowing rapid change to occur, the flood gates opened. To quote the team...

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

- "It usually takes six months to move a computer, we've moved three today."
- "It usually takes two 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" (Figure 3A) 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 Pyxis in the MTC to contain the most frequently used items and remove the slow moving, expensive items (Figure 3B)
- Making crash carts more accessible
- Repairs to MTC equipment and placing in more appropriate locations, while removing unused items
- Painting the MTC area
- Clear triage instructions (Figure 3B) for the Meeters / 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

Figure 2: Physician's Work Area Post-Changes



Refine and 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 hours 04 minutes, a figure never seen before. The full implementation of changes continued for a full month after the event during which time the variability, and the average, in stay reduced. Three months later, the ALOS was stable at a further reduced level and remained below 3 hours for the majority of days.

The secondary metric of patients leaving without being seen declined so much that the volume of patients through the MTC doubled while still maintaining the low ALOS. The team and management excitement over the event has led them to schedule further Lean Sigma events throughout the hospital.

References:

1. Wedgwood, Ian. Lean Sigma: A Practitioner's Guide. Prentice-Hall: Upper Saddle River, NJ, 2006.
2. Zinkgraf, Stephen. Six Sigma: The First 90 Days. Prentice-Hall: Upper Saddle River, NJ, 2006.

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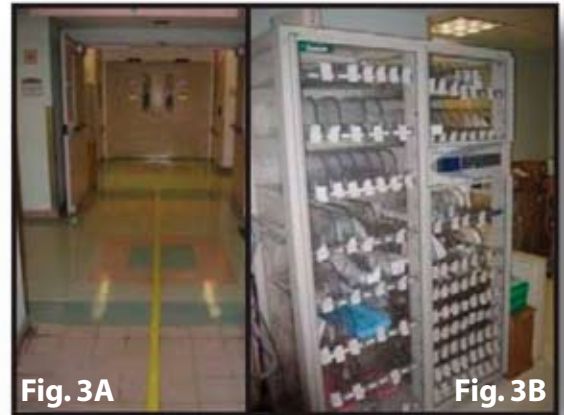


Fig. 3A

Fig. 3B

Figure 3A: "Yellow Brick Road"

Figure 3B:
Omniceils and Pyxis

*At the event report-out,
the team proudly
displayed an ALOS of 3
hours 04 minutes, a
figure never seen before.*

Figure 4: Clear Triage
Instructions





Sigma Breakthrough Technologies Inc[®]



About Sigma Breakthrough Technologies, Inc :

Our History

Dr. Stephen Zinkgraf developed and deployed the Six Sigma methodology while working in various leadership positions at Motorola, Compaq, ABB, and AlliedSignal. Recognizing an opportunity to expand Six Sigma in combination with Lean into every area of a company's business, Dr. Zinkgraf founded SBTI in May 1997. Beginning with 2 corporate clients, SBTI has grown organically through referral to more than 50 global corporate deployments with an additional 50 clients using SBTI methodology. This proven track record of success has made SBTI a global leader in transforming companies.

Our People

SBTI Executive Directors and Master Consultants have a minimum of 10 years industry experience (many have 25 or more years experience). All of our consultants have a common characteristic of having actually led successful initiatives inside a corporation.

Our Services

SBTI defines its core competencies around its support of clients in the rapid deployment of Six Sigma and Lean Enterprise methodologies as business changing improvement initiatives. To accomplish this, SBTI delivers a full range of services. These services include strategic planning and assessments, multi-level leadership workshops and specialized "Belt" training at the tactical level. SBTI's methods and offerings are all based on business results and internalization through highly tailored programs that reflect our client's specific needs.

Our Capabilities

SBTI has offices in the US, Latin America, Europe, China, Hong Kong, and Korea, which offer unmatched experience and capability. These regional offices provide local language and bilingual instructors who are familiar with the SBTI roadmap and materials. These instructors have led multiple waves of training completing projects and mentoring Black Belts. Supporting those experienced MBB's is SBTI's world-class material translated into French, German, Korean, Spanish, Italian, Swedish, Portuguese, Japanese, and Mandarin Chinese.

Our Results

SBTI encourages our clients to internalize the deployment and training as quickly as possible - usually between one to two years. SBTI clients average 30X return on investment within the first 24 months of the engagement. By bringing our clients world-class consultants, materials, and experience, we can guarantee your program is a successful business and culture change.

SBTI has delivered the fastest and highest return on investment in the industry by providing:

- Customized solutions for the client's specific business needs
- Accelerated knowledge transfer of the business process excellence methodologies
- Development of future leaders and process experts
- Truly global solutions (including material translations and home language)

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