ST. VINCENT'S HEALTHCARE

D M A I C → WO

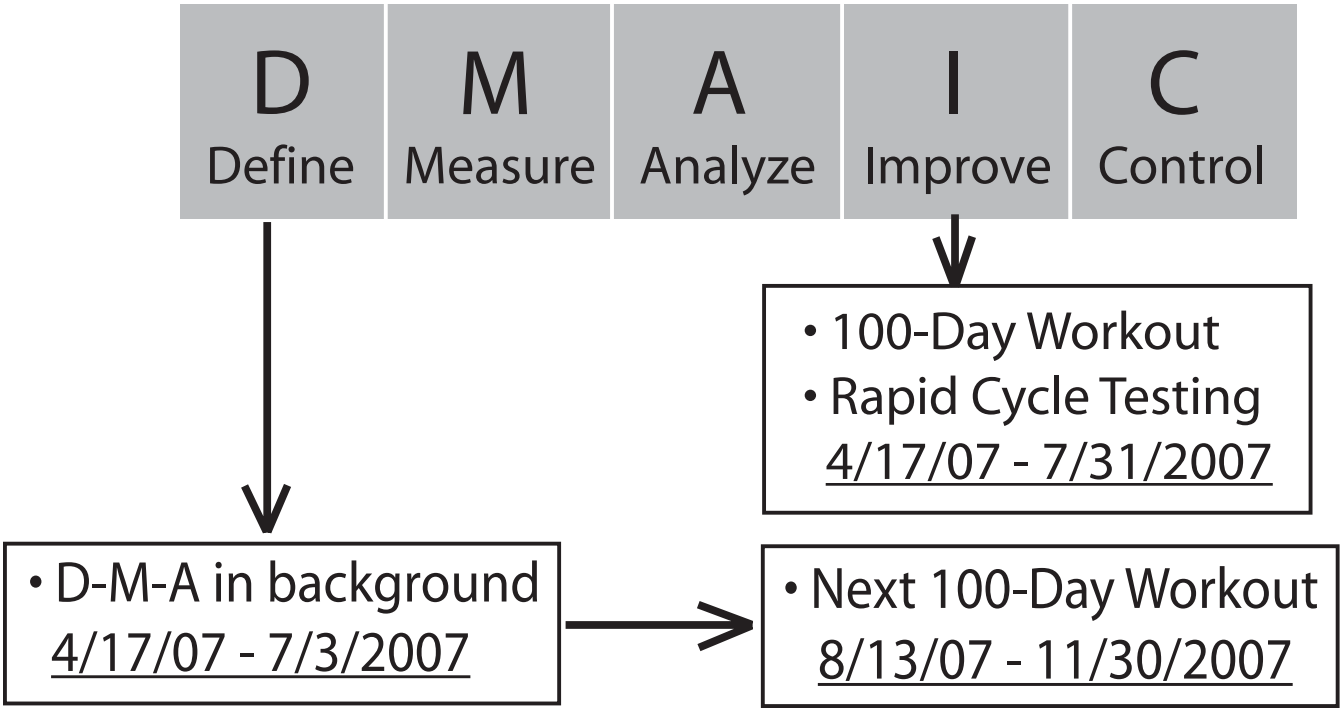
100-Day Quality Workout
Wave III

100 DAY SUMMATION

Kick-off*: April 17, 2007*

Summation: August 13, 2007

The Six Sigma Methodology



Embracing Six Sigma - Third Wave Completed

Patients and SVMC Benefit from Methodology

By Kathie Ford

"Variation is evil," brought chuckles when first stated by President & CEO Scott Whalen, Ph.D. at the First Wave in August 2006, the initial kick-off of Six Sigma at SVMC. The term is now used quite often by those involved in the improvement processes. Six Sigma teams work during 100 Day Waves to reduce variations and achieve "improved quality, better care, and enhanced patient experiences," says Whalen.

In January 2007, Chief Medical Officer Phil Perry, M.D. headed up a group that began using Six Sigma techniques to improve the Emergency Department and hospital thruput. The goal was to reduce the number of patients who leave the ED without being seen. His group's goal was to reduce patients' stays in the ED to four hours for patients needing critical and acute services, and two hours for fast-track patients - those who come in with easily treated minor ailments. In January, the average stay was seven hours.

"A critical element in reducing patient Length of Stay (LOS) in the ER is earlier discharges on the units," Dr. Perry said in January. "Our check out time is 11 a.m., but currently 80% of our patients are discharged after 2 p.m. Medical staff help is needed to shorten our LOS and Leave Without Being Seen (LWBS) rates in the ER."

- Within the first 100 days, the changes cut the total amount of time spent in the ED by two hours.

Dr. Perry's team continues to work the Six Sigma methodology as it extends into other areas of the hospital.

"Six Sigma is a way of life for us now. It's not going away because it's so tied to our mission of providing quality care," says Whalen.

The Fourth Wave kicked off August 13 and will be completed November 30. *Mediscoop* will keep you informed about the work of those teams.

Inside a Six Sigma Team

By Kathie Ford

In August 2006, St. Vincent's Medical Center adopted a new methodology, known as Six Sigma, a statistical approach to improve the patient experience, reduce costs and improve quality and efficiency. On August 13, 2007, Wave Four of 100 Day Workouts was kicked off.

The Third Wave of Six Sigma 100 Day Quality Workouts ended August 13. During the 100 days, six Six Sigma teams focused on finding problems within specific work processes that created delays, defects, increased costs, or other customer service problems.

As editor of *Mediscoop*, I must admit I was quite intimidated by the whole Six Sigma methodology and terminology when it was first introduced, and dreaded trying to understand it enough to write about it. To help me have a better understanding, Barbara Potter, Director of Performance Improvement, invited me to join a Six Sigma team (Breast Health Center Growth) during the Third Wave. It was an eye-opening experience for me.

One of the first lessons learned was that this is not about finger-pointing or blaming anyone for problems. It's about recognizing problems and working together to make improvements.

Another lesson learned early on was that all suggestions are considered and the suggestions that are implemented sometimes don't work. That's OK - it helps us know what doesn't work.

Probably the lesson that impressed me most was seeing so many dedicated associates working to improve our patients' experiences and to meet the goals of reducing costs and improving quality and efficiency. It's amazing to me what can be accomplished by such shared commitment in a short amount of time.

There were six teams working during the Third Wave, led by Nurse Manager Crystal Culbertson, RN; Chemistry/Hematology Manager Rita Driskill; Nurse Manager Chris Noll, RN; Director of Medical Imaging Elaine Murtha; Nursing Manager Melissa Scot and all Medical & Telemetry, Surgical, and Critical Care Unit Nurse Managers. Brief summaries of their challenges, process changes and results are given for your review.

Team 1 - Breast Health Center Growth

Elaine Murtha, Green Belt

Problem

Patients wait an average of 26 days for a diagnostic mammogram.

Goal

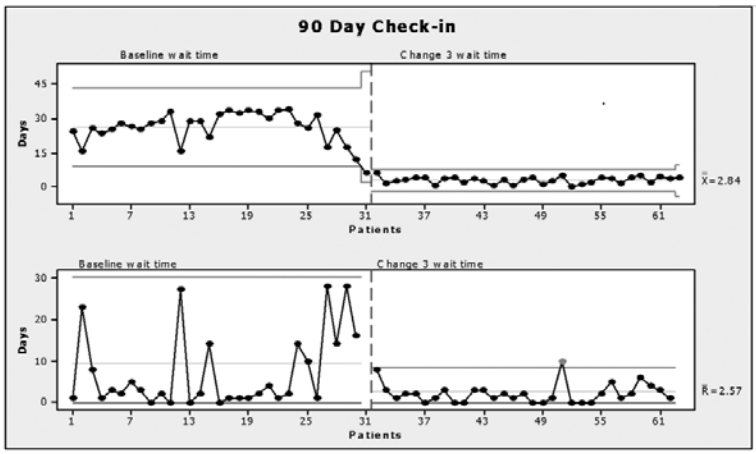
By July 31, 2007, reduce wait time to five days.

Process Improvements

92% of the time we are able to meet our goal of five days.

- Increased number of diagnostic appointments: 40 daily to 51 daily (27% increase).
- Revised unscheduled sonogram protocol to improve throughput and decrease re-work.
- Revised protocol for six month follow-up mammograms to improve throughput.
- Added two Saturday screening schedules per month effective August 11, 2007 (100 appointments monthly).

RESULTS



Collaboration with Radiologists, BHC associates and Scheduling has resulted in our exceeding the goal of 5 days and improved patient care.

Team 2 - Discharges by 2 p.m./Med & Telemetry Units

Medical & Telemetry Unit Nurse Managers, Process Owners

Problem

In March 2007, only 38% of discharged patients in medical, surgical and telemetry units vacate their room by 2 p.m.

Goal

By July 18, 2007, 80% of discharged patients on medical and telemetry units will vacate the room by 2 p.m. as measured by the Teletracking system.

Process Improvements

Overall improvement on Med/Surg/Tele units is 21%.

- Assistant Nurse Managers (ANM) designated as "discharge czar"
- Hospitalist to document anticipated discharge date in orders
- Changed process for arranging home health
- Call APT day before anticipated discharge
- Grouped telemetry patients by Hospitalist group

RESULTS

Unit	Baseline	30 Day Check-in	60 Day Check-in	90 Day Check-in	100 Day Summation
3E	44%	46%	56%	47%	47%
4C	37%	37%	46%	46%	46%
4E	27%	48%	32%	36%	36%
5C	42%	43%	41%	25%	47%
5E	51%	41%	59%	42%	42%
5W	27%	41%	45%	47%	47%
5N	42%	40%	42%	54%	54%
ALL	37%	43%	45%	48%	58%

Overall improvement on Med/Surg/Tele units is 21%.

Team 3 - Discharges by 2 p.m./Surgical Units

Chris Noll, Green Belt

Problem

Less than 80% of patients are being discharged prior to 2 pm.

Goal

By July 31, 2007, 80% of patients discharged by 2 p.m. on the inpatient surgical units: 2E, 2W, 3W, 3C, and 4W.

Process Improvements

Overall improvement in surgical units is 15%.

- 2 East focused its attention on MD education and coordinating consultants. They were able to secure "OK for DC" from the consultants the night before or early morning of discharge (DC) day. 17% improvement
- 2 West focused on developing a process for discharge. They developed a reproducible routine for chart review, coordination with care management, family and patient education. The process is in place and being taught to others. 13% improvement
- 3 Center focused on developing a process for discharge. The Assistant Nurse Manager (ANM) and Nurse Manager (NM) worked together to develop a reproducible routine for identifying patients for next day DC and working with the MD to secure orders early. RN's were able to implement those orders and remove barriers to DC. The process is in place and being taught to others. 29% improvement
- 3 West has identified that ANM coverage is inconsistent due to scheduling. The manager and Director will be implementing an ANM Day shift, Monday-Friday position on the next schedule. 2% improvement
- 4 West focused on working with the physicians on getting DC orders before noon. The barrier in this population is that a large number of patients are not seen until the afternoon. They are working with physicians to address the barriers. 7% improvement

IMPROVEMENT/RESULTS

Unit	Baseline	90 Day Check-in	100 Day Summation
2E	46%	63%	48%
2W	40%	53%	53%
3C	20%	49%	52%
3W	29%	31%	44%
4W	43%	50%	57%
ALL	**36%**	**49%**	**51%**

Overall improvement in surgical units is 15%.

Team 4 - Chest X-ray Turn around time (TAT)

Melissa Scott, Green Belt

Problem

Seven different priority codes are available to order chest x-rays. No criteria established for each option. This leads to inability of imaging to prioritize work-load and delays in results

Goal

To reduce number of priority codes to three. Turnaround time for STAT codes from time of order to verified 30 minutes or less.

Process Improvements

Reduced number of STAT orders and decreased TAT from 41.9 to 29.6 minutes

- Reduced priority codes used to order chest x-rays from seven choices to three
- Established criteria for STAT CXRs for unit staff to utilize
- Stamp to alert Radiologist to read stat first
- Faxed orders to Radiology

RESULTS

Priority Code	Baseline	90 Day Check-in
AM	30%	36%
Expedite	25%	3%
Timed Study	29%	33%
Routine	9%	24%
Stat	13.3%	4%

Team 5 - AM Lab TAT

Rita Driskill, Green Belt

Problem

Physicians have voiced their desire to have results of AM lab work available by 6 a.m. so they can make AM discharge decisions. Currently, 24% of AM lab results are available by 6 a.m.

Goal

By July 31, 2007, 80% of AM lab results will be available for the physician by 6 a.m.

Process Improvements

Overall improvement: 6 a.m. goal - 22%; 7 a.m. goal - 21%

- Bringing Phlebotomists in early to collect patients beginning at 2 a.m., showed a dramatic 44% improvement over the 26% baseline, however there was concern that collecting patients so early was not good for patient care.
- Phlebotomists sending blood to the lab after every five patients instead of 10, improved the work flow in the lab, thus improving TAT. Processing clerk's delivery of specimens to the techs after every 10 patients (previously not monitored) improved the work flow in the lab, thus improving TAT. This change had a 15% improvement over the baseline.
- Changing the distribution of the labels to be collected (having all phlebotomists collect the same floor) proved to be less walking back and forth to the chute and saved time. This change had a 22% improvement over the baseline.

RESULTS FROM RCT

Baseline	30-Day	60-Day	90-Day
26%	70%	41%	48%

When our GOAL is 6AM:
From 26% of AM Lab results available by 6 a.m.
To 48% of AM Lab results available by 6 a.m.

Baseline	90-Day
45%	66%

When our GOAL is 7AM:
From 45% of AM Lab results available by 7 a.m.
To 66% of AM Lab results available by 7 a.m.

Team 6 - Outpatient Services

Green Belt Crystal Culbertson

Problem

Patients undergoing outpatient surgical procedures remain in the Surgery Center for their post operative care, an average of 90 minutes. The national average is 30 minutes for free-standing surgery centers.

Goal

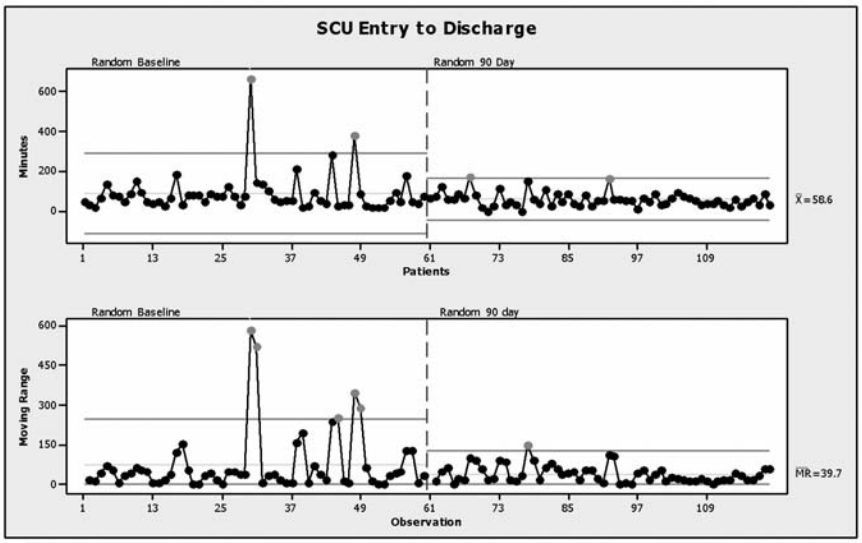
By July 31, 2007, the Outpatient Surgical Services Team will reduce outpatient post op times to 30 minutes.

Process Improvements

Reduction in variation and total minutes from 86 to 58.

- SCU Team changed the staffing model on the unit separating staff into pre-op and post-op teams.
- Designated physical space in the unit for pre-op patients and a different space for post-ops patients
- Pre-op teaching about DC times highlighted in PAT
- Parking/room number card
- Equipment available at the bedside
- Pain policy reviewed and education of RN's
- DC criteria reviewed and education of RN's

RESULTS

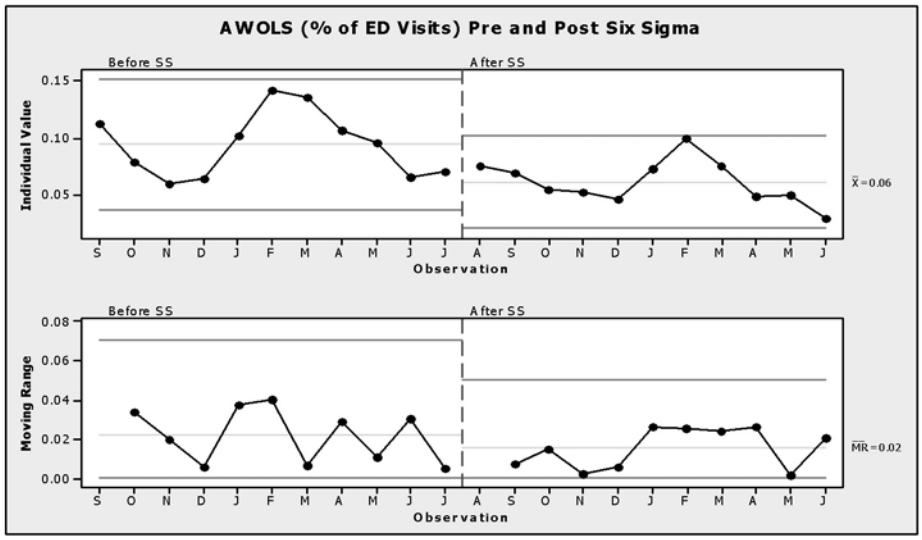


Reduction in variation and total minutes from 86 to 58

So What?

The team efforts and process improvements made during the Third Wave combined with all the work the previous waves have reduced our leave without being rate (LOS) from "before six sigma" at 14% to "after six sigma" of 6% and we have moved our discharges up earlier in the day.

THE BIG "Q" - ED THRUPUT



THE BIG "Q" - PT THRUPUT

Unit	Baseline	SUMMATION
2E	46%	63%
2W	40%	53%
3E	44%	47%
3C	20%	49%
3W	29%	31%
4E	27%	36%
4C	37%	46%
4W	43%	50%
5E	51%	42%
5C	42%	25%
5W	27%	47%
5N	42%	54%
ALL	**37%**	**45%**

Congratulations To Our New Six Sigma Green Belts

(L-R): At the conclusion of the Third Wave of Six Sigma, Dr. Phil Perry, Six Sigma Black Belt, helped present Green Belts to Crystal Culbertson, RN; Rita Driskill, Chris Noll, RN; Elaine Murtha and Melissa Scot, RN. As Six Sigma Green Belts, each has completed and passed a test on the basic philosophy and methodology of Six Sigma. In addition all belts have completed a successful project.