

LEAN SIX SIGMA *CT Scan* IN MEDICAL INDUSTRY



BUSINESS CASE - *CT Scan Throughput*

- ❑ Hospital CT department turnaround time (TAT) was inadequate.
- ❑ Expected TAT was 16 hours versus hospital TAT of 20.7 hours.
- ❑ **PROBLEMS:** Schedule Delays • Longer Patient Stays • Low Patient & Physician Satisfaction

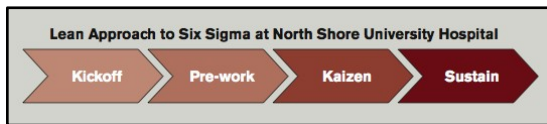
Goals of Lean Six Sigma KAIZEN Project

- 1) Improve daily patient throughput on 2 CT scanners.
- 2) Increase daily patient throughput by 20%.

WHAT IS KAIZEN?

- ❑ Method for accelerating pace of process improvement.
- ❑ Utilized to identify solutions and effect change.
- ❑ 4 day event with solution implementation immediately after.
- ❑ Team spends 100% of their time working on **DMAIC**.

Define • Measure • Analyze • Improve • Control



DEFINE: *Prewrite*

Capture Baseline Data & Current Issues

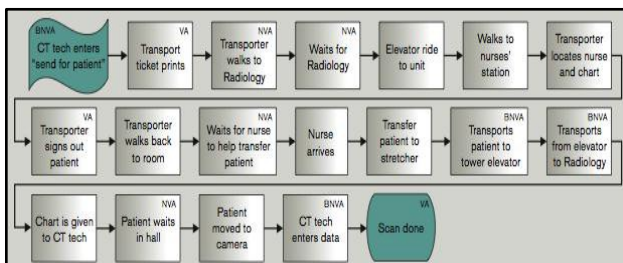
- ❑ CT staff fielded ~75 calls a day reducing scanning time.
- ❑ Lead CT technologist had no designated workspace.
- ❑ Slow transporter availability and pre-transport process.
- ❑ Manual hand-written scheduling process.
- ❑ Printer not in close proximity to staff location.

MEASURE: *Day 1*

Develop Value Stream Map of CT Process

- ❑ **Value Added:** Essential activity in service delivery.
- ❑ **Business Non-Value Added:** Business required, no customer value.
- ❑ **Non-Value Added:** Non-business required, no value to customer.

Value Stream Map



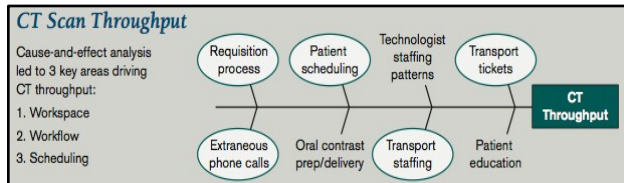
PREPARED BY:

ANALYZE: *Day 2*

- ❑ **Utilize KAIZEN Methods**
 - 5S: Sort • Simplify • Shine • Standardize • Sustain
 - Cause-and-Effect Diagram
- ❑ **Identify Key Issues**
Workspace • Workflow • Scheduling

WHAT IS 5S?

- ❑ Method to create high performance workplace.
- ❑ Utilized to maintain clean and organized work area.



IMPROVE: *Day 3* ==> CONTROL: *Day 4*

Identify & Implement Solutions for Key Issues

- ❑ **Workspace**
 - Create Designated work area for lead technologist.
 - Provide additional computer workstation
- ❑ **Workflow**
 - Install centrally located printer.
 - Hire dedicated CT transporter.
- ❑ **Scheduling**
 - Implement electronic scheduling process.

RESULTS

- ❑ **\$375,000 increase in revenue.**
- ❑ Reduced TAT from 20.7 to 11.6 hours.
- ❑ Increased patient throughput on scanners by 33%.
- ❑ 200 additional patient procedures per month.
- ❑ 60 additional outpatient procedures per month.