Lean Six Sigma

Five Performance Improvement Projects within One DSRIP Project

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Mark Funderburk, UMC Executive Vice President and COO

Region 12 Learning Collaborative
University Medical Center McInturff Conference Center
602 Indiana, Lubbock, Texas 79415
February 26, 2015
Objectives

• Understand why UMC has chosen Lean and Six Sigma as a Performance Improvement methodology

• Review our organizational approach to a Lean and Six Sigma implementation strategy

• Explore the Lean and Six Sigma DMAIC methodology with an overview of projects

• Identify our future trajectory for sustaining the methodology within our organizational culture.
The Healthcare Environment

• Health care organizations must undergo fundamental change.
• Accountability and competition in health care delivery will increase.
• Consumer dynamics will grow.
• Reimbursement will be further reduced.

“Around the world, every health care system is struggling with rising costs and uneven quality despite the hard work of well-intentioned, well-trained clinicians” (Harvard Business Review, 2013).
Lean and Six Sigma

1. **Why** is it important?
   - It brings innovation & problem solving → we compete and thrive

2. **Why** me?
   - Leaders are responsible to achieve the vision

3. **Why** now?
   - Revenue at non-profit hospitals grew at all-time low of 3.9% in 2013
   - Reimbursement cuts, 2-midnight rule, RAC audits, Penalties, etc.
   - 25% of hospitals, per Moody had operating loss in 2013

4. **Why** do it this way?
   - Proven to work. We are in control. It beats the alternatives

5. **Why** would I want to do it?
   - To be a part of the solution – and to accomplish the vision
University Medical Center

Vision: To Serve our Patients in the Best Teaching Hospital in the Country

Mission: Service is our passion. We serve by providing safe, high quality care to all, achieving excellent financial performance, and training tomorrow’s healthcare professionals.

Culture: Service Is Our Passion

Pillars

- Service
- Safety/Quality
- Finance
- Teamwork
- Growth

Strategic Goals for 2015

1. Patient Satisfaction:
   - Inpatient = 99th percentile
   - Remainder = 90th percentile
2. HCAHPS: Improve all measures to CMS benchmark: Focus on:
   - Discharge “Help”
   - Pain
   - Responsiveness
3. Initiate EDCAHPS (soon required for EC patient satisfaction)
4. Standardize (Lean) efforts to ensure consistent results
5. Find $1,000,000 of “waste” on 1st Lean Walk
6. Train all Directors on Lean/Six Sigma by 2017
   - Sustain gains of initial 5 projects
   - Harvest add’l projects

1. Earn Top 100 Hospital Award by 2016
2. Reduce Sepsis mortality by 20%
3. Reduce ALOS by 5%
4. Reduce pressure ulcer rate to NDNQI mean
5. Reduce preventable readmissions & complications (Medicaid) to index ≤ 1.10
6. Reduce nosocomial infection rate ≥ 5% beyond 2014 improvement

1. Achieve Operating margin of ≥ 2%
2. Beat budgeted cost per adjusted discharge
3. Rate of revenue growth ≥ rate of expense growth
4. 1115 Waiver DSRIP: Ensure maximum return on 10 of 15 projects
5. 60% of employees participate in a wellbeing program

1. Employee satisfaction ≥ 95th percentile
2. Employee Turnover ≤ 14%
3. Best Companies to Work for in Texas 2015
4. Achieve Magnet Certification by 2015
5. 60% of employees participate in a wellbeing program
6. Support growth of VA care and related services (Radiology)

Updated 10/14/14
Historical Perspectives

Henry Ford

- First Model T Ford – 1908
- Flow Production - 1913
  - interchangeable parts,
  - standard work, and
  - moving conveyors
Historical Perspectives

Walter Shewhart
• The Father of Statistical Quality Control
• Western Electric (1918 - 1925)
• First Control Chart (1924)
• Developed the PDCA Model
• Statistician

W Edwards Deming
• Western Electric
• Popularized the PDSA and statistical process control
• Consulted with the Japanese post World War II
• Statistician – Doctorate in Mathematics and Physics

Joseph Juran
• Western Electric
• Focused on Managing for Quality
• Application of the Pareto principle
• Consulted with the Japanese post World War II
• Statistician, Engineer, Attorney
Historical Perspectives

Sakichi Toyoda
- Toyoda Automatic Loom Works – 1926
- Inventor of manual and machine powered looms

Kiichiro Toyoda
- Toyota Motor Department – 1933
- First passenger car - 1936
- Toyota Motor Corporation – 1937
- Travelled to US in the 1930s to study Ford

Eiji Toyoda
- Toyota Production System
- Just-in-Time
- Led Toyota’s expansion into a global company

Shigeo Shingo
- Toyota Production System
- 1954 starts work with Toyota Motor Corporation

Taiichi Ohno
- Toyota Production System
- Just-in-Time
- Travelled to the US in 1956 and admired supermarkets
Main Objective is to Design Out:

- Inconsistency (mura)
  - Smooth out demand

- Overburden (muri)
  - Unnecessary employee stress

- Eliminate Waste (muda)
  - Over production
  - Waiting or queuing
  - Transport
  - Over processing
  - Inventory (or storage)
  - Unnecessary motion
  - Defects
  - Underutilized employees
# Waste

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motion</strong></td>
<td>Any motion that does not add value; chasing supplies, signatures, moving product unnecessarily</td>
</tr>
<tr>
<td><strong>Over Production</strong></td>
<td>Producing too much; producing too soon; batch processing, over staffing or over capacity</td>
</tr>
<tr>
<td><strong>Defects</strong></td>
<td>Harm events, medication errors, service delivery requiring re-work, fixing errors</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td>Any nonessential transport or handling of materials and information, excess patient movement</td>
</tr>
<tr>
<td><strong>Inventory</strong></td>
<td>High supply stores; hoards of product; in-work materials, spoilage, expiration of supplies</td>
</tr>
<tr>
<td><strong>Over Processing</strong></td>
<td>Duplication of work, redundancy, duplicate documentation, overkill, interruptions, over use of diagnostics, excessive handoffs</td>
</tr>
<tr>
<td><strong>Intellect</strong></td>
<td>Failure to fully utilize the time and talent of people; lack of training, no avenue for suggestions</td>
</tr>
<tr>
<td><strong>Waiting</strong></td>
<td>Time when people, processes, or equipment are idle, buffers between processes</td>
</tr>
</tbody>
</table>
Lean Pioneers

“We get brilliant results from average people managing and improving brilliant processes. Our competitors get mediocre results from brilliant people managing around broken processes. When they get in trouble, they try to hire even more brilliant people. We're going to win.”

— Toyota Motors
Six Sigma

Bill Smith
• The Father of Six Sigma
• Six Sigma created in 1981
• Six Sigma principles introduced in 1986 to Motorola under guidance of CEO Bob Galvin

Jack Welch
• CEO GE (1981-2001)
• Introduced Six Sigma – 1995
• Popularized the Methods

- Mikel Harry develops the belt naming convention. Trainees previously referred to as “process characterization experts” - 1986/1987

- Motorola Trade Marks the Term Six Sigma – 1987

- Motorola receives the Malcolm Baldridge National Quality Award – 1988
Six Sigma - 6σ

- Management philosophy
- Statistical measure
  - Greek letter σ represents standard deviation
  - Standard deviation describes how much variation exists in a process
  - The 6 represents the sigma level of perfection or goal

<table>
<thead>
<tr>
<th>Sigma Level</th>
<th>Defects per Million Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>3.4</td>
</tr>
<tr>
<td>5</td>
<td>233</td>
</tr>
<tr>
<td>4</td>
<td>6,210</td>
</tr>
<tr>
<td>3</td>
<td>66,807</td>
</tr>
<tr>
<td>2</td>
<td>308,537</td>
</tr>
<tr>
<td>1</td>
<td>690,000</td>
</tr>
</tbody>
</table>
Data Presentation

OR Supplies by Usage Count - Cost Center 4053 - Expense Code 651010

Jan 2014 to Jun 2014
150 or more requests
Healthcare and Lean/Six Sigma

- Donald Berwick, MD
  - Continuous Improvement as an Ideal in Health Care, NEJM - 1989
  - Established the Institute for Healthcare Improvement – 1991
  - CMS Administrator 2010-2012

The theory of bad apples versus that of continuous improvement leveraging concepts of the Toyota Production System

- Lean Thinking – Womack and Jones - 1996
- IOM To Err is Human – 1999
- IOM Crossing the Quality Chasm – 2001
- Virginia Mason Production System – 2002
- Institute for Healthcare Improvement - 2005
Quality

Quality – Speed - Cost

• Create process speed if you want to achieve high quality.
  o A process that makes a bunch of errors (defects) cannot keep up its speed.
  o A slow process is prone to errors (defects).

• Low quality and slow speed are what make processes expensive.
Teams

The Team

- Executive Sponsor
- Physician Sponsor
- Team Lead/Process Owner
- Backup Team Leader
- Team Member
- Ad hoc Team Members
- Subject Matter Experts
- Facilitator
Tools

Define
- Project Charter
- GOYA
- Critical to Quality Matrix
- SIPOC
- Process Maps

Measure
- Run Charts
- Pareto Charts
- Value Stream Maps

Analyze
- Cause and Effect Diagrams
- 5 Whys
- Failure Mode Effects Analysis
- Scatter Plots
- Root Cause Analysis

Improve
- Brainstorming
- Benchmarking – Best Practices
- Future State – Flow Charts
- Error Proofing

Control
- Error Proofing
- Visual Controls
- Data Review
The Methodology

DMAIC

D - Define the problem and what the customers require.
M - Measure the defects and process operation.
A - Analyze the data and discover causes of the problem.
I - Improve the process to remove causes of defects.
C - Control the process to make sure defects don’t recur.
Organizational Implementation

- Hired a dedicated person to manage the program
- Invested in training for the new individual
- Engaged a consultant
- Selected projects

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Clinical Goal</th>
<th>Physician Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Non-Value Added Time</td>
<td>Decrease nursing non-value added time by 25%</td>
<td>Dr. Saba Radhi</td>
</tr>
<tr>
<td>Professionals for the Effective Timing of Antibiotics</td>
<td>Administer initial antibiotic within 1 hour of order</td>
<td>Dr. Raed Alalawi</td>
</tr>
<tr>
<td>OR Efficiency – Improving Close to Cut</td>
<td>Reduce close to cut to 45 minutes and room turnover to 20 minutes</td>
<td>Dr. Steven Brooks</td>
</tr>
<tr>
<td>Discharge Planning – The Voice of the Customer</td>
<td>Sustain HCAHPS scores above 90.34% for a full quarter</td>
<td>Dr. Luke Hinshaw</td>
</tr>
<tr>
<td>EC and Lab – Decrease Lab Tests in the EC</td>
<td>Decrease the number of EC Lab Orderables</td>
<td>Dr. Christopher Piel</td>
</tr>
</tbody>
</table>
DMAIC

DEFINE

NURSING NON-VALUE ADDED TIME

DMAIC Methodology

UMC HEALTH SYSTEM
Project Goal

Reduce Nursing Non-Value Adding time by 25%

Nurse Time Study (Pareto Chart)

Nursing Non-Value Added Time - Minute Increments

- Looking for Medication: 76 minutes
- Retrieving Supplies: 42 minutes
- Beverage Delivery: 34 minutes
- Rounding with Physician: 16 minutes
- Delivering Supplies: 14 minutes
- Returning Meds to Pharm.: 13 minutes
- Food Delivery: 13 minutes
- Answering Phone: 11 minutes
- Calling Provider: 11 minutes
- Calling for Supplies: 11 minutes

**Purpose:** Evaluate Non-Value Added time by shadowing nursing personnel

**Mode:** Time chart - documenting nursing activities in 5-minute increments

**Target Group:** 4 East Nurses Station

**Surveys Returned:** 20 nurses over 2 weeks to make up 104 hours of shadowed time
Lessons Learned

What we think is a problem is not really the problem
• Data brings clarity

How to place value on a project
• Time saved
• Steps saved
PETA

(PROFESSIONALS FOR THE EFFECTIVE TIMING OF ANTIBIOTICS)
Project Goal

Administer the first dose of a scheduled antibiotic within one hour of the antibiotic order in the ICUs and two hours in the medical surgical areas.

Delay to initial administration of effective antimicrobial is the SINGLE STONGEST PREDICTOR OF SURVIVAL

PETA Data

<table>
<thead>
<tr>
<th></th>
<th>Minutes From Order To Nurse Review</th>
<th>Minutes From Order to Pyxis Dispense</th>
<th>Minutes From Tube to Admin</th>
<th>Minutes From Pyxis Dispense to Admin</th>
<th>Minutes From Order To Admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>28</td>
<td>74</td>
<td>70</td>
<td>22</td>
<td>105</td>
</tr>
<tr>
<td>Median</td>
<td>15</td>
<td>51</td>
<td>55</td>
<td>15</td>
<td>78</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>36.75</td>
<td>86.43</td>
<td>74.78</td>
<td>24.52</td>
<td>94.30</td>
</tr>
</tbody>
</table>
Process Map
Detailed Data Analysis

Average Time from Order to Administration / Percentage of Lost Time

- Average Number of Minutes from Order to Administration
- Percentage of Lost Time
- Number of Orders
- Percentage of Total Minutes - 33,377
# Project Outcome

<table>
<thead>
<tr>
<th>Minutes (Avg)</th>
<th>Minutes From Order to Nurse Review</th>
<th>Minutes From Order to Verification</th>
<th>Minutes From Order to Dispense</th>
<th>Minutes From Order to Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minutes</td>
<td>23</td>
<td>9</td>
<td>25</td>
<td>58</td>
</tr>
</tbody>
</table>

![Image of a refrigerator](image1.png)

![Image of a storage unit](image2.png)
Lessons Learned

• Must have all parties at the table to be effective

• Pharmacy/Nursing collaboration was a great learning experience for each discipline

• All the tools had different purposes but ultimately their main function was to make us communicate with each other

• Always room for improvement
OR Efficiency
Improving Close to Cut Time
Project Goal

Improve efficiency in the OR and customer satisfaction by reducing the close to cut time for surgery to the 75th percentile.

Goals for Reaching Target

- Patient out to patient in – 20 minutes
- Patient in to cut – 15 minutes
- Patient close to patient out – 10 minutes
- Total time: 45 minutes
Analyzing the Data

5 Whys

- A tool used in the analysis phase of a Six Sigma project.
- By repeatedly asking “Why?”, you can peel away the layers of symptoms which can lead to the root cause of a problem.
- Very simple, easy to complete and does not require statistical analysis.
Analyzing the Data

**Surgeon - 5 Whys**

- **Why #1** Instrumentation not available
  - **Why #1** Anesthesia is not ready
    - **Why #2** Staffing change requires a different set-up
      - **Why #2** Consent not obtained
        - **Why #2** Assessment not completed
  - **Why #2** Nursing assignments change
    - **Why #2** Nurse unfamiliar with case
      - **Why #2** Patients not brought from PACU timely

- **Why #3** Not enough sets available
  - **Why #3** Lunch breaks or change of shift
Analyzing the Data

Anesthesia - 5 Whys

Why #1
Anesthesia assignments

Why #2
Changes not communicated (lunches)

Why #2
Attendings cover multiple rooms.

Why #1
Surgeon Availability

Why #2
Unable to communicate about case

Why #2
Room assignment changes – same surgeon

Why #1
Patient Consent

Why #2
Patient unable to consent and family not available.
Lessons Learned

- Data analysis is not always technical
- Overcoming pre-conceived ideas is difficult

Diagram of Turnover
EC & LAB

Decrease Lab Tests in the EC
A Lean Six Sigma Project

DMAIC - IMPROVE
Project Goal

Improve laboratory test utilization through evaluation of order sets, minimize add on tests, reduce duplicate and unnecessary tests, and have minimal to no lab tests for low acuity patients.

<table>
<thead>
<tr>
<th>Unnecessary Tests</th>
<th>EC Duplicates</th>
<th>House Wide Duplicates</th>
<th>Total Potential Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>$46,335</td>
<td>$8,866.68</td>
<td>$262,681.44</td>
<td>$317,883.12</td>
</tr>
</tbody>
</table>
**Cause and Effect Diagram**

- **Triage Acuity Assignment**
  - Nurse does not gather the correct information and assigns the incorrect triage acuity
  - Provider disagrees with the assigned acuity
  - All necessary labs are not in the care set that is needed
  - Nurse uses the wrong care set to order lab work
  - Provider does not cancel the unnecessary labs from the Care sets

- **Changing Chief Complaint**
  - Patient does worsen and s/s change acuity
  - Due to long waits, patients will change their complaint to be seen faster
  - Nurse will then order labs being that their CC has changed
  - Consists of adding on labs

- **Add on lab**
  - Nurse entered orders and not a provider
  - Direct bedding was not done, therefore the provider did not enter in all the labs they needed
  - Results are not analyzed and therefore duplicate orders are placed

- **Consults**
  - Providers will order other tests because they may realize patients will not follow up with the PCP
  - Inability to have out patient labs completed
  - Patients with no PCP

- **Increased Lab orders in EC**

- **Care set builds**

---

*Note: The diagram illustrates the flow of events and the relationship between different causes and effects in the context of triage acuity assignment and chief complaint changes.*
# Improvement

## Lab Popups

*From: Dec 1, 2014 To: Dec 31, 2014*

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>December</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overridden</td>
<td>Not Overridden</td>
</tr>
<tr>
<td>FN_DUPPLICATE_LAB_ORDER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acknowledged by Provider</td>
<td>158</td>
<td>158</td>
</tr>
<tr>
<td>Clinically Insignificant</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Disagree w/ Notification</td>
<td>104</td>
<td>104</td>
</tr>
<tr>
<td>Indication Outweighs Risk</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No Override</td>
<td>197</td>
<td>197</td>
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<tr>
<td>FN_DUPPLICATE_LAB_ORDER</td>
<td>270</td>
<td>197</td>
</tr>
<tr>
<td>FN_TRIAGE_ACUITY_LAB_ORD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acknowledged by Provider</td>
<td>86</td>
<td>86</td>
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<tr>
<td>Clinically Insignificant</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Disagree w/ Notification</td>
<td>224</td>
<td>224</td>
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<tr>
<td>Indication Outweighs Risk</td>
<td>14</td>
<td>14</td>
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<tr>
<td>mCDS filtering</td>
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<td>1</td>
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<tr>
<td>No Override</td>
<td>17</td>
<td>17</td>
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<tr>
<td>Other Order is Being Discontinued</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Previously Used Without Problem</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>FN_TRIAGE_ACUITY_LAB_ORD</td>
<td>333</td>
<td>17</td>
</tr>
<tr>
<td>FN_UNNECESSARY_LAB_ORDERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acknowledged by Provider</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Disagree w/ Notification</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Indication Outweighs Risk</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>No Override</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>FN_UNNECESSARY_LAB_ORDERS</td>
<td>45</td>
<td>1</td>
</tr>
<tr>
<td>Grand Total</td>
<td>648</td>
<td>215</td>
</tr>
</tbody>
</table>

42% of Duplicates Stopped
Lessons Learned

• The importance of a narrowed scope
• Impacted more than just the Emergency Center physicians
• Accurate sorting or triage of patients dictates the process
DMAIC

DISCHARGE PLANNING: THE VOICE OF THE CUSTOMER

Team Members: Tonya Chapman, Adonica Dugger, Jereme DuPont, Mark Funderburk, Dr. Luke Hinshaw, Kim Jakeway, Tatiana Schwartz, Sylvia Stice, & Amanda Tijerina
Project Goal

Sustain HCAHPS scores above 90% for a full quarter.

Focus Questions
1. Staff talked about HELP needed when you left the hospital?
2. Staff gave information about signs/symptoms to look for?

OUR PLAN:
- DISCHARGE FOLDERS WITH 24 HOUR HELP HOTLINE MAGNET
- SCRIPTING OF THE WORD “HELP”
- STANDARDIZATION OF DISCHARGE PHONE CALLS
- DISCHARGE VIDEO
- SCRIPTING CARDS
Control Plan

- Monitor 5 west HCAHPS discharge domain to identify trends, measure success, and identify needed process adjustments
- Monitor electronic d/c phone call database
- Monitor 74-NURSE call volumes to measure patient magnet/educational impact
- Provide concentrated education on “HELP” scripting & teach-back method as needed
- Provide script cards & custom folders to facilitate continuation of new process
Lessons Learned

• Found variation in the discharge process across the hospital

• The 24/7 help line (74-NURSE) is available but staff was not familiar

• Identification of an ongoing meeting or home to continually evaluate and sustain the changes
Sustaining the Organizational Culture

- The Voice Box
- Lean Forward Training
- Waste Walks
- Lean Daily Management
The Voice Box

Suggestion System

- Employee focused
- Inclusive of physician staff
- Promotes employee engagement

- Work – Life Balance
- Life Saver and Quality
- Suggest and Win (SAW)
- Physician Suggestions
Lean *Forward* Training

**Leadership Training**
- A component of our strategic plan
- Focused on key elements of Lean and Six Sigma
- Staff will obtain yellow belts
- Initial focus on hospital leadership but open to anyone interested
- A total of 6 hours worth of training
- Began in January 2015 – approximately 95 individuals trained to date
- Leadership Development – Pathways to Leadership Events
Waste Walk

Learning the Concept
• Catholic Health Partners – Ohio
• Lifespan Health System – Rhode Island
• Floyd Medical Center - Georgia

UMC Plan
• Leadership focused
• Directors will submit two waste reduction ideas
• The Waste Walk ideas will drive the next wave of projects
• Begins in April 2015
• Must learn to see Waste
Waiting

UMC Mammography
- Decreased the time it takes for patients to get their mammography results increasing patient satisfaction

Franciscan St. Francis Health – Indianapolis
Bubbles for Babies
- Ultrasound procedures for children under 5 years were traumatic
- Used wedding bubbles to distract the child during the procedure
- Improved patient satisfaction
- Increased efficiency of Radiology department through better images and increased daily procedure volumes

Defects
Harm events, medication errors, service delivery requiring re-work, fixing errors

Motion
Any motion that does not add value; chasing supplies, signatures, moving product unnecessarily

Inventory
High supply stores; hoards of product; in-work materials, spoilage, expiration of supplies

Intellect
Failure to fully utilize the time and talent of people; lack of training, no avenue for suggestions

Over Processing
Community Medical Center – Missoula Montana
- Implemented electronic payments for their large vendor accounts
- Saved $849,000/year by negotiating discounts for electronic payment with one large vendor
- Saved $125,000/year in postage

Intermountain Health Care – Salt Lake City
- Flow of specimen paperwork did not match the flow of a specimen – Required 3-4 hours of work to match
- Changed flow for paperwork to match specimens
- Decreased turn around time on pathology reports to 1 hour

Over Production
University of Massachusetts Medical School
- Prostate Cancer Screening has stopped around the world because of more harm than benefit
- 48 times more likely to be harmed
- Excessive antibiotic utilization
- Excessive diagnostic tests

Transportation
Any nonessential transport or handling of materials and information, excess patient movement
Lean Daily Management

Learning the Concept – Safety Huddles

- North Mississippi Medical Center
- Baylor
- Zale Lipshy
- Advocate, Chicago
- University of Utah
- Baltimore Medical Center
- Virginia Mason

Goal

- Turn our staff into focused problem solvers every day
- Use a standard, low tech method of data collection
- Create awareness of important safety events in every unit every day
- Very visual
- Immediate analysis of defects
IMPROVEMENT through INNOVATION
UMC HEALTH SYSTEM