



Lean Six Sigma: Improving the DSRIP Reporting Process

August 20, 2014

Meeting Agenda



- **High-level Overview of Lean Six Sigma**
 - Lean
 - Six Sigma
 - Integrated both methodologies
- **Texas Children's DSRIP Lean Six Sigma Project**
 - Project Scope
 - DMAIC Phases
 - Results and Project Benefits
- **Discussion/Questions**

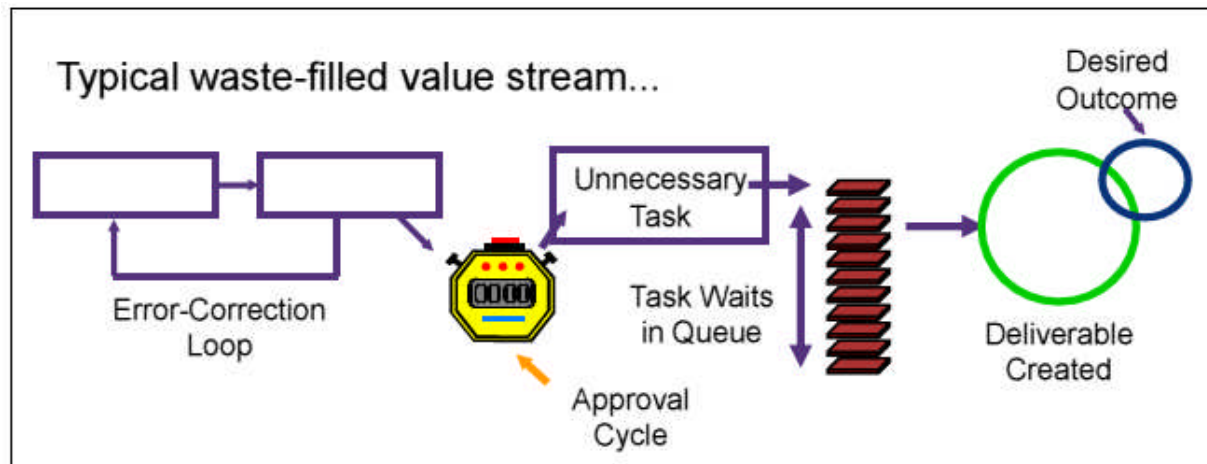
Lean Six Sigma Introduction



- **Texas Children's Hospital - Lean Six Sigma Green Belt certification**
 - Texas Children's has 16 Category 1 projects and 1 Category 2 project
 - The Government Relations Department is responsible for overseeing the implementation and successful execution of all DSRIP metrics and milestones. Additionally, our department completes reporting requirements for all DSRIP projects.
 - Our goal was to ensure DSRIP reporting was being completed timely and accurately by each department, the first time.
 - Annual reporting
 - Performance Logic
- **What is Lean Six Sigma**
 - A common improvement methodology to impact the overall business
 - Fact-based decision making
 - Focused on minimizing waste and variation
 - Developed from the merging of two highly successful improvement methodologies: Lean and Six Sigma

Lean Introduction

- Methodology used to create faster, more efficient process design
- Focus is to eliminate waste or non-value added activities to create flow
- The principles of Lean thinking were derived from the success of the Toyota Motorola Company

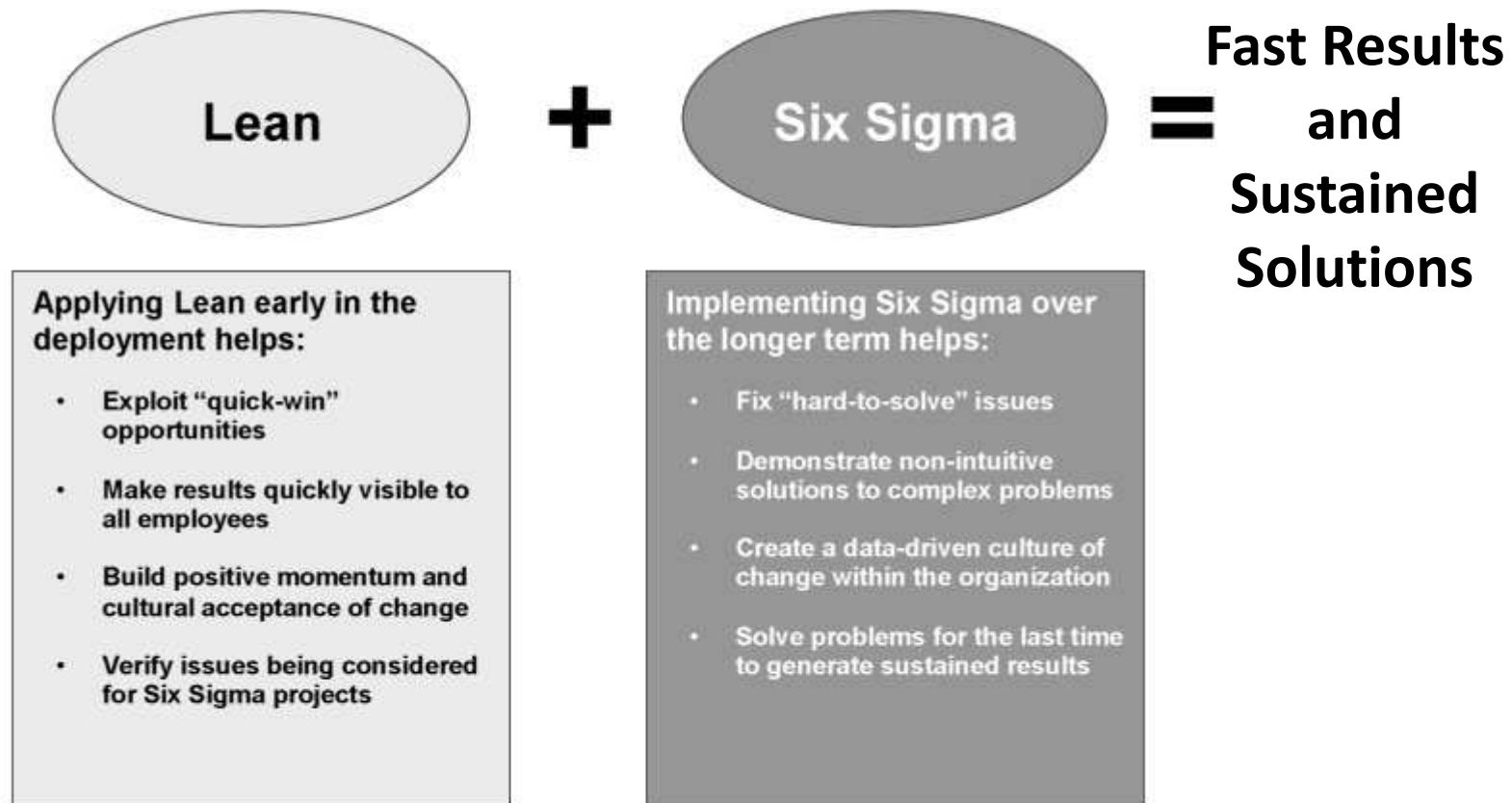


Six Sigma Introduction



- A methodology for decreasing defects which arise due to variability in process execution. It is used to create consistent, defect-free processes
- Focus is eliminating defects and reducing process variation
- The term “Six Sigma” and the basic methodology was derived at Motorola in the 1980’s
- Six Sigma, in its most basic form, it is a metric measuring a defect rate
 - Defect is defined as the failure of any process to deliver the intended result
 - Represents 3.4 defects per million opportunities (99.9997%)

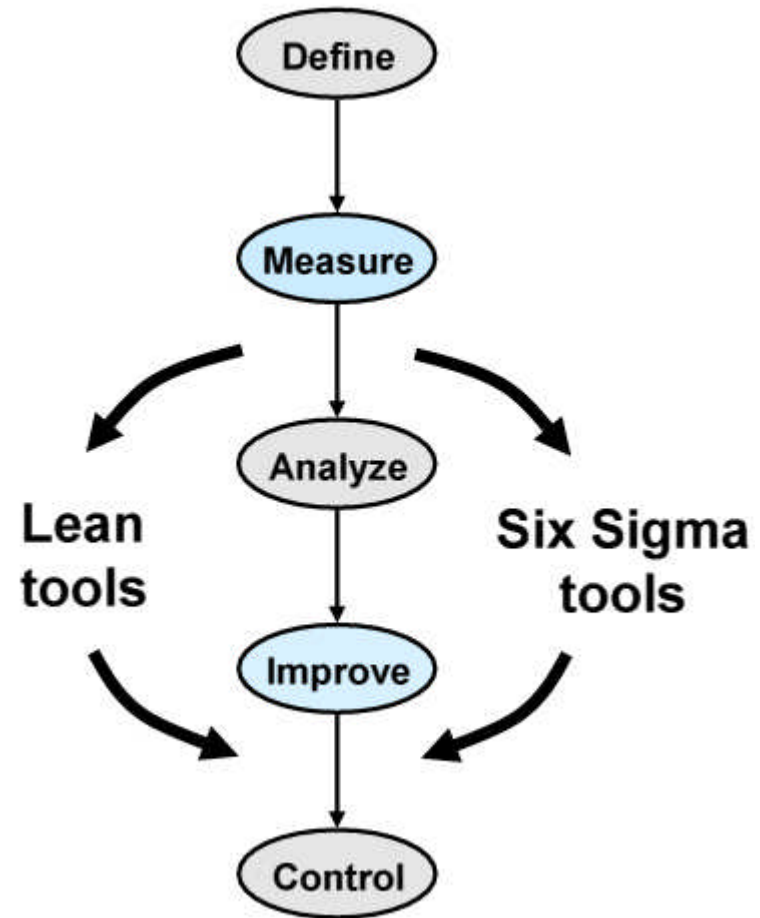
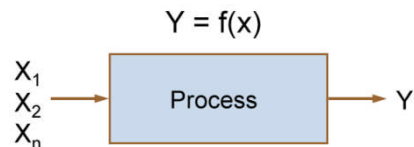
Leveraging Lean and Six Sigma



Integrating Lean and Six Sigma



- Value and objective must be understood
- Process must be measurable
- Depending on the nature of the project, Lean tools, Six Sigma tools, or a combination may be best to solve the problem
- The final solution must be controlled
- **The Golden Rule of Lean Six Sigma: the outputs of any process are a function of the inputs of that process**



TCH's Lean Six Sigma Project: Define and Measure



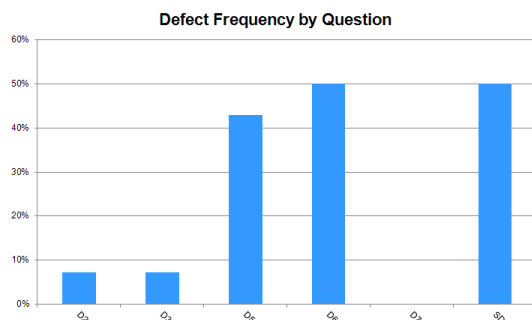
DEFINE PHASE:

| Charter Element | Description |
|--------------------------|--|
| Problem Statement | Based on data from October 2013, the overall defect rate for DSRIP data submission was 24% and the late submission rate was 18% . Of the 17 projects, certain departments had a comparatively larger defect and late submission rate. High defect and late submission rates will impact the hospital's ability to meet all DSRIP metric and milestones |
| Defect Definition | Defect Rate – required reporting questions that were not completely answered, included grammatical/spelling mistakes, and/or were failed to address the question. Late Submission Rate – DSRIP reports that were not submitted timely |
| Primary Metric | 1) DSRIP data defect rate 2) Late submission rate |
| Objective | To decrease the overall defect rate to 10% and late submission rate to 5% . Additionally, evaluate the current reporting process and determine improvement opportunities. |

MEASURE/ANALYZE PHASE:

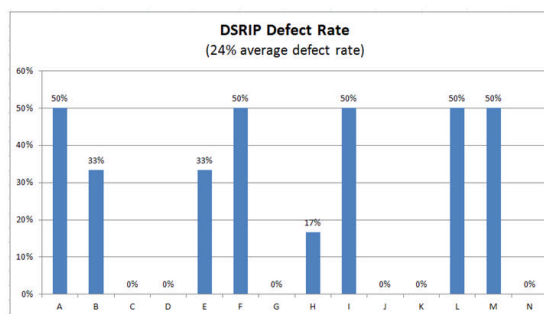
Measurement System Analysis (Data Validation)

- Graph illustrates the defect rate by question



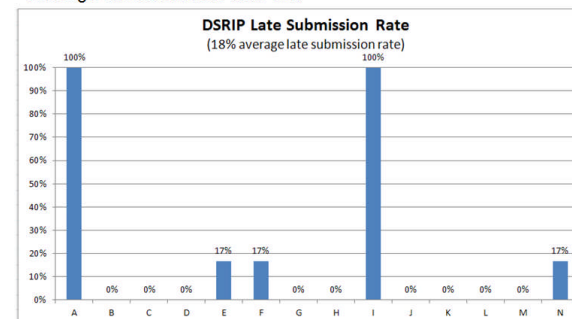
Baseline Measurement System Analysis (Data Validation)

- Graph illustrates the October defect % for each DSRIP participating department.
- Average defect rate = 24%



Baseline Measurement System Analysis (Data Validation)

- Graph illustrates the October late submissions rate for each DSRIP participating department
- Average late submission was 18%



TCH's Lean Six Sigma Project: Analyze and Improve



ANALYZE PHASE

- Determined which departments were statistically weak performers
- Communicated with each department
- Increased internal communication

Measurement System Analysis

Identified departments that were statistically high and weak performers (Chi-Square Test)

Chi-Sq = 18.475, DF = 13, P-Value = 0.140
28 cells with expected counts less than 5.

| Worksheet 1 *** | | | |
|-----------------|-----------|---------|----|
| | C1-T | C2 | C3 |
| Dept | incorrect | correct | |
| 1 | 3 | 3 | |
| 2 | 2 | 4 | |
| 3 | 0 | 6 | |
| 4 | 1 | 5 | |
| 5 | 2 | 4 | |
| 6 | 3 | 3 | |
| 7 | 0 | 6 | |
| 8 | 1 | 5 | |
| 9 | 3 | 3 | |
| 10 | 0 | 6 | |
| 11 | 0 | 6 | |
| 12 | 3 | 3 | |
| 13 | 3 | 3 | |
| 14 | 1 | 5 | |

Chi-Square Test: incorrect, correct
Expected counts are printed below observed counts
Chi-Square contributions are printed below expected counts

| | Incorrect | Correct | Total |
|-------|-----------|---------|-------|
| 1 | 1.87 | 4.43 | 6 |
| 2 | 1.23 | 0.041 | 6 |
| 3 | 0 | 6 | 6 |
| 4 | 1.87 | 4.43 | 6 |
| 5 | 1.87 | 4.43 | 6 |
| 6 | 1.87 | 4.43 | 6 |
| 7 | 1.87 | 4.43 | 6 |
| 8 | 1.87 | 4.43 | 6 |
| 9 | 1.87 | 4.43 | 6 |
| 10 | 1.87 | 4.43 | 6 |
| 11 | 1.87 | 4.43 | 6 |
| 12 | 1.87 | 4.43 | 6 |
| 13 | 1.87 | 4.43 | 6 |
| 14 | 1.87 | 4.43 | 6 |
| Total | 22 | 42 | 64 |

Strongest Performers:

- 3
- 10
- 11

Weakest Performers:

- 1
- 6
- 9
- 12
- 13

IMPROVE PHASE

- Improved the information request template
- Clarified questions with higher defect rates
- Request information monthly instead of annually

Un-batched and re-vamped the DSRIP templates

Template - Before

DSRIP DY2 Reporting Requirements

Please note that HHSIC may add to DY2 requirements. To date, they have only provided a draft of submission requirements.

Due Date - Please have all DY requirements sent to Nac by Friday, October 18.

Supporting Documentation Requirements

Each department must include any attachments which demonstrate achievement of each metric for which the department is seeking an incentive payment and provide an explanation of supporting documents (i.e., research, project planning documentation, meeting agendas/notes, etc.)

Required Questions - Please answer the following questions in detail:

1. Please provide an executive summary describing the overall provider experience for DY2. This may highlight ongoing implementation. Also include a brief paragraph for your project's progress.
2. Project Overview: Accomplishments - summary of project status of accomplishments
3. Project Overview: Challenges - summary of project status of challenges
4. Project Overview: Lessons Learned - summary of project status of lessons learned
5. Patient Impact for Medicaid/Low Income uninsured population - Identify Medicaid and/or low income uninsured patient impact from the year with brief description.
6. Progress on Core Components - Identify progress on core components from the year
7. Continuous Quality Improvement Activities - Identify continuous quality improvement activities from the year
8. Does your project include any other federal funding sources? If yes, provider assures that no duplication of activities from federal funds is included
9. Explanation of interaction of federal funds - explanation of interaction of federal funds
10. Insert a narrative description of progress. If achievement of your metric varies from your plan, explanation is needed. Optional: if the metric is not achieved, report on how the provider will achieve metric before the end of the year.

Template - After

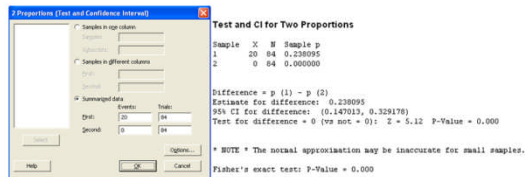
| Please answer the following questions, in detail, to the best of your ability. Note that in order to meet the minimum requirements of a DSRIP project implementation, some progress must be documented every month. | | | Question Status |
|--|-----------------------|--|-----------------|
| Question | December 1 - 31, 2013 | | |
| Project Status Update | | | |
| Document a summary of accomplishments for the month | | | Not Answered |
| Document any project challenges or issues that would impact the department (i.e., under staffed) | | | Not Answered |
| Progress on core components (listed in project narratives) - Please provide monthly updates on progress/initiatives being executed in these areas. Each project must show some planning or action toward improving the core components. If you've made significant strides in these areas from FY12-now, please document what you did and how it is being maintained. | | | |
| Implement transparent standardized referrals across the increase specialty care volume of units and evidence of improved access for patients seeking | | | Not Answered |
| Increase the number of specialty clinic locations (i.e., West Campus or another health center). | | | Not Answered |
| Conduct quality improvement for projects including rapid cycle | | | Not Answered |
| Volume and Continuous Quality Improvement (CQI) - Note that a new Qiview chart is being built to depict populate volume information. I will pull information from there once it is available. | | | |
| CQI Activities currently being implemented/improved at your department | | | Not Answered |
| Monthly Department Volume (as it relates to your DSRIP project) | | | Not Answered |
| Medicaid Volume | | | Not Answered |
| Supporting Documentation - If any internal discussions/meetings take place, please send me agenda, minutes, and material reviewed | | | Not Answered |
| Meeting Agenda/Minutes Attached? | | | Not Answered |
| Presentation(s) Attached? | | | Not Answered |
| Please explain the relevance of the other supporting documentation | | | Not Answered |

TCH's Lean Six Sigma Project: Results



Results:

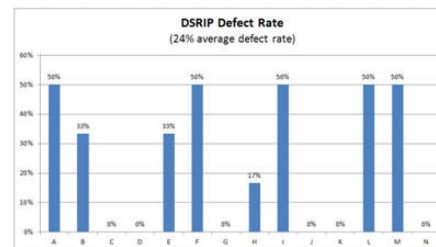
- Performed the 2 Proportion Test in Minitab
- P-value = **0.000**, which indicates a statistical difference was made (H_A validation)



Graphical Before and After Comparisons

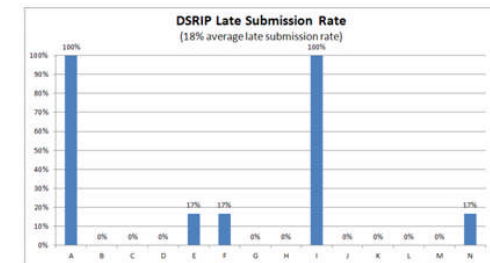
DSRIP Defect Rate - Before

- 24% defect rate
- Certain departments had statistically higher defect rates



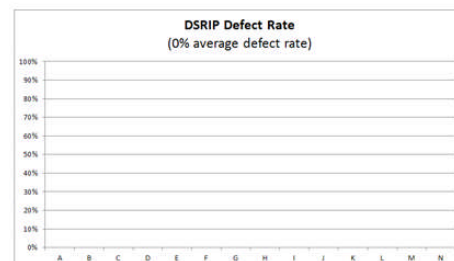
DSRIP Late Submission Rate- Before

- 18% defect rate
- Certain departments had higher defect rates



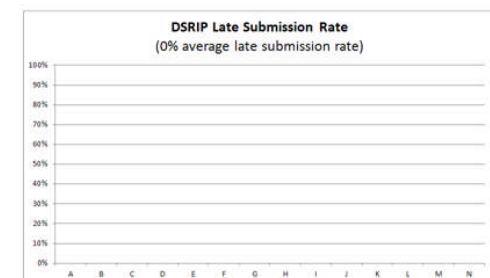
DSRIP Defect Rate - After

- 0% defect rate
- All questions were answered with appropriate detail
- Increased spelling errors were found; however, those do not impact the overall defect rate



DSRIP Defect Rate - After

- 0% defect rate
- All templates were submitted timely



TCH's Lean Six Sigma Project: Control



- **An excel based dashboard was created to ensure each department is pacing towards goal and successfully meeting all internal initiatives**
 - Dashboard is shared with project stakeholder and senior leaders every month
 - Focused on monthly volume progress
 - Error rates and submission rates will be updated monthly to monitor department compliance and performance
- **The dashboard provided the following benefits:**
 - Risk mitigation
 - Visibility across departments
 - Error Rate and Timely Submission Rate transparency
- **Overall project benefits:**
 - Improved reporting – TCH never received feedback on reporting content from HHSC and has been timely with all Performance Logic submissions
 - Risk mitigation
 - Accountability
 - Improved and sustainable reporting process
 - Financial Benefit

Questions

