



LEAN SIX SIGMA IN BEHAVIORAL HEALTH

Spring Institute 2017

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Yates



May 19, 2017

- Leadership Training
 - Overview of Lean Six Sigma Tools
 - Lean Six Sigma Concepts
 - What to expect from the 4 days of training
 - Value Stream Mapping- Current, Ideal and Future states

September 26 & September 30

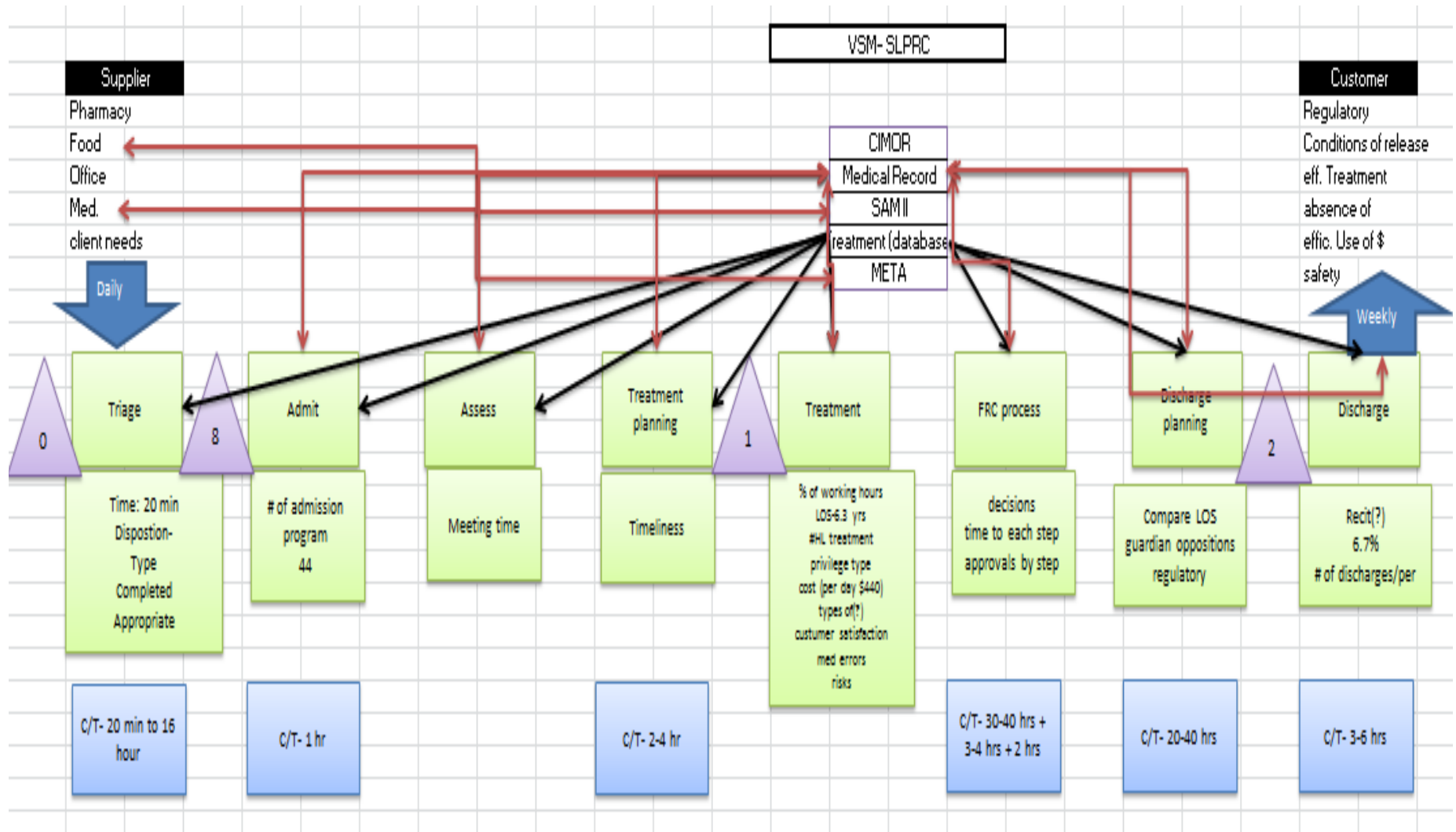
Value Stream Mapping

- Identifying areas of waste and improvement

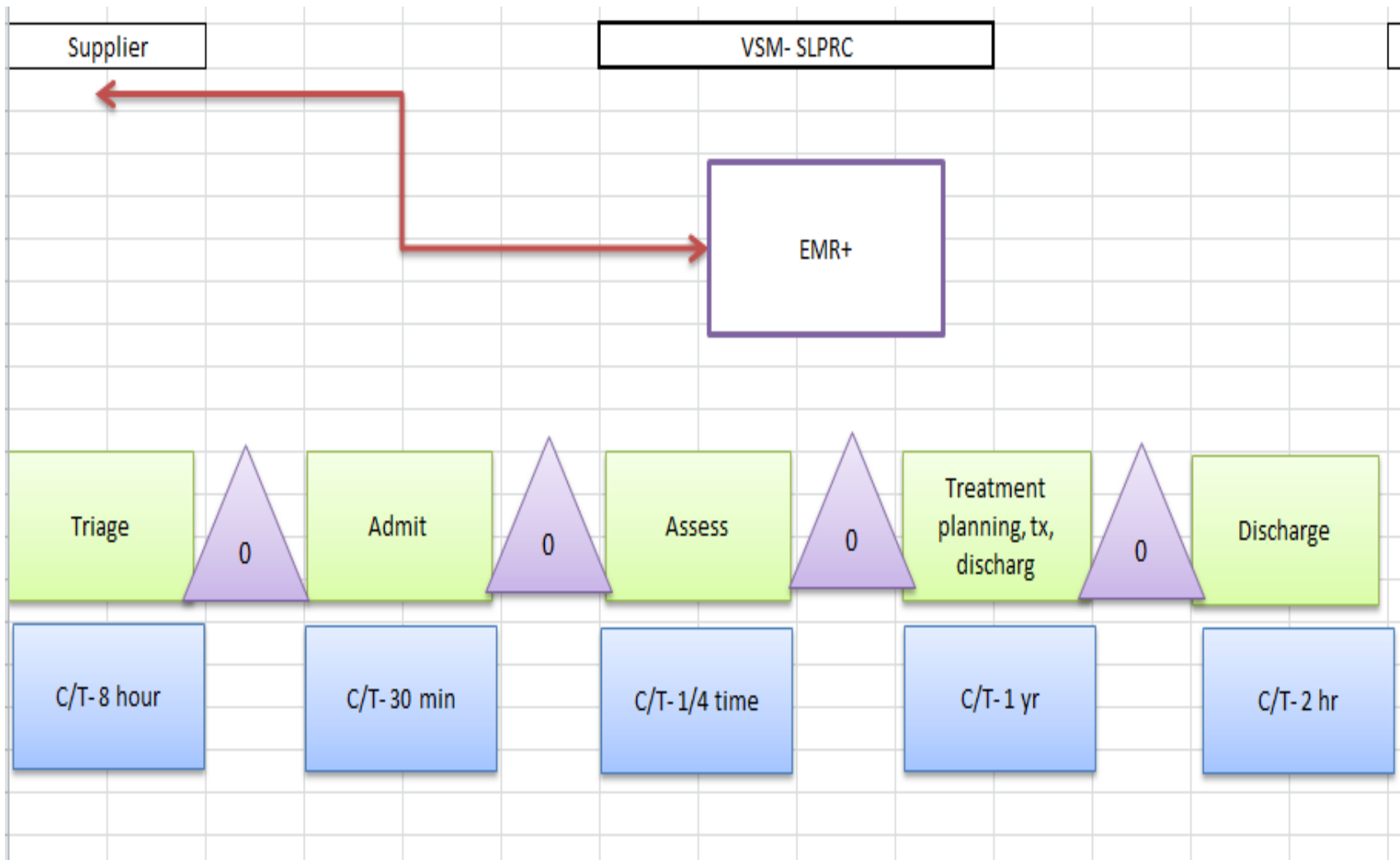
Project selection

- Using the Value Stream Map to determine areas of improvement

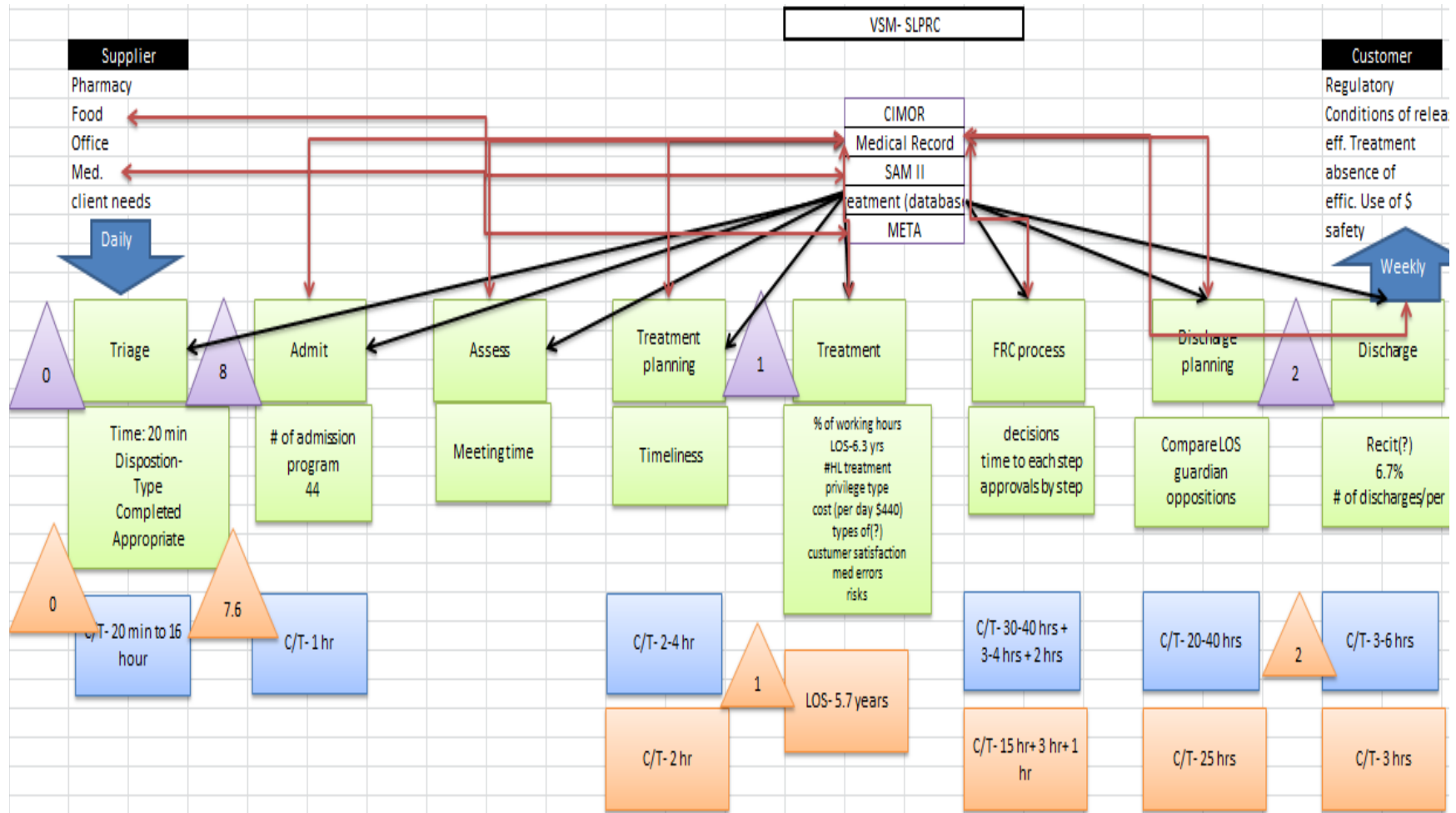
Current State



Ideal State



Future State



Project Ideas

- Human Resource Hiring
- Termination Process
- Discipline Process
- Client Purchases
- Privilege Process
- Client Job Types
- Pace Of Treatment
- Streamline Day Of Discharge
- Discharge Criteria Standardization
- RN Turnover
- Active Treatment Hours
- Client Movement

Participants

- 24 participants began the training.
- Participant's educational level ranged from MD to high school education.
- The group ranged from staff members with direct client care to the supportive services.
- Job titles ranged from Psychiatric Technicians to Executive Committee members.

Projects

Client Purchases

- Decreasing the length of time it takes to order and receive purchases.

Standardize The Day of Discharge

- Decrease the errors and amount of time it takes to discharge a client.

Employee Engagement

- Facilitate staff engagement in decision-making and performance improvement, with the hope of decreasing turnover.

Streamline Discharge Paperwork

- Remove duplications in paperwork and develop a standardized system.

Streamline Privilege Process

- Standardize the decisions for privileges.

Ease Discharge Criteria

- Risk Factors should drive treatment and decision to discharge.

Day 1- Define Phase

Intro to Lean and Six Sigma

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graph TD; A[Intro to Lean and Six Sigma] --> B[Planning the project]; B --> C[Charters]; C --> D[Introduction of Lean Six Sigma tools]; D --> E[Facilitation tips];
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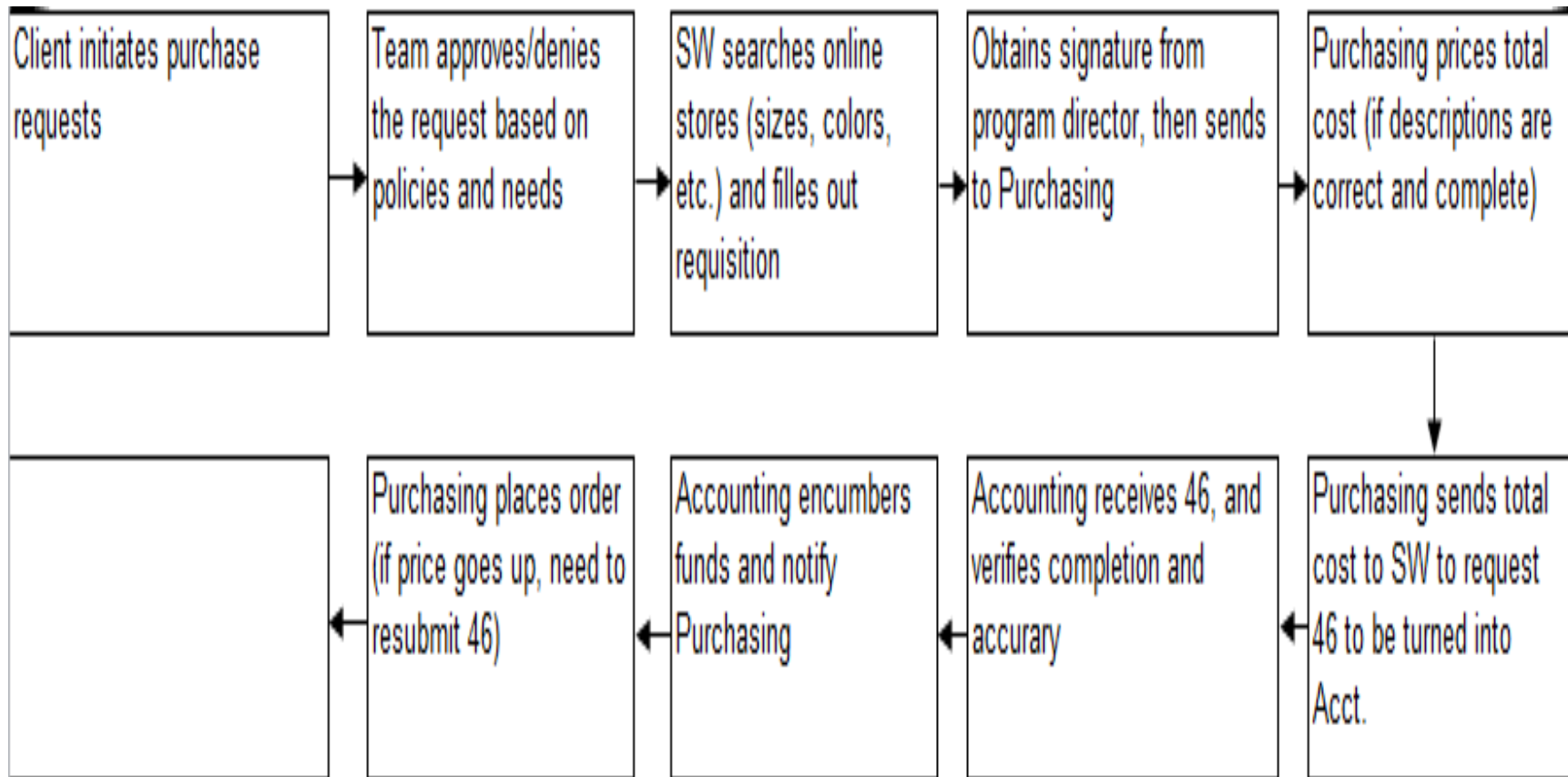
Planning the project

Charters

Introduction of Lean Six Sigma tools

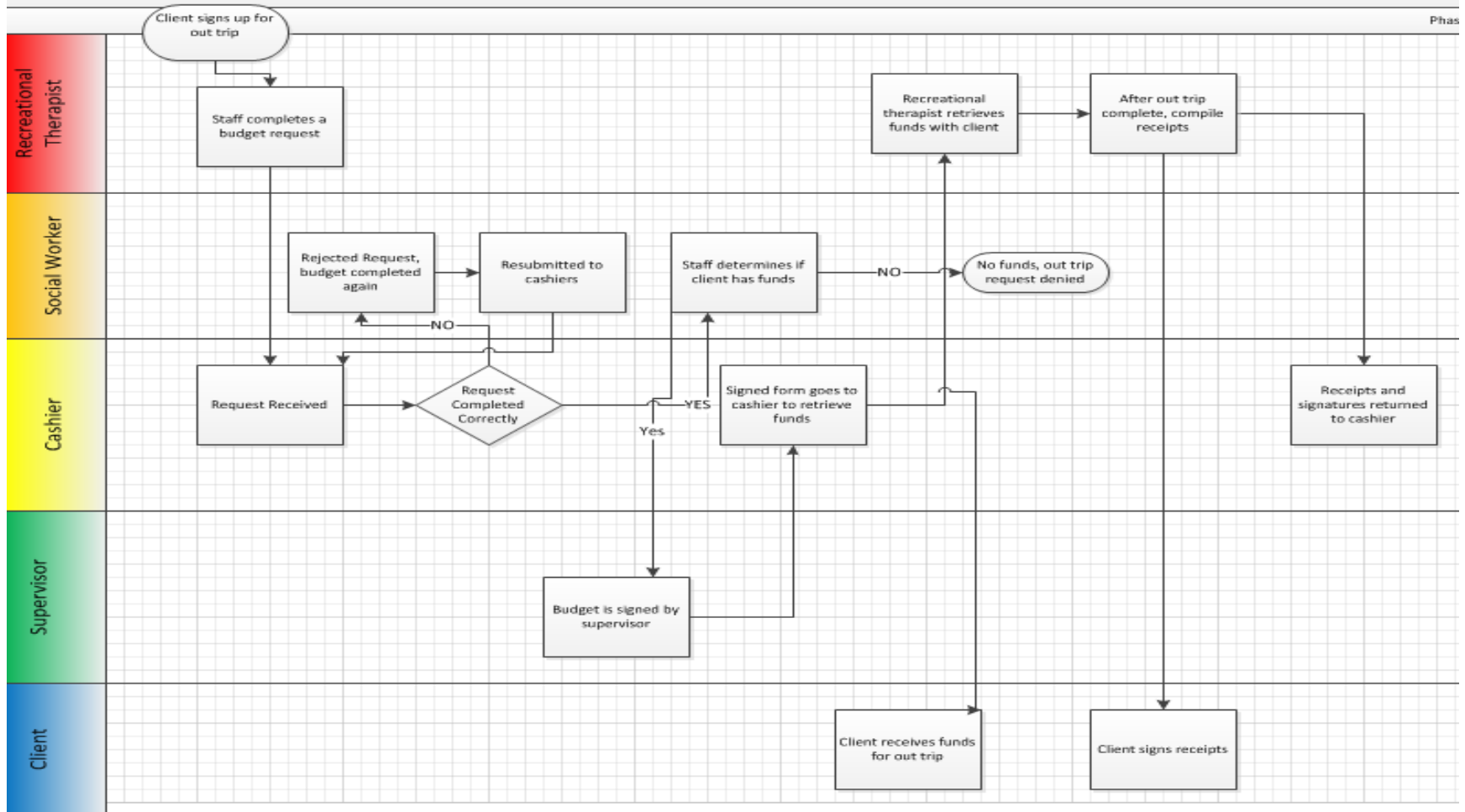
Facilitation tips

Example Of A Process Map



Example Of Cross Functional Map

Client funds for out trip



Example Of Voice Of The Customer

- Leadership
 - Leadership would like to reduce the turnover rate of nurses
 - Leadership would like to reduce overtime costs
 - Leadership would like more sustainability in nursing staff members
- Registered Nurses
 - Nurses would like more opportunities for professional growth
 - Nurses would like better communication between the floor and leadership
 - Nurses would like more support from other disciplines and leadership

Example Of A Charter

1 Yellow Belt Project	
2 Project Name	Vitals collection and recording
3 Team Leader	Dr. Quadri (Lead),
4 Champion	Peter Scheers
5 Sponsor	Dr. Roy Wilson
6 Start Date	12-24-16
7	Product or Service Impacted: Vital collection & recording
8	Belt Resource
9	Target Completion Date
10	Champion Signature: _____ Sponsor Signature: _____
11	PROJECT DEFINITION
12 Process	Obtaining and recording of vital signs.
13 Problem	The process of monitoring and documenting vital signs is inconsistent.
14 Description	
15 Objective	Vitals are collected reliably and data is valid.
16 Strategic Alignment	Customer Focus: Clients, PTs, nurses, medical staff. Financial: Early detection and management of medical problems would save cost.
17	Quality/Safety: Vitals are important indicators of change in medical condition. High Performance Organization: High frequency.
18 Risks	Patients can get very sick before illness is discovered.
19 Team Members	Felicia McCain Michele Rodriguez
20 Project Scope	Included: Vitals, vitals equipment, clients, charts, PTs, nurses, meta EMR. Excluded: Clients not on location, clients refusing vitals, non-functioning equipment, clients requiring vitals monthly
21 Stakeholders	Medical staff, PTs, Nurses, Hosp. Admin., & Clients
22 Metrics	1) Length of time between vital collection and data availability in EMR 2) Errors of omission 3) Errors of commission
23 Business Results	Cost reduction Cost Avoidance WIP/Inventory Reduction Cash Flow Labor Savings Incremental Sales
24 Benefit To Customer	
25 Budget	
26 Action Plan	

Day 2- Measure and Analyze Phases

Value Added Steps

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graph TD; A[Value Added Steps] --> B[Collection Phase]; B --> C[Lean Techniques]; C --> D[Data Collection]; D --> E[Team Dynamics];
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Collection Phase

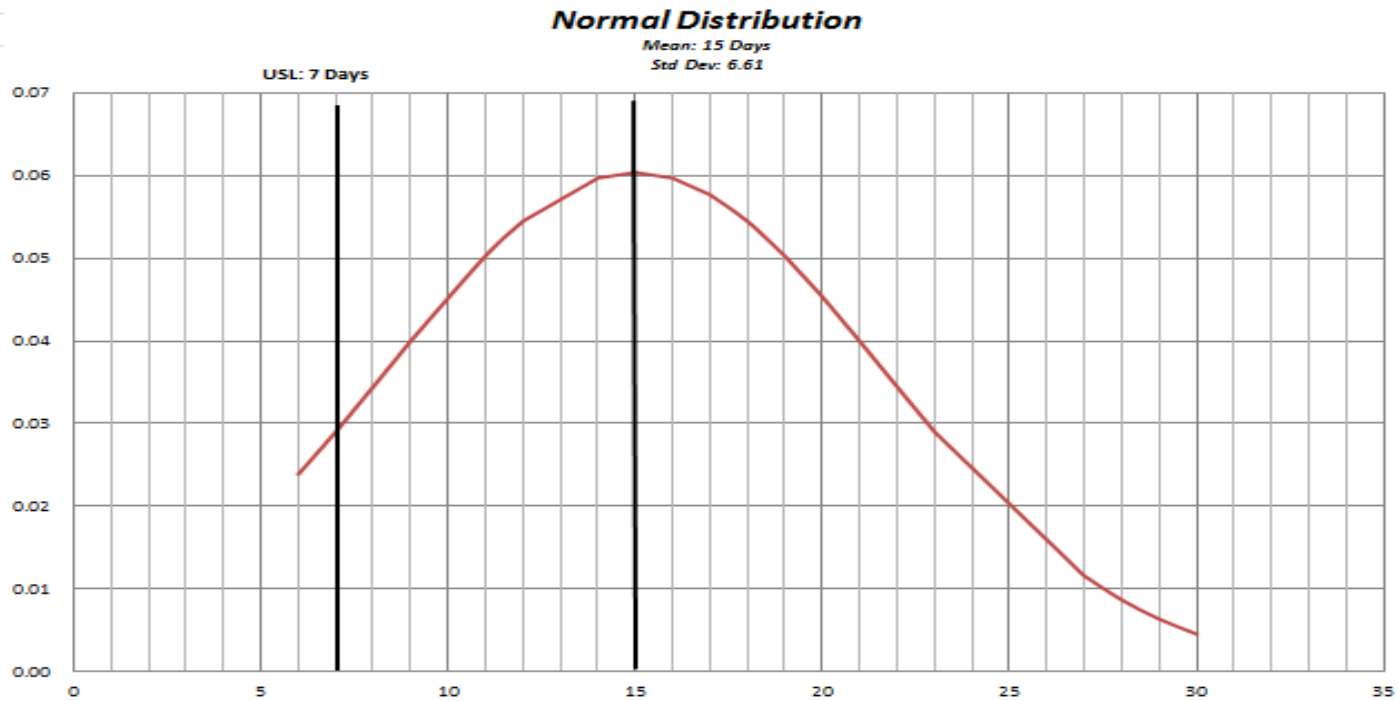
Lean Techniques

Data Collection

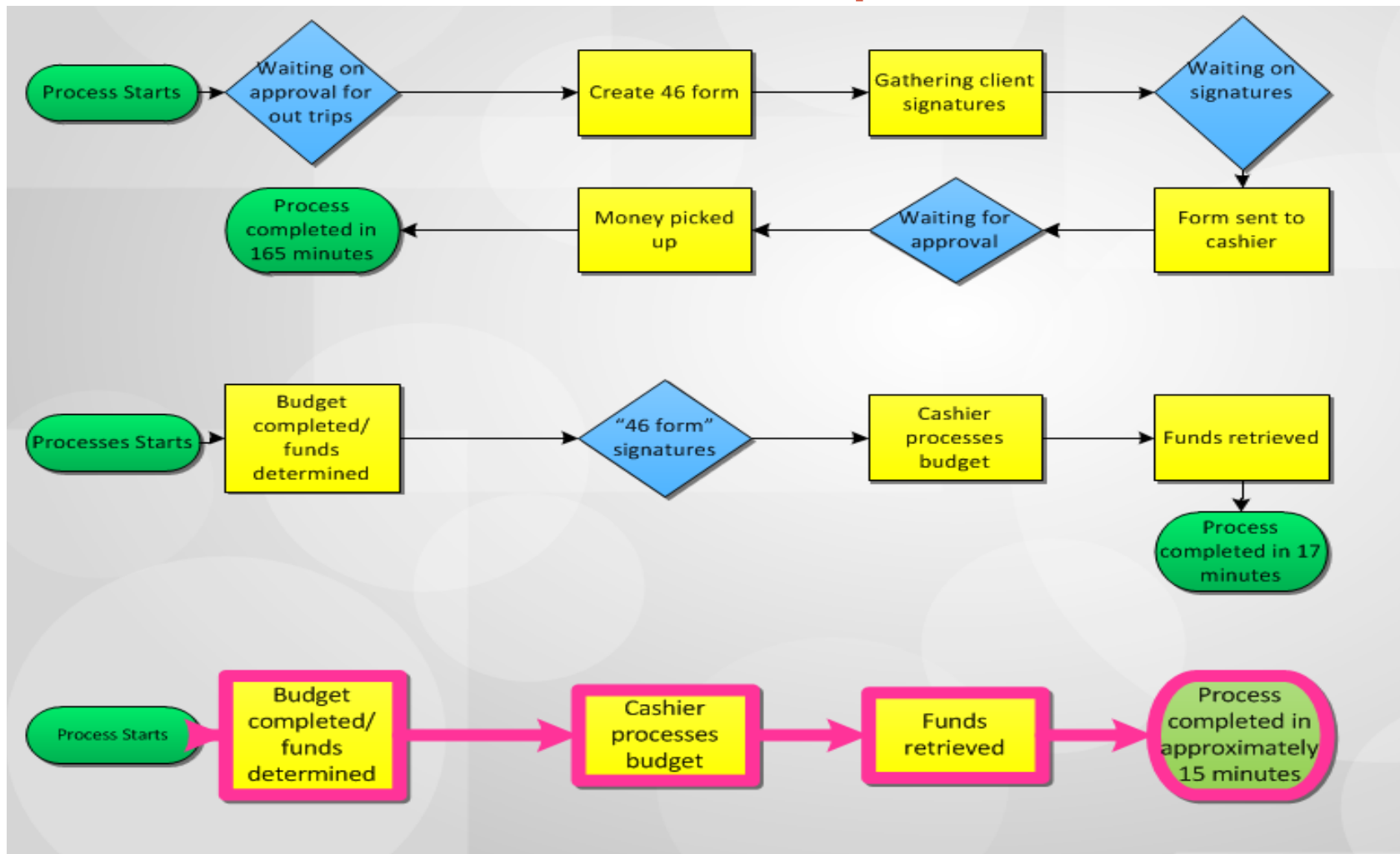
Team Dynamics

Example Of Sigma Level

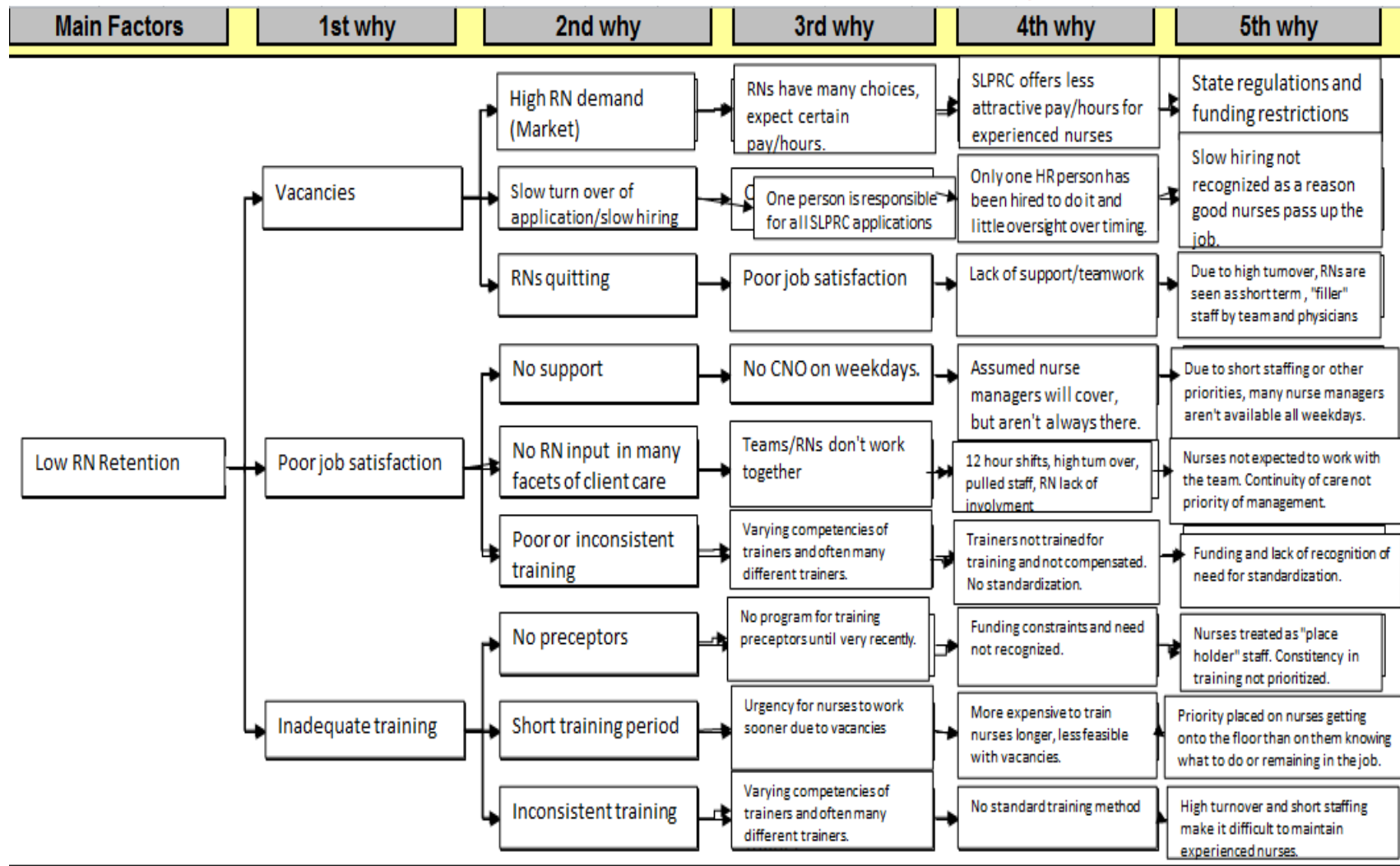
Avg days to price	Avg days to receive 46 request	Avg days to encumber	Avg days to Purchase	Avg Shipping Time	Avg days from Receiving req to Ordering	Avg days from receiving req to receiving Items	Percentage of Errors Found
9.17	4.47	0.23	1.06	7.13	14.98	21.82	13.33%
Quantified Defects - USL							
82.46% or 824,600 ppm							
CP = .33							
Sigma Level = 1							



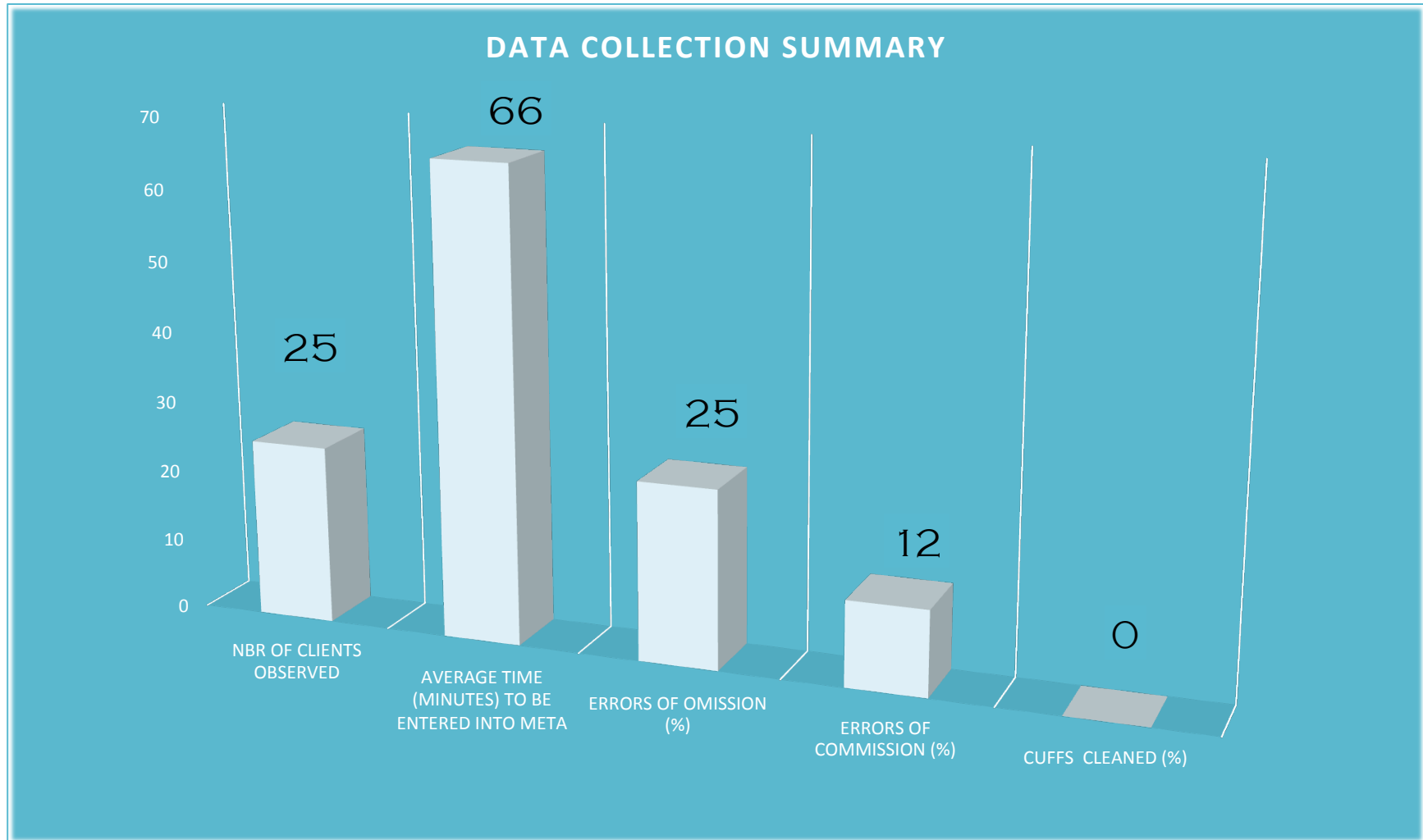
Example Of Value Added Vs. Non-Value Added Steps



Example Of 5 Whys



Data Collection and Analysis



Day 3- Analyze and Improve Phases

Problem Solving Tools

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graph TD; A[Problem Solving Tools] --> B[Lean Tools]; B --> C[Drilling Down Root Causes]; C --> D[Identifying the Team]; D --> E[Communication Plans];
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Lean Tools

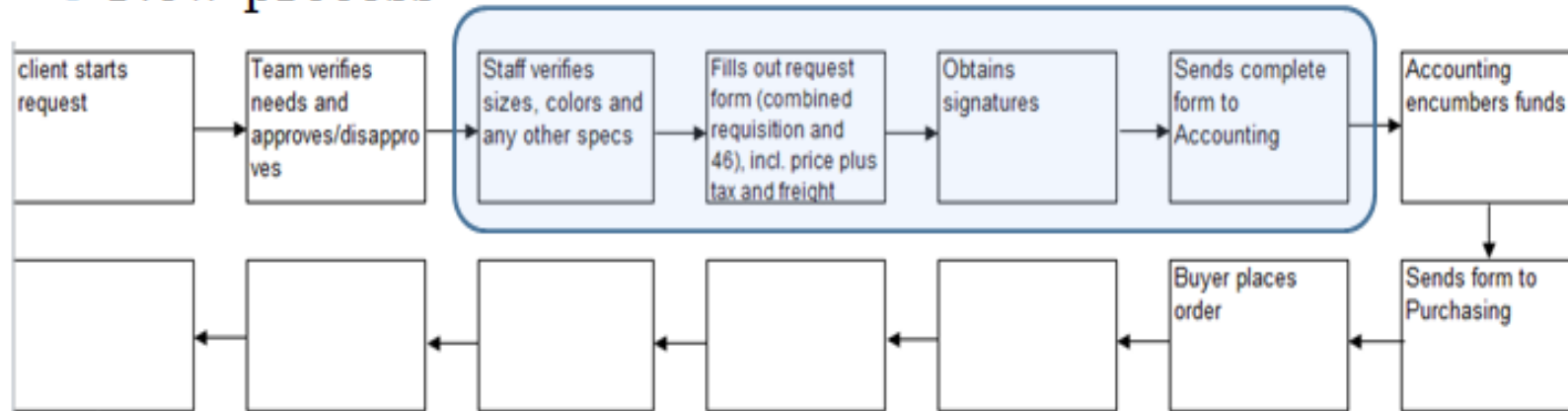
Drilling Down Root Causes

Identifying the Team

Communication Plans

Example Of Improve Phase

- New process



- Waiting time elimination

- 5 days of waiting 46 form
- 2 days of encumbering funds

- Error elimination

- Calculation errors

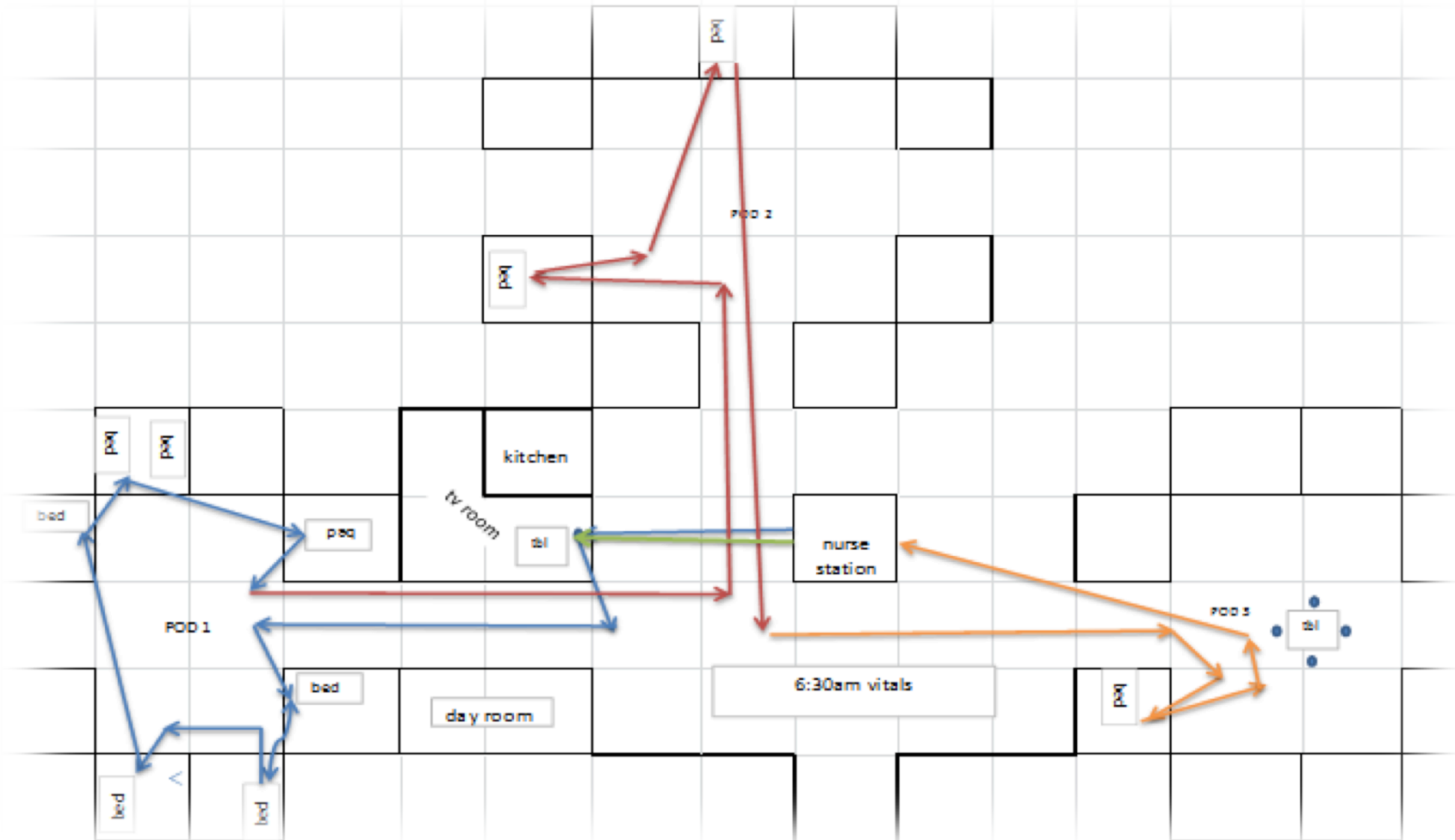
Example of Data Collection

Process Step	Observation 1	Observation 2	Observation 3	Observation 4	Observation 5	Observation 6	Observation 7	Observation 8	Observation 9	Observation 10	Observation 11
Budget request completed	10	9	8	27	5	30	10	20	40	9	7
Budget processed	48				10	9	19				22
Verify avail. funds		5	5	5				5	5		
Signatures		5	20	30	70	15	23				
Form taken to cashier office		5	5	35	55	5	9				
Funds retrieved		3	15	5	7	13					
Total		58	19	17	46	30	120	55	85	165	29

Example Of Failure Mode And Effects Analysis

FAILURE MODE AND EFFECTS ANALYSIS											
1	2	3	4	5	6	7	8	9	Action Plan		
Part/Process	Failure Mode	Failure Effects	Sev	Causes	Occ	Controls	Det	RPN (S*O*D)	Recommended Action	Responsibility	Date
Applicants	Slow response from HR - may Applicant gets another job while	Lose potential "Good" more RN vacancies	7	Ineffective slow process, DMH/SLPRC?	9	Unknown or nor formalized	5	315	Get back to applicants within 15 business days, use more	Michael McFarlane	
			5	only allows	7	N/A	10	350	Start anytime	Michael McFarlane	
New Hires	Cannot work the shift hired for	RN leaves SLPRC. RN	8	Miscommunication by SLPRC, or	5	Chart indicating	5	200	Not sure if letters of acceptance state the shift	Nursing	
	May have gotten another RN	Cannt work shifts	8	The time it takes to get hired and	6	None	7	336	Shorten the length of applicant to hire and NEO	Training Department	
	Letter of Acceptance not	RN vacancies	4	HR error	1	None	5	20	Have a checklist for new employees		
	Did not receive sent Letter of	RN vacancies	2	Post Office error or address	1	None	10	20	Have a checklist for new employees	HR	
Orientation	Not showing up or completing	Loss of time and money	8	Wrong information given	8	None	1	64	N/A	employee	
3 Week Floor Training	Poor training, inconsistent	Quit, stressed, RN's feel	10	Insufficient training methods,	7	Training checklist	5	350	Preceptor and longer training.	Mary Steinhoff	7/1/2017
Full time RN's	Unprepared to work	Med errors, clients	10	Floor training not long enough or	10	No controls for whether	2	200	Preceptor and longer training.	Mary Steinhoff	7/1/2017
PRN RN's	PRN's placed in roles they are	Med errors, clients	10	No PRN training to learn	10	PRN specific checklist	2	200	Preceptor and longer training.	Mary Steinhoff	7/1/2017
	Not trained to do Med Pass or	Inexperience leads to many	9	No specific training	10	Task list	2	180	Preceptor and longer training.	Mary Steinhoff	7/1/2017

Example Of A Spaghetti Diagram



Day 4- Control Phase

Mistake Proofing



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graph TD; A[Mistake Proofing] --> B[Standards of Work]; B --> C[Action Item Development]; C --> D[Pilot Planning]; D --> E[Sustaining Gains];
```

The diagram illustrates a five-step process for the Control Phase. It begins with 'Mistake Proofing' in a dark red bar, followed by 'Standards of Work' in an olive green bar, 'Action Item Development' in a medium green bar, 'Pilot Planning' in a teal bar, and finally 'Sustaining Gains' in a grey-blue bar. Each step is connected to the next by a downward-pointing arrow of the same color as the bar above it.

Standards of Work

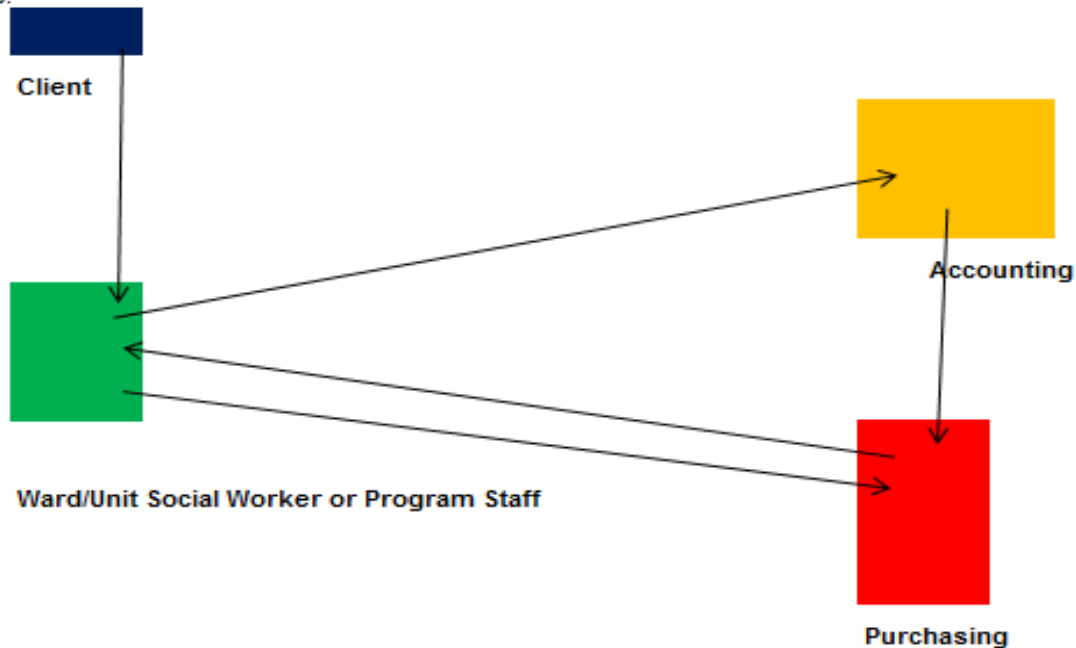
Action Item Development

Pilot Planning

Sustaining Gains

Example Of Possible Outcomes Of Implementation

Current process:



After implement

saved two steps (potentially 2-5 business days)



Example Of Root Cause Identification

Each person retrieving funds for a client has a different process. There is no standardization.

Lack of communication between departments which contributes to a misunderstanding of what information is required.

Staff member's inability to view client budgets to determine if there are funds available. Upon investigation, there are some non-Social Workers that have this ability. The inability to look at client budgets adds Non-Value added steps to the process and contributes to the inconsistency.

The lack of a procedure or training manual leads to a higher failure rate and inconsistencies in the process.

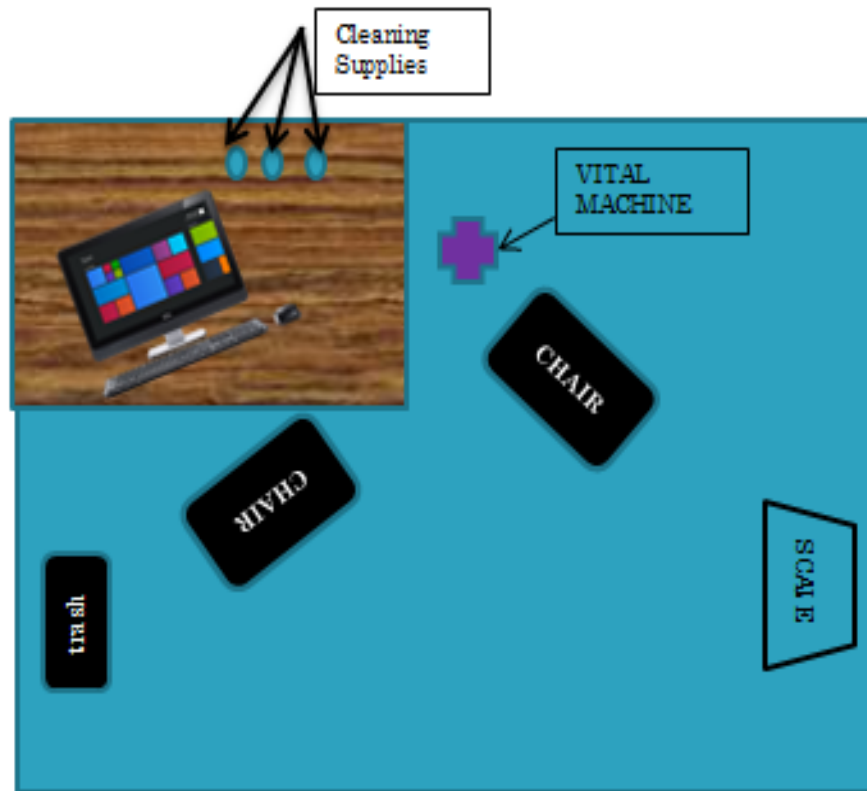
The lack of an electronic method to complete the process adds Non-Value added steps to the process.

Example Of Solution Development

Each Solution Could Be a Yellow Belt Project



Example Of Pilot Planning



- Requirements:
 - Designated Room
 - PC with Intranet Access
 - Vital Machine
 - Meta Login Credentials for Nursing Staff



Conclusion

- What did we learn?
- Is there anything we would have done differently?