

Department of Social Development

Cycle Time Project:
Convalescent Items
Approval Process



Black Belt: Ronnie Stewart, PMP

Date: April 23, 2018

Convalescent/Rehabilitation Program

Client Needs

Support - Purchase and maintenance of convalescent and rehabilitation items and services

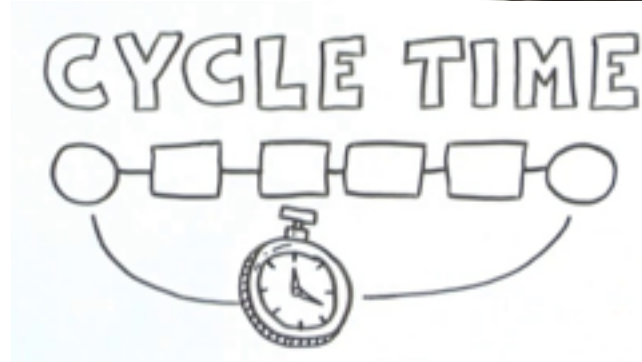
Speedy Timeframes - Items and services are needed to be discharged from hospital or remain home

Specialized Equipment – Each client has unique needs



Problem Summary

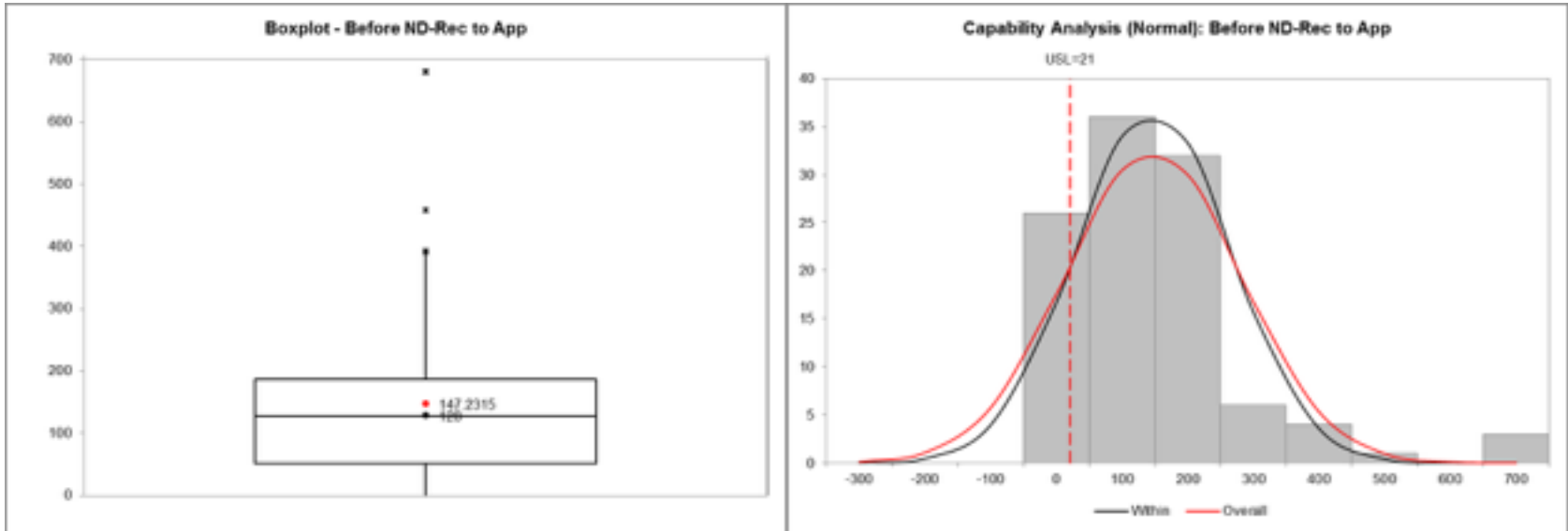
- ≈ 220 requests/month
- ≈ Only 137 processed
- Backlog of 2-3 months
- 145 day cycle time



Project Goals

	Goal Description*		Target		Stretch
1	Increase applications actioned	30%	to 178/month	50%	to 205/month
2	Reduce cycle time*	30%	to 102 days	50%	to 72 days

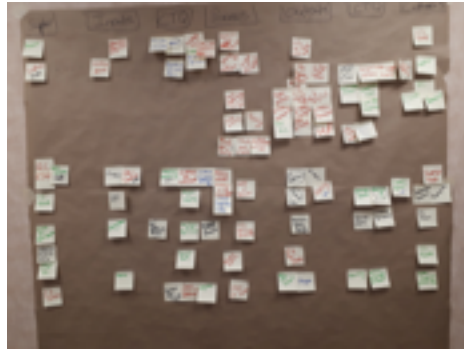
* Cycle timeframe = Receipt of application to date of approval



FMEA

Process Step	Failure Mode	Failure Effects	Failure Causes	Current Process	Current Controls	Proposed Controls	Risk	Priority
Process Step 1	Failure Mode 1	Failure Effects 1	Failure Causes 1	Current Process 1	Current Controls 1	Proposed Controls 1	Risk 1	Priority 1
Process Step 2	Failure Mode 2	Failure Effects 2	Failure Causes 2	Current Process 2	Current Controls 2	Proposed Controls 2	Risk 2	Priority 2
Process Step 3	Failure Mode 3	Failure Effects 3	Failure Causes 3	Current Process 3	Current Controls 3	Proposed Controls 3	Risk 3	Priority 3
Process Step 4	Failure Mode 4	Failure Effects 4	Failure Causes 4	Current Process 4	Current Controls 4	Proposed Controls 4	Risk 4	Priority 4

SIPOC - VOC

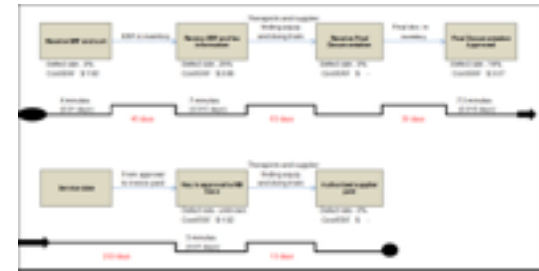


Cause and Effect Diagram



Lean Six Sigma Tools and Techniques

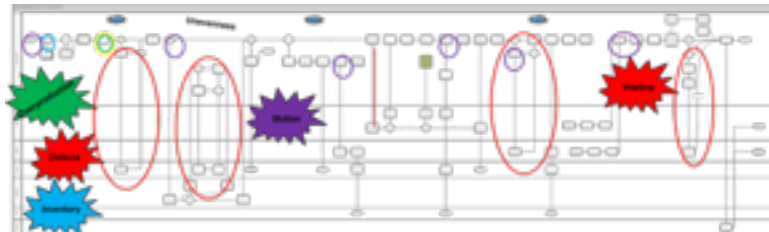
VSA – Tier 3



Cause and Effect Matrix

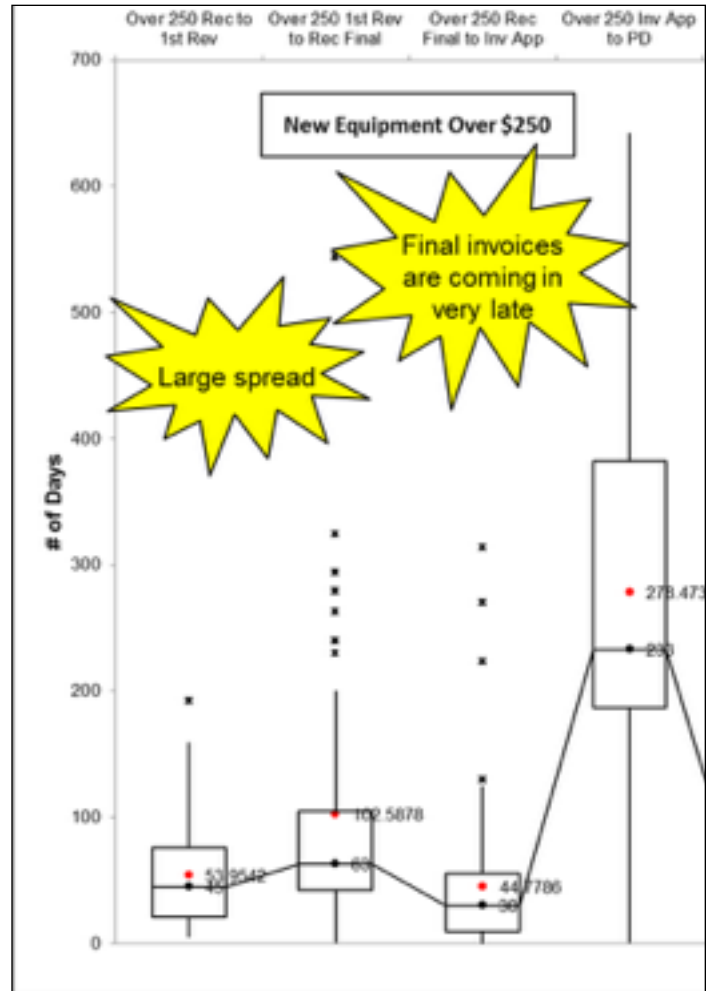
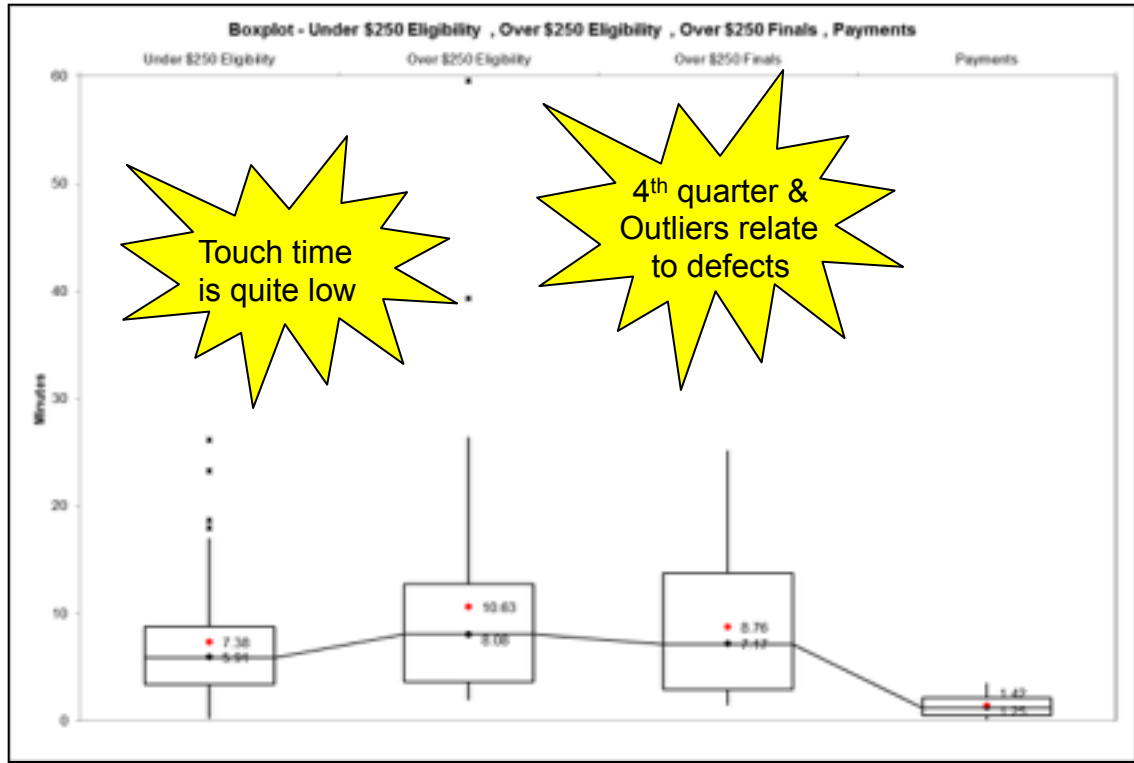
Process Step	Key Process Inputs	Key Process Outputs					Rank	Total
		4	3	2	1	0		
Receive (RF) or Invoice Form (IF) request and sort	RF or IF	0	0	0	0	4	0	
Check benefits, eligibility, etc.	RF or IF	0	0	0	0	1	20	
Sort by applying pricing criteria/bills and mattress	RF	0	0	0	0	2	16	
Approve of refuse request	Information email or IF	0	0	0	0	3	0	
Conductant service	Approve or refuse decision/information	0	0	0	0	0	0	
Invoice paid	Invoice	7	0	0	0	0	7	

Process Map and Waste Walk – Tier 4



- Lack of guidelines
- Volume of request with errors
- Therapists/suppliers not following process
- Code checking and software issues

Touch Time Versus Wait Time





Therapist Group

We Need Your Help



Exploratory Question #4: What is the best way to communicate with NB therapists?

- General information (e.g. - When procedures change)
- Direct communication (e.g.- when our staff notes someone who may need additional assistance in the process).



Communications Plan

1. Project overview
2. Brainstorming exercise – why do the errors occur?
3. Discussion – What is the best way to communicate information

Measure Phase – Quick Hits



Implementation Plan						
Quick Hits	Description	Improve Action	Owner	Start Date	Due Date	Status
QH1	Missing MSRPs	Staff to send a reminder email to Therapists when they discover that the MSRP is missing	Debbie/Angela	June 7	June 7	Complete
QH2		Create a policy identifying appropriate alternative documentation if a Manufactures Suggested Retail Price (MSRP) is unavailable	Dianna	Sept. 1	Sept 28	Complete
QH3	Office environment not optimal	Complete a 5S on the office spaces	Debbie/Angela	August 28	August 30	Complete
QH4	RC had min. quantities - almost never had inv. for clients	Check actual inventory levels available at RC and discontinue this recycling program	Mary	August	August	Complete
QH5	No Standard Operating Procedures (SOPs)	Create guideline documents for critical processes to encourage consistency and for use as training aids.	Debbie and Angela	Sept. 6	October 6	Complete
QH6	Deviation from guidelines and defects in ERF by customers	Meeting with Therapists- questions regarding ERF errors and response time to questions.	Mary- schedule Debbie/ Ronnie- to present	June	Sept. 29	Complete
QH7		Working session to further streamline the application and error proof where possible	Project Team	Sept. 28	Sept. 28	Complete
QH8	NBCase not optimal – Especially client history search	Dedicate a portion of meeting to NBCase solutions – Invite Business Analysts to join meeting for input (obtain sorting function).	Ronnie to setup	August 1	Sept. 6	Complete
QH9	Missed communication	Create a shared email account for the staff working in convalescent services.	Dianna	Sept.	October	Planning
QH10	Fax machine break-down	Additional project related to an electronic submission system	Mary	Sept.	TBD	Out of scope

X1 - Process Unevenness

X1: Process steps are uneven

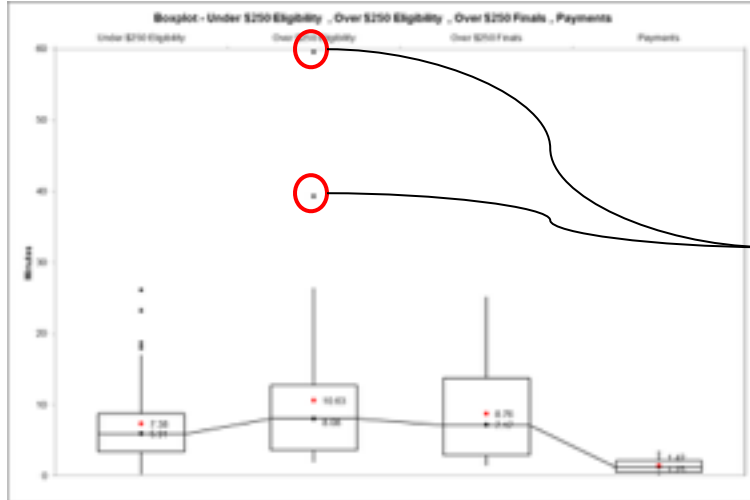
$$H_o - P1 = P2$$

$$H_a - P1 \neq P2$$

Test : Mann-Whitney Test

Mann-Whitney Test: Over \$250 Eligibility vs Over \$250 Approval				
Sample	Over \$250 Eligibility	Over \$250 Approval	Test	n1=n2 vs n1<n2
Count	39	25	Point Estimate (Diff)	0.67
Median	8.08	7.17	W	1306
			P Value	0.601
			P Value (Adj)	0.601

Test Results: P-value is above 5% and therefore there is little evidence to infer that Ha is true. The eligibility step is not significantly uneven.



Reasons for outliers:

NB Case issues and errors in the ERF identified as root causes. Staff confirmed these cases are frequent pain points during eligibility.

This is a non-critical X, although we will brainstorm technology solutions to remove unnecessary burdens.

X2 - Defects

Rolled Through-put Yield - Convalescent Items Project

	Step 1 Eligibility	Step 2 Approve/Refuse		
ERFs	100	100		
Defects	25	16		
Opp	1.00	1.00	2.00	
Defects	25	16	41	Total Defects
Tot Opp	100	100	200	Total Opportunities
DPO	0.25000	0.16000	0.20500	Total DPO
DPMO	250,000	160,000	205,000	DPMO
Z _{LT}	0.67	0.99	0.82	Z _{LT}
			2.32	Z _{st}
DPU	0.250	0.160		
Y _{tp}	75.0%	84.0%	63.00%	Y _{rt}

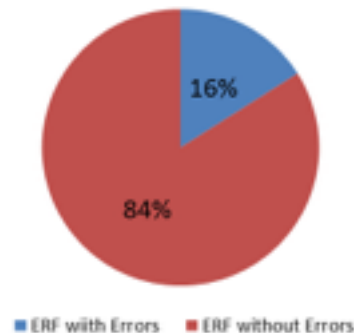
Observations

The 41 defects observed in the process all required rework from the client and Health Services staff

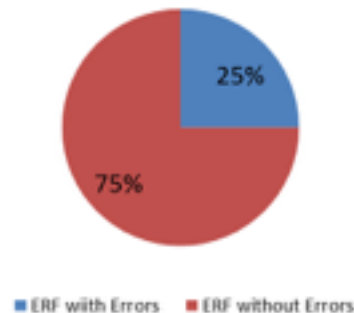
63% efficiency is a generous rate

Defects are slowing cycle time

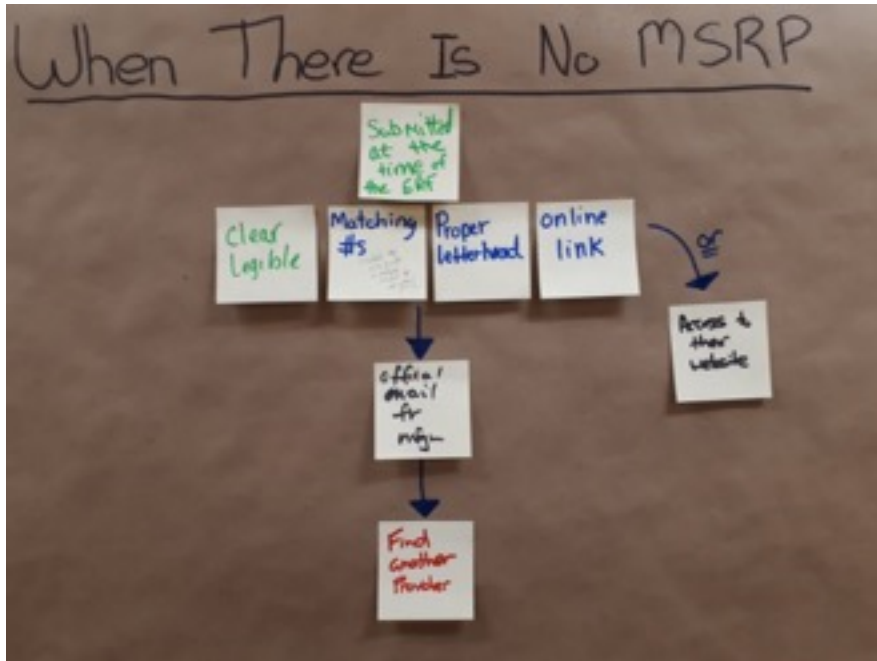
Approve/Refuse Step



Eligibility Step



QH1 – MSRP* Policy Development



Brainstorming session leading to a consensus set of criteria

- Policy document
- Communication plan



* Manufactures Suggested Retail Price

5S Implementation



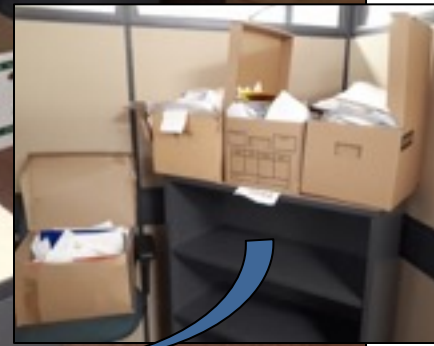
WIP – Hot Items



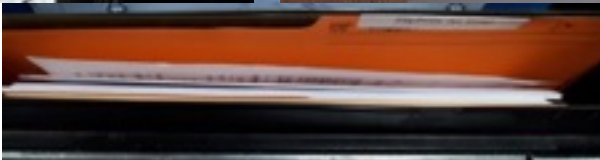
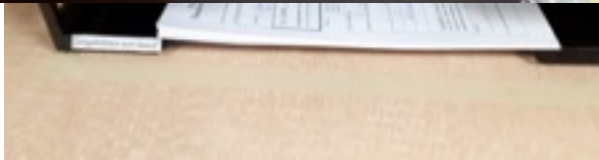
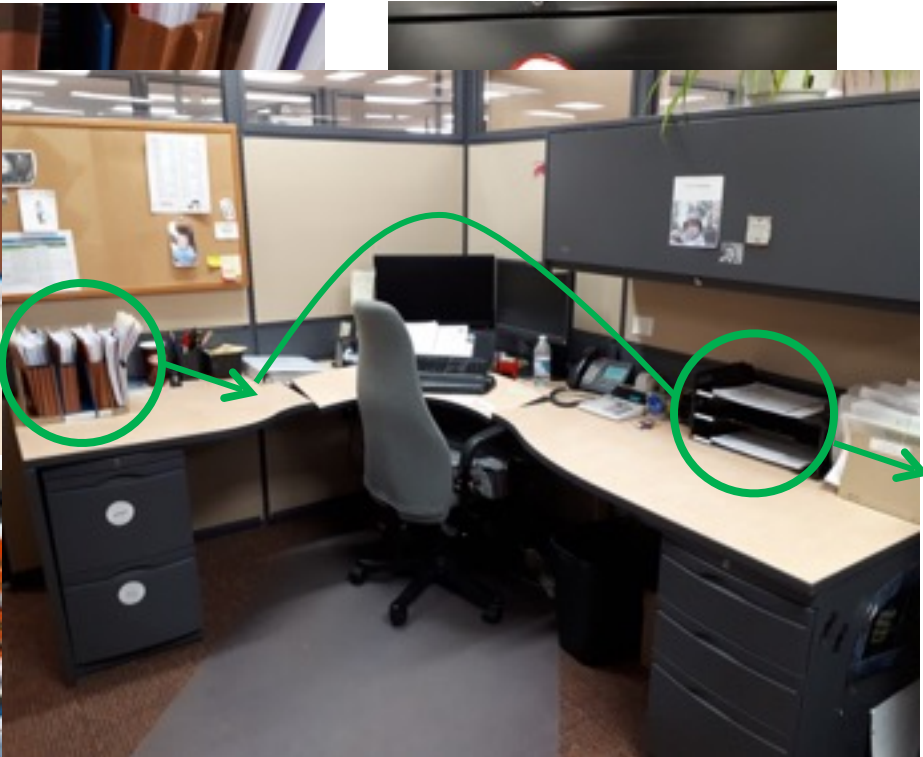
Cold Items



Shredding



After 5S

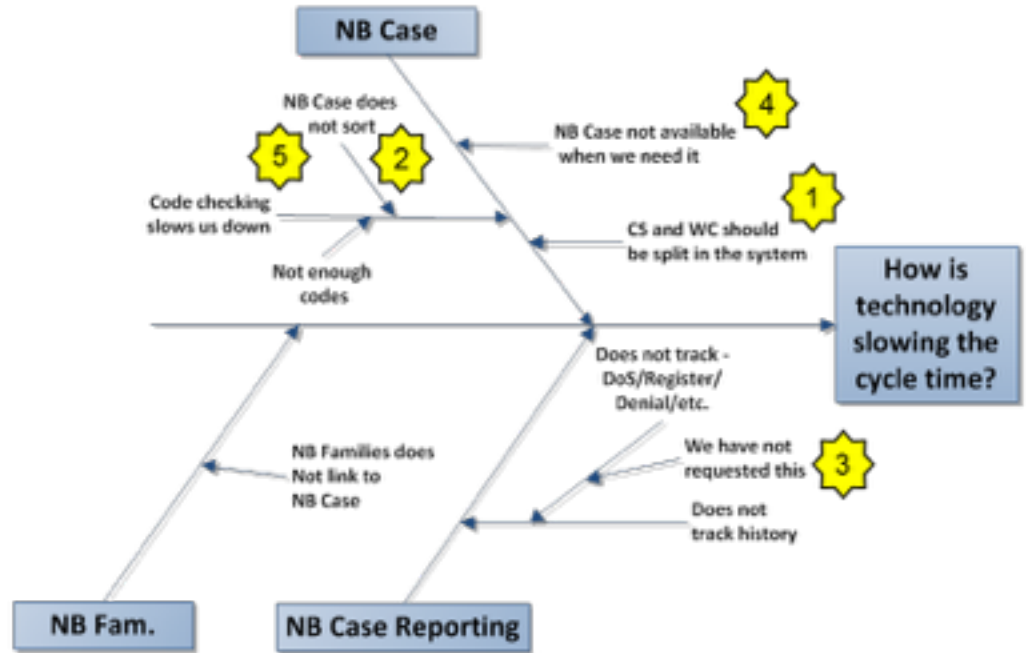


Technology Improve Ideas

Proposed Solutions

- 1) Split Convalescent and Wheelchair
- 2) Add filter/sort/search functions - Client history
- 3) Additional date tracking fields
- 4) Can we change the system downtime timeframes?
- 5) Search by service code within a client file
- 6) Secure section for notes (HS Staff view only)

Root Cause Identification



 = A nice to have

Making the Improvements Stick

Implementation Plan						
X's	Description	Improve Action	Owner	Start Date	End Date	Status
1	Eliminate Backlog	Temporarily stop checking for recycled materials at ESNB (eliminates entire step)	Debbie and Angela	Oct 1/17	Nov 17/17	Complete
2	Errors in ERF	Staff to track the number of errors as they occur, including error type and by who (Tracking - Daily Management install)	Debbie and Angela	Sept. 9/17	N/A	Ongoing
		Clients submitting errors consistently will have one on one coaching session with staff, with escalation if necessary	Dianna			
3	Office Environment	Staff to continuously use 5S methodology installed	All	Aug. 30/17	N/A	Ongoing
4	NB Case Review	A full NB Case review for the Branch including the Convalescent Items Program	Mary	Aug. 5/17	TBD	Ongoing
5	Electronic Submission	Electronic submission project	Mary	Aug. 23/17	TBD	Ongoing
6	Criteria review	Criteria refresh project	Mary	Nov 13/17	TBD	Ongoing
7	Cycle-time - ESNB	Work with ESNB and assist them in reducing their cycle time when Health Services submits a request for equipment	Mary	Nov 16/17	TBD	Pending assignment

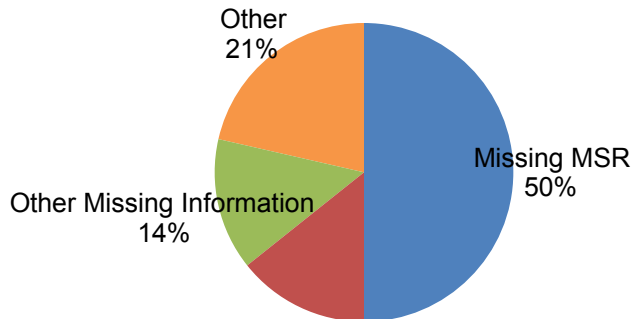
VOP Metrics Dashboard

CTQ	Operational Definition	Metric	Target
Error Rate	Error reduction through communication, training and error proofing	Percentage	2-5%

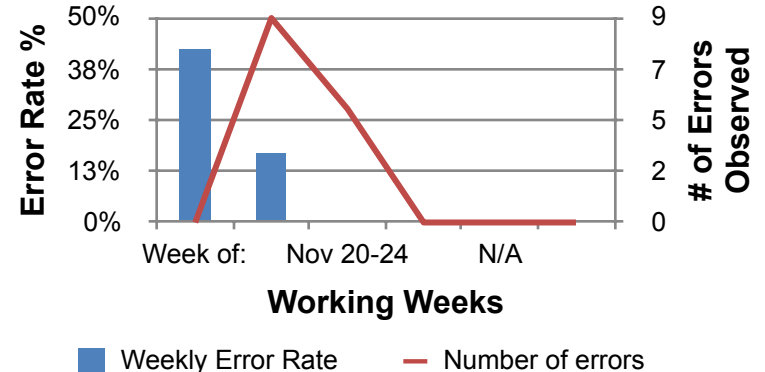
What day is it today?	Date of Submission dd/mm/yy	Error Category	Therapist Name	Date of Coaching email dd/mm/yy	Date of Phone Call to follow up dd/mm/yy
Monday	10/07/17	Other	Therapists 1	06/11/17	
Monday	23/10/17	Missing MSR	Therapists 2	06/11/17	
Monday	23/10/17	Missing MSR	Therapists 3	06/11/17	
Tuesday	13/11/17	Missing MSR	Therapists 4	07/11/17	



Reason for Errors



Weekly Error Rate and # of Errors

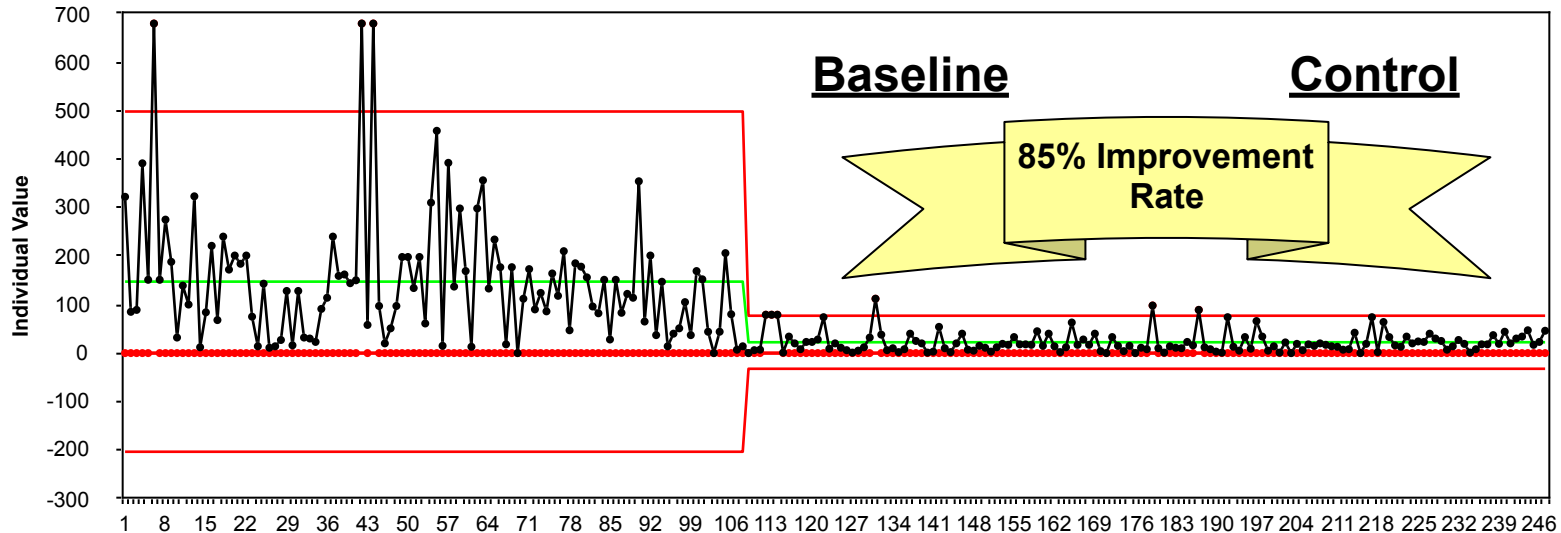


Project Close



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I-MR Chart – ERF Received to Approval



Lessons Learned Session

