Improving Timely Administrative Segregation (ASU) Pre-Screens

CCHCS LEAN SIX SIGMA PROGRAM

GREEN BELT | [redacted] I MH, PBSP

QUALITY MANAGEMENT LEAN SIX SIGMA

Lean Six Sigma Methodology

The Lean Six Sigma DMAIC methodology is a proven improvement approach used to address problems in existing processes where the root causes of those problems are unknown. The approach focuses on understanding the process, analyzing factors that contribute to the problems, identifying root causes, designing and implementing interventions, and establishing a structure to sustain high performance.

Define and scope the problem, identify the key metric and the team that will work the project, and create the project charter.

Project Background

- ASU Pre-Screens are completed for patients entering ASU. These screens are used to identify patients who are at risk for self-harm.

- Patients requiring COVID quarantine and isolation are moved to Varied Housing, including ASU patients.

- The On-Demand Report measures ASU Pre-Screens completed timely and does not recognize Varied Housing which triggers like a new placement. This caused low and inconsistent compliance.

Project Charter

- Problem Statement: Pelican Bay State Prison has been unable to show consistent compliance in completing ASU Preplacement forms. Failure to complete screens in a timely manner can result in an increased safety risk including suicide. Additionally, this measure is monitored by Coleman and

- Project Objective: Improve ASU Pre-Screen compliance to 95% or higher.

- Primary Metric: Percent of ASU Preplacement forms completed no sooner than 1440 minutes (24 hours) before patient's physical placement in ASU.

Team Members

- Process Owner/Champion: [redacted], Unit Supervisor
- Executive Sponsor: [redacted] CEO

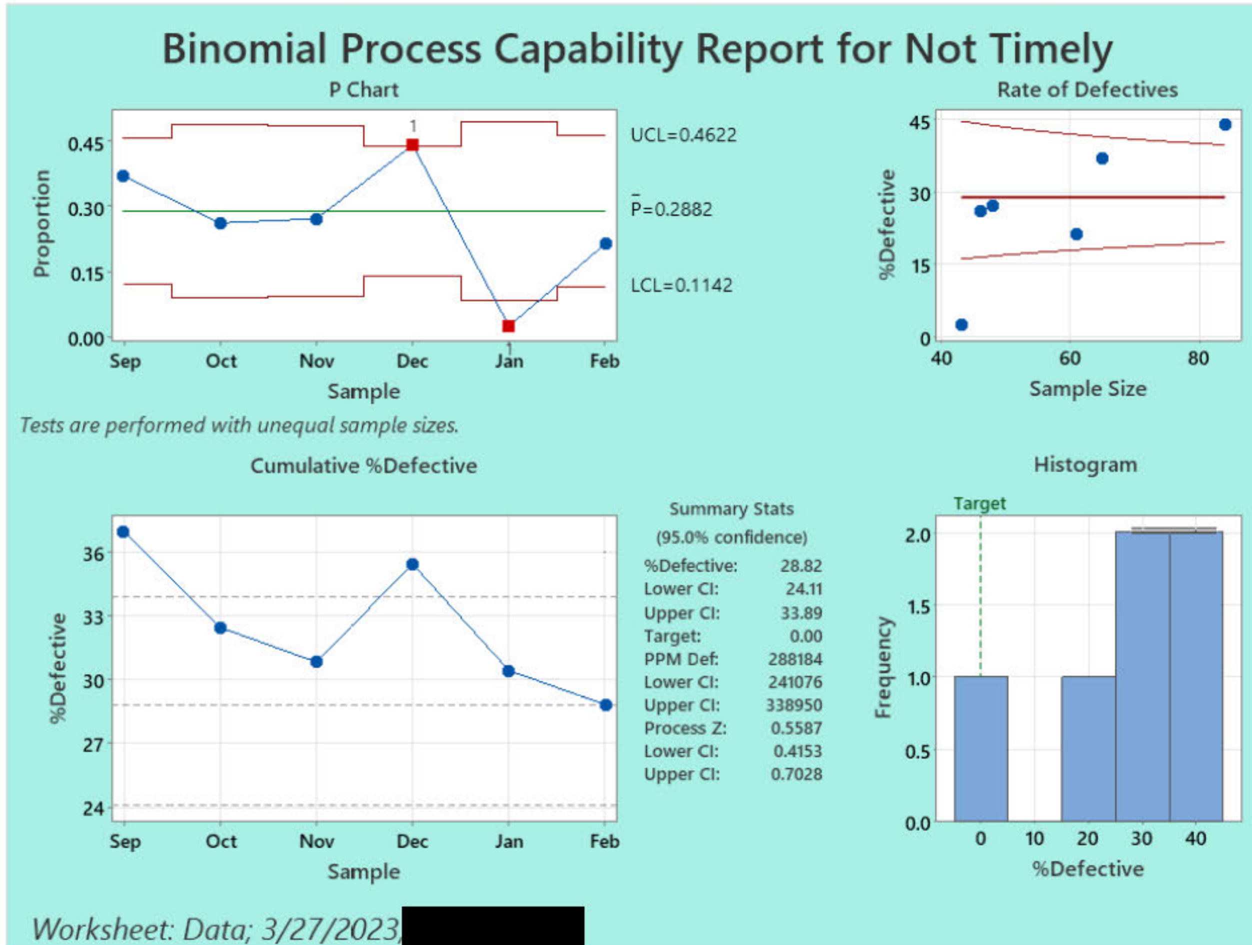
- Team Members:

- [redacted] Director of Nursing
- [redacted], Sr. Psych Technician
- [redacted], Captain
- [redacted], Lieutenant
- [redacted], Sr. Psychologist Spec.
- [redacted] Lieutenant

Measure Phase

Gather the process inputs, set up and validate the measurement system, and determine the baseline for the primary metric.

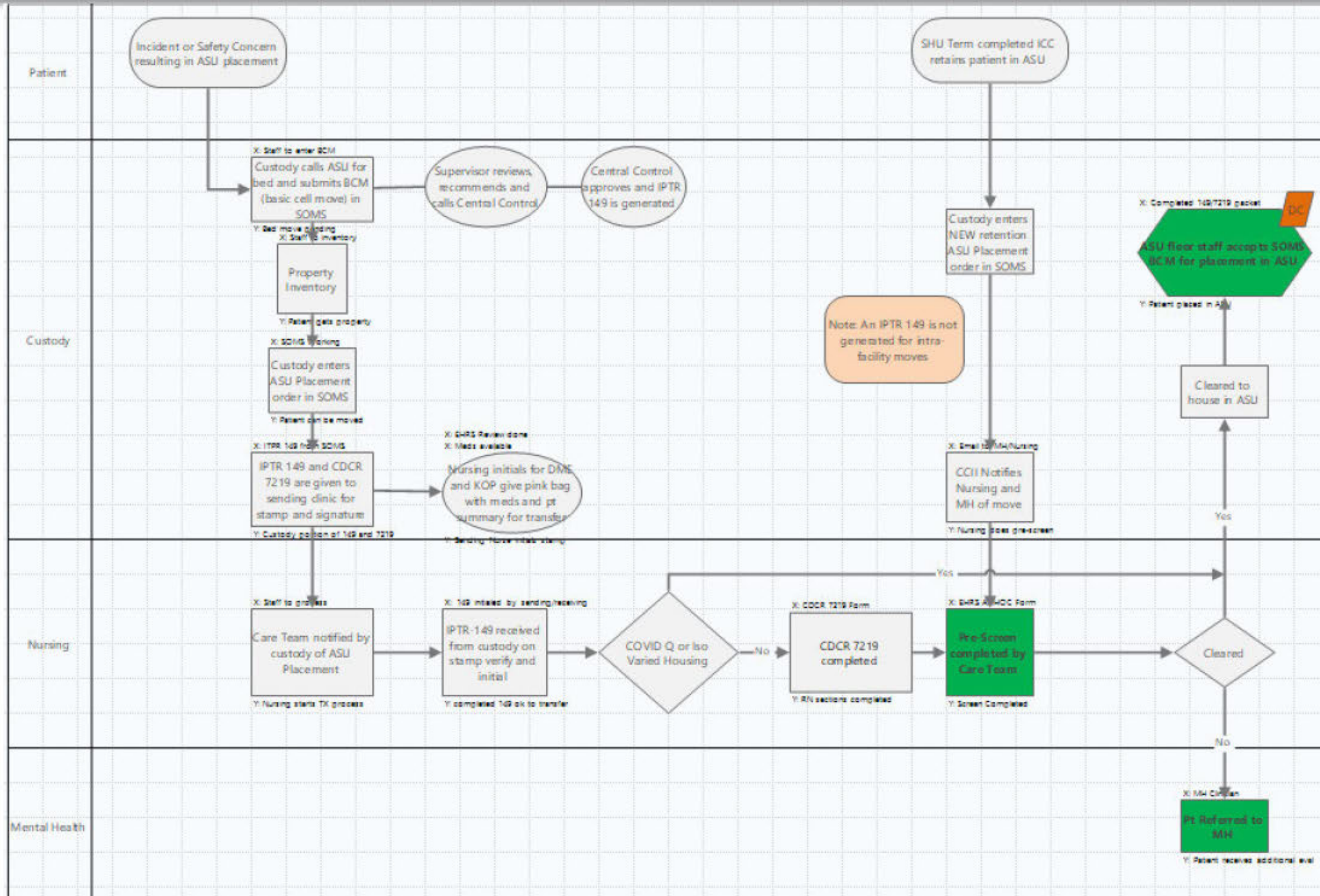
Baseline Capability/Performance



Baseline Data Sept 2022 to Feb 2023

- Average defect rate of 29%.

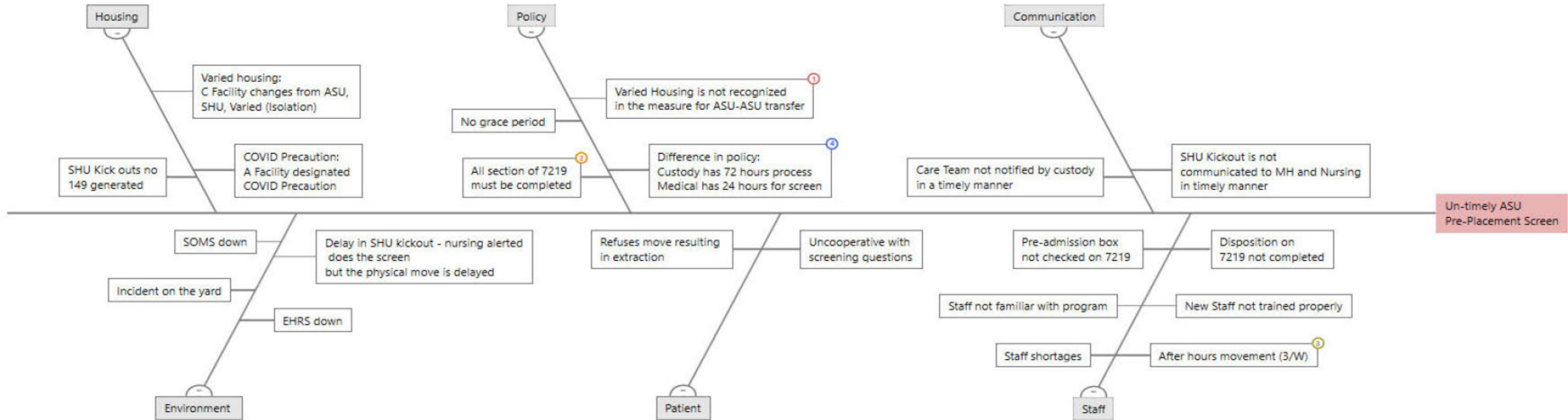
Initial Process Map



<u>3 Value added steps</u>:

- ✓ Patients receive pre-screen
- ✓ Patients referred to Mental Health with positive screen
- ✓ Patient housed appropriately

Brainstorming Using Fishbone



- Policy does not require a pre-screen unless patient has left ASU for more than 30 days ore more.
- Staff are not completing all sections of 7219, indicating screen was completed.
- Any floor staff in ASU can accept patient into SOMS, without final review of intake requirements.
- Large scale incidents significantly real time charting.

Measurement System Analysis

Performance Report Measurement System Analysis

Does the denominator for this metric correctly capture all the actual process opportunities?	YES

Number of "NO" errors:	0
Number of "YES" errors:	0

MSA Results and Actions:	**PASS: no action required—dashboard data can be used with confidence**

Samples Designated as "NO" (out of compliance)

sample	sample name	error?	Due	root cause of error
1			9/11/22 20:59	Completed late
2			9/13/22 17:57	Not done CMF-V to ASU
3			9/13/22 17:58	Completed late CMF-V to ASU
4			9/13/22 17:59	Completed late CMF-V to ASU
5			9/13/22 18:00	Not done CMF-V to ASU
6			9/13/22 18:02	Completed late CMF-V to ASU
7			9/13/22 18:03	Not done CMF-V to ASU
8			9/13/22 18:04	Completed late CMF-V to ASU
9			9/13/22 18:06	Completed late CMF-V to ASU

Samples Designated as "YES" (in compliance)

sample	sample name	error?	Due	root cause of error
1			9/14/22 19:03	Done 18:37
2			9/14/22 20:11	Done 19:47
3			9/15/22 18:42	Done 18:25
4			9/15/22 18:42	Done 18:35
5			9/15/22 18:42	Done 18:34
6			9/15/22 18:42	Done 18:37
7			9/15/22 18:42	Done 18:38
8			9/16/22 0:59	Done 22:25 09/15/23
9			9/21/22 19:45	Done 19:03

- A random sample size of 60 was used. There were 30 non-compliant and 30 compliant.
- The data from the Performance Report was cross referenced with the time stamps on the ASU Preplacement forms in EHRS.
- There were no discrepancies indicating the measure was not reporting accurately.

Analyze data to determine the critical inputs affecting the primary metric.

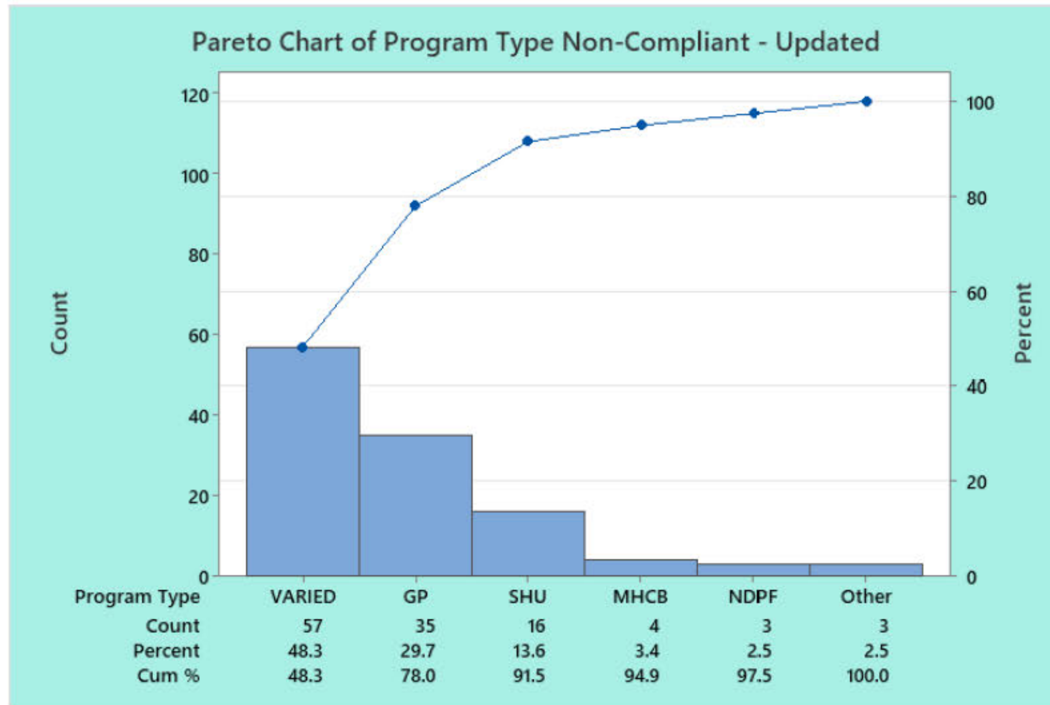
Failure Modes and Effects Analysis (FMEA) Findings

FMEA

Step #	Process Map - Activity	Key Process Input	Potential Failure Mode	Potential Failure Effects	SEV	Potential Causes	OCC	Current Controls	DET	RPN	Actions Recommended	Responsibility
1	Patient in Varied Housing	No Screen Completed	Screen not completed	Self Harm Incident/ Suicide	10	Policy does not require 2nd screen	5	Triggers On Demand Report - as overdue	10	500		
2	SHU Kick Out	CCII Communication to MH and Nursing	Screen not completed	Self Harm Incident/ Suicide	10	Staff forget	8	attends SHU ICC	5	400		
3	Patient accepted into ASU Housing	ASU Floor Staff	Completed 149 not reviewed by FS	Pt housed prior to screen completion	5	Only Sgt sees 149	10	None	7	350		

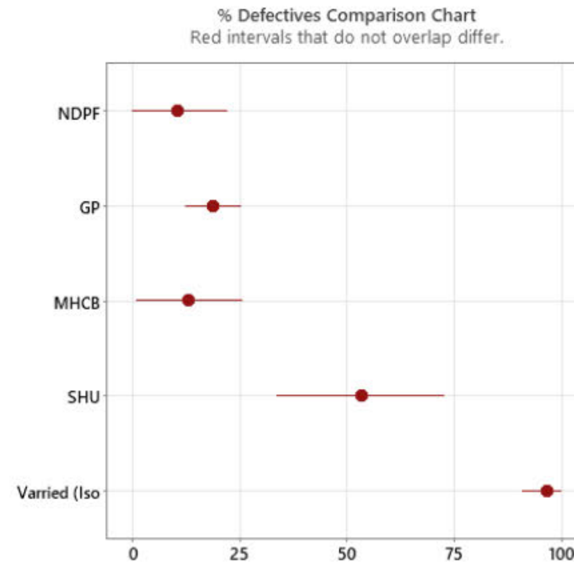
- ASU patients returning from Varied Housing are not required to have another pre-screen.
- ASU Floor staff can accept a patient into ASU housing without reviewing the 149 for sending and receiving clinic signatures indicating a pre-screen was completed.
- SHU kick outs occur when a patient completes a SHU term and are assigned to ASU pending transfer, they don’t happen often enough to become a habit.

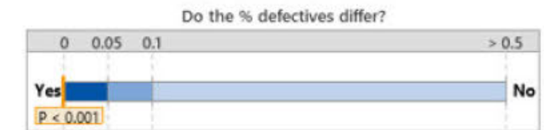
Key Findings 1: Highest Program Defect



Chi-Square % Defective Test for Program Type by Compliance

Summary Report





Differences among the % defectives are significant ($p < 0.05$).

Which % defectives differ?

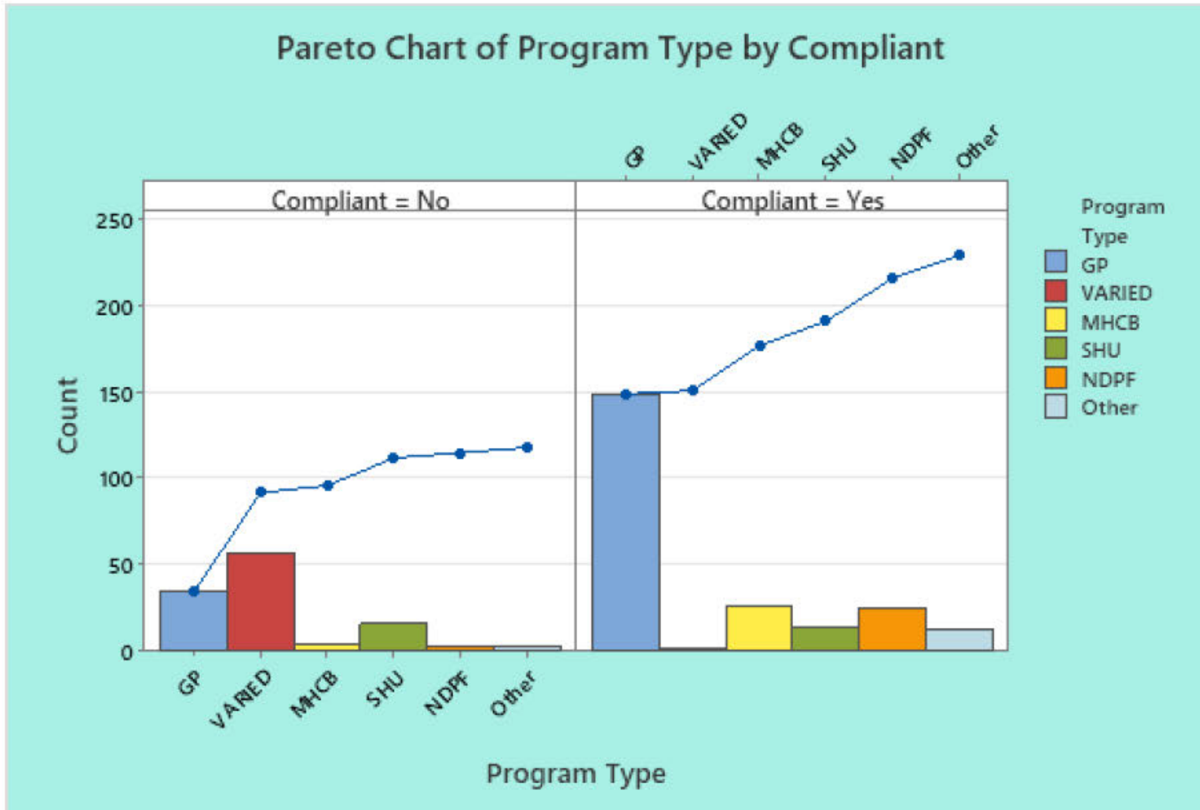
#	Compliance	Differs from
1	NDPF	4 5
2	GP	4 5
3	MHCB	4 5
4	SHU	1 2 3 5
5	Varried (Iso	1 2 3 4

September 2022 through February 2023 defects:

- ✓ Varied Housing including GP accounted for 78%
- ✓ SHU kick outs accounted for 13%

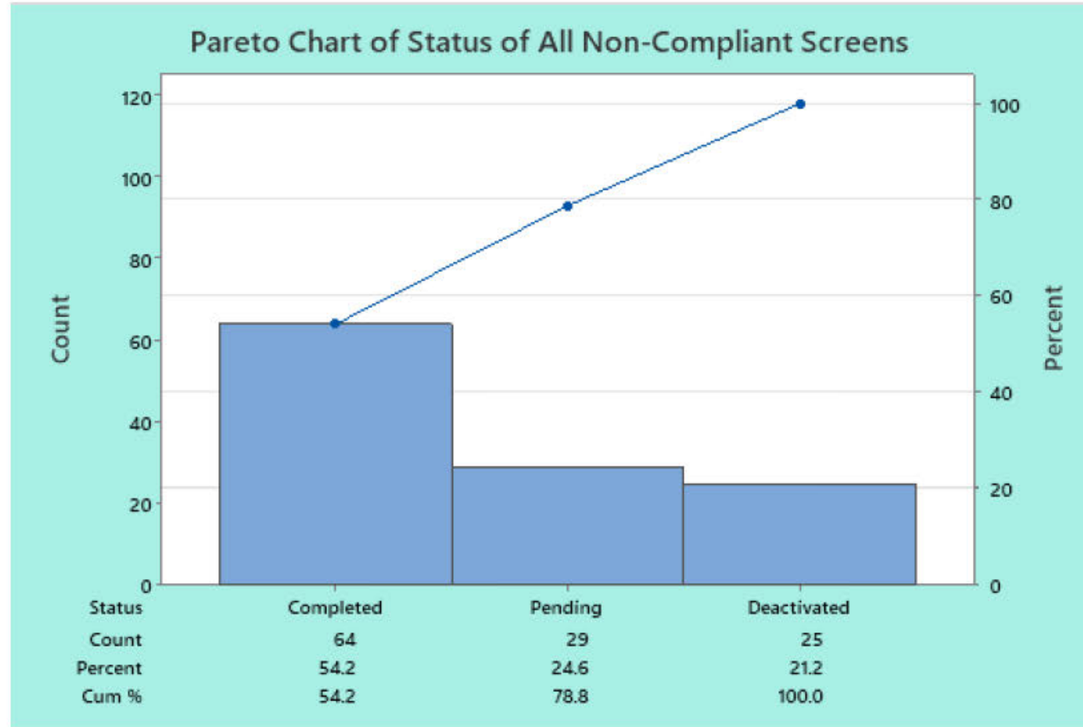
Based on the P-value (0.001) we rejected the null and found there is a significant difference between program types.

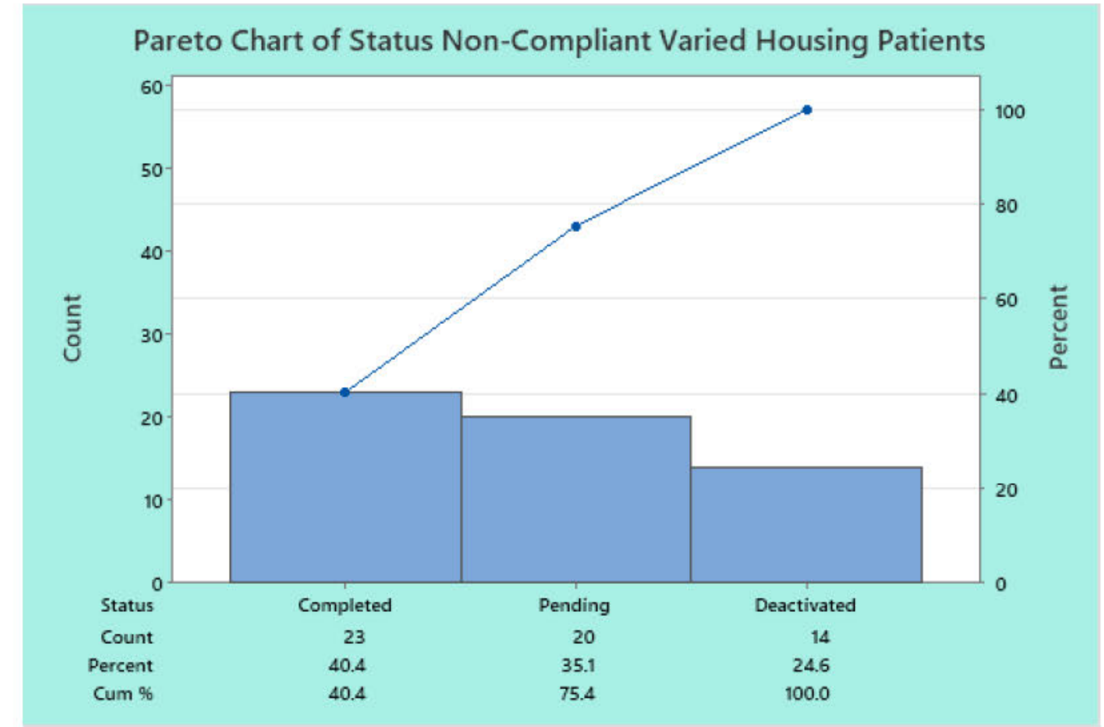
Lean and Quality Analysis Tools



- This pareto chart shows both the compliant and non-compliant screens by housing type, indicating Varied housing with the highest defect.
- Varied housing is used for COVID isolation and quarantine patients.
- We recently discovered our COVID GP building was not designated as Varied for almost a year.
- The on-demand report does not recognize when an ASU patient is transferred into or out of COVID designated housing (varied).

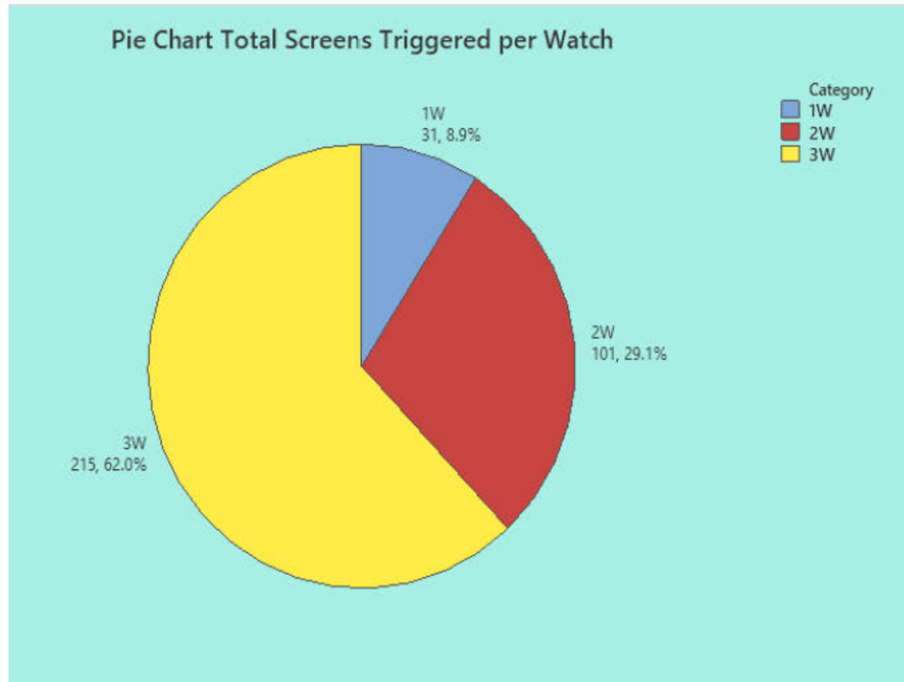
Key Findings 2: Varied Housing Non-Compliance

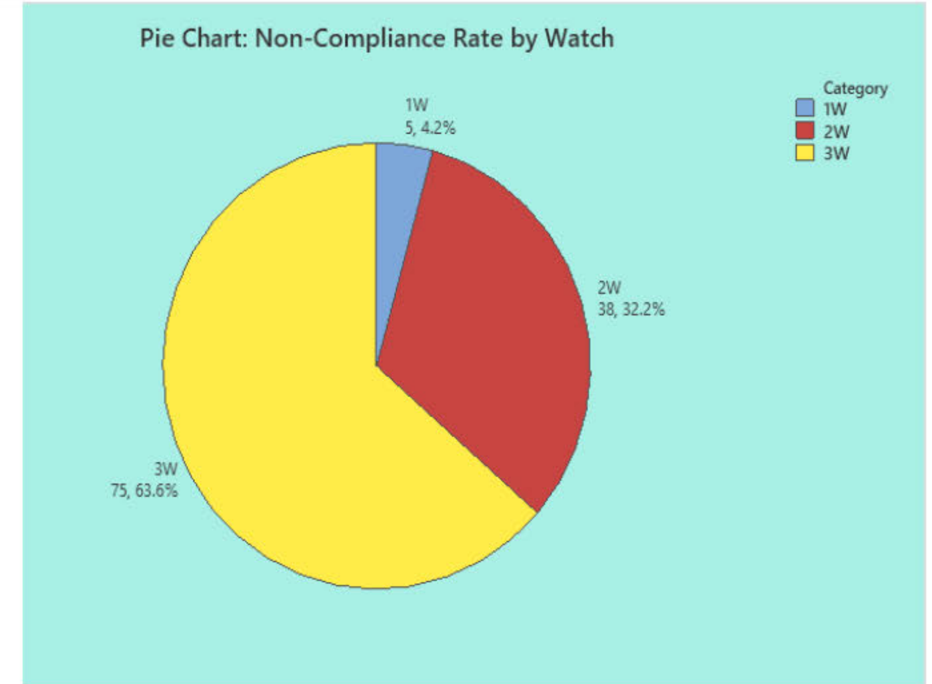




- Of 118 non-compliant screens for all housing, 64 were completed late and 54 were not completed at all.
- Of 57 non-compliant screens for Varied Housing 23 were completed late and 34 not completed at all.
- Deactivated orders mean the patient was discharged from ASU without a screen.

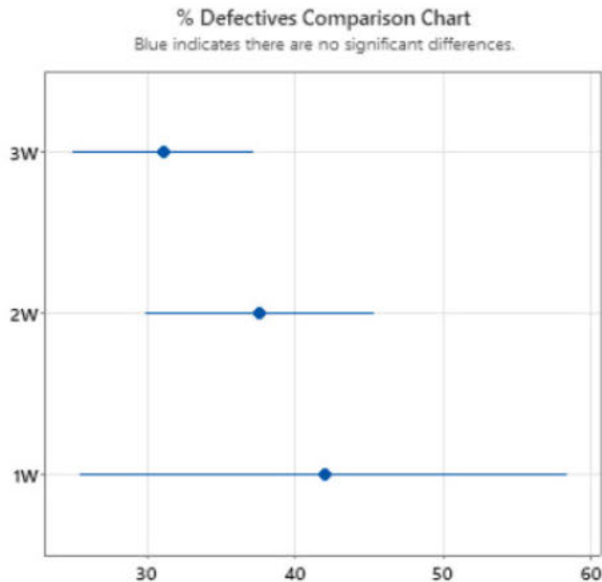
Lean and Quality Analysis Tools

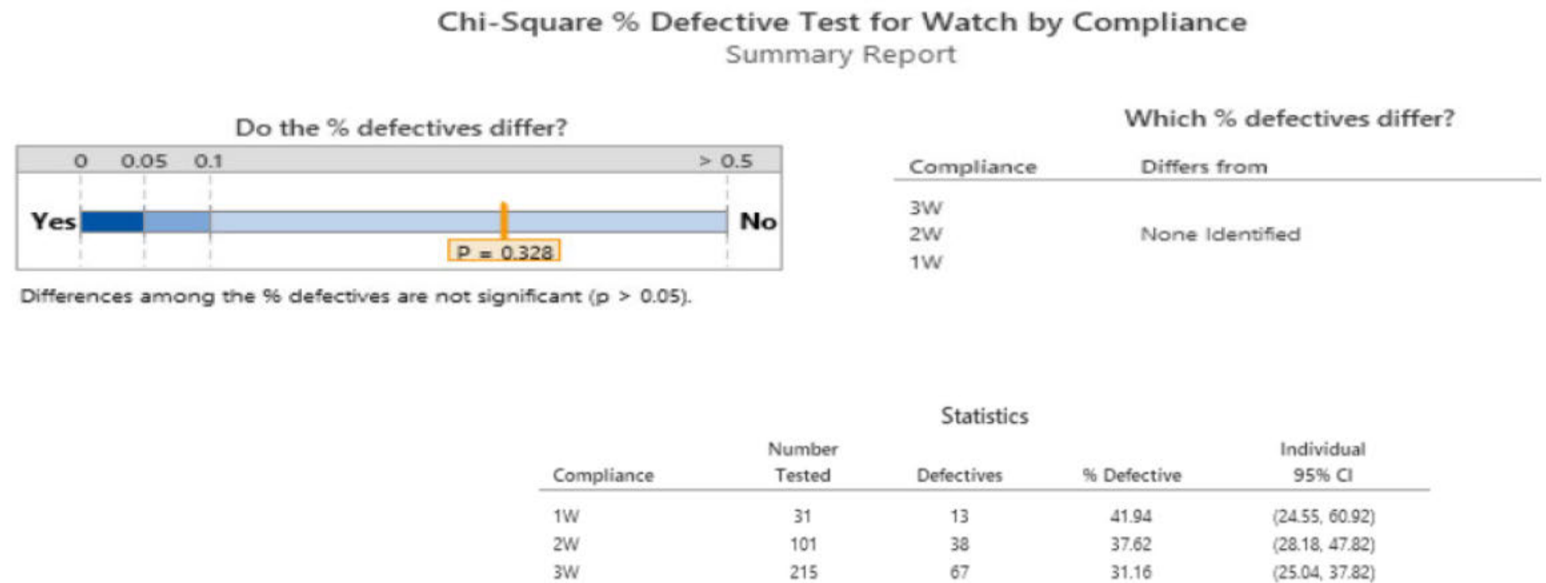




- The team felt moves conducted on 3/W may have a greater impact on compliance. These pie charts show 62% of all screens were triggered on 3/W and 64% of the non-compliance occurred on 3/W.

Hypothesis Test Results





Statistics

Compliance	Number Tested	Defectives	% Defective	Individual 95% CI
1W	31	13	41.94	(24.55, 60.92)
2W	101	38	37.62	(28.18, 47.82)
3W	215	67	31.16	(25.04, 37.82)

- Based on this hypothesis test the p-value was high (0.328) indicating there was no significant difference between the watches and compliance.
- Staff shortages and workload barriers are not supported by data.

Critical Xs

- **Critical X #1:** ASU patients released from Varied Housing and placed back into ASU are not receiving a pre-screen.
  - ✓ This is triggering the ASU Pre-Screen Measure causing a non-compliant outcome.
- **Critical X #2:** ASU patients are accepted into SOMS prior to pre-screen being recorded in EHRS.
  - ✓ Although the screen may have been completed, it was not entered timely.
- **Critical X #3:** The IPTR 149 process is not used for patients moved on the same facility. SHU and ASU are located on the same the facility.
  - ✓ Unless the CCII contacts Nursing and Mental Health of the move a pre-screen is not completed.

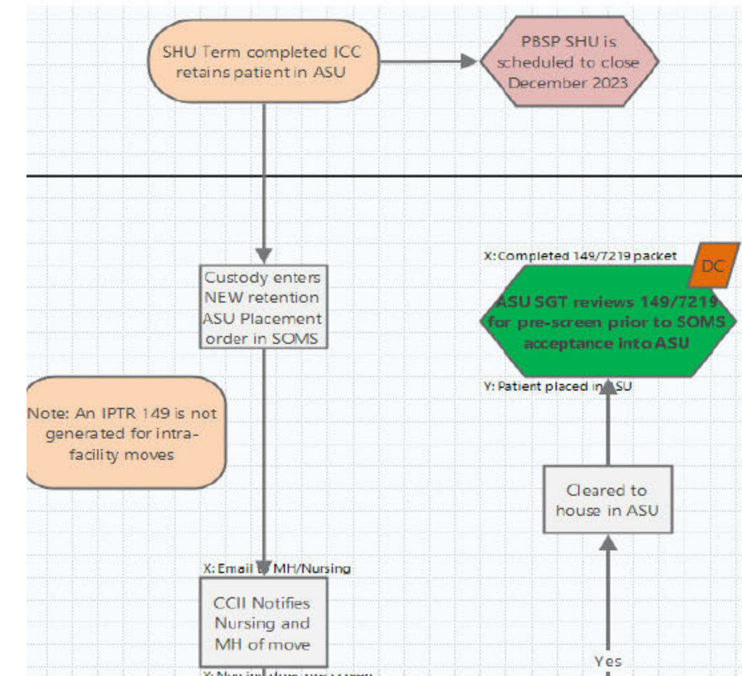
Identify and implement fixes for the problem, and analyze new data to validate the improvement.

Improvements

- **Improvement #1:** Revise process to have the ASU Sergeant review the IPTR 149 and 7219 ensuring the pre-screen was completed prior to accepting patient into SOMS.
  - ✓ In progress.
- **Improvement #2:** SHU scheduled to be closed December of 2023.
  - ✓ In process.
- **Improvement #3:** Request Mental Health Reporting update measure to recognize Varied Housing in ASU placements.
  - ✓ This system measurement error is not recognized at this time. In the meantime, we will report and adjusted compliance (removing Varied Housing moves).
- **Improvement #4:** When COVID quarantine or isolation is indicated, do not move the ASU patient. Shelter in place.
  - ✓ Denied – Unable to due to physical plant issues regarding ventilation.

Implement controls to assure that the improvement remains permanent, and create a control plan with a sustaining and continuous improvement strategy.

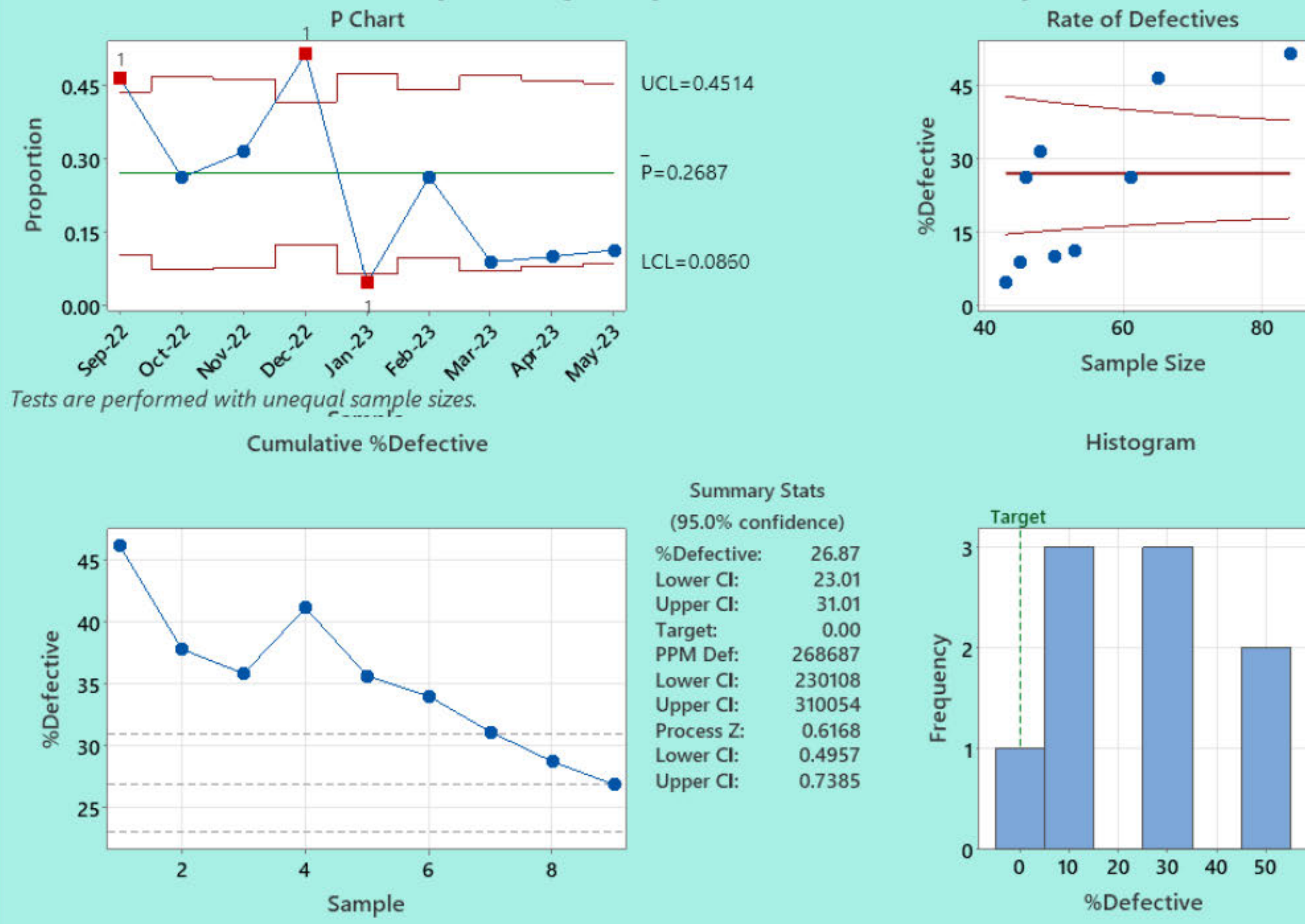
Updated Process Map



- The [redacted] will review 149/7219 prior to accepting patient into SOMS

- PBSP SHU will be closed 12/1/23

Updated Capability/Performance Analysis



- The average baseline rate of defect was 29% from September 2022 to February 2023.
- From March 2023 to May 2023 the defect rate decreased to 10%.
    - This can be attributed to the decline in COVID related cases, reducing the use of Varied Housing.

Control Plan

- **Controls that will be implemented on critical x's for this project:**

Process step	Item to be controlled	Control method	Control description	Person responsible
ASU Sgt to review ITPR 149	SOMS Placement after Pre-Screen is complete	ASU Daily Movement Sheet	Monitor all incoming patients and verify a pre-screen has been completed.	Sr. Psych Tech
SHU Kick out	SHU to ASU move	SHU Closure	PSBP will no longer have a SHU Program	N/A

- **Outputs (y's) that will be monitored for this project:**

Process step	Metric to be monitored	Control chart utilized	Brief Statistical Process Control description (can reference corresponding SPC document)	SPC/A3 Owner
Review of On-Demand Report	ASU Pre-Screen Measure	P Chart	Compare monthly compliance	

A3

QUALITY MANAGEMENT LEAN SIX SIGMA

A3 PERFORMANCE TRACKER

General Information:

Project Title: Improving Timely ASU Pre-Screens
Agency/Department: CCHCS
Division/District/Office: PBSP
Champion/Process Owner:
Green Belt:
Executive Sponsor:
Date: June 2023

Problem Statement:

Pelican Bay State Prison has been unable to show consistent compliance in completing ASU Preplacement forms. Failure to complete screens in a timely manner can result in an increased safety risk including suicide. Additionally, this measure is monitored by Coleman and Lindsay Hayes.

Primary Metric:

Percent of ASU Preplacement forms completed no sooner than 1440 minutes (24 hours) before patient's physical placement in ASU.

Goal:

Improve ASU Pre-Screen compliance to 95% or higher.

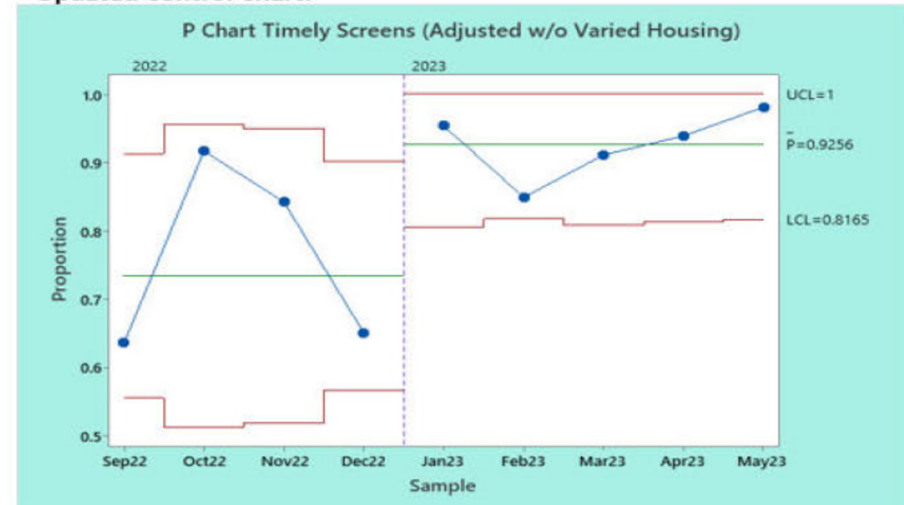
Root Causes (Critical X's):

- *ASU patients released from Varied Housing and placed back into ASU are not receiving a pre-screen*
- *ASU patients are accepted into SOMS prior to pre-screen being completed.*
- *The IPTR 149 process is not used for patient moved on the same facility. SHU and ASU are located in the same building.*

Solution Implementation Tracking:

Item	*Status*
When COVID quarantine or isolation is indicated, do not move the patient. Shelter in place.	*Denied – Due to physical plant issues*
Request Mental Health Reporting update measure to recognize Varied Housing in ASU placements.	*Denied – No policy*
Revise process to have the ASU Sergeant review the IPTR 149 and 7219 and ensure the pre-screen was completed prior to accepting patient into SOMS.	*In Progress – ASU Sgt will review IPTR 149 prior to acceptance in SOMS*
PSBP is expected to close the SHU in December 2023.	*Pending – Dec 2023*

Updated Control Chart:



Baseline Average: *Timely adjusted compliance for 2022 is 88%*
Current Average: *Timely adjusted compliance through May '23 is 93%*
**Adjusted compliance = no Varied Housing moves counted*

Project Impacts

- ASU patients placed in Varied Housing are seen daily and given the opportunity to address any new mental health concerns.

- Going forward the A3 Tracker with the adjusted compliance will be reported to SPRFIT and MHPSC.

Project Summary and Lessons Learned

- At this time there is no policy requiring an ASU patient to receive a second pre-screen upon return from Varied Housing (COVID related).

- The decline of COVID cases has increased our compliance score.

- This project has proven the overall process is not broken. ASU patients are receiving pre-screens as indicated by the current policy.

- Lesson Learned: The components of changing a SOMS housing designation are more complicated than I imagined.

Green Belt Contact Information