

Increasing Group Treatment Attendance in the Acute Psychiatric Program

CCHCS LEAN SIX SIGMA PROGRAM

BLACK BELT | [REDACTED], SENIOR PSYCHOLOGIST SPECIALIST, CALIFORNIA
MEDICAL FACILITY

Project Background

- Based on Mental Health “On Demand” Performance Reports for the past 12 months, patients housed at the Acute level of care in the Psychiatric Inpatient Program have attended an average of 3.0 hours weekly treatment. Over this same time period, 21% of the patients attended zero hours of weekly treatment.
- Treatment attendance is particularly important for patients housed at the Acute Level of Care since they tend to be at higher risk of decompensation and require increased treatment and support.

Project Charter

- **Problem Statement:** Patients housed in the Q2 Acute Psychiatric Inpatient Unit attended an average of 2.19 group treatment hours per week from August 5 to September 29, 2019. This results in an 81% defect rate given the objective of patients attending at least 5 weekly treatment hours.
- **Project Objective:** 100% of patients housed in the Acute Psychiatric Inpatient Program attending 5 or more hours of group treatment weekly.
- **Primary Metric:** The percentage of patients on the Q2 Acute Psychiatric Inpatient Housing unit who are attending 5 or more hours of group treatment.

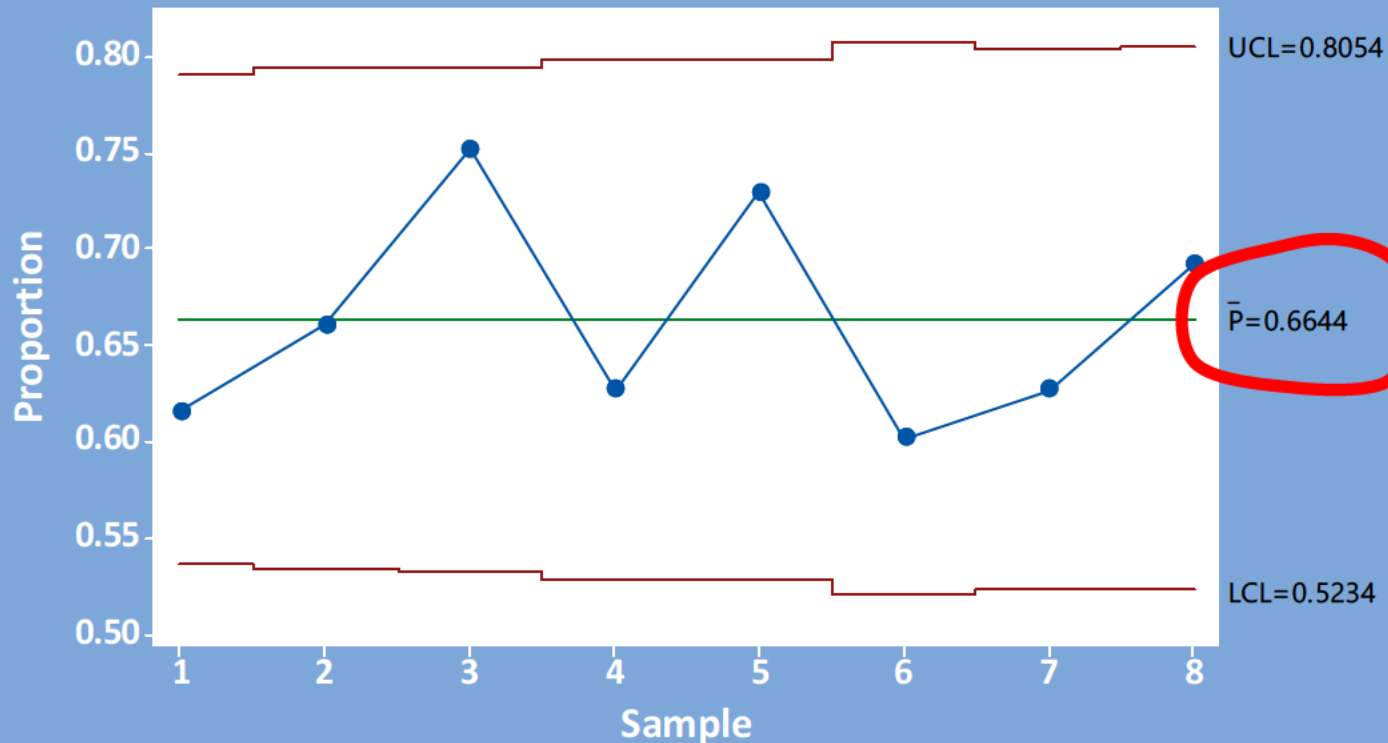
Team Members

- Champion: [REDACTED] CHSA II (A)
- Process Owner: [REDACTED], CHSA II (A)
- Executive Sponsor: [REDACTED], CEO
- Team Members:
 - [REDACTED], Executive Director (A)
 - [REDACTED], Clinical Administrator (A)
 - [REDACTED], Nursing Coordinator
 - [REDACTED], Art Therapist
 - [REDACTED] Staff Psychologist
 - [REDACTED], Associate Warden
 - [REDACTED] Senior Psychologist Specialist
 - [REDACTED] Senior Psychologist Specialist (Black Belt Mentor)



Baseline Capability/Performance (On Demand Reporting)

P Chart of Attended < 5 hours
Based on On Demand Acute Program Reporting Aug 5 to Sept 29, 2019

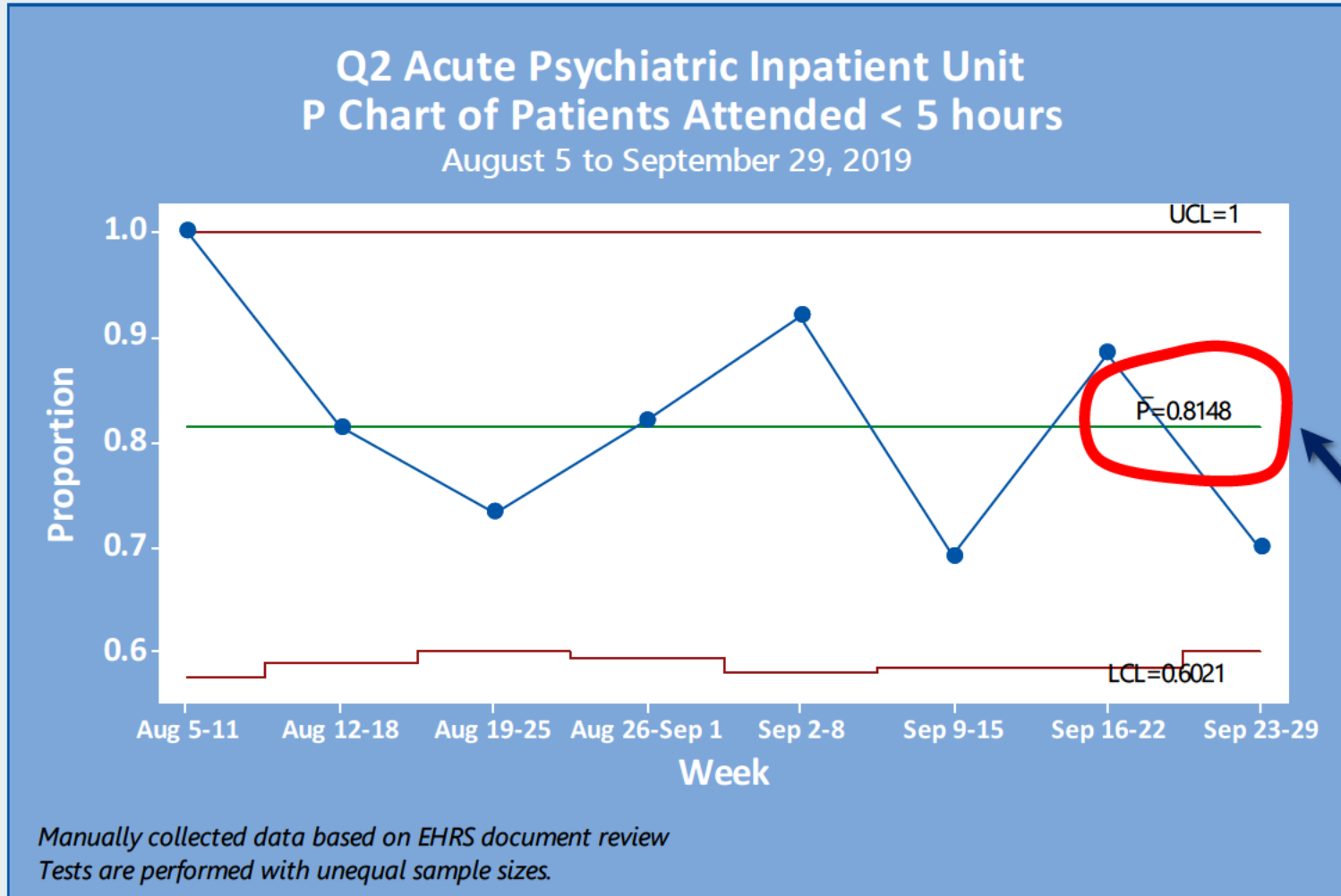


Tests are performed with unequal sample sizes.

Data from Mental Health Performance On Demand Reporting for the period August 5 to September 8 weeks of data from the On Demand Acute Program Report for Hours Attended.

Shows the percent of patients attending less than 5 hours of weekly group treatment based on weekly average. Over this time period, an average of 66% of the patients attended less than 5 hours. This results in an average defect rate of 66%

Baseline Capability/Performance (Q2 Acute Housing Unit)



Manual data collection of Q2 Acute unit weekly treatment attended, based on EHRs data. Data collected from August 5 to September 29.

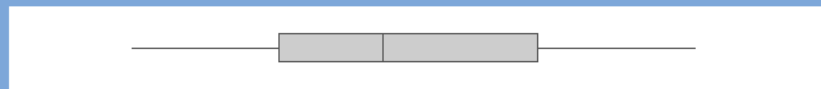
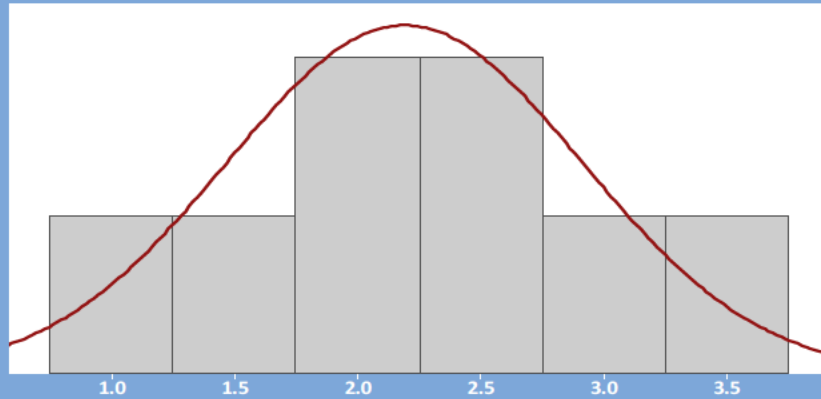
Shows the percent of patients attending less than 5 hours of weekly group treatment.

Over this time period, an average of 81% of the patients attended less than 5 hours weekly treatment. This results in an average defect rate of 81%

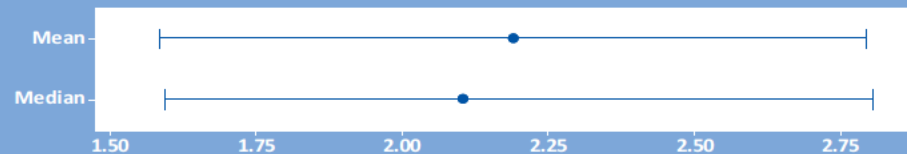
Baseline Capability/Performance (Q2 Housing Unit)

Summary Report for Average Hours Attended

Q2 Acute Psychiatric Program August 5 to September 29, 2019



95% Confidence Intervals



Anderson-Darling Normality Test

A-Squared	0.14
P-Value	0.558
Mean	2.1907
StDev	0.7221
Variance	0.5218
Skewness	0.169579
Kurtosis	-0.201614
N	8

Minimum	1.0833
1st Quartile	1.6840
Median	2.1046
3rd Quartile	2.7288
Maximum	3.3750

95% Confidence Interval for Mean
1.5868 2.7946

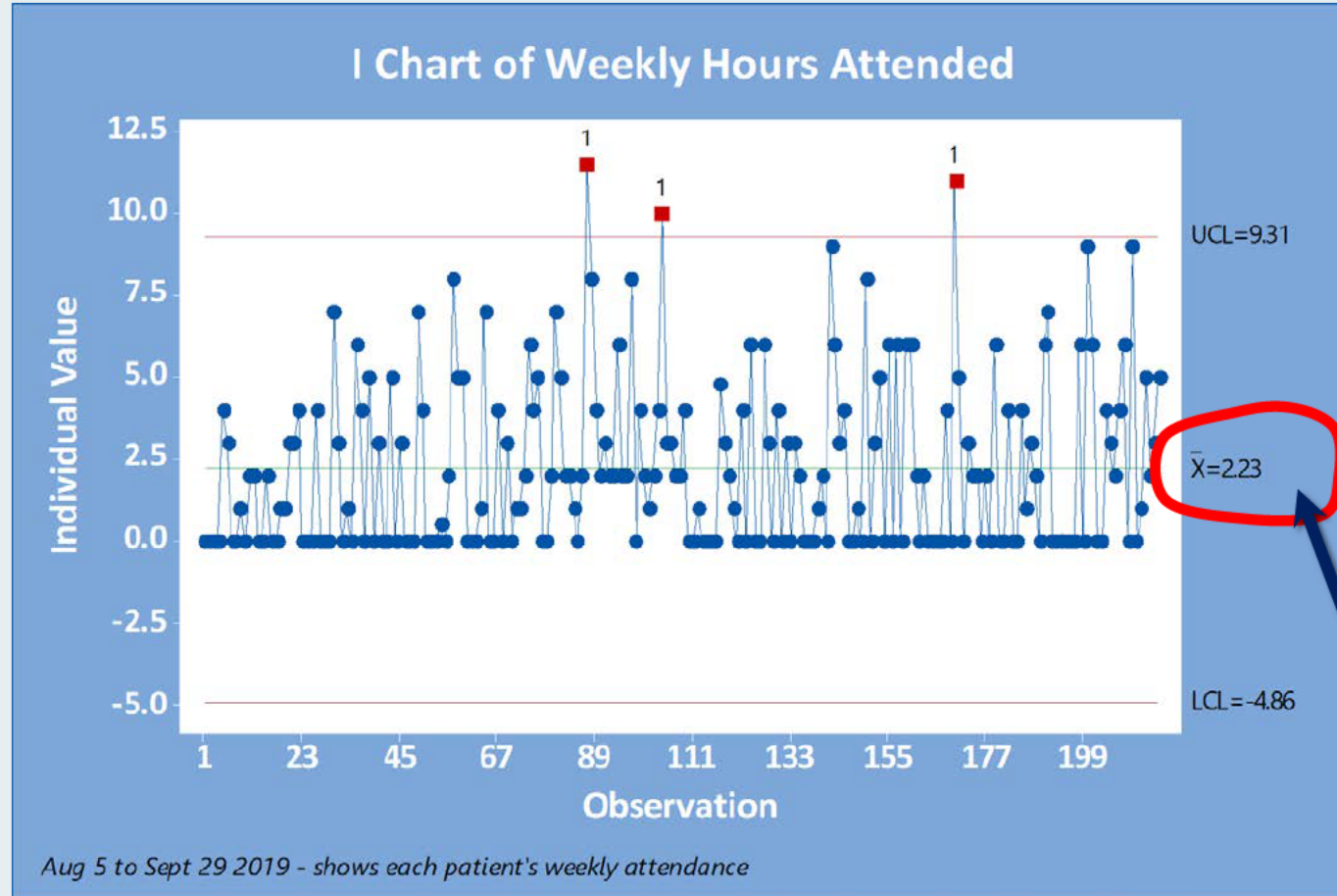
95% Confidence Interval for Median
1.5948 2.8058

95% Confidence Interval for StDev
0.4776 1.4702

This is a summary of average weekly hours attended for all patients.

Patients have attended an average of 2.19 hours group treatment each week.

Baseline Capability/Performance (Q2 Housing Unit)

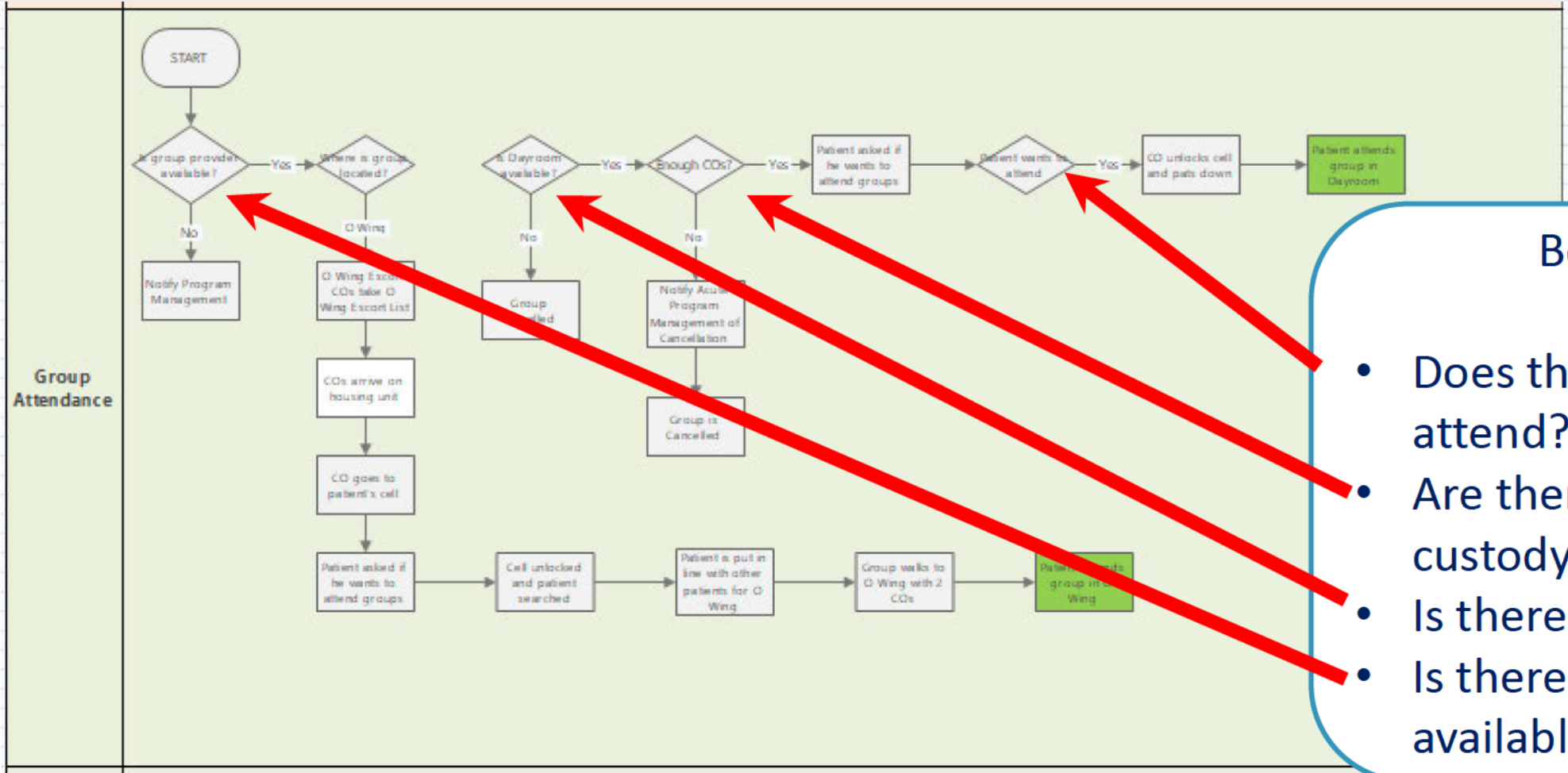


8 weeks of data

This chart shows the actual weekly hours attended by each patient on the unit during this time period.

When calculated based on each individual's weekly attendance, the result is an average weekly attendance of 2.23 hours

Initial Process Map



Bottlenecks

- Does the patient want to attend?
- Are there sufficient custody officers?
- Is there a room available?
- Is there a facilitator available?

Key Finding: Measurement System Analysis

Here is an example comparing “On Demand” and Manual Data Collection. This data is for patients on the Q2 Acute Inpatient Unit for the week ending September 8, 2019.

Patient	On Demand	EHR Manual Data
1	8	6
2	Missing	4
3	0	0
4	3.98	6
5	6.58	3
6	3.75	0
7	0	0
8	0	0
9	0	0
10	0	1
11	1	0
12	0	0

Patient	On Demand	EHR Manual Data
13	Missing	1
14	Missing	0
15	Missing	0
16	0.87	0
17	8.75	4.75
18	4	4
19	0	0
20	4	2
21	0	0
22	0	0
23	4	3
24	Missing	3

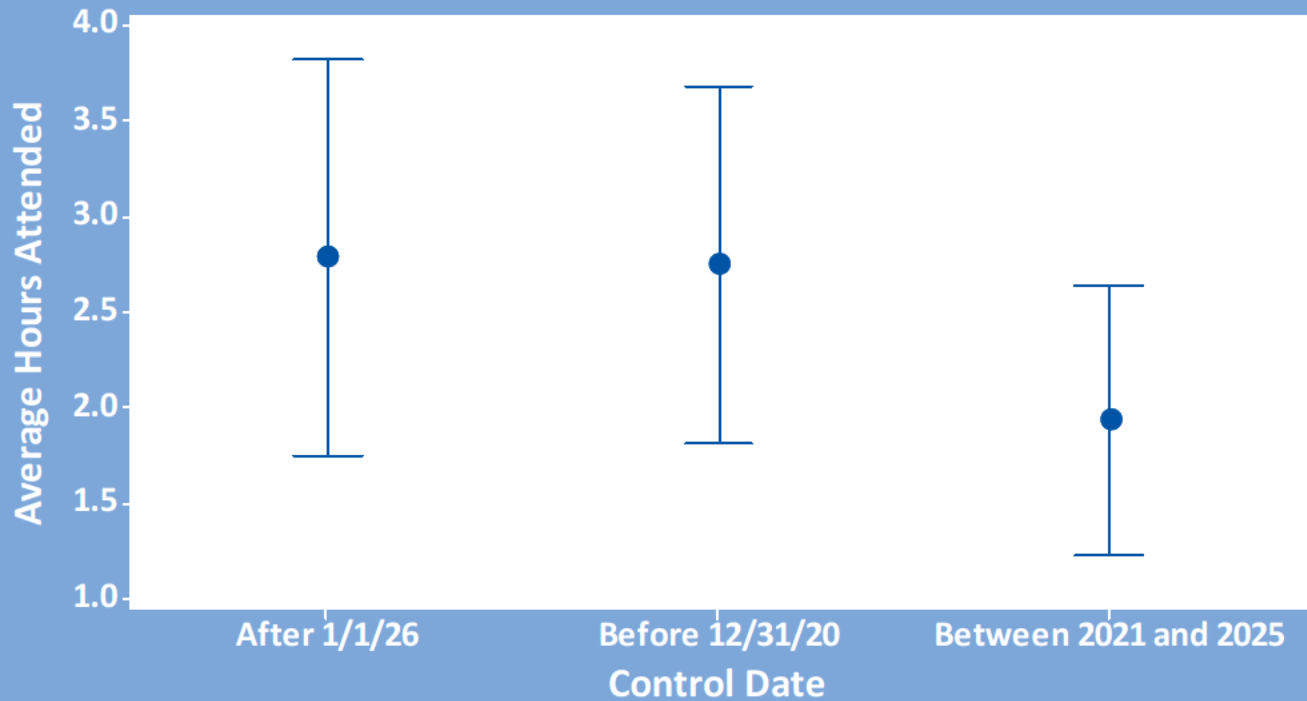
“Missing” indicates patient was not listed in the On Demand data report for this week.

Blue highlight indicates data match between EHR and On Demand reporting.

Key Finding: Attendance not Affected by Control Date

Interval Plot of Average Hours Attended

95% CI for the Mean



Individual standard deviations are used to calculate the intervals.

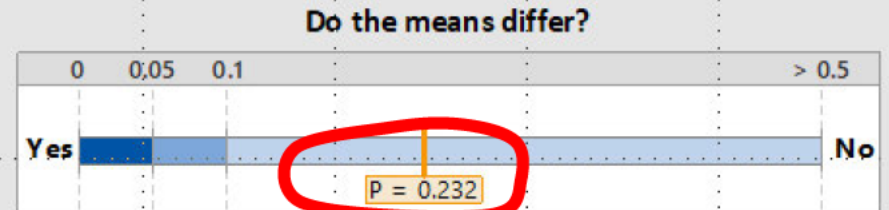
Comparison of weekly hours attended based on custody control date

Paroling before Dec 31, 2020
(within approximately one year)

Earliest release date is after Jan 1, 2026
(or no release date)
(serving at least another 5 years)

Paroling between Jan 1, 2021 and Dec 31, 2025
(serving from 1 to 5 years)

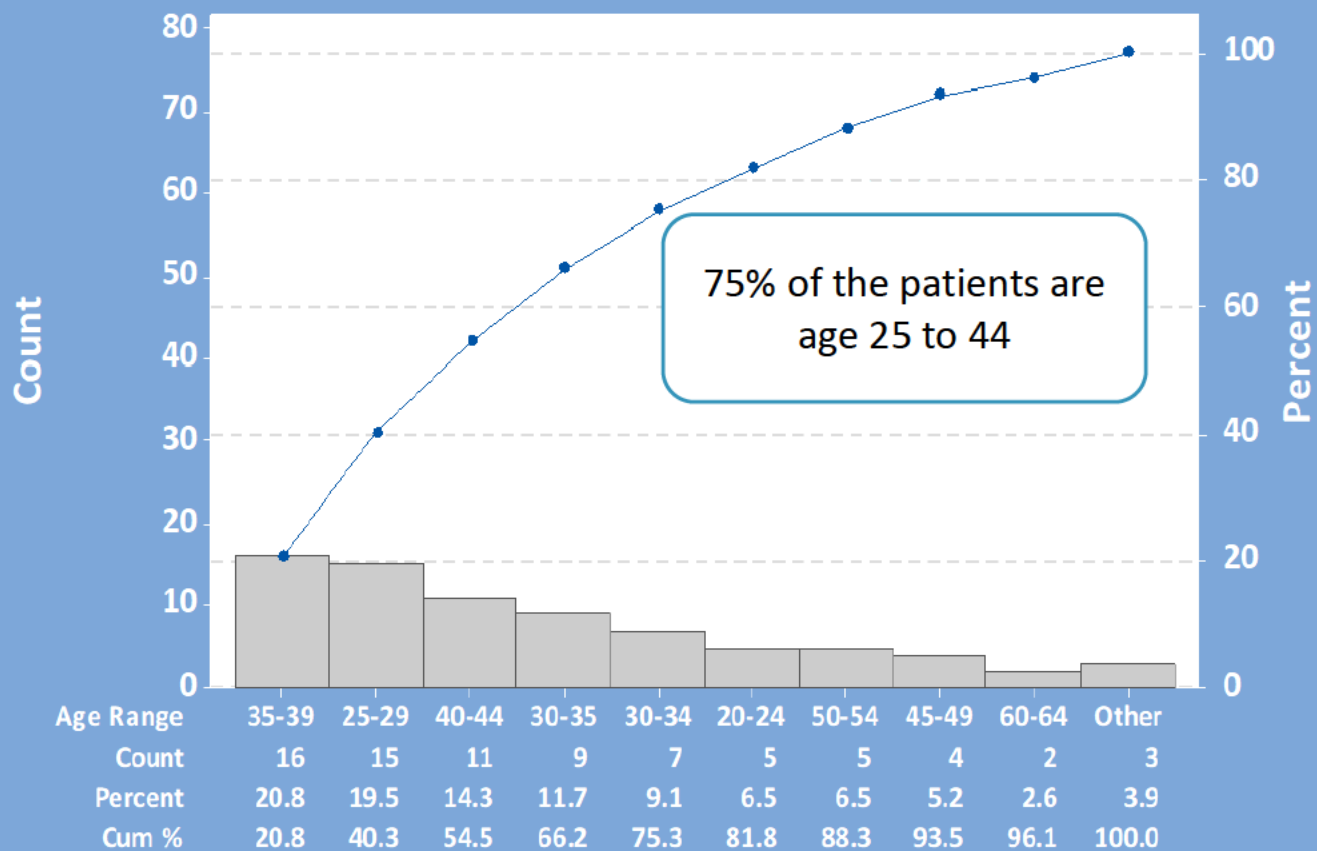
There is no relationship between control date and group attendance.



Differences among the means are not significant ($p > 0.05$).

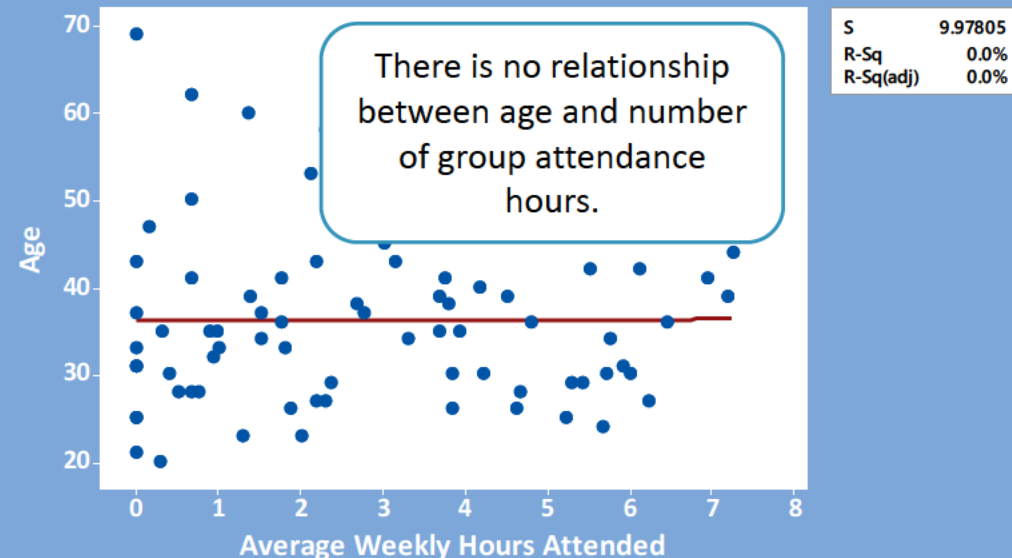
Key Finding: No Relationship Between Age and Attendance

Pareto Chart of Age Range

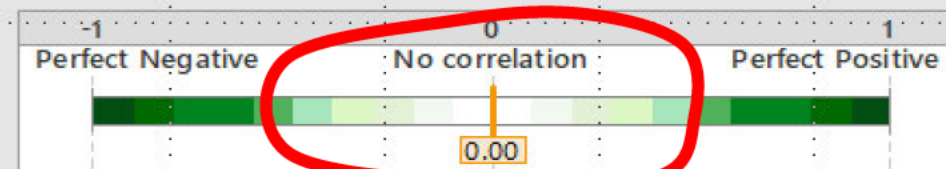


Fitted Line Plot

$$\text{Age} = 36.29 + 0.0170 \text{ Average Weekly Hours Attended}$$



Correlation between Y and X



The correlation between Age and Average Weekly Hours Attended is not statistically significant ($p > 0.05$).

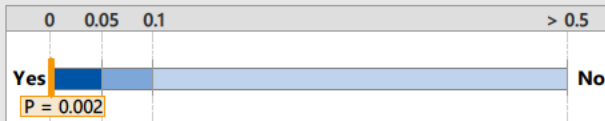
Mild Relationship Between Length of Stay and Attendance

Regression for Number of weeks on unit vs Average Weekly Hours Attended

Summary Report

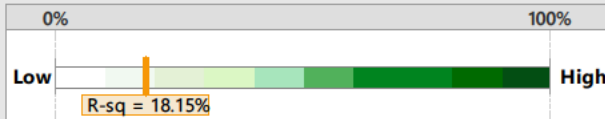
Y: Number of weeks on unit
X: Average Weekly Hours Attended

Is there a relationship between Y and X?



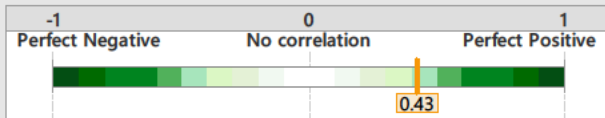
The relationship between Number of weeks on unit and Average Weekly Hours Attended is statistically significant ($p < 0.05$).

% of variation explained by the model



18.15% of the variation in Number of weeks on unit can be explained by the regression model.

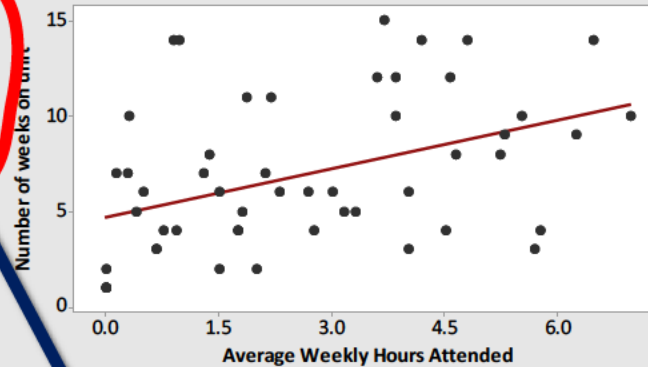
Correlation between Y and X



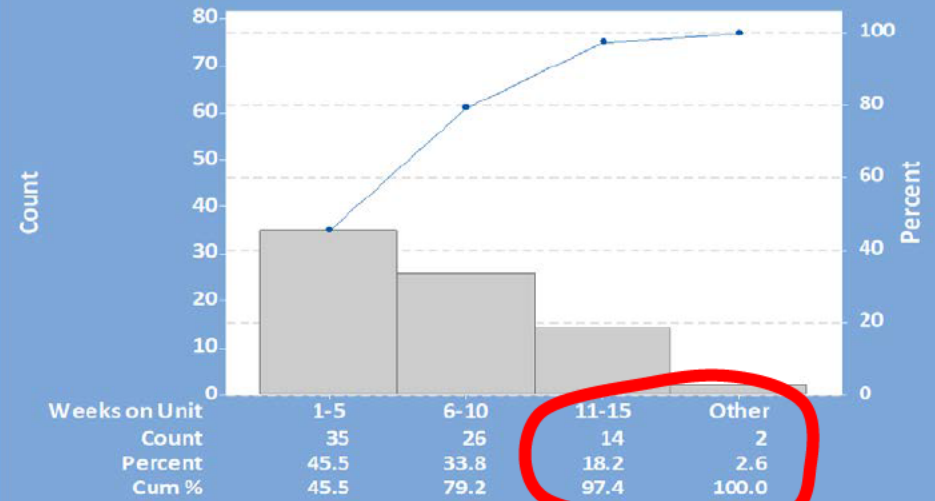
The positive correlation ($r = 0.43$) indicates that when Average Weekly Hours Attended increases, Number of weeks on unit also tends to increase.

Fitted Line Plot for Linear Model

$$Y = 4.674 + 0.8563 X$$



Pareto Chart of Weeks on Unit

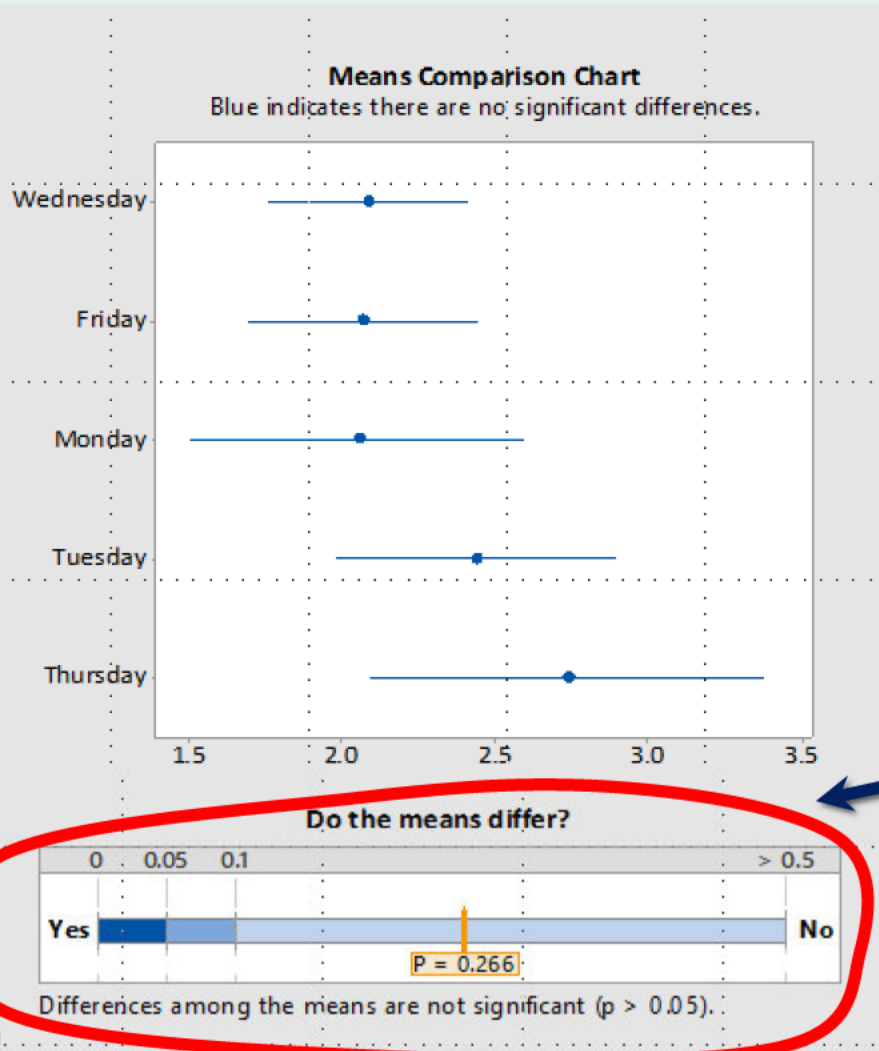


This is a comparison of weekly group attendance based on the number of weeks patient was housed on the unit.

Regression shows that patients who have been housed on the unit more than 10 weeks have higher attendance rates.

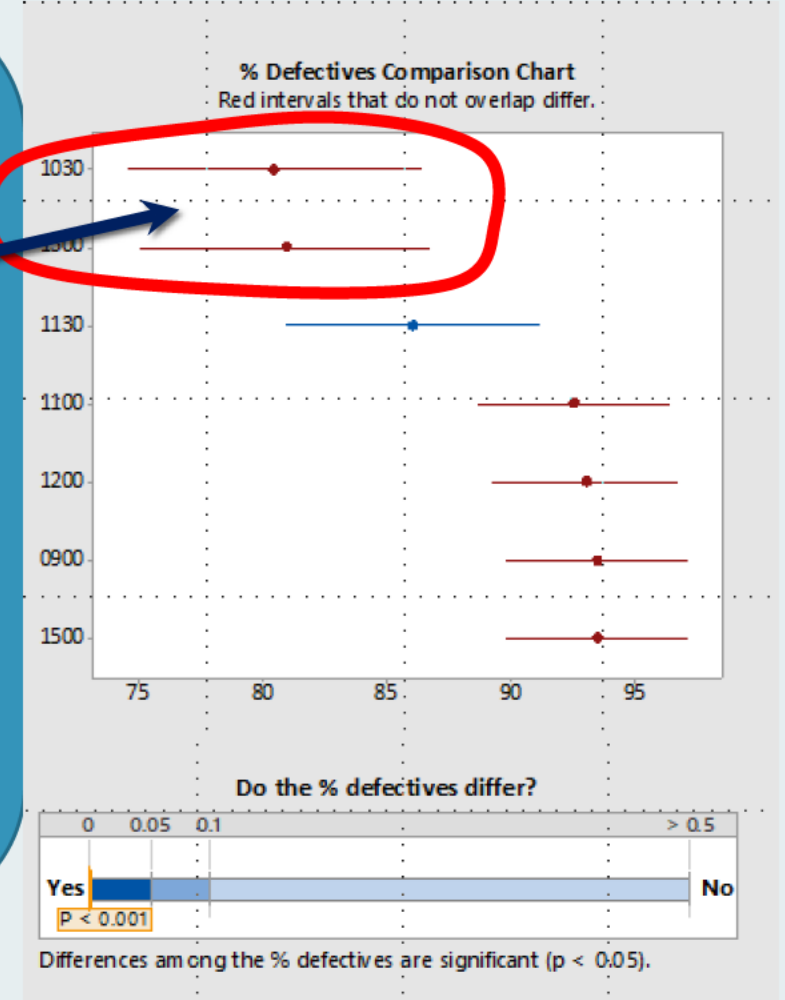
Approximately 21% of the patients have been on the unit more than 10 weeks.

Best Time for Groups is 1030 or 1300. Day of the Week Does Not Seem to Make a Difference.

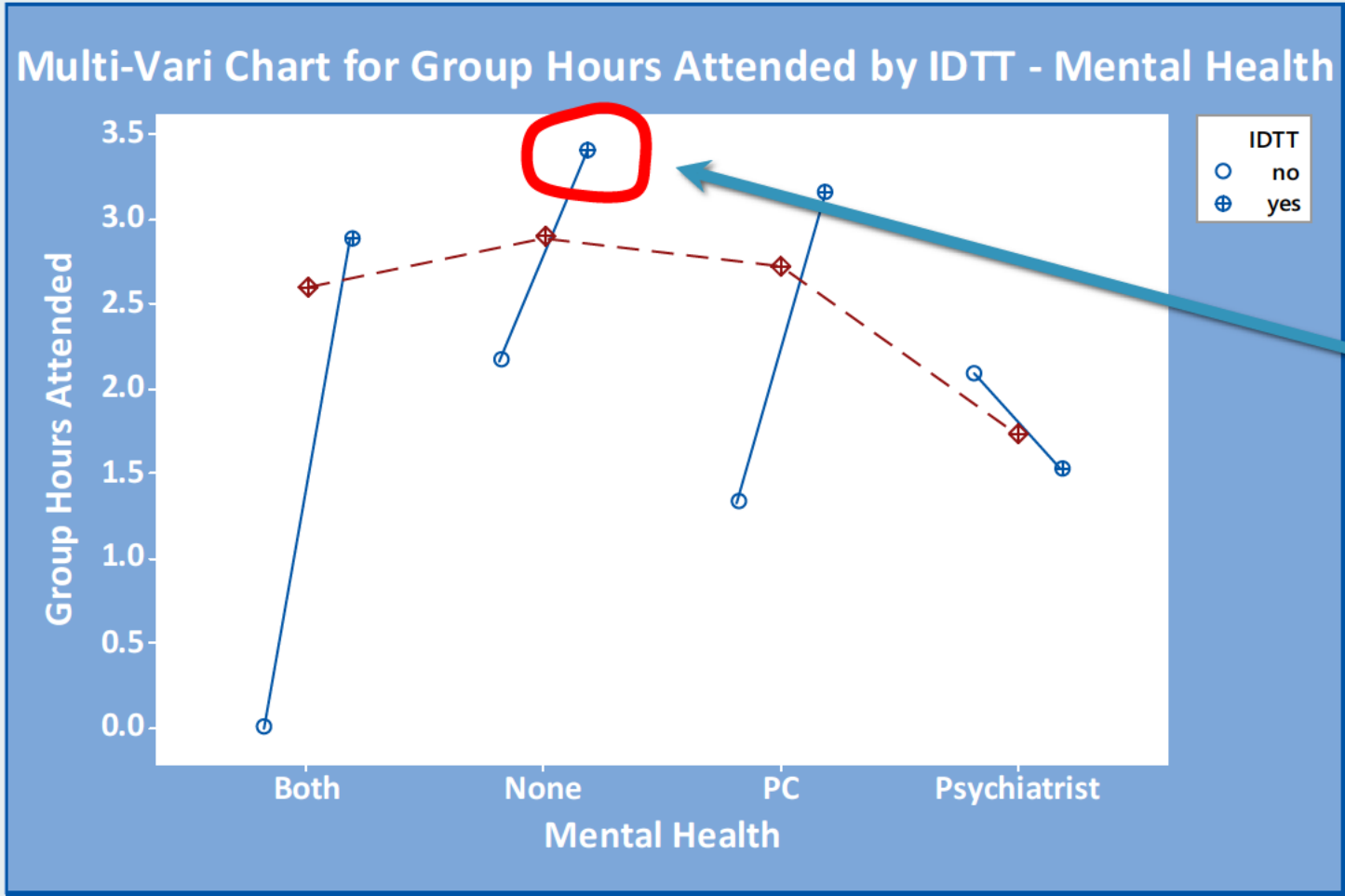


Chi Square tests show that 1030 and 1300 are the most popular group times.

Based on one-way ANOVA, there is no day of the week more popular than another for group attendance



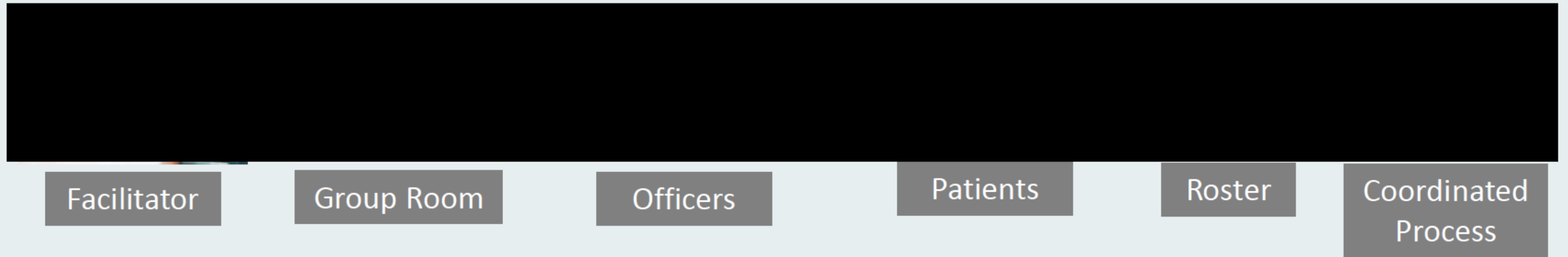
Attendance Higher During IDTT Weeks



According to Multi-Vari Analysis, highest group attendance occurs during weeks the patient meets with the Treatment Team but does not meet individually with other mental health professionals

Critical X's

- Standard procedure established for group process including identified and assigned facilitator, available and reserved physical space for the group, sufficient correctional officers, patients who are aware of group schedule and able to attend, and an accurate roster.



- Interventions:
 - Dynamic comprehensive group scheduling system that provides communication to staff and patients.
 - Dayroom used exclusively for group treatment
 - Plan to review patient attendance and address during huddles and treatment teams
 - Schedule according to hypothesis test key findings

Recommended Improvements

- Create standardized Excel group schedule file created in such a way that it makes it easy to see, communicate and manage weekly group treatment schedule.
- Create a “block” group schedule system that includes at least 8 hours per patient weekly, and is tailored to meet the treatment needs of each individual patient.
- Schedule IDTT and Yard so that there is no interference with group treatment schedule.
- Maximize use of the 1030 and 1300 time slots.

Recommended Improvements

- Provide reminders and prompting to patients about the group schedule.
- Provide each patient with his weekly group treatment schedule. Post group schedule on the unit and in the dayroom.
- Increase number of groups scheduled off the unit and increase the variety of groups offered.
- Create specific treatment space for patient interviews and physical exams.
- In huddles and in treatment teams, discuss patients who have very low or zero group attendance.

Sample Block Group Schedule

Track 1 - Depression Recovery Pathway					Track 2 - Anxiety Recovery Pathway				
Day	Time	Location	Topic	Facilitator	Day	Time	Location	Topic	Facilitator
Monday	1000	Dayroom	Coping Skills		Monday	1100	Dayroom	Anxiety Mgt	
Monday	1500	Dayroom	Social Skills		Monday	1500	O2	Art	
Tuesday	1100	Dayroom	CBT		Tuesday	1300	Dayroom	Social Skills	
Tuesday	1500	O2	Self-Forgiveness		Tuesday	1400	Dayroom	Stress Reduction	
Wednesday	1000	Dayroom	Bingo		Wednesday	1100	O2	Dog Group	
Wednesday	1300	Dayroom	Problem Solving		Wednesday	1400	Dayroom	Problem Solving	
Thursday	1000	O2	Dog Group		Thursday	1100	Dayroom	Stress Reduction	
Thursday	1300	Dayroom	Medication		Thursday	1300	Dayroom	Medication	
Friday	1100	Dayroom	Health		Friday	1100	Dayroom	Health	

Schedule patients for a “block” of groups depending on the symptoms and treatment plan.

Improvements: Once Created, Block Schedule Provides Quick Access

CDCR	Name	House	Track	Attended
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	

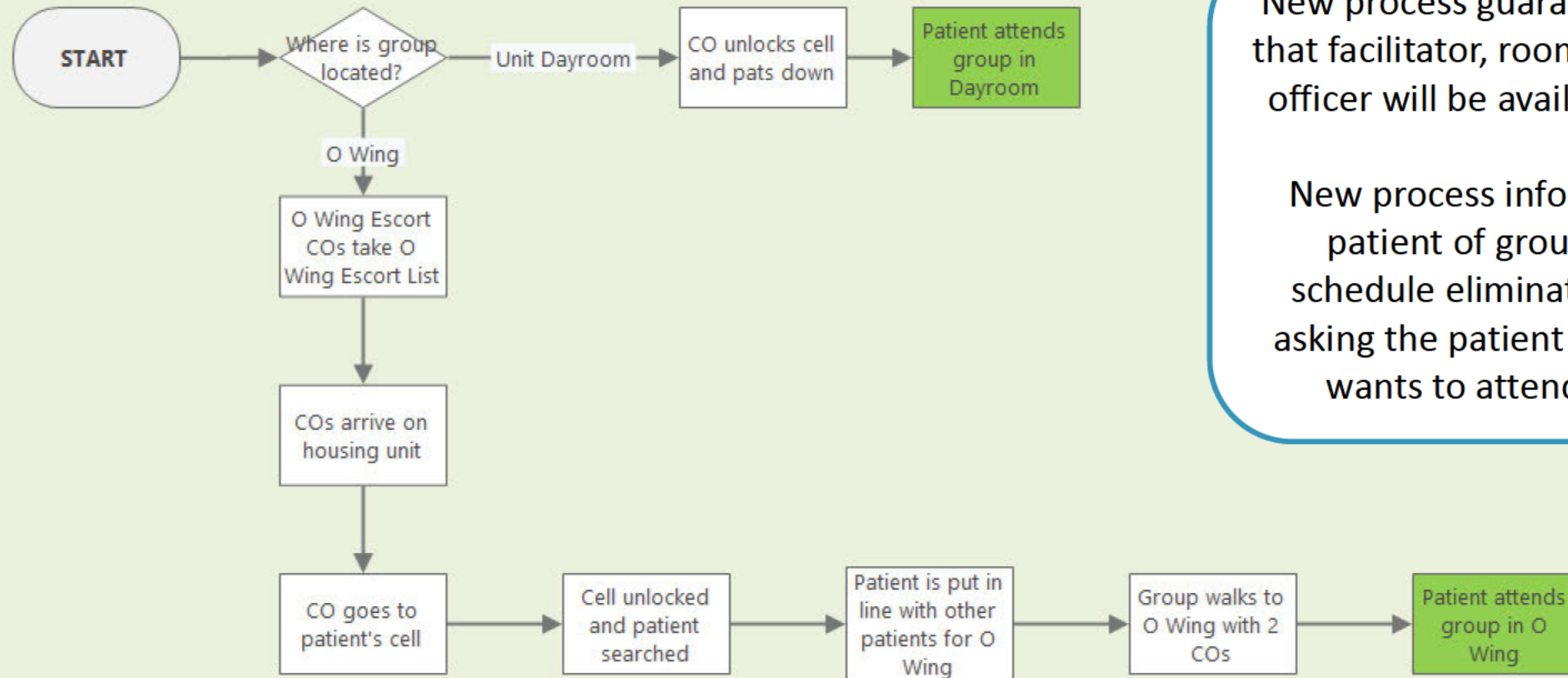
Group Roster

Day	Time	Location	Topic	Facilitator	Pathway
Thursday	1100	Dayroom	Stress Reduction		2
Thursday	1200	Dayroom	Stress Reduction		3
Tuesday	1400	Dayroom	Stress Reduction		2
Tuesday	1500	O2	Stress Reduction		3
Wednesday	1100	Dayroom	Problem Solving		3

Clinician's Weekly Group Schedule

Flexible system that allows for changes in coverage

Updated Process Map



New process guarantees that facilitator, room, and officer will be available.

New process informs patient of group schedule eliminating asking the patient if he wants to attend.

Control Plan

- Weekly audit
 - The data will be collected manually. Each week, the SOMS census for Q2 will be downloaded. Then, each patient record will be examined to determine the number of treatment hours attended per patient. If there is a discrepancy in the health record (one note documenting patient attendance and another note documenting “no show” for the same group), the hour will not be counted.
- Collect weekly group treatment data and verify:
 - Group facilitator was confirmed and available
 - Room was confirmed and was available for group
 - Sufficient Custody Officers were on the unit
 - Weekly group schedule provided to patients
 - Weekly group schedule posted on unit

A3



A3 Performance Tracker

General Information:

Project Title: Increasing Group Treatment Attendance in the Acute Psychiatric Program
Agency/Department: California Medical Facility
Division/District/Office: Region 1
Champion/Process Owner: [Redacted]
Green Belt: [Redacted]
Executive Sponsor: [Redacted]
Date: February 23, 2020

Problem Statement:

Patients housed on Q2 Acute Psychiatric Inpatient Unit attended an average of 2.19 group treatment hours per week from August 5 to September 29, 2019. This results in an 81% defect rate given the objective of 5 hours weekly treatment hours attended per patient.

Primary Metric:

The percentage of patients on the Q2 Acute Psychiatric Inpatient Housing unit who are attending 5 or more hours of group treatment.

Goal:

100% of patients housed in the Acute Psychiatric Inpatient Program attending 5 or more hours of group treatment weekly.

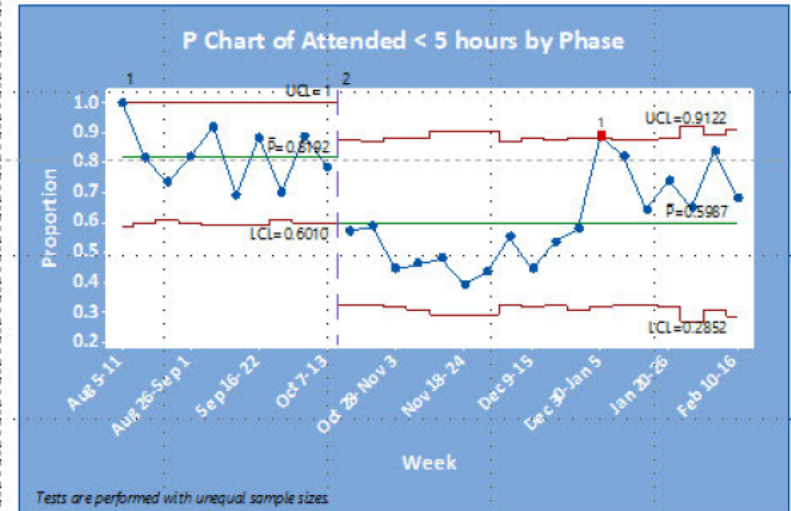
Root Causes (Critical X's):

- Standard procedure for groups
- Group facilitator, available room, correctional officers
- Patients who are able to attend and aware of group schedule
- Assessment and plan for patients not attending groups

Solution Implementation Tracking:

item	status
Do not schedule IDTT to conflict with groups	Complete
Prompt patients to attend groups	In process
Create standardized block scheduling system	In process
Increase access to off unit groups	In process
Schedule 2 hour groups rather than one hour	Complete
Create space for patient interviews	In process
Create space for physical exams	In process
Give group schedule to patients and post on unit	In process
In huddles; discuss patients with low or no attendance	In process

Updated Control Chart:



Baseline Average: average from baseline capability analysis

Current Average: new, updated average performance

Current Capability: percent within the goal

Project Impacts

- Improved patient care
- Improved patient safety
- Improved symptom resolution
- Increased out-of-cell time and social interaction
- Benefits to staff include
 - Increased efficiency scheduling and tracking groups
 - Standardized group treatment process

Project Summary and Lessons Learned

- Critical importance of validating data
- Value in Gemba walk and direct observation of process
- Importance of conducting hypothesis tests to verify common assumptions about patient behavior

Black Belt Contact Information

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]