

CCHCS LEAN SIX SIGMA GREEN BELT TRAINING

Reducing Psychiatrist-Prescribed Medication Refusals



October 10, 2017

Project Team

Champion: [REDACTED] M.D., Chief Psychiatrist

Executive Sponsor: [REDACTED], Jr., Chief Executive Officer

Core Team Members:

[REDACTED], Pharmacist in Charge (pharmacy input)

[REDACTED], Unit Supervisor (supervises psychiatric technicians/PTs)

[REDACTED] SRN II (supervises LVNs)

[REDACTED] Custody Health Care Captain

[REDACTED], Senior Psychologist Specialist, Quality Management

[REDACTED], Health Program Specialist I, Quality Management

[REDACTED] HPM III, Project Facilitator

[REDACTED], CNE, management support

[REDACTED] SRN III, management support

Project Charter

Problem Statement:

SATF received a large influx of Enhanced Outpatient Program (EOP) patients in May 2017 resulting in increased patient medication refusals and refusal referrals to a psychiatrist.

Objective:

Increase compliance to 95% by the end of November 2017

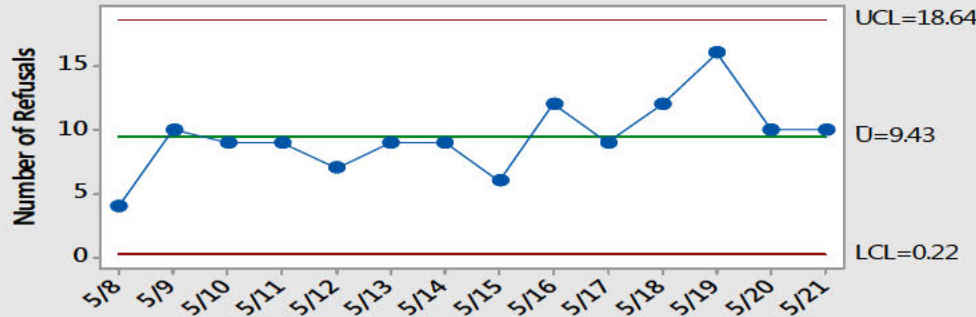
Primary Metric:

Psychiatrist-prescribed medication doses missed or refused by EOP patients

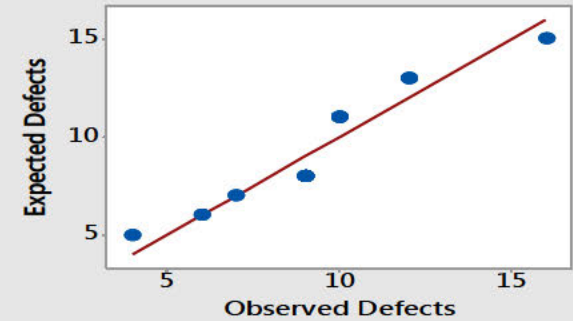
Baseline Capability

Total EOP Patient Medication Refusals (May 8-21)

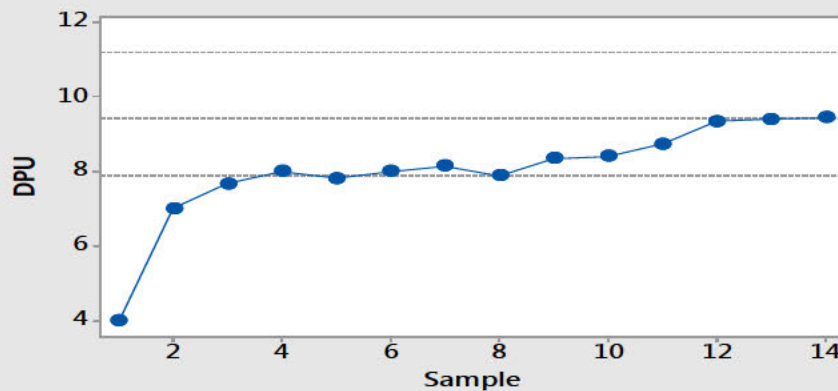
Chart



Poisson Plot

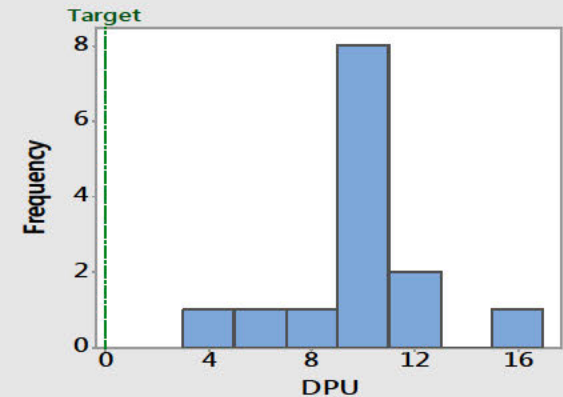


Cumulative DPU



Summary Stats (95.0% confidence)	
Mean Def:	9.4286
Lower CI:	7.8888
Upper CI:	11.1811
Mean DPU:	9.4286
Lower CI:	7.8888
Upper CI:	11.1811
Min DPU:	4.0000
Max DPU:	16.0000
Targ DPU:	0.0000

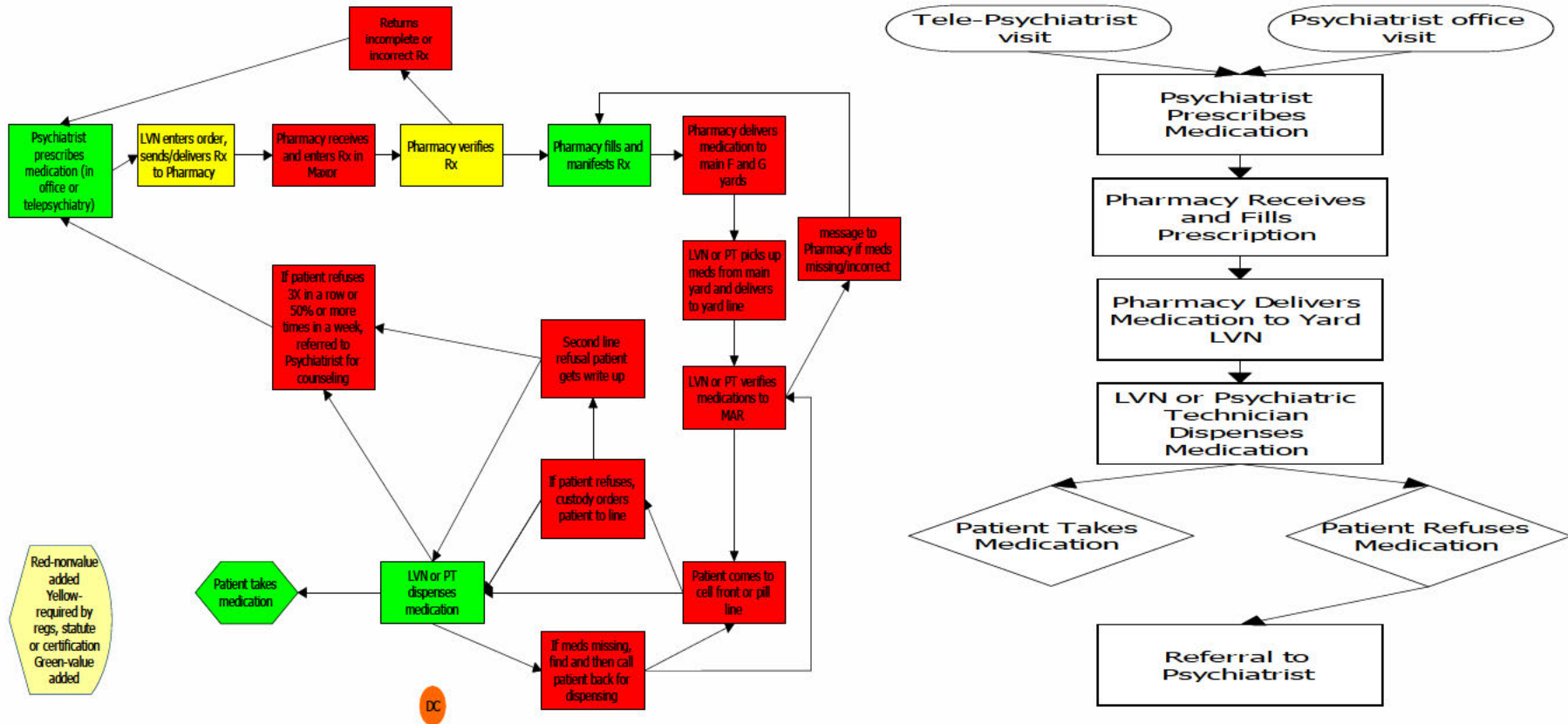
Histogram



Worksheet: Worksheet 2; 9/29/2017; [REDACTED]

The number of refusals per day for all clinicians serving EOP patients rose in May.

Initial Process Map



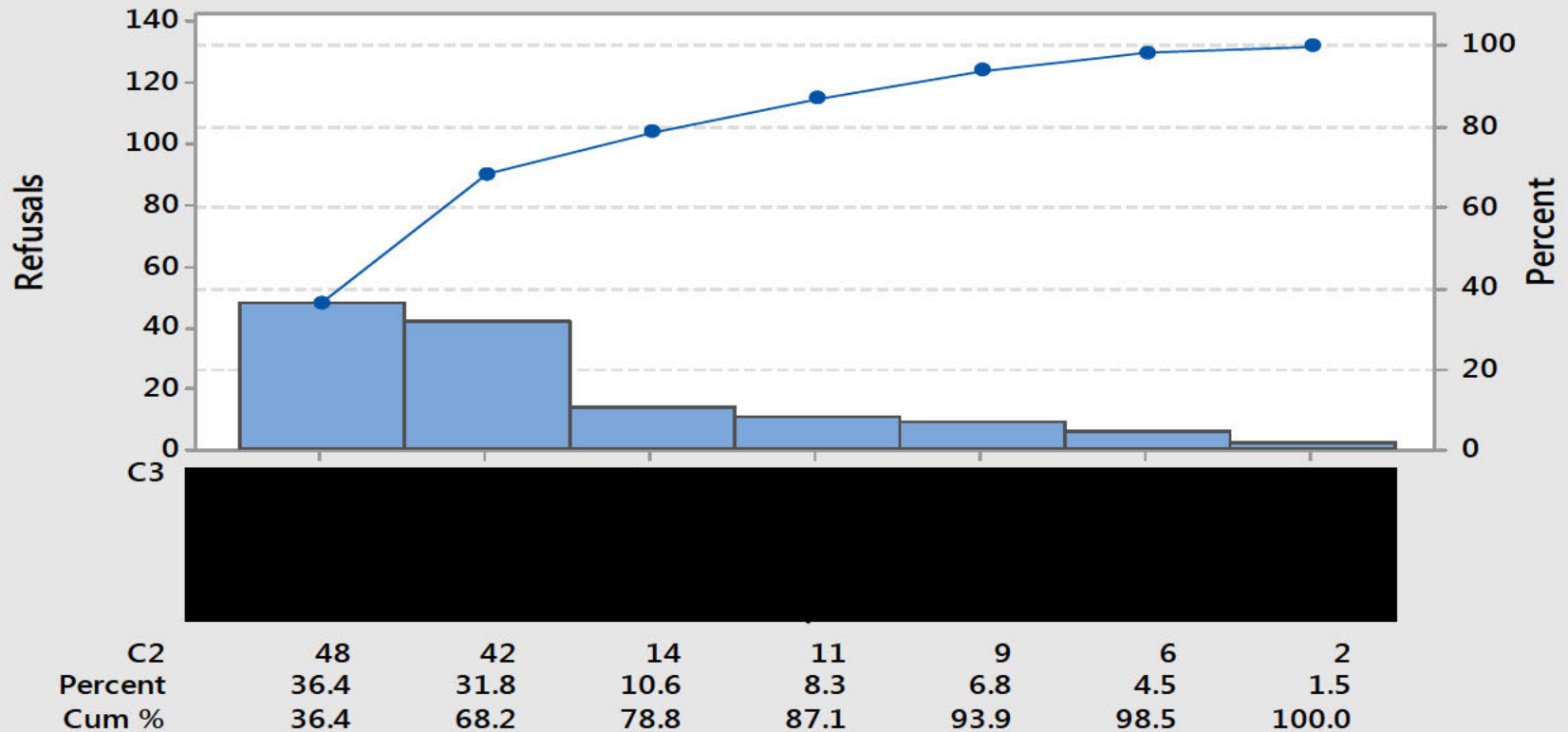
Entire process of psychiatrist prescribing, pharmacy filling, PT or LVN dispensing and patient either receiving or refusing the medication. **Project focused on dispensing of and patient receiving or refusing the medication, and process for refusals.**

Lean Six Sigma Tools Utilized

- Process map
- Fishbone diagram brainstorm
- Poisson Capability Analysis
- Failure Mode and Effects Analysis
- Pareto Charts
- Mistake Proofing
- Standard of Work
- Workload Balancing
- Checklist for medication dispensers

Key Findings #1

Pareto EOP Patient Refusals by Clinician (May 8-21)

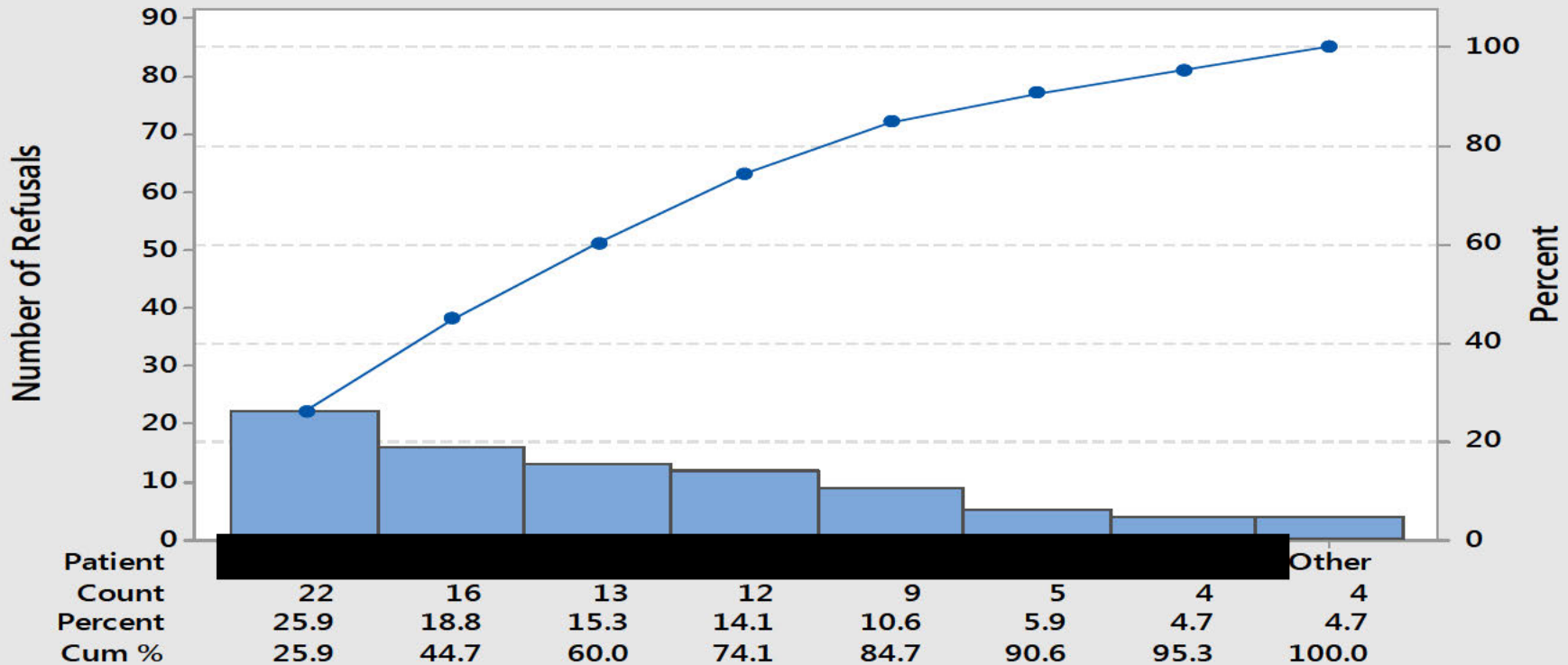


Worksheet: Worksheet 3; 9/29/2017; [Redacted]

Two psychiatrists serve solely EOP patients who reside F3, experienced approximately 68 percent of the refusals.

Key Findings #2

EOP Patients Refusing Medications on F3 (May8-21)

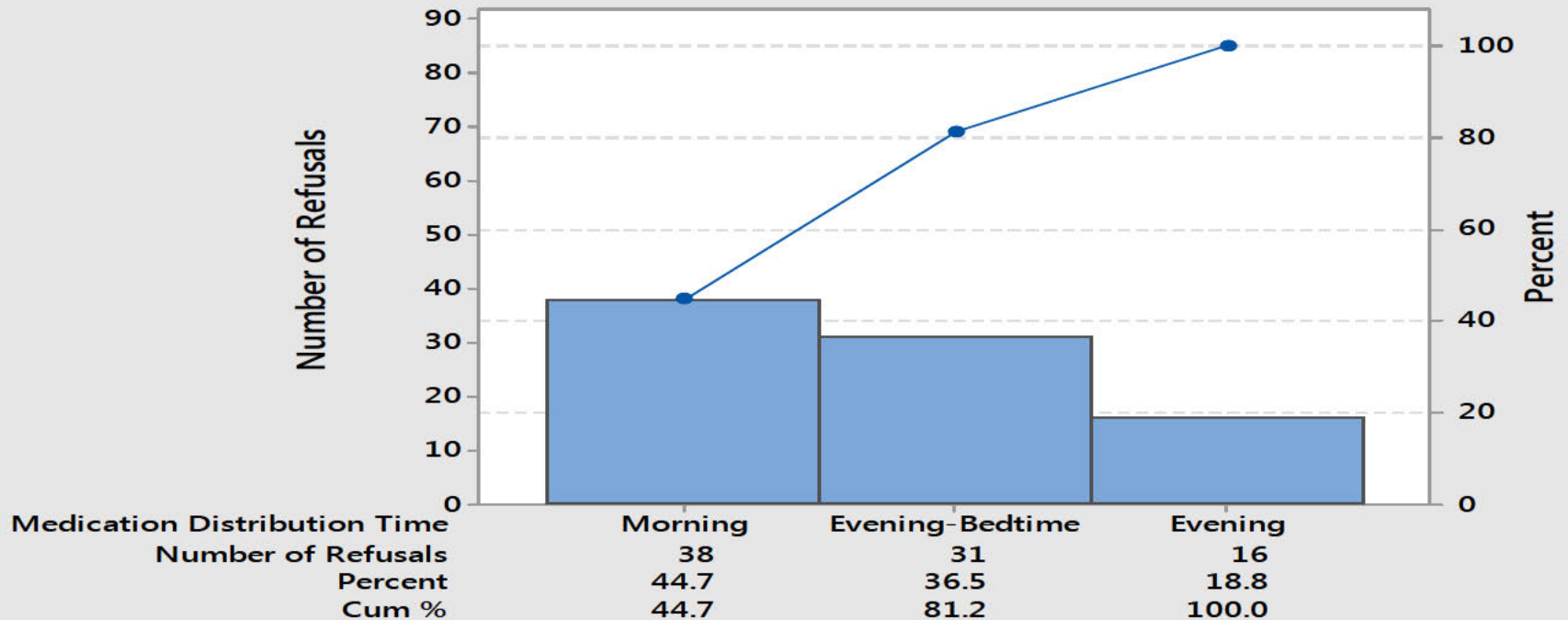


Worksheet: Worksheet 2; 9/29/2017, [REDACTED]

Chronic medication refusers make up the majority of total refusals. Nearly three-quarters of the refusals came from four refusers.

Key Findings #3

Medication Refusals on F3 Yard by Medication Line (May 8-21)

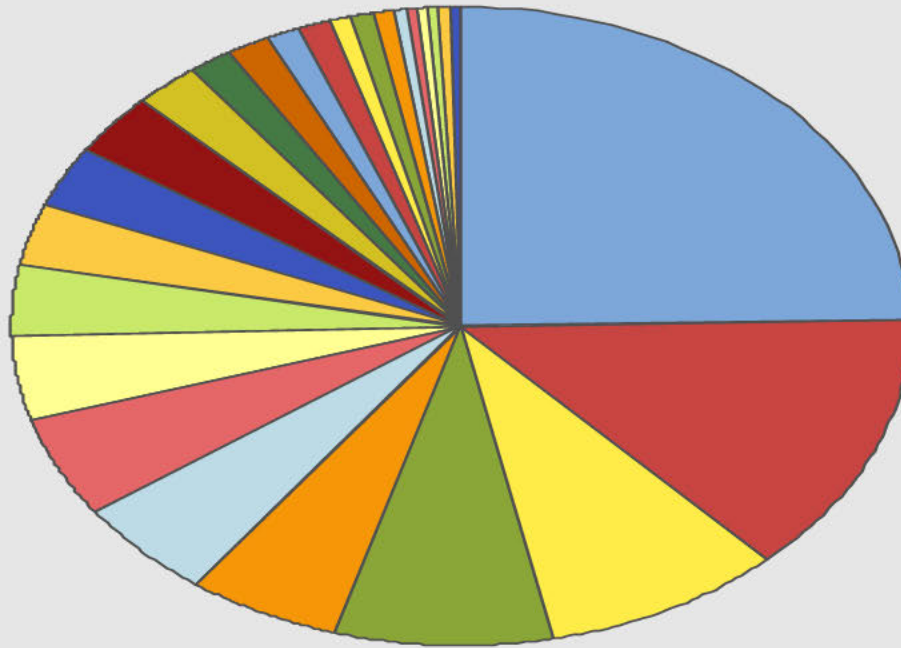


Worksheet: Worksheet 2; 10/4/2017; [REDACTED]

Approximately 80 percent of refusals on F3 Yard occurred during the medication lines following breakfast and at 8 p.m. Further analysis warranted to determine any significance to the reasons for the refusals.

Key Findings #4

Pie Chart of Refused Medications 8/17-30



Medication	Count
OLANZAPINE	63
BUSPIRONE	34
RISPERIDONE	22
ZIPRASINDONE	20
HYDROXYZINE	14
MIRTAZAPINE	13
BENZTROPINE	13
ARIPIRAZOLE	11
SERTRALINE	9
PRazosin	8
VALPROIC ACID	8
DIVALPROEX	8
VENLAFAXINE	6
FLUOXETINE	4
DULOXETINE	4
OXCARBAZINE	3
PAROXETINE	3
PROPRANLOL	2
LAMOTRIGINE	2
TOPIRAMATE	2
DIPHENHYDRAMINE	1
LITHIUM	1
ATOMOXETINE	1
BUPROPION	1
PALIPERIDONE	1
FLUPHENAZINE	1

Worksheet: Worksheet 2; 10/4/2017; [REDACTED]

Graph depicts number of prescribed medication refusals (total 225) on F3 Yard. Further analysis warranted to determine any significance to the number of patients who made refusals.

Failure Mode and Effects Analysis

FMMAX F3 Medication Refusals - Priority Areas														Backlog status							
Stage	Process Step - Activity	Key Process Input	Potential Failure Mode	Potential Failure Effects	SEV	Potential Cause	OCC	Control Condition	DET	RPN	Action Recommended	Responsibility	Target End Date	Action Taken	Actual End Date	SEV	OCC	DET	RPN		
	Psychiatrist consults patient on medication	Psychiatrist	Patient doesn't take medication	Patient refused medication	5	Patient doesn't know what medication to buy, what time	5	Medication work(s)/availability, staff schedule	5	125	Reassess patient and appropriate training									5	
	Pharmacist Prep Psych Meds - 20 count quantities 30 or less or 10% of stock items in a vial, referred to Psychiatric for counseling	LPN or PT	Patient doesn't take medication	Non-compliance (e.g., 30 tablets, 100 tablets, weight change, physical illness)	5	Patient refuses medication	5	LPN or PT does not encourage or motivate patient, staff schedule, training	5	125											5
	Pharmacist Prep Psych Meds - Patient takes medication	Patient	Patient doesn't take medication	Non-compliance (e.g., 30 tablets, 100 tablets, weight change, physical illness)	5	Patient refuses medication	5	Patient doesn't want to get in and/or come to work	5	125	Take patient off medication, change medication, counsel on medication										5
	Pharmacist Prep Psych Meds - Patient takes medication	Patient	Patient doesn't take medication	Non-compliance (e.g., 30 tablets, 100 tablets, weight change, physical illness)	5	Patient refuses medication	5	Patient doesn't want medication, side effects	5	125	Take patient off medication, change medication, counsel on medication										5

FMEA Priority Areas:

- Psychiatrist medication counseling and prescription
- PT/LVN dispenses medication, encourages compliance, and makes refusal referrals
- Patient complies or refuses medication

Critical X's

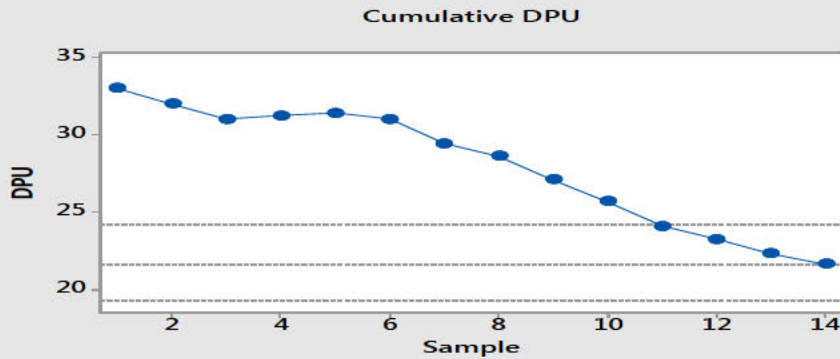
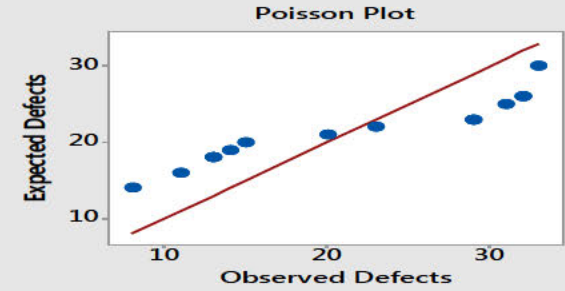
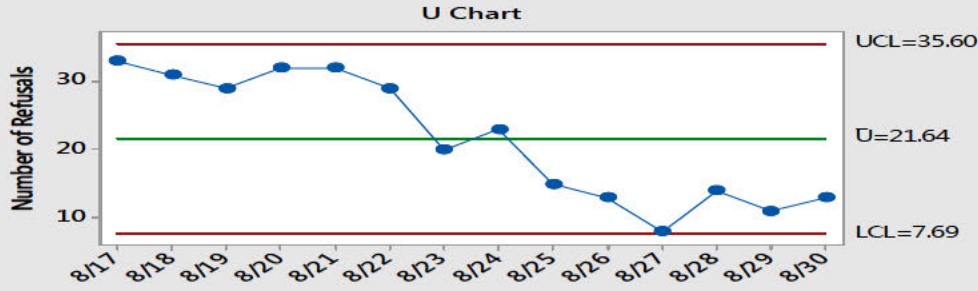
- Psychiatrist
 - Counseling
 - Refusal consultations
- RN case management
- Psychiatric Technician and Licensed Vocational Nurse
 - Encourages patient to take medication, explains medication if patient has questions or refuses medication
 - Document refusal reasons and makes refusal referral
- Patient takes or refuses medication

Improvement Techniques

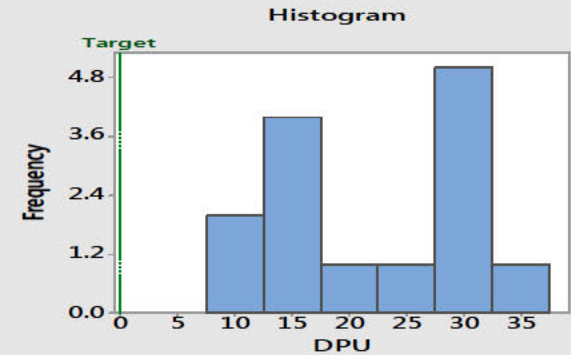
- **Cerner implementation:**
 - automatic referrals to Psychiatrist (medications are missed 3 times in a row or 50% in a week)
 - Drop down menu for refusals
 - Pre and post med line report
- **Workload balancing for psychiatrists**
- **Standardized work for case managers working with patients about refusals**
- **RN case managers see EOP patients when they first come to the yard**
- **Continue to monitor the number of EOP patient medication refusals by:**
 - Medication
 - heat medications
 - Provider
 - Patient/chronic refusers
 - Reasons for refusal
 - Medication administration time
- **Identify chronic medication refusers and analyze reasons for refusals:**
 - Increase appointment frequency and counseling efforts
 - Consider discontinuing or changing medication(s)
 - Consider changing doses
 - Treat side effects
 - Include in treatment goal an IDTT for patient functioning
- **Work with Custody to ensure officers will not be pulled from the F3 yard during medication line**

New Capability Analysis

Poisson Process Capability F3 EOP Patient Medication Refusals (August 17-30)



Summary Stats (95.0% confidence)	
Mean Def:	21.6429
Lower CI:	19.2743
Upper CI:	24.2222
Mean DPU:	21.6429
Min DPU:	8.0000
Max DPU:	33.0000
Targ DPU:	0.0000



Worksheet: Worksheet 2; 9/29/2017; [REDACTED]

Number of refusals peaked at 33 on August 17 and steadily decreased to eight on August 30. Note: Cerner went live at on August 15 when the number of patients seen each day and group sessions dropped markedly, and then rose to normal rates; there were long medication lines; SATF experienced a heat wave; and the air conditioning was out.

Control Plan

Key Inputs (Critical Xs) to be Controlled				
Activity / Step	Input	Specification Characteristic to be Controlled	Control Method	Control Description
Meds Pass Only - Psychiatrist prescribes medication (in office or telepsychiatry)	Patient counseling on medication	Appointment made and completed	Cerner - overdue appointments, signed patient consent	Clinicians, supervisors and QM monitor schedules, check orders for medication, performance reports for medications, referral compliance (clinicians, and supervisors, QM monitors).
Meds Pass Only - Psychiatrist prescribes medication (in office or telepsychiatry)	Available psychiatrists	Workload balance	Ongoing recruitment and retention efforts	Supervisors and Chief Psychiatrist monitor caseload and make adjustments as needed.
Meds Pass Only - LVN or PT dispenses medication	PT/LVN provides medication education	Medication compliance	Annual training, checklist and supervisor monitoring	Supervisors monitor medication line.
Meds Pass Only - LVN or PT dispenses medication	PT/LVN dispenses medication	Medication compliance	Refusal reason documented and refusal referral	Cerner has refusal reason drop down menu, generates referral automatically
Meds Pass Only - Patient takes medication	Patient takes medication	Medication refusals	Cerner, Huddle report	Cerner generates medication line reports (pre- and post-med pass) and daily huddle report
Referral to Psychiatrist	Refusal consult	Medication counseling, medication review	Cerner, refusal referral, psychiatrist appointment scheduled and kept, and med consent if changes	Cerner for timely appointment made and completion tracked by schedulers and QM

- Psychiatrist appointments made and complete
- Workload balance
- Case management and medication education
- Medication compliance/refusals
- Referrals for refusal and appointment complete

Additional Benefits

- Improved mental health status of patients
- Enhanced collaboration between departments on patient care and communication
- Confirmed that many issues contribute to refusals
- Increased staff satisfaction
- Greater understanding of dashboard metrics
- Found different ways to mine data, better question and interpret data
- Identified reporting error in MAPIP 22 – Timely Psychiatrist-Prescribed Medications
- Opportunity to challenge the process

Contact Information

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