

# Timely Medication Administration

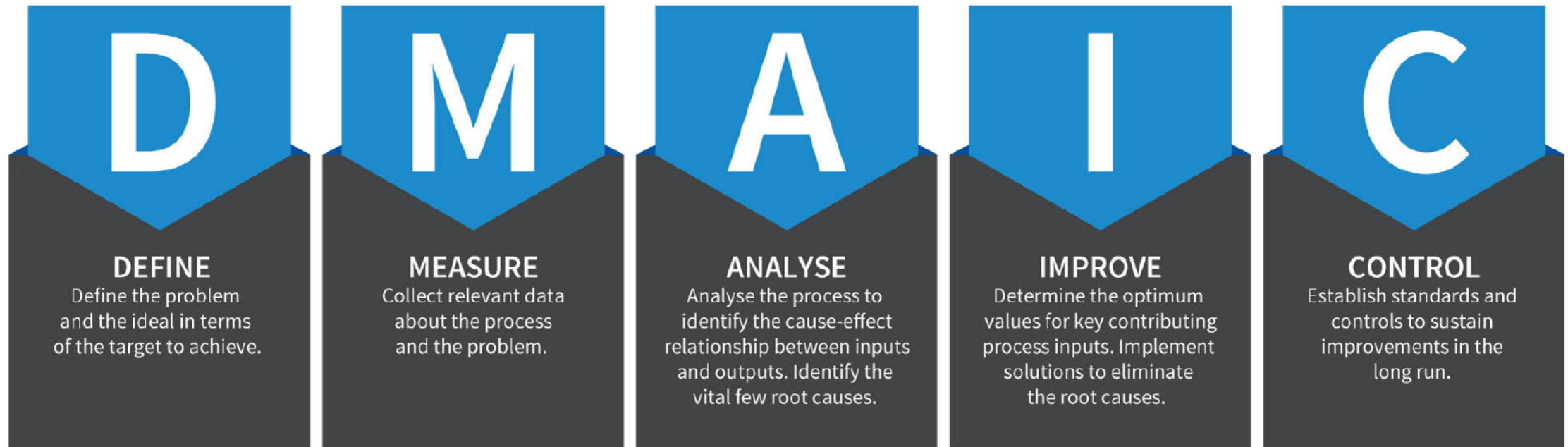
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CCHCS LEAN SIX SIGMA PROGRAM

GREEN BELT | ██████████, NURSING ANALYST, HIGH DESERT

# Lean Six Sigma Methodology

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# Define Phase

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

# Project Background

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- Inmate/patients were not taking their medications regularly, whether it be a refusal, no-show or other reason. Lapses in medication can affect the patient.
- Our dashboard trends for NA/DOT medications was low and showing no improvement.
- The inmate/patients need to know importance of their medications and custody needs to know where our inmates are.

# Project Charter

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- Project Statement: HDSP seeks to improve timely medication administration. Having lapses in medication can cause health issues and effect continuity of care for the patient.
- Objective: Improve Timely (4 hour window) Medication Administration
- Primary Metric: Timely (4 hour window) scheduled medications received.
- Goal: Medications Received Timely Dashboard of 95%.

# Team members

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██████████, CNE and Executive Sponsor

██████████, RN and Champion

██████████, DON and Process Owner

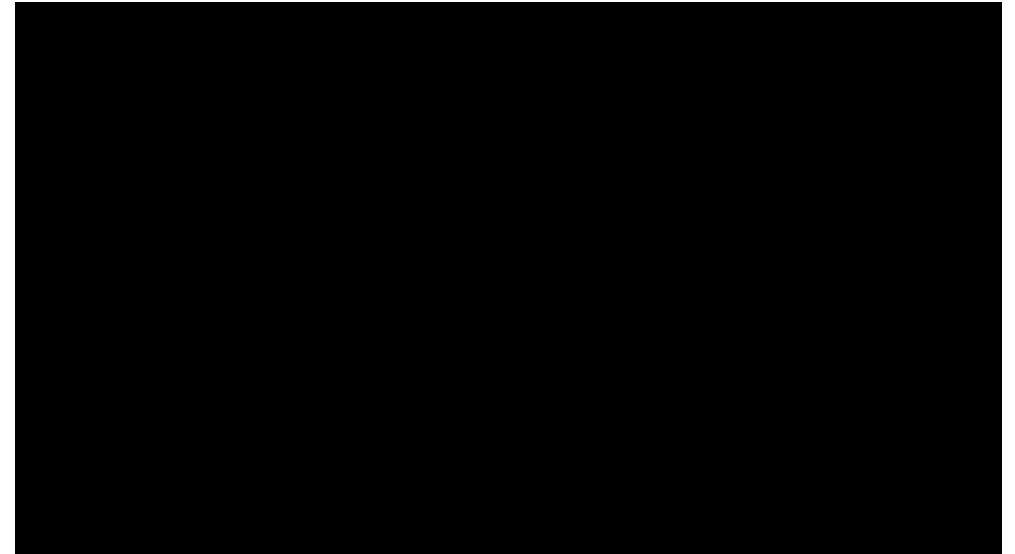
██████████ CP&S

██████████, LVN

██████████, LVN

██████████ AGPA and QMSU Member

██████████, CO



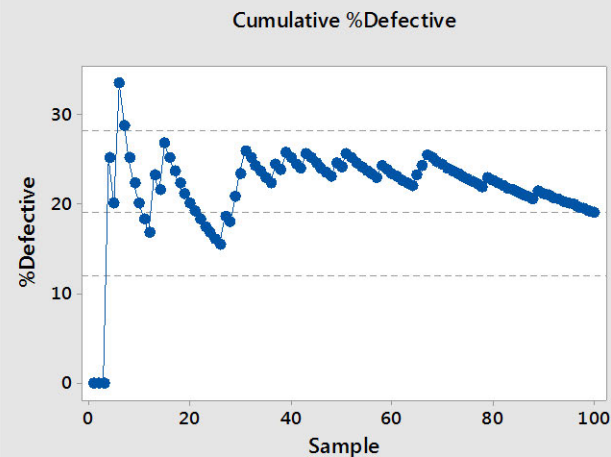
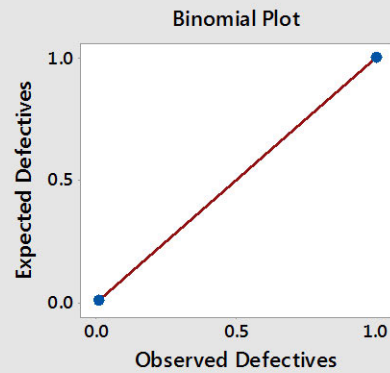
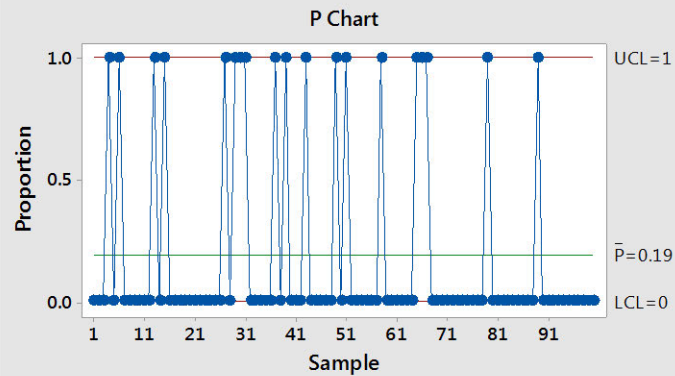
# Measure Phase

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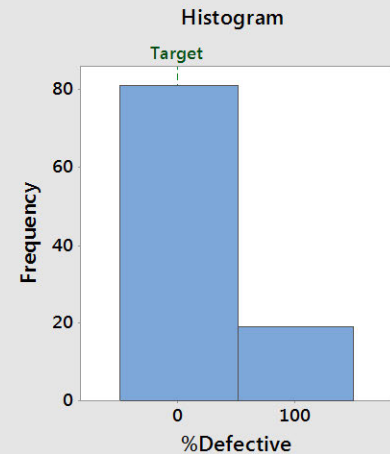
Gather the process inputs, set up and validate the measurement system, and determine the baseline for the primary metric.

# Baseline Capability

## Binomial Process Capability Report for Yard A



Summary Stats	
(95.0% confidence)	
%Defective:	19.00
Lower CI:	11.84
Upper CI:	28.07
Target:	0.00
PPM Def:	190000
Lower CI:	118443
Upper CI:	280698
Process Z:	0.8779
Lower CI:	0.5808
Upper CI:	1.1828

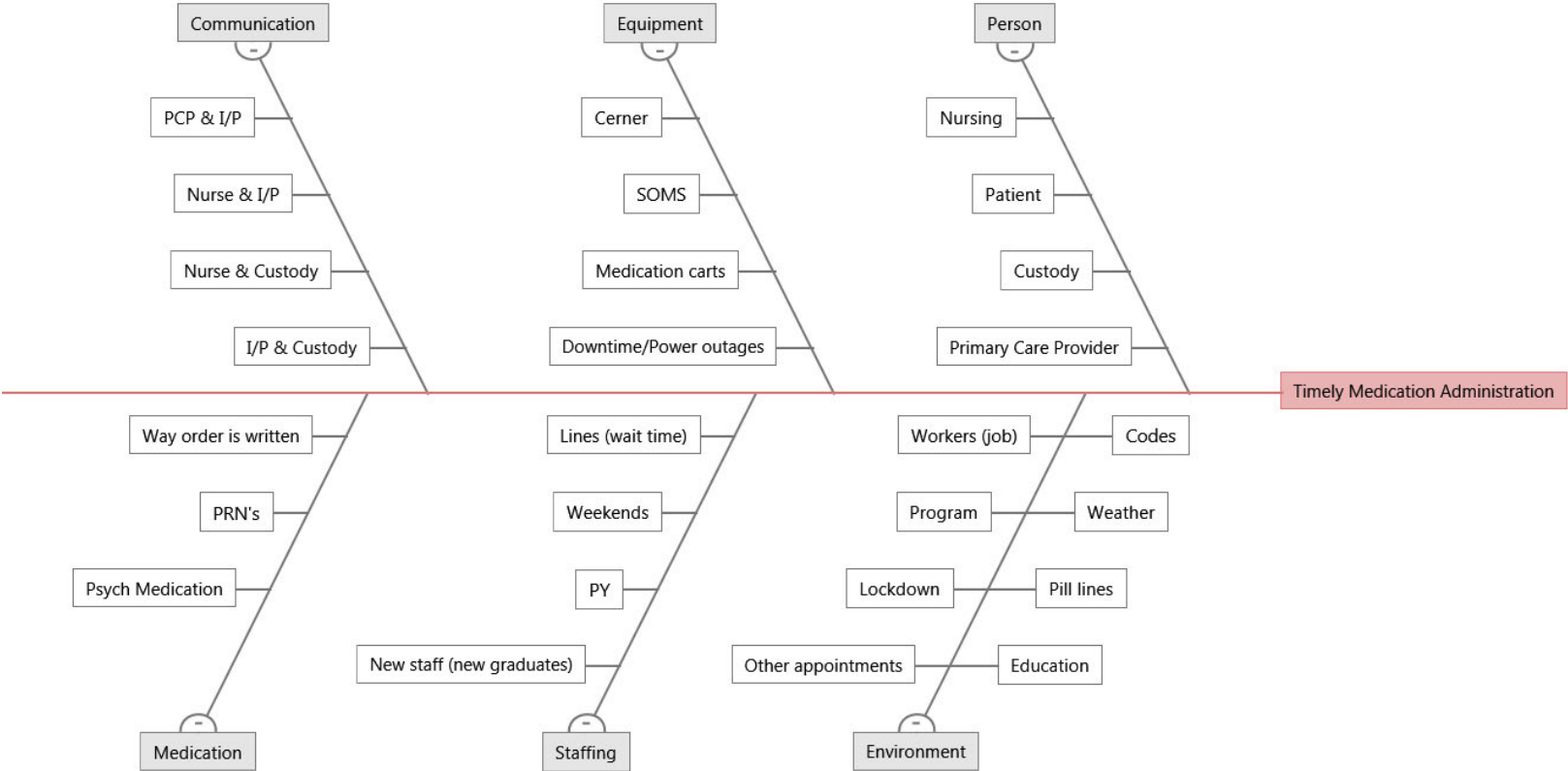


- A yard missed doses 19%, this was my focus yard
- This was an issue over the entire institution.



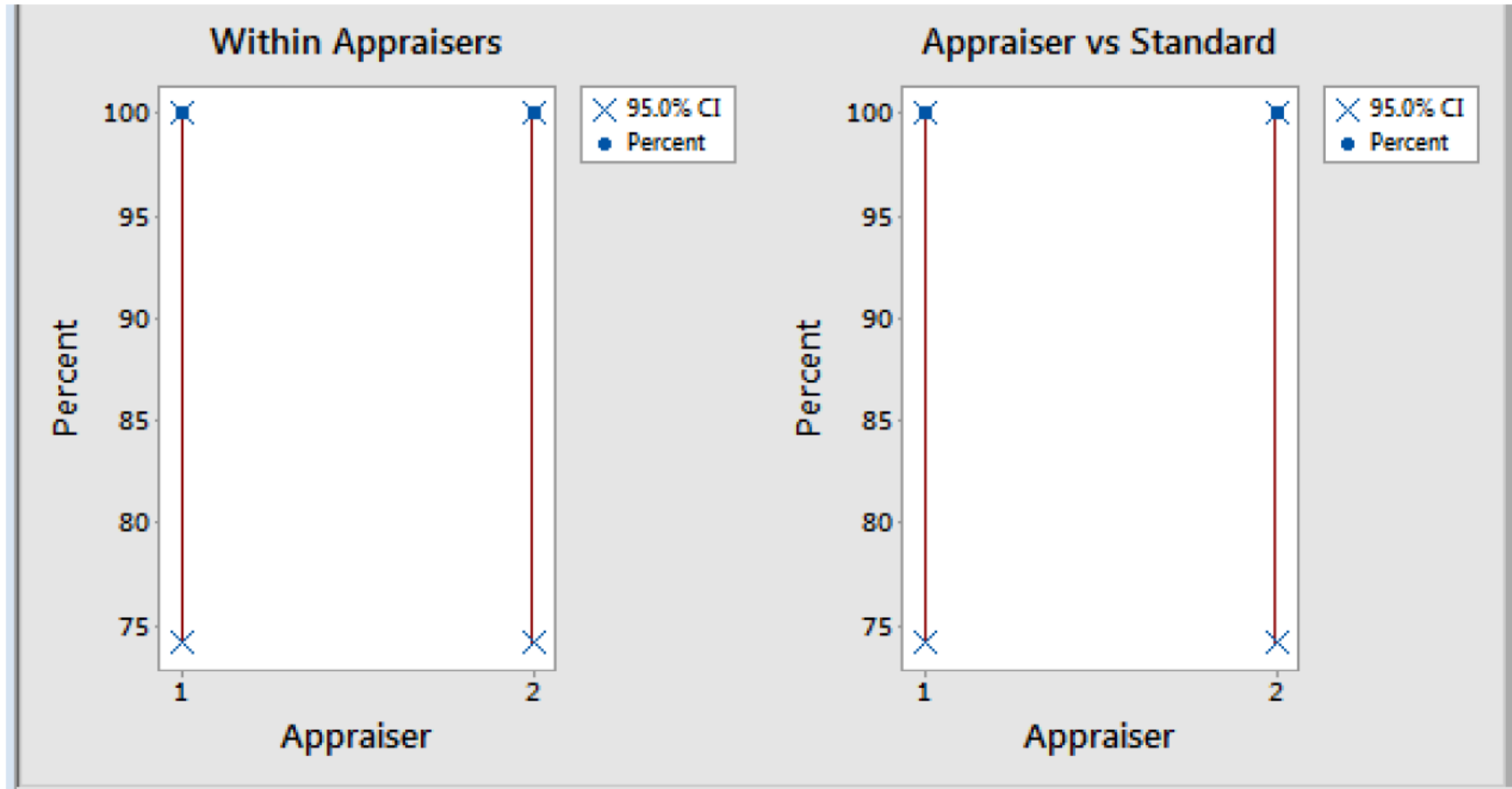
# Fishbone Diagram

Man Machines Materials Fishbone



We found communication between all the disciplines to be an issue. PCP, nursing, custody and inmate/patient.

# Attribute agreement analysis



Real world

- *90% accurate based on 30 cases on C yard*

# Analyze Phase

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

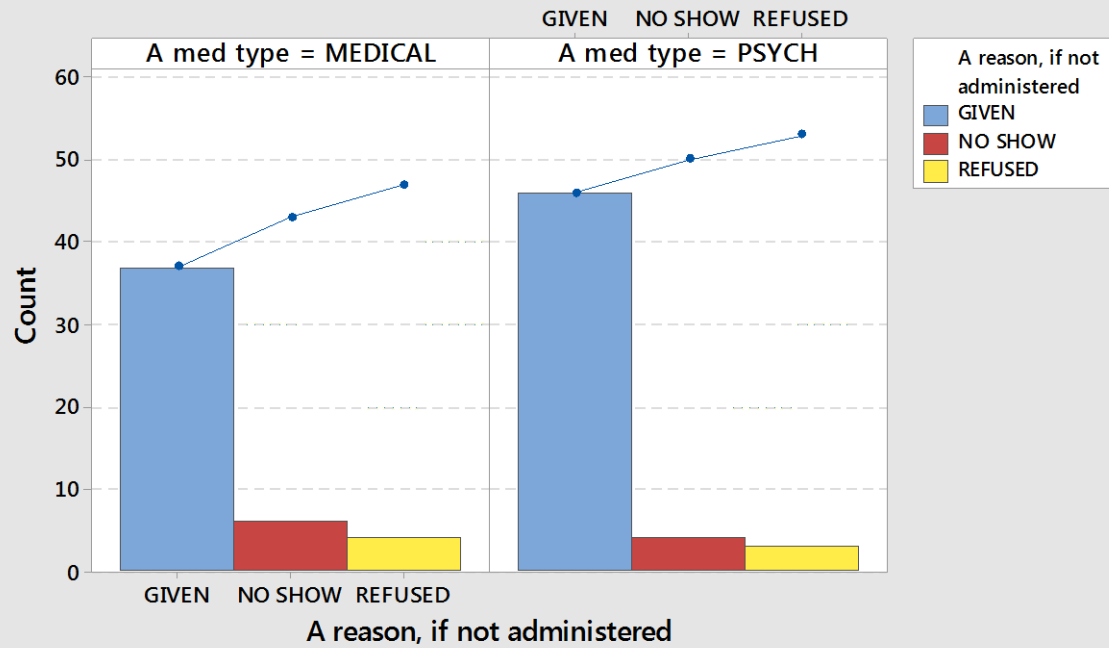
# Failure modes AND effects analysis (FMEA) Findings

Step #	Process Map - Activity	Key Process Input	Potential Failure Mode	Potential Failure Effects	SEV	Potential Causes	OCC	Current Controls	DET	RPN	Actions Recommended
1	IP doesn't show to pill line	Locating the IP	Custody doesn't locate IP & no refusal to nursing	IP injured or escaped. Health issues, more staff work.	9	No time to locate the IP	8	Pill line officers shall locate overdue IP's	7	504	Working on a process for custody locating no shows for pill pass and consequences for no show (115)
2	Nurse prints no show list	Nurse/Custody Communication	Custody doesn't locate IP or unaware the IP takes meds	IP doesn't receive his medications	7	Custody not receiving an updated list	9	Custody receiving an updated list daily	5	315	An updated list can be printed after 2am and given to custody before pill line begins
3	Nurse/IP Education	IP is not aware of their expectations	IP does not come to pill line	More staff work, waste of medication, potential health issues	7	IP is not being held accountable	10	LVN's to communicate expectations and importance of showing to pill pass to receive or refuse medications.	4	280	Use the TV's in buildings, along with speaking with IAC to advise IP of their expectations to show to pill pass. Training to nursing staff to communicate with IP.

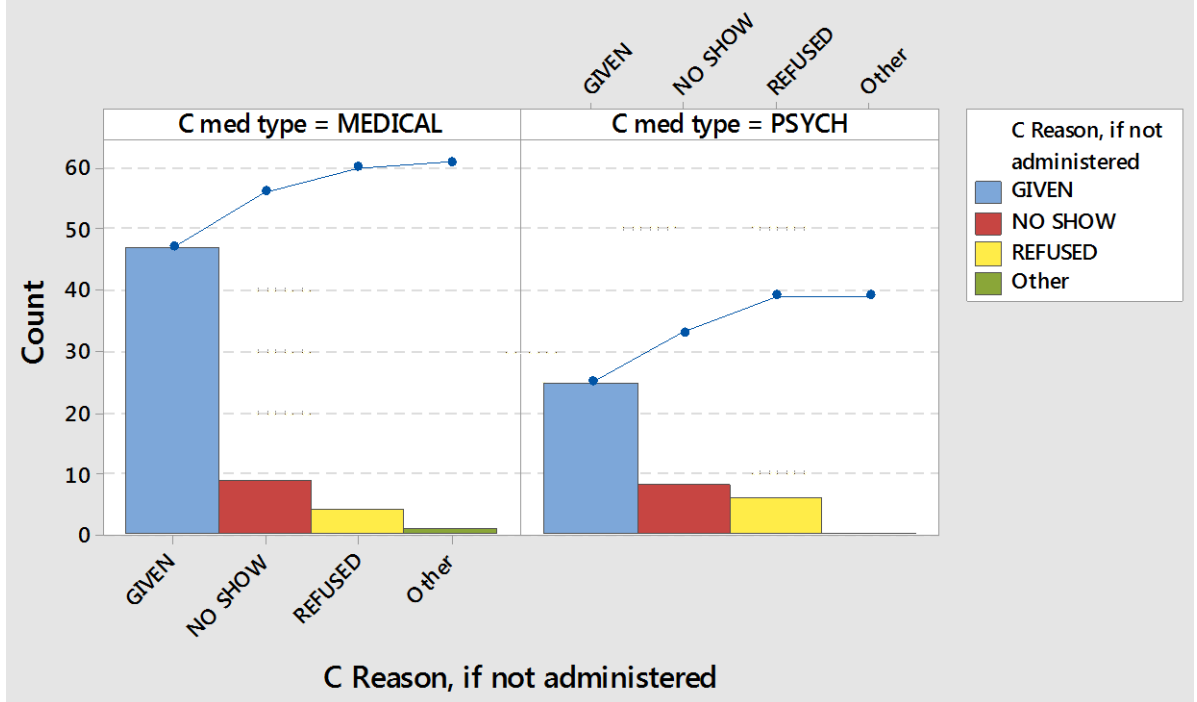
- “IP doesn’t show to pill line”, is the biggest problem for our medication administration.
- Custody not having an accurate list for our pill lines.

# Pareto Chart by Medication Type

Pareto Chart of A yard administered by med type



Pareto Chart of C yard administered by med type

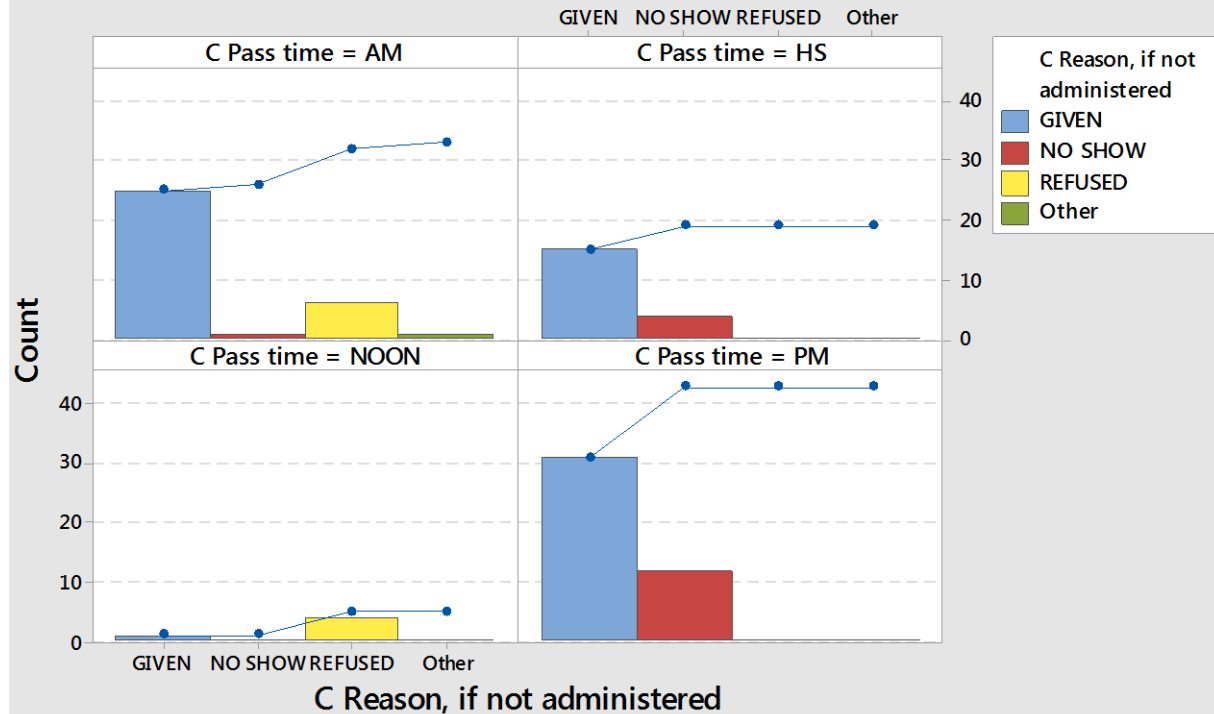


## April 2018 Drilldown

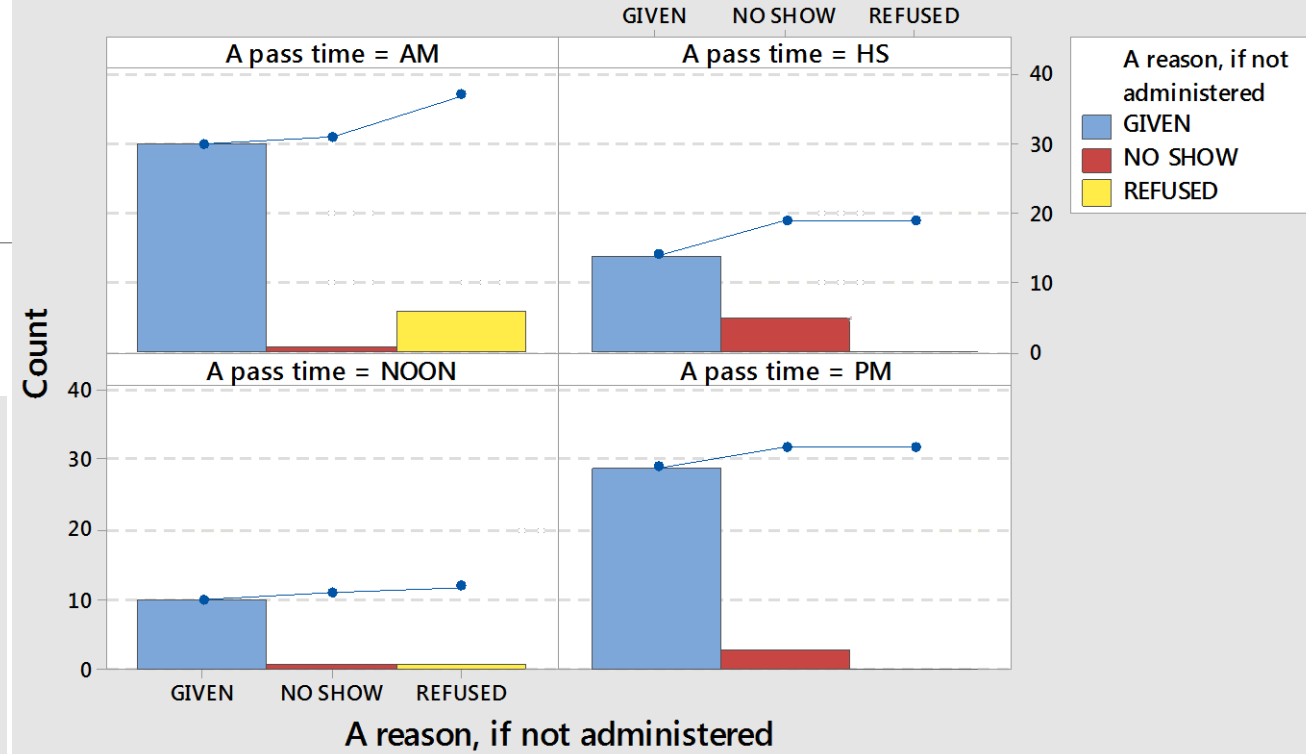
- No significant difference between Medical and Psych meds

# Pareto Chart by Medication Pass Time

## Pareto Chart of C yard administered by Pass time



## Pareto Chart of A yard administered by pass time



## April 2018 Drilldown

- Yards by med pass time (am, pm, noon & HS)
- Meds not given does vary by yard

# Critical X's

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1. Location of the patient when he doesn't show to pill pass
  - Staff not sure where the pt. is and why he didn't show and not really making an effort to locate inmate/patient.
2. Having an accurate patient list to custody for the pill pass
  - Custody not releasing everyone that has medication to pill line.
3. Patient not aware of their expectations to show to pill pass
  - Staff have not made the I/P aware of their responsibility to attend pill pass to refuse or take their medications.

# Improve Phase

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

# Improvements

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- Custody and nursing working together to locate I/P and reminding them of their responsibility to attend pill line to either take or refuse their medication.
- Nursing is sending an accurate Pre Pill Line Report to custody daily.
- Spoke with the Inmate Advisory Council (IAC) about the expectations and responsibility of the I/P to “show up” to pill line. In addition, we have an announcement on the I/P’s TV’s in the buildings as of 6/11/18.

## Improvements in the works:

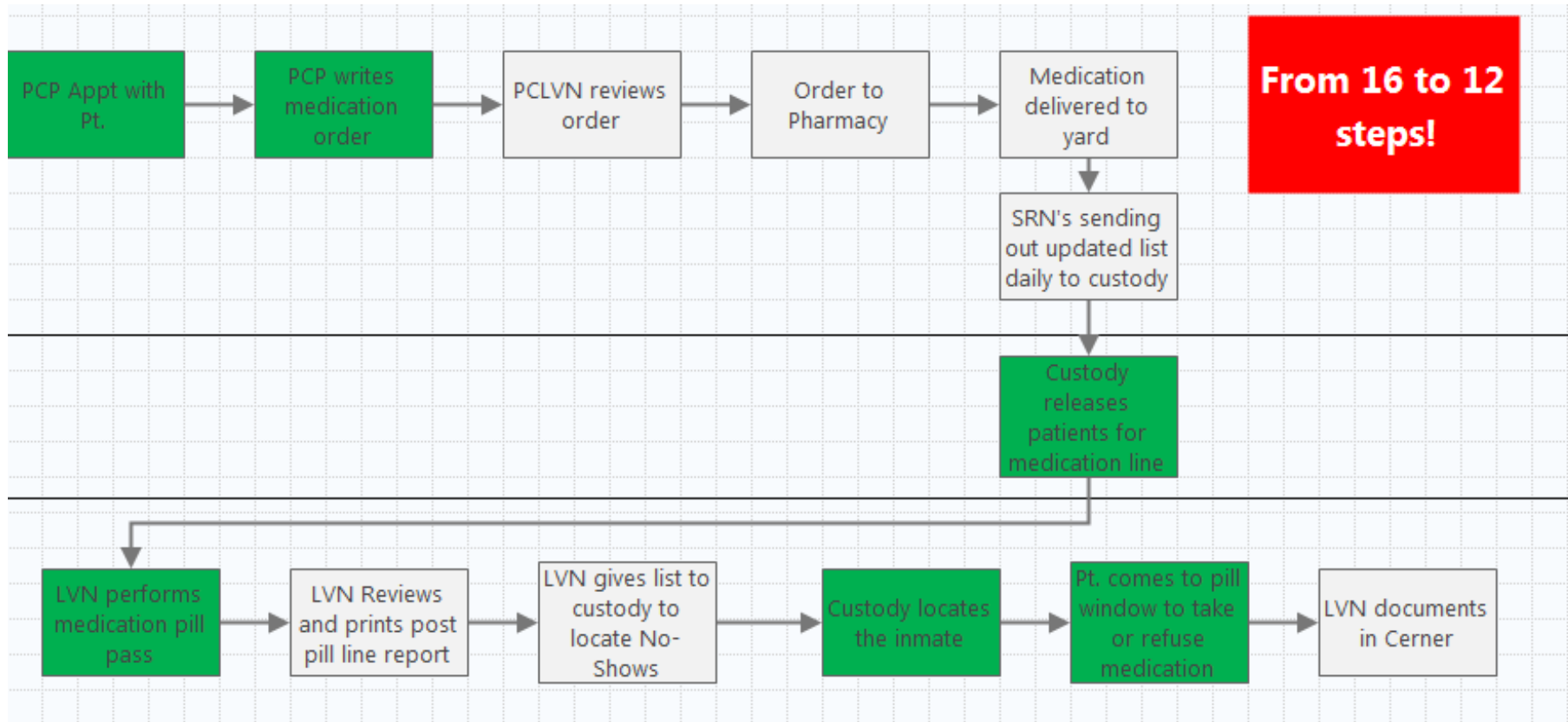
- Update of LOP Medication Management
- PCP to give a card at appt. with medication pass times and expectations.

# Control Phase

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

# Updated Process Map



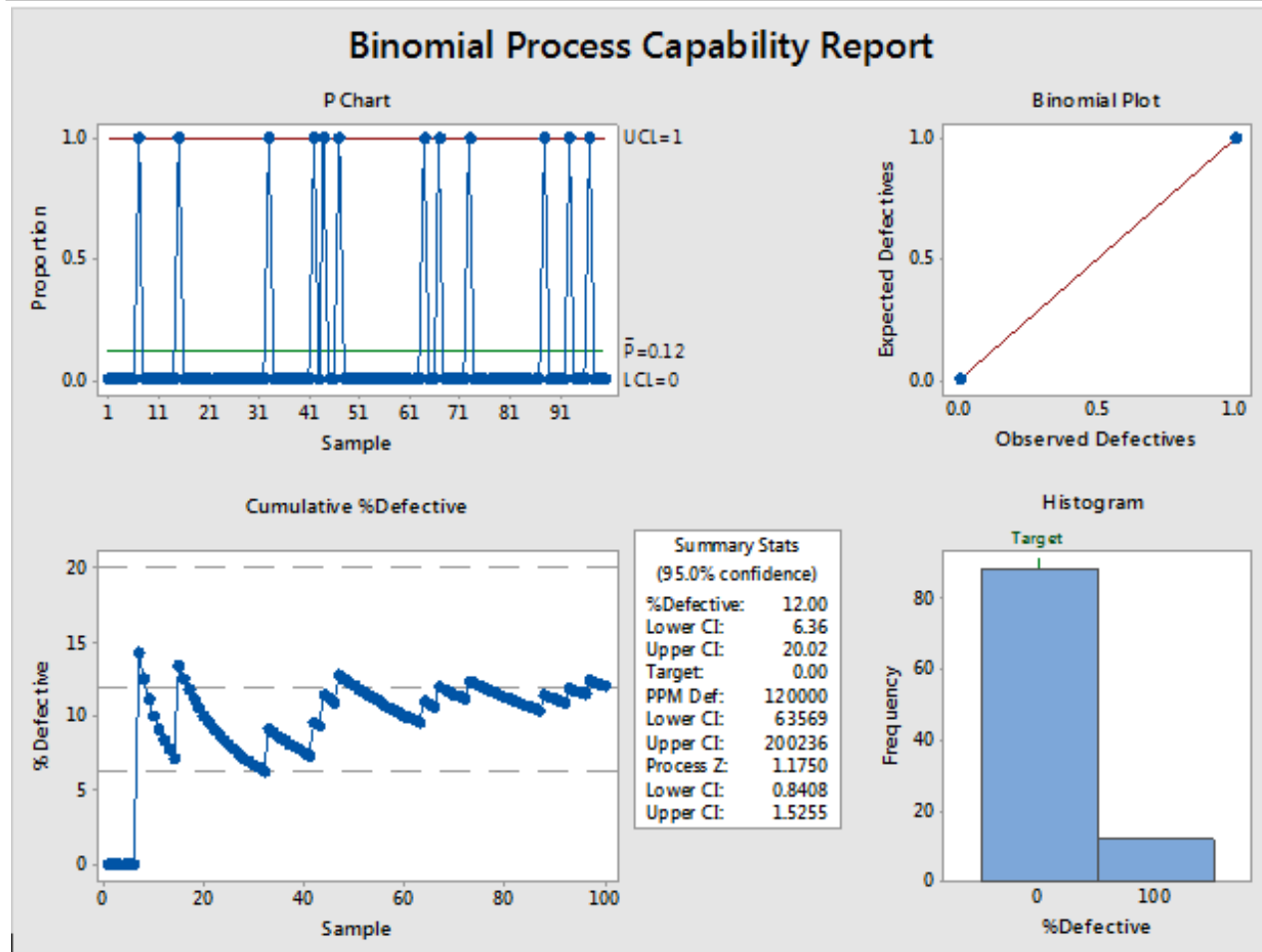
- Custody is locating the I/P
- I/P is coming to the pill window to take or refuse medication

# Updated FMEA

Step #	Process Map - Activity	Key Process Input	Potential Failure Mode	Potential Failure Effects	SEV	Potential Causes	OCC	Current Controls	DET	RPN	Actions Recommended
1	Locating the I/P	Workload issue	not locating the I/P	I/P not taking medication	7	busy custody staff	5	Custody is locating the I/P when they No-Show	5	175	Use our new process and all the staff work together
2	Pre-Pill Line Report to Custody	Report received by custody	Inaccuracy of report	Custody not receiving updated accurate report	6	Report not accurate	5	SRNII is sending daily to Sgt./Lt. to disburse	3	90	Sending new Pill Line report daily
3	I/P to 'show up' to pill pass	I/P attending pill pass for their medication	I/P not going to pill pass	I/P not taking medication	7	Inmate refuses to custody to to to the pill window	6	Speaking with the I/P's and building TV reminder	7	294	Enforcing their responsibility when on medications
4	PCP Appointment	Communication with the I/P	I/P not following direction	I/P not taking medication	7	PCP not telling the I/P the expectation with his new prescription	6	PCP speaks with inmate regarding medications	8	336	CP&S is implementing a new process. PCP's will give a card at checkout with times to take new prescription and expectations of the I/P

- RPN 294-One of our biggest obstacles will be the I/P showing up to the Pill Line.
- RPN 336-PCP appt has not been rolled out yet, so can NOT speak to the success of it.

# Updated capability analysis



## Implementation Data

- A Yard 7-10<sup>th</sup> of June
- Large decrease in missed medications

# Control plan

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- Weekly visits/audits with clinic and custody staff on the yards
- Weekly monitoring of the dashboard data
- Monthly audits on any missed medications



# A3 Performance Tracker

## General Information:

Project Title: Timely Medication Administration  
 Agency/Department: HDSP  
 Division/District/Office: Nursing/Medical  
 Champion/Process Owner: RM [REDACTED]  
 Green Belt: [REDACTED] SSA  
 Executive Sponsor: [REDACTED] CNE  
 Date: 6/11/18

## Problem Statement:

*HDSP seeks to improve timely medication administration. Lapses in medication can cause health issues and effect continuity of care for the patient.*

## Primary Metric:

*Timely (4 hour window) scheduled medications received.*

## Goal:

*Medications Received Timely Dashboard of 95%.*

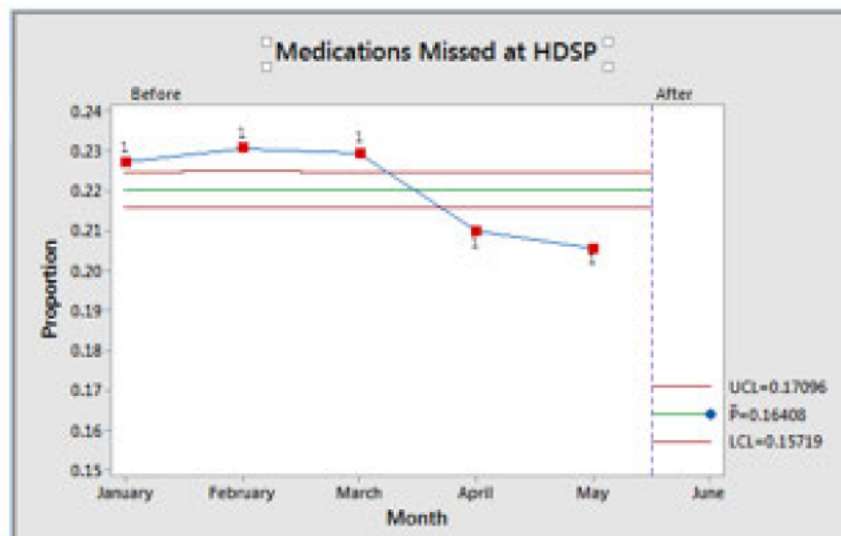
## Root Causes (Critical X's):

- Location of the patient when he doesn't show to pill pass
- Having an accurate patient list to custody for the pill pass
- Patient not aware of their expectations to show to pill pass

## Solution Implementation Tracking:

item	status
Updating our LOP to coincide with IMSP&P	Completed
Enforcing the LOP, patient has to attend the pill pass	Completed
Making patient aware of their expectations	Completed

## Updated Control Chart:



Baseline Average: 19% A Yard  
 Current Average: 16% All Yards  
 Current Capability: 11%

# A3 Project tracker

# Financial Project Impacts

## Medication Pass LVN Productivity Gains

- Medication pass is running quicker and smoother

### Productivity gains: (insert additional rows as needed)

name of task that demonstrated increased productivity	productivity before (items/PY/time)	productivity after (items/PY/time)	no. of PY used for the task	average <i>annual</i> fully-burdened labor cost for PY	annual productivity savings
(Potentially) Medication pass	3.5	3	18	76,027	-195498

## Medications Cost Avoidance (5%)

- Patients are cancelling some of their medications

### Cost avoidance:

(insert additional rows as needed)

name of cost item incurred by defects	no. of defects eliminated per year	cost per defect	annual savings
Projected med savings	306	45.6	13953.6

# Project impacts

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- The inmate/patient (I/P) is going to the medication window to either take or refuse medication to their nurse.
- Decrease in missed doses of medication (even in this short time of implementation).
- Decrease in No-Shows to the pill line.
- Opportunity to counsel I/P on the importance of their medications, and I/P to discuss any issues they may be having too.

# Project Summary and Lessons Learned

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- Be sure your team includes all of the players (nursing, custody, PCP, MH). Whoever will add input, ask the right questions, and get you in the right direction.
- Get the disciplines on board to attend meetings and give input, for example; I invited the union to every meeting, but I didn't really get their attention until some process improvements were going into place that affected them.

# Contact Information

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- [REDACTED]
- Staff Services Analyst
- [REDACTED]
- [REDACTED]