

Improving Pre-Procedure Lead Times

RSNA 2021

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Background



In September 2019, a Value Stream Analysis (VSA) was conducted to improve procedural workflow and 6 Rapid Improvement Events (RIE) were planned



One RIE focused on Pre and Post-Procedural Care Area (PPCA) workflow



The purpose of this RIE was to identify process wastes, brainstorm, and implement solutions leveraging Lean process improvement principles

Aim Statement

- **Improve PPCA pre-procedure lead time (patient arrival to procedure ready) of 60 minutes from baseline of 45% to 80% by February, 2020.**

Project Scope

- **Workflows for procedural patients from the time of arrival in the PPCA to disposition**

Improvement Team

Pamela Stanley MSN, RN, PCCN-K

Robin Sark, BSN, RN

Jackie Lawrence, BSN, RN

Grace Pickett BSN, RN

Shavon L. Thomas, BS, RT

Leo Govea RTR (CT)

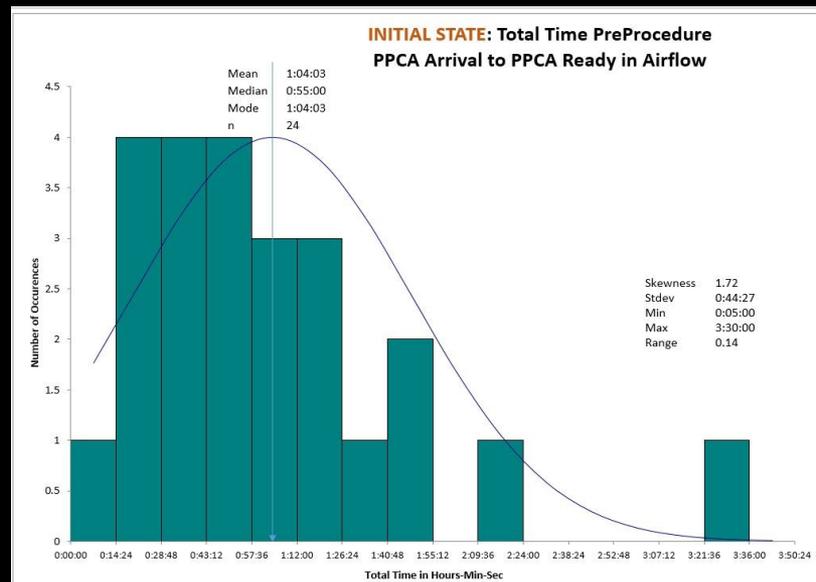
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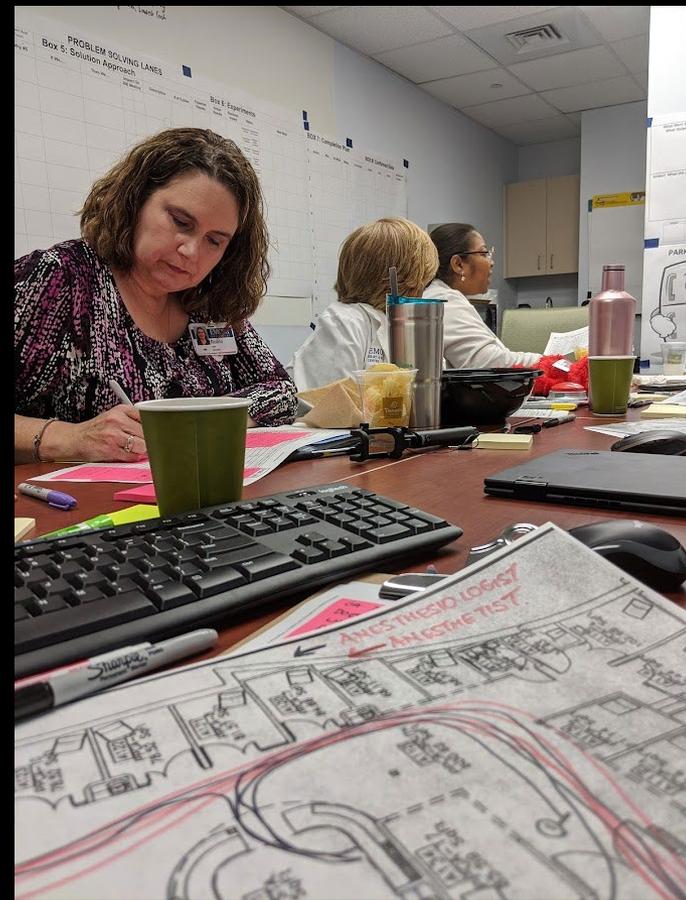
Baseline State

Metric	Baseline State	Target State
Total Pre-procedure Lead Time	45% patients with preprocedure lead time > 60 min Mean 64 min Median 55 min	80% PPCA Arrival to Ready ≤ 60 min



Analysis

No.	Gap	Suspect Root Cause
1.	Patient rooms supply cabinets unorganized	No standard in place
2.	Phone list is incomplete	No assigned owner, phone not programmed
3.	First case consents not in readily available	Lack of standard work for front desk staff, floor coordinator, PPCA staff
4.	Consent forms in different locations	No standard in place
5.	Arm band is on the wrong arm for Neuro cases	Standard: armband on right arm at check-in not followed
6.	Delays in placing H&P and sedation orders	Computers not readily available
7.	RNs drop off pt. to valet, takes them away from nursing work	Signage can be confusing/complicated
8.	Inpatient hand off not ideal, pt.'s arriving to PPCA not procedure ready	Lack of standards & floor coordinator may not have enough clinical knowledge

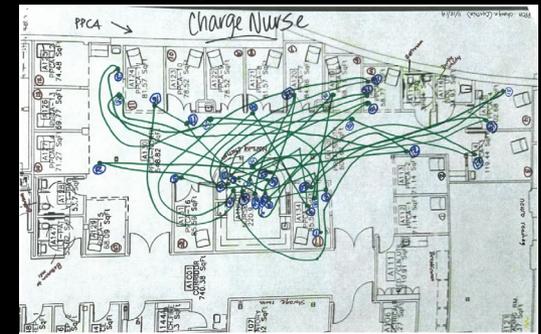


5-Day Rapid Improvement Event (RIE)

Select Members of RIE Team



Spaghetti Diagram of Charge RN Workflow



Gemba Walks and Cycle Time Data Collection



Actions/Test of Change

Gap	If we...	Then we...	Benefit
1.	Standardize cabinets	Minimize expired supplies, free up space	Team Joy; Patient Safety; Reduce searching
2.	Update RN station phone and program common numbers	Decrease time searching for phone numbers	Improve efficiency: Improve cycle and lead time
3.	Create a 5S audit zone	Maintain standard	Improve cycle and lead time
4.	Prep RN vets pt. day before @2:00 w/ IR team	Clear communication and set expectations	Improve cycle and lead time
5.	Standardize RN station consent forms	Reduce time searching, organized space	Improve efficiency: Improve cycle and lead time
6.	Have front desk print 2 arm bands all IR cases	Decrease time it takes to print arm band after the fact	Decrease non value added work
7.	Have provider complete H&P before leaving PPCA	Decrease RN time repeatedly checking PC for H&P	Decrease non value added work; Improve cycle and lead time
8.	Minimize RN transporting pts to valet through self guided signage	RN working at top of licenses	Improve efficiency by keeping RN in PPCA; Improve cycle and lead time
9.	Give discharge instructions earlier in the process	Decrease time it takes to discharge pt. from PPCA	Improve efficiency and throughput in PPCA; Improve cycle and lead time

Results

Tests of Change Implemented During and After RIE

Consents Before



Consents After



Supplies Before



Supplies After



Cabinets Before



Cabinets After



SMESS* Board Before



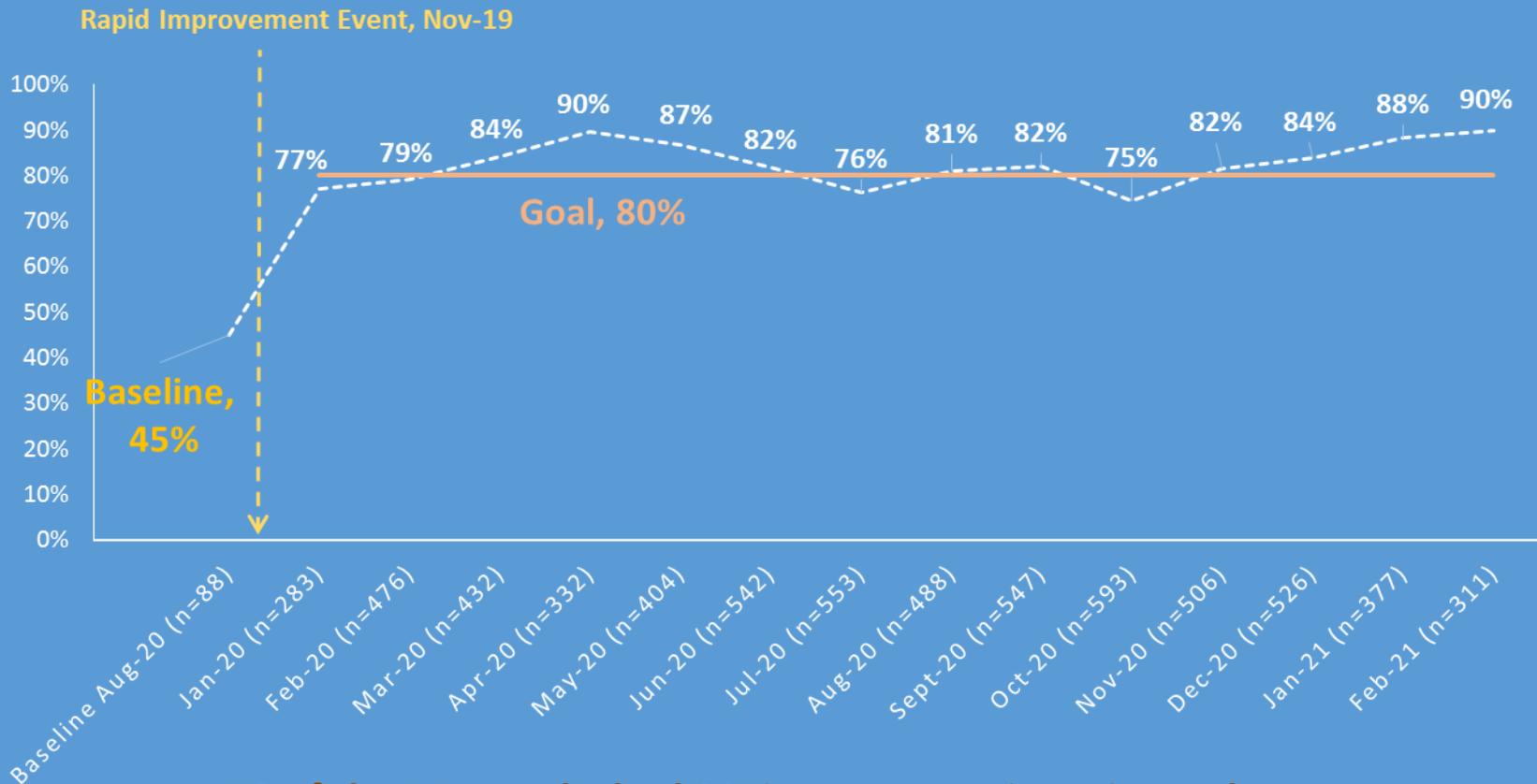
SMESS + 5S Zone + Std. Work Confirmation



*SMESS – Safety, Methods, Equipment, Staffing, Supplies

Results

PERCENT PATIENTS PCCA READY WITHIN 60 MINUTES OF ARRIVAL



10 of the 14 months had 80% or more patients in ready status within 60 min of arrival.

Conclusions

- **Pre and Post Procedure Area is central to procedural workflow for multiple radiology modalities**
- **Removing process wastes (too many forms, excess walking to fetch supplies, disorganized spaces) is essential to improving process flow**
- **Daily huddles can be an important tool for hardwiring continuous improvement and establishing standard work**