



# Head to Toe Flowsheet Workflow Optimization

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# Objectives

By the end of this presentation the learner will be able to:

- ▶ Understand how the decision was made on where to begin optimization
- ▶ Name 3 Lean/Six Sigma tools used to measure and analyze the data for this optimization project
- ▶ Describe the control plan put in place to sustain optimization improvements long-term

# Peninsula Regional Health System

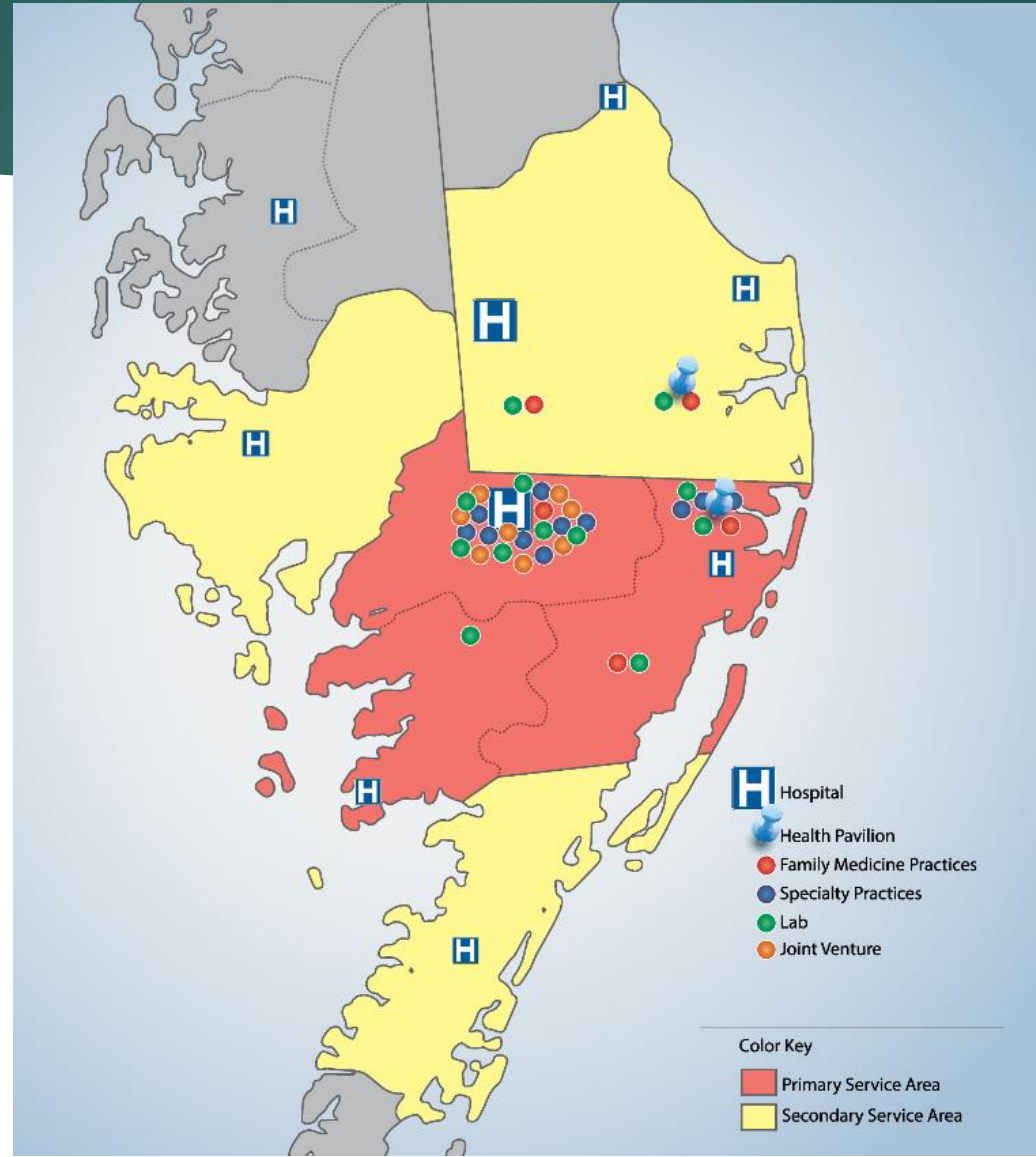
## Specialty Practices

- Peninsula Regional CV Surgical
- Peninsula Regional Endocrinology Salisbury\*
- Peninsula Regional Endocrinology Berlin\*
- Peninsula Regional Gastroenterology Medicine
- Peninsula Regional Neurosurgery\*
- Peninsula Regional Neurology\*
- Peninsula Regional Pain Management
- Peninsula Regional Pulmonary & Critical Care
- Peninsula Regional Gastroenterology Berlin\*
- Peninsula Regional Oncology Salisbury
- Peninsula Regional Oncology Ocean Pines
- Peninsula Surgery Center
- Peninsula Breast Center

\*Lab services available

## Health Pavilions

- Ocean Pines
- Millsboro



## Population 2017

### Red

Primary Service Area =186,806

### Yellow

Secondary Service Area =297,301

Total Service Area =484,107

2017-2022 CAGR = 1%

## Family Medicine Practices (5 Locations)

- Peninsula Regional Family Medicine Laurel\*
- Peninsula Regional Family Medicine Millsboro\* (Delmarva Health Pavilion Millsboro)
- Peninsula Regional Family Medicine Ocean Pines\* (Delmarva Health Pavilion Ocean Pines)
- Peninsula Regional Family Medicine Salisbury\*
- Peninsula Regional Family Medicine Snow Hill\*

# EMR/Nursing tales of woe

- ▶ Changed Enterprise EMR vendors in November 2016
- ▶ Assembled a group of Subject Matter Experts from the front line of Nursing and Ancillary disciplines to validate content
- ▶ Short timeline for build, testing, and go-live
- ▶ Took many “out of the box” tools and features
- ▶ Flowsheets were validated but did little customization



The “War Room”

We didn't know  
what we didn't  
know



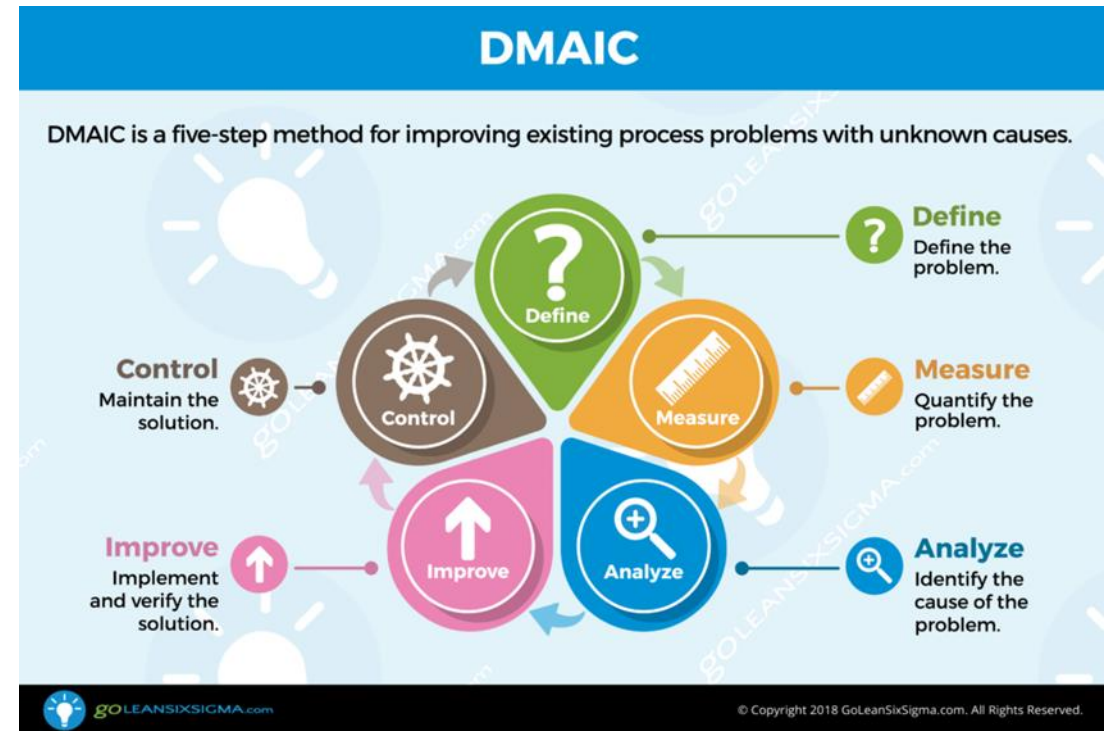
# Subjective and Anecdotal data

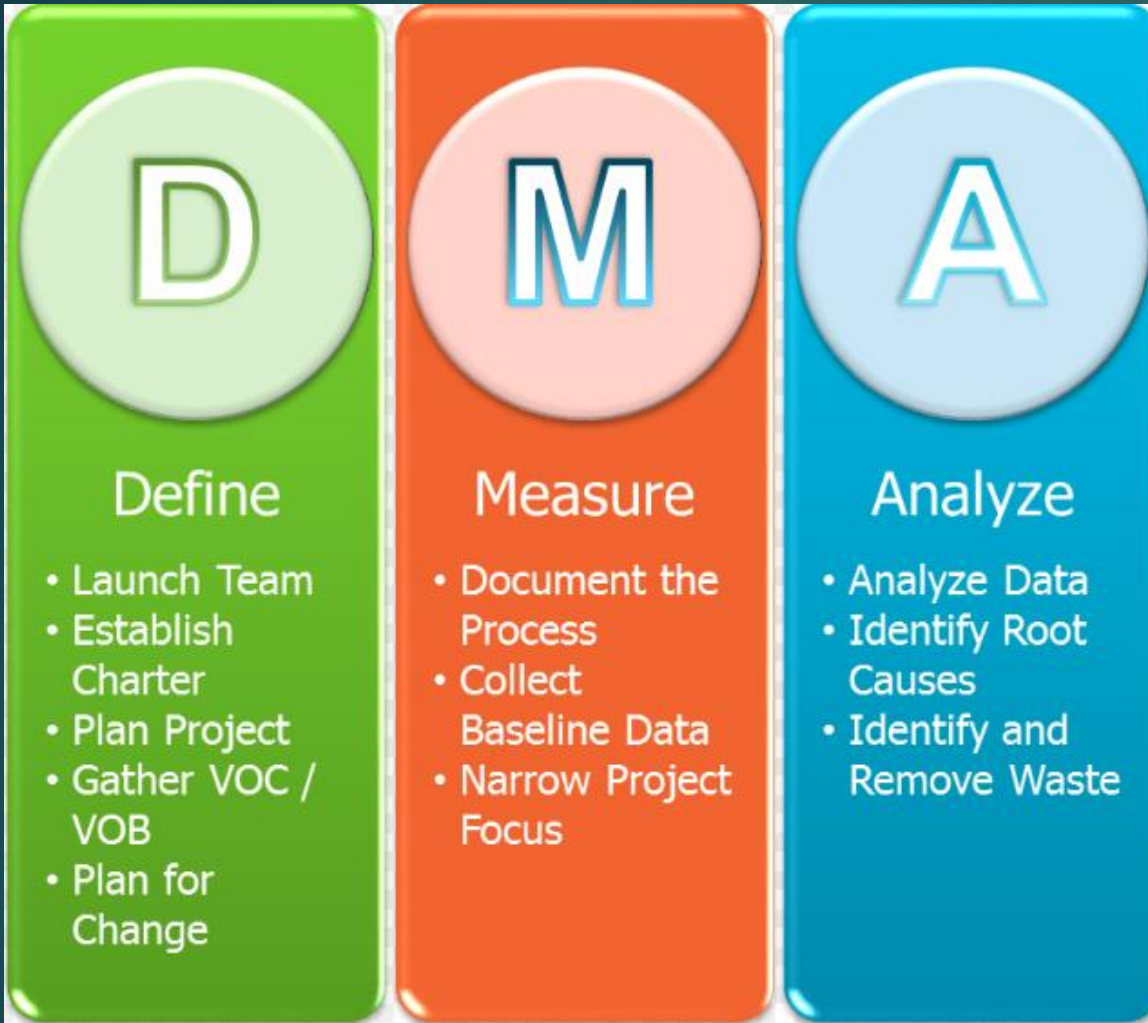
- ▶ Initial go-live period- received multitude of requests to add items
  - ▶ Fulfilled some requests “on the spot” without validation to ease tensions
  - ▶ Other requests tabled until Clinical Informatics Shared Leadership Council for validation
- ▶ RN's voiced concerns about spending more time in the EMR than with previous EMR system
- ▶ Prompted Optimization project and decision to collect concrete data to guide efforts, using DMAIC



# Optimization Team Formed

## DMAIC PROCESS USED FOR PERFORMANCE IMPROVEMENT PROJECT



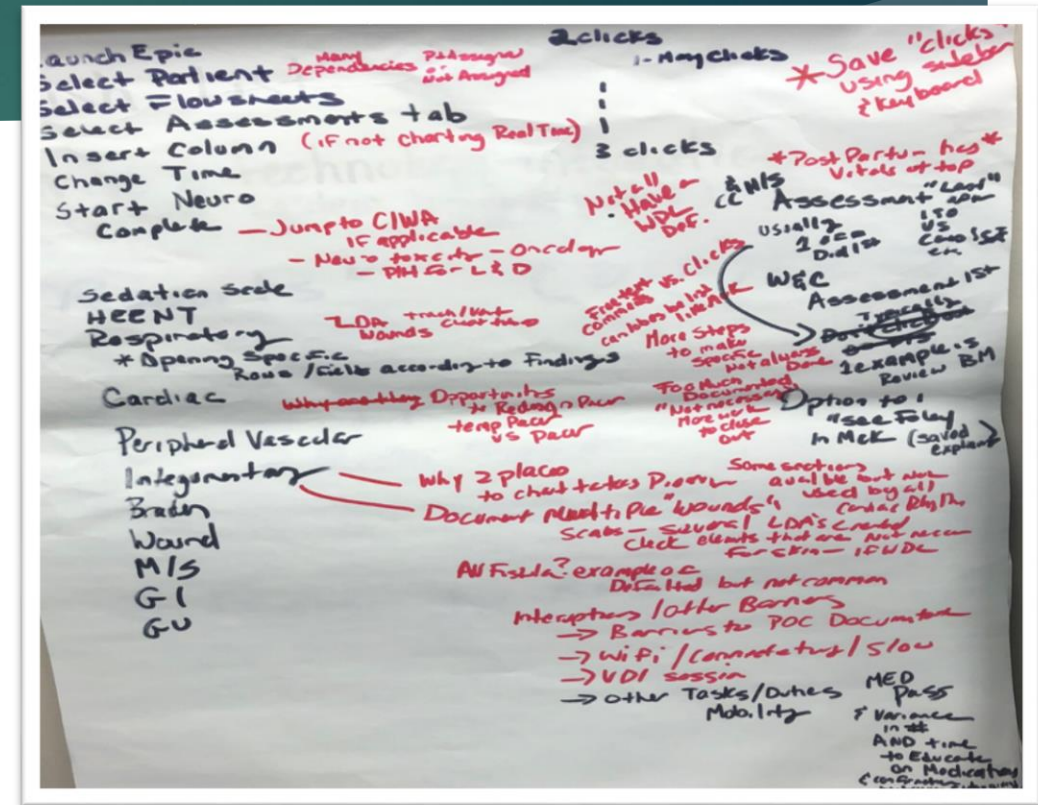


Business Case				Problem Statement	
<ul style="list-style-type: none"> <li>• Neat Metrics comparative               <ul style="list-style-type: none"> <li>• <u>Time Spent in Documentation</u></li> </ul> </li> <li>• <u>Number of steps/fields/clicks/redundancies from the Flowsheet Utilization Report</u></li> <li>• <u>Documentation quality</u></li> <li>• Cost associated in documentation with Hours Per Patient Day by Division</li> </ul>				<ul style="list-style-type: none"> <li>• Cumbersome head to toe documentation design and process to capture - takes away time from delivering patient care and dissatisfies nursing staff (baseline survey)</li> <li>• Meeting stakeholder/customer requirements of nursing documentation: CMS/Inf Prevention/Coding/PCM/TJC (tracers)</li> </ul>	
Scope				Goals/Deliverables	
<ul style="list-style-type: none"> <li>• Project 1 will focus on simple head to toe assessment in the EPIC documentation flowsheets for IP nursing units</li> </ul>				<ul style="list-style-type: none"> <li>• Streamline EPIC documentation to reduce the number of fields/steps needed to perform a head-to-toe assessment while ensuring quality</li> <li>• Improve relevant NEAT Metrics by 20% dashboard and staff satisfaction</li> <li>• Meet all the regulatory requirements</li> </ul>	
Milestones (DMAIC, PDCA)	Start	Due	Status	Team Members	
Define	7/26			Ray Adkins, Cindy Lunsford	Project Sponsor
Measure				Teresa Niblett	Project Leader
				NSG Division Directors	Process Owner (s)
Analyze				Abhi Bhuvanesh	PI Team Member
				All PCS CQSs	Quality Team Members
Improve	12/4			Susan Jackson / Aylin Sosa-Garrido/ Samantha Myszka, Michele McWilliams	Medical Div Member
Control				Deb Adkins / Bridgette Robbins	Surgical Div Member
				Linda Tuthill, Xiy Bell, Taylor Williams	CC Team Member
				Renee Windsor, Colleen McGraw	W/C Team Member
				Stef, Sara & Heather	Analyst Resource
				Mary Williams, Cyndi Mitchell, Kim Smith (PCM), Cathy Stitcher, Lisa Gray, Jill Stone, Ginger (Epic ) RJ, Tele central, Hemo, Thys M., BICA, Infection prevention	Team Member(Ad hoc)



# Define & Measure

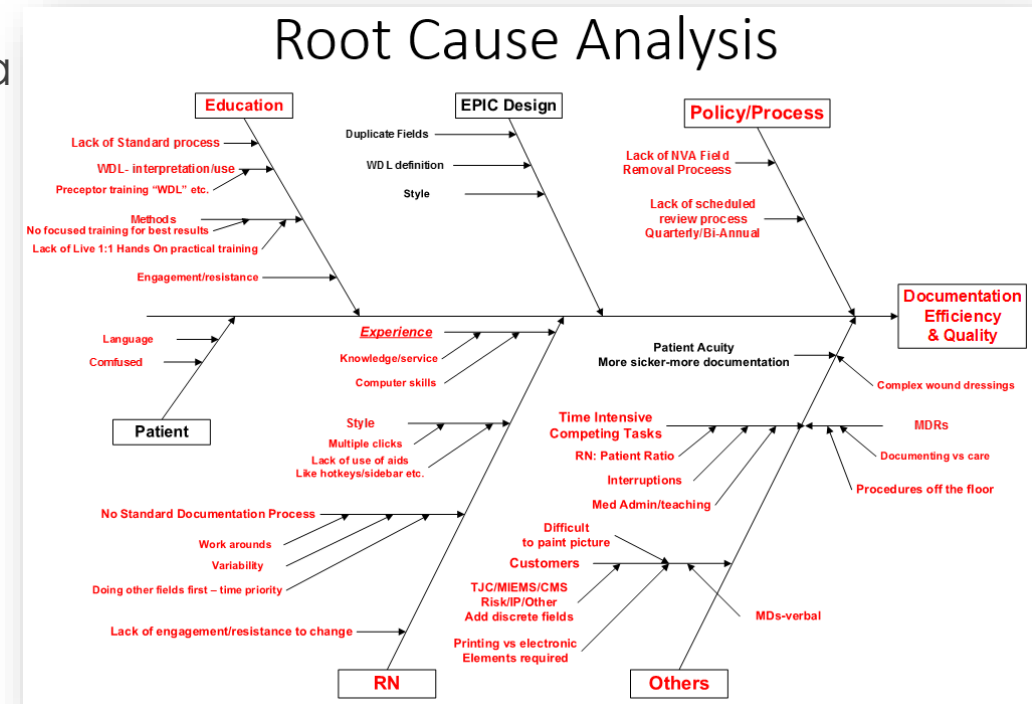
- ▶ Developed Project Charter
  - ▶ Project team kick off 7/26/18
- ▶ Lean/Six Sigma tools used
  - ▶ Current State Process/Value Stream Mapping
  - ▶ Gemba Walk/Direct Observation of documentation
  - ▶ Voice of Customer- Survey
  - ▶ Ideal State
  - ▶ Priority Matrix
- ▶ Nursing Efficiency Assessment Tool
  - ▶ Run in the background and provided by EMR vendor



Current State Process Map

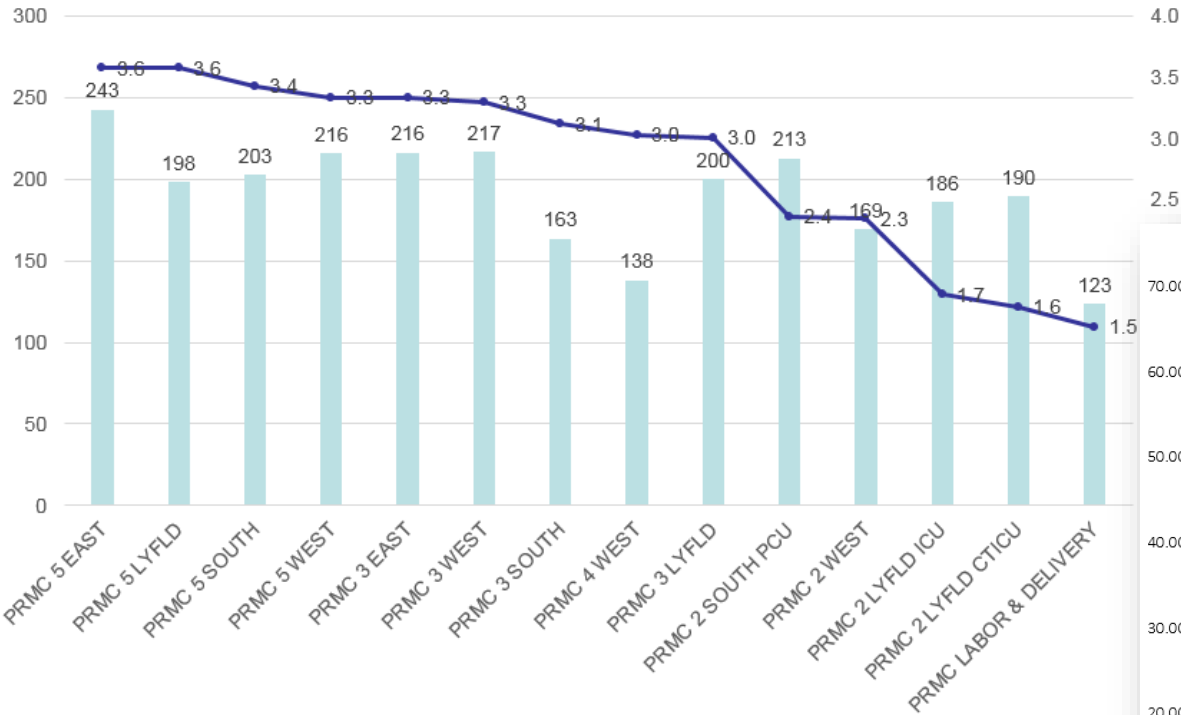
# Analyze

- ▶ RN Perception Survey Data
- ▶ Fishbone Diagram- Root Cause Analysis
- ▶ Analysis of Gemba Walk and EMR Efficiency Data

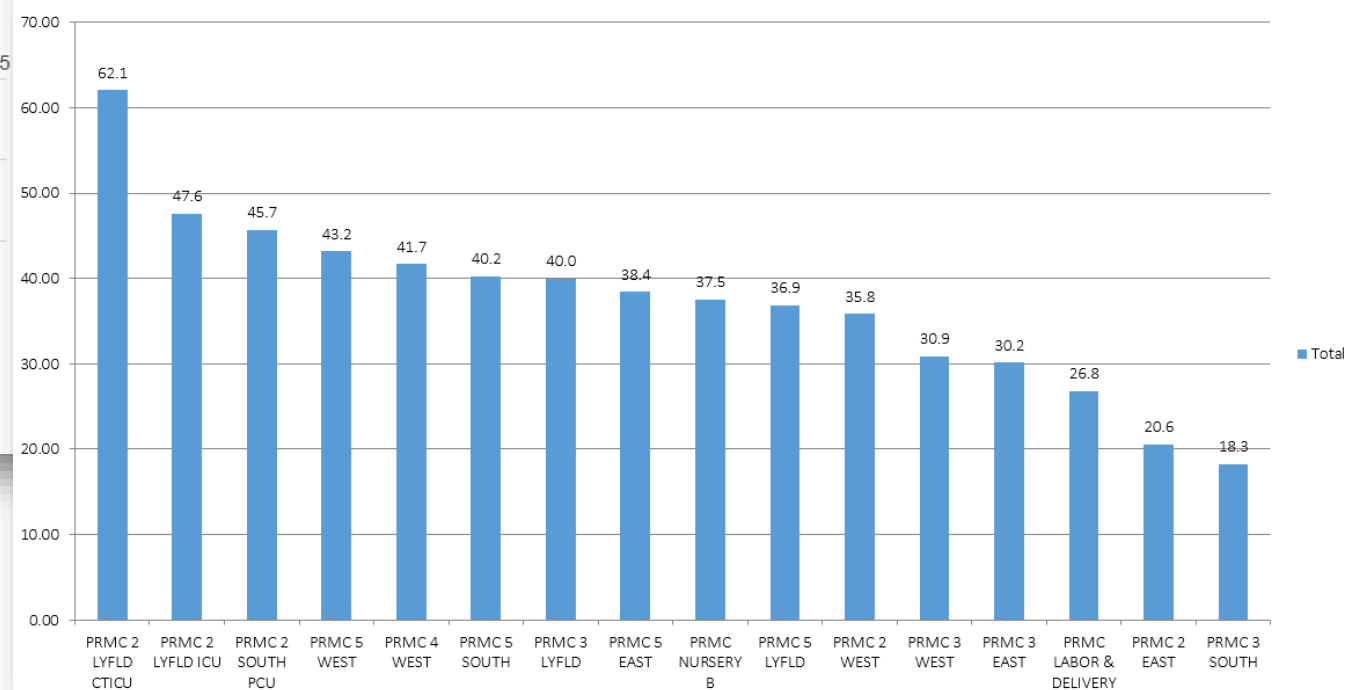


# Baseline Data Analysis

May 2018 Data- Active time in Epic per 12 hour shift



Total Time in Flowsheets by Dept. August 2018



⊕ IP SIMPLE ASSESSMENT Assessment (31110)	34456.4
⊕ IP DAILY CARES/SAFETY Daily Care/Safety (46130)	22065.4
⊕ IP COMPLEX ASSESSMENT Complex Assessment (31020)	18209.3
⊕ IP INTAKE/OUTPUT Intake/Output (31040)	16761.9
⊕ IP VITALS SIMPLE Vital Signs (31000)	12145.9
⊕ IP VITALS ICU Vital Signs (31010)	9763.7
⊕ IP IV ASSESSMENT IV Assessment (31060)	8254.5



## Improve

- Generate Solutions
- Evaluate Solutions
- Optimize Solutions
- Pilot
- Plan and Implement



## Control

- Control the Process
- Validate Project Benefits

## DMAIC

DMAIC is a five-step method for improving existing process problems with unknown causes.



# Improve

- ▶ Workgroup met 4 hours weekly for about 3 months
- ▶ Line by line analysis of flowsheet
- ▶ Involved Quality and Reporting staff in discussions about changes
- ▶ Removed 1142 items from flowsheet
  - ▶ Most normal values from lists
  - ▶ Duplicative/Synonymous values
  - ▶ Unnecessary flowsheet rows

Body System	Start	Removed	Added	Optimized
HEENT	335	-150	18	203
MUSC	417	-157	26	295
NEURO	341	-66	15	290
PSYCHOSOCIAL	151	-63	13	101
RESP	495	-167	1	329
SKIN	88	-31	10	67
CardioVasc	451	-196	43	298
Cardiac	187	-73	24	138
Gastrointestinal	234	-155	12	91
Gentiourinary	215	-84	12	143
<b>Subtotals</b>	<b>2914</b>	<b>-1142</b>	<b>174</b>	<b>1955</b>
<b>Percentage</b>		<b>-39%</b>	<b>6%</b>	<b>-33%</b>

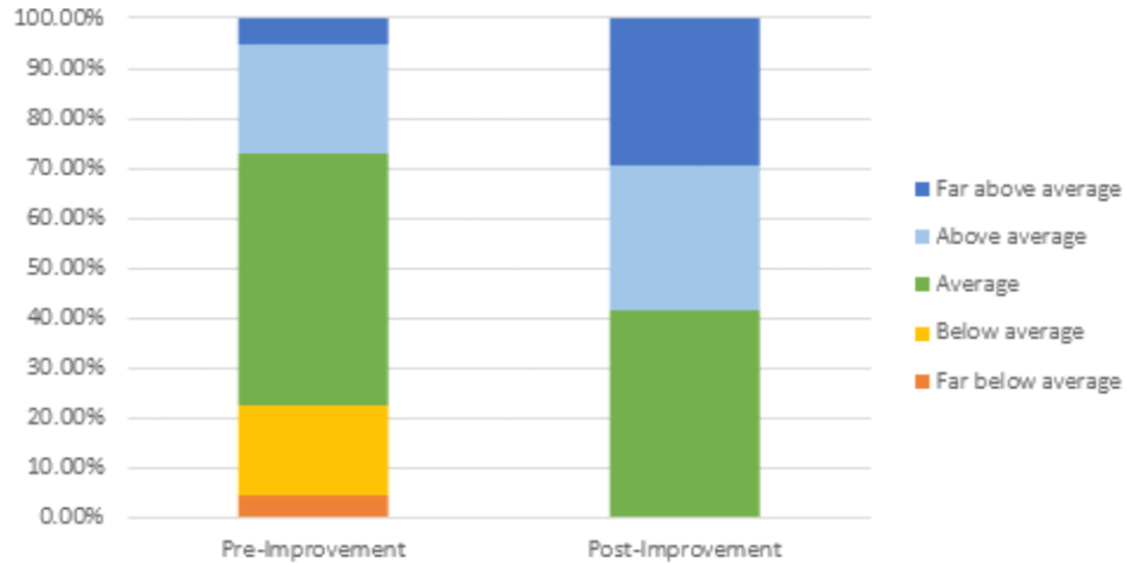
# Control

- ▶ Drop-in education sessions
  - ▶ Reinforced Charting by Exception
  - ▶ Nursing Documentation policy reminder, including what Normal values are accounted for
  - ▶ Highlighted when to write nursing notes
- ▶ Promotional Video
- ▶ Elevator Speech
- ▶ Perception survey repeated post-optimization
- ▶ 6 month moratorium on changes to optimized flowsheet
- ▶ Clinical Informatics Council review of change requests
  - ▶ Many workgroup members on Council, invested in maintaining the tidiness of the optimized flowsheet.

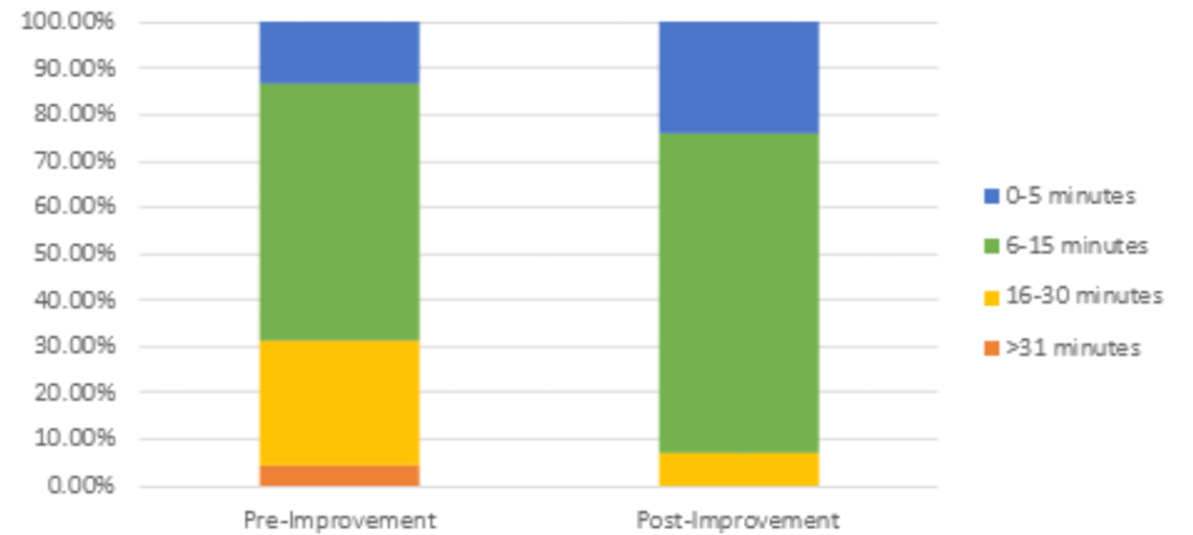


# Subjective Data- Perception Survey

How would you rate the design of the Assessment Flowsheet?



How long do you feel it takes you to document an initial shift head to toe assessment on one patient?



# Objective Data- Post-Optimization

Row Labels	Average of Time per Day			Average of Time per patient		
	Pre	Post Feb	Post May	Pre	Post Feb	Post May
PRMC 2 EAST	17.58	8.51	4.07	3.61	1.92	0.63
PRMC 2 LYFLD CTICU	15.31	17.81	15.97	9.34	11.10	9.01
PRMC 2 LYFLD ICU	16.59	14.85	16.93	9.99	7.35	8.10
PRMC 2 SOUTH PCU	17.82	17.92	16.11	7.25	6.68	5.96
PRMC 2 WEST	10.66	6.54	8.29	3.86	1.69	2.31
PRMC 3 EAST	12.19	10.97	8.99	3.31	2.61	2.08
PRMC 3 LYFLD	19.39	17.59	17.81	5.51	4.15	4.60
PRMC 3 SOUTH	8.18	6.04	5.82	1.82	1.36	1.26
PRMC 3 WEST	15.40	11.44	12.64	4.50	2.92	3.21
PRMC 4 WEST	9.44	8.72	8.18	2.30	1.90	1.76
PRMC 5 EAST	16.60	14.78	14.19	4.05	3.49	3.37
PRMC 5 LYFLD	17.52	15.12	18.96	4.52	4.06	4.65
PRMC 5 SOUTH	17.05	14.85	16.20	4.06	2.95	3.44
PRMC 5 WEST	17.64	14.13	14.09	4.29	2.79	2.92
Grand Total	15.68	13.88	14.10	5.36	4.37	4.28
		<b>88.53%</b>	<b>89.90%</b>		<b>81.44%</b>	<b>79.86%</b>

# Lessons Learned

- ▶ Manage expectations of all project participants
  - ▶ Specialty Areas didn't see the same affect initially
    - ▶ Critical Care Complex Head to Toe Assessment
    - ▶ OB Postpartum Assessment
- ▶ Keep detailed notes on highly debated changes
- ▶ Need measurement of quality of documentation
- ▶ Follow well-defined change control policy



# Summary

- ▶ Rapid implementation of a new EMR and RN dissatisfaction led to the need to optimize
- ▶ Data showed that flowsheets, specifically Head to Toe Assessment flowsheet, most utilized activity during RNs' time spent in EMR
- ▶ SME's from all affected departments participated in weekly workgroup
- ▶ Reduced redundant options and eliminated nearly all "normal" values
- ▶ Education – Flowsheet changes, chart by exception, use Nursing notes
- ▶ No changes to Head to Toe flowsheet for 6 months post-optimization
  - ▶ Shared Leadership Council evaluates requests after moratorium for validity

# Discussion/Questions

Thank you!

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