



MHA Lean Six Sigma Project Summary

INITIATIVE TITLE: *Reducing Hospital-Acquired COVID-19*

ORGANIZATION NAME: *Salem Memorial District Hospital*

ELECTRONIC MED RECORD: CPSI and MedHost

PARTICIPANT / CONTACT INFORMATION

Team Leader Name	Title	Preferred contact-type email address/phone#
Jack Linthicum, MBA, RRT	Director of Cardiopulmonary	jlinthicum@smdh.net / 573-729-6626 ex 2530
Steve Lake, RN	Utilization Review Coordinator	slake@smdh.net / 573-729-6626 ex 7115

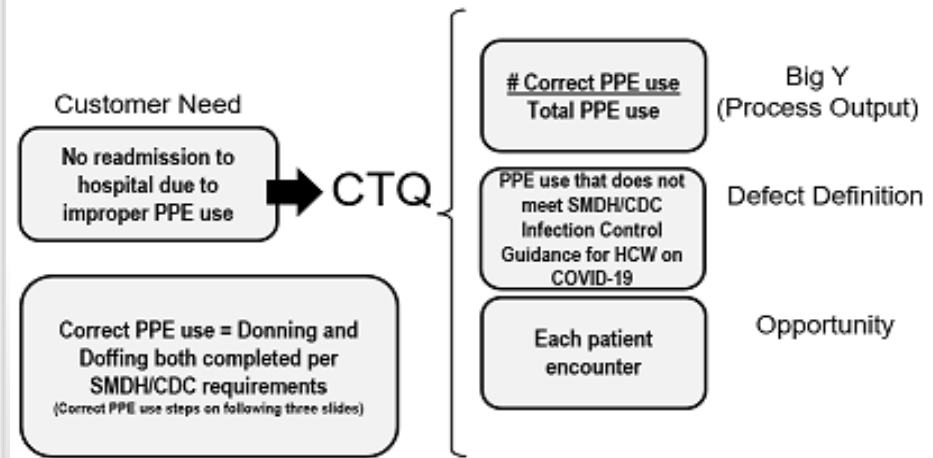
DEFINE – Problem Statement & Goal

Problem Statement: Recent data indicates that hospital-acquired SAR-CoV-2 infection rate is 12-15% nationwide, with most patients contracted the virus from other patients rather than healthcare workers. In-house data indicates rate of infection increased 8.13% from 2020 to September 1st, 2021. Thus, increasing possible harm to our patients.

Goal Statement: Reduce hospital-acquired SAR-Cov-2 by decreasing DPMO 663,000 and increase sigma score from 0.8 to 2.9 by correct PPE use. Resulting in an overall 90% improvement by April 2022.

DEFINE –BIG Y

PROJECT CTQ TREE



DEFINE - Initiative Scope

Healthcare workers contact with any patients on isolation precautions (e.g., COVID-19, Influenza, MRSA, etc.)

MEASURE - Data Collection / MSA

Data collection completed by direct observation of healthcare workers on Acute Care and ER during both shifts, Monday thru Sunday. MSA was conducted and compared between both team members on ten samples with matching results prior to the 323-sample study.

ANALYZE - Critical Xs / Root Causes Identified

The following x variables were tested, but not found to statistically contribute to the number of defects:

Variable Tested	Statistical Test Performed	Stat Sig (No>0.05)	p value
Day of the Week: (Mon, Tue, Wed, Thu, Fri, Sat, Sun)	Chi Square	No	0.956
Time of Visual Observation: (Day Shift 7am to 7pm or Night Shift 7pm to 7am)	Chi Square	No	0.134
Location (AC or ER)	Chi Square	No	0.739

Donning vs Doffing fail and pass rate was asset but MiniTab would not create p values (Phoebe Kantrow informed and reviewed issue).

Total Donning Fails – 186 or 56.88%	Overall Fails vs Pass (F on any part)	238 or 72.78%
Total Donning Pass – 137 or 41.90%		
Total Doffing Fails – 196 or 59.94%	Overall Pass vs Fails (P on both parts)	85 or 25.99%
Total Doffing Pass – 127 or 38.84%		

Therefore, showing no significant impact on Donning vs Doffing (would have a p value >0.05)

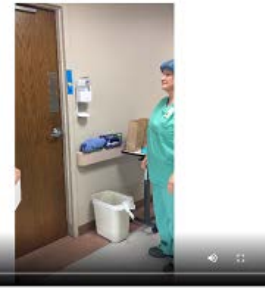
- After analyzing the data, no statistical difference based on day of the week, time of observation, location, donning or doffing, etc.
- We have an organizational wide problem

IMPROVE - What was Implemented

- New Policy & Procedure was implanted on PPE.
- Annual training for proper PPE usage within step-by-step videos on organization intranet. With a quiz each staff member must pass
- New visual aids now are on patient door

IMPROVE – What was Implemented

Donning PPE
Outside of patient room



Outside of patient room:

1. Perform hand hygiene (Hh)
2. Don isolation gown (to at neck and wrist)
3. Don mask over face shield or mask then goggles if face shield is unavailable (goggles do not count as eye protection)
4. Don gloves over cuff of gown.
5. Have another colleague inspect all PPE for any breaks in skin coverage. Enter patient room.

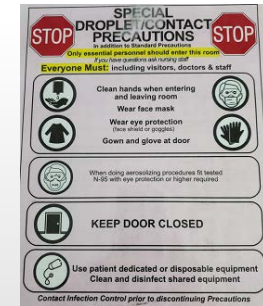
Doffing PPE
In patient room



In the patient room:

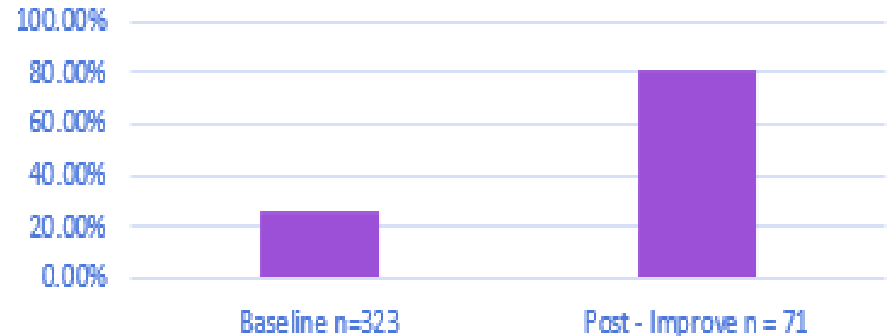
1. At the door, inside the room after patient care is complete, turn toward the patient. Remove gown and glove forward and roll gown and gloves into a package. Dispose of these in the trash in the patient room.
2. Perform hand hygiene, put on new gloves and exit the room.

Doffing PPE



IMPROVE – Results to Date

Results to Date



CONTROL – Next Steps

- 1. How do you plan to keep momentum going to prevent critical x from reverting?** Better onboarding and training of staff. Visual aids for infection precautions on patient's door, at eye level. Department directors within the organization will conduct random observation of staff and ensure correct PPE usage.
- 2. Have you calculated the project benefits to date?** As of March 31, 2022, SMDH has improved by 55.40%. Samples collected have declined due to COVID rate decrease. However, we added all patients with infection precautions on our follow-up data.
- 3. What is your rollout plan and project “Close” timelines?** Rollout is completed and project close May 30th, 2022.
- 4. Who are you “handing-off” to?** Infection Control (Deb Hobson, RN)
- 5. Please include any “ah-ha” moments.** The biggest “ah-ha” moment was seeing that we could not pinpoint the problem. The fact we had an organizational wide problem was crazy. I would have bet money before the project I could point the finger at one department within the organization. The findings however showed it was all of us!!!

OVERALL LESSONS LEARNED

- 1. Summarize findings that you learned about** a) yourself: it was hard to just collect data and not jump to fixing the problem first
b) your organization: we lost pretty much the whole team during this project, so not much to report
c) process improvement or LEAN Six Sigma in general, etc.: LSS is a very different way to investigate process improvement versus what I was taught in traditional college courses (some good and bad) but nice to have another way.
- 2. Did anything surprise you?** That the findings showed an organizational wide problem versus having a critical x and/or root causes.
- 3. What would you do differently?** I wish we could have started this project year before when COVID was first on the increase. Due to the fact, by the time we went to the improve stage our overall patient load decreased. I would like to see the results with the same load and if the results would still be the same or not.

NEXT PROJECT(S)

We can use the information we have learned in any department within the organization. I think the most beneficial department to start in would be our Med/Surg. We will need to talk with that department director to find a topic.

REWARD AND RECOGNITION

Phoebe Kantrow for all her individual help she gave us.