

Lean Methodology: Hand Hygiene

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Problem Statement

- Hand hygiene compliance is less than 100%.

Background

- A common mode of transmission is via contaminated hands. Proper hand hygiene is the single best method to prevent the spread of infection.

Goal Statement:

- Improve hand hygiene compliance by 50%.

Business Case

- Hand hygiene is known to reduce healthcare acquired infections (HAIs). Hand washing before entering and while exiting a patient care area is a significant step towards reducing HAIs.

Project Team

- Cabiria Lizarraga, MSN, RN, NE-BC, CMSRN
- Genesis Bojorquez, MSN, RN, NE-BC, PCCN
- Lina Salem, MPH
- Timour Mobarak

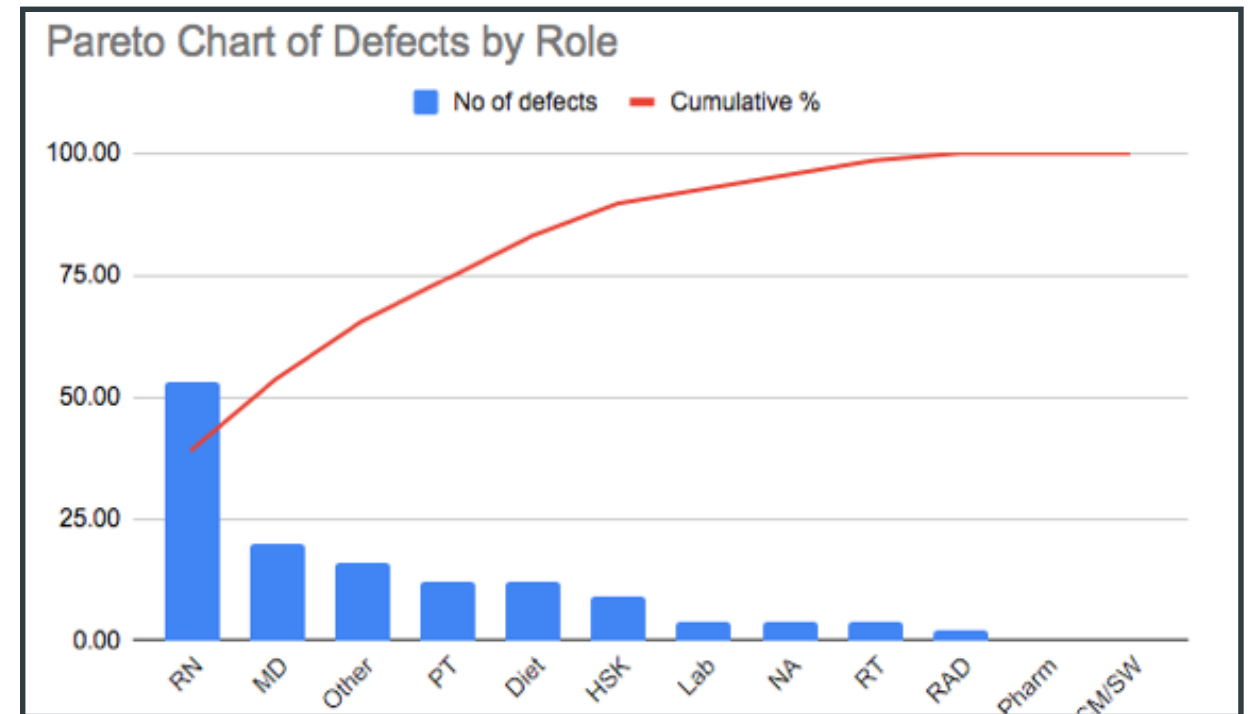


Figure 1. Incidence of hand hygiene (HH) compliance defects noted highest among nurses (RN).

Project Timeline 2019

- Define:** (July - Aug.) Identify defects of hand hygiene compliance
- Measure:** (July - Sept.) Baseline data collection 3 months
- Analyze:** (Sept.) Conducted process walk and fishbone diagram
- Improve:** (Oct.) Removed process step of housekeeping refilling hand sanitizer dispenser
- Control:** (Nov. - ongoing) Sustain improved levels of performance

Results

- Hand hygiene (HH) compliance pre-intervention was 59%.
- HH compliance post-intervention was 93%.
- Average hand sanitizer refill cycle time significantly decreased from 32 minutes to 1.4 minutes.
- All RNs on 6 East/West were trained on how to refill dispensers.

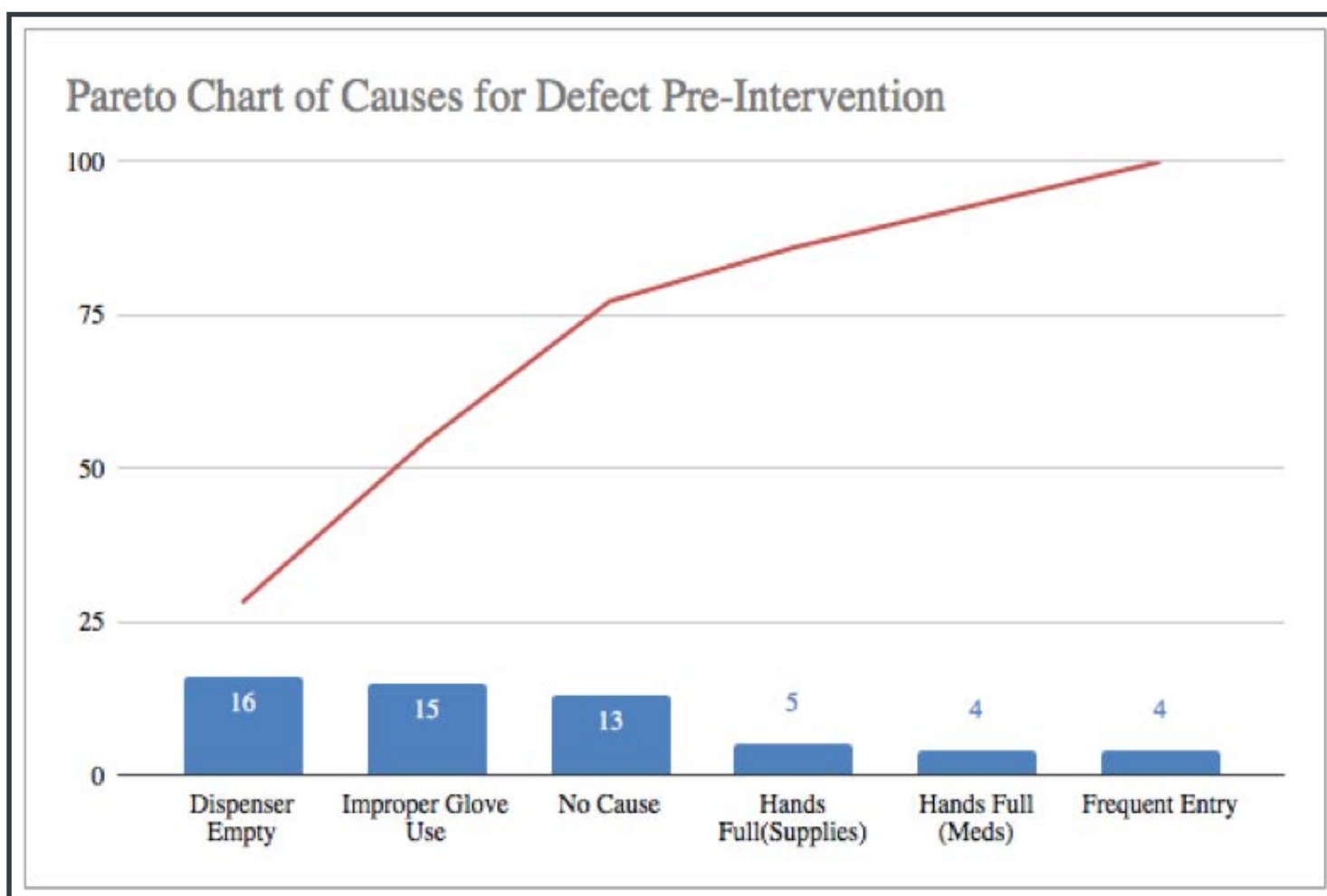


Figure 2. The hand sanitizer dispenser being empty was the #1 cause of hand hygiene non-compliance

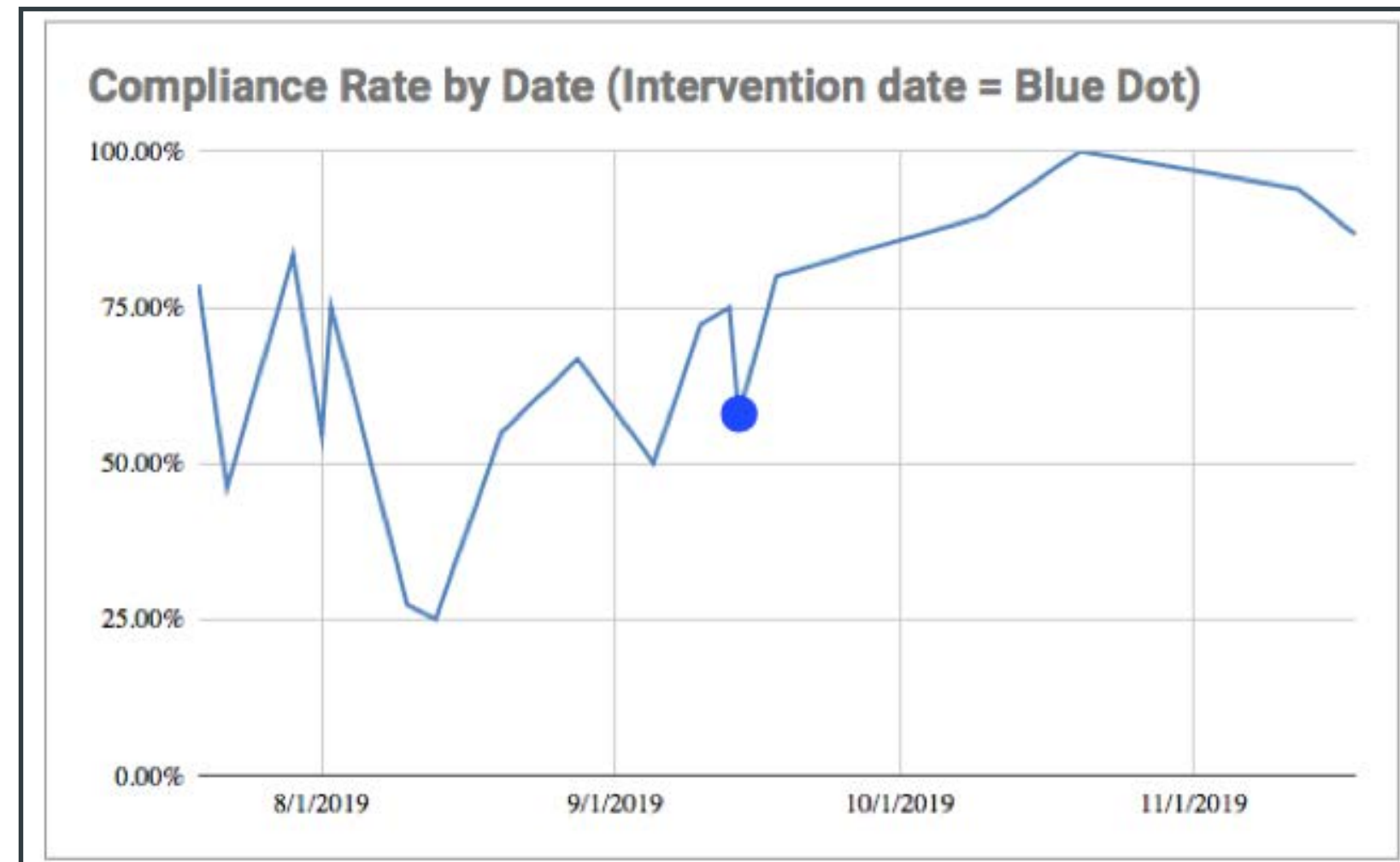


Figure 3. Baseline (July:Sept.) pre-intervention average HH compliance was 59%. Post-intervention average HH compliance increased to 93%.

Discussion / Conclusions

- Average HH compliance increased from 59% to 93%.
- We estimate a reduction of 10 HAIs per 1000 patients for every 20% increase.
- Thus, this should result in an estimated prevention of 15 HAIs per 1000 patients, resulting in an estimated soft savings of \$100,000/yr
- This project improved the hand sanitizer refill process by training RNs on how to autonomously refill the hand sanitizer dispensers.
- HH compliance was observed and recorded using the Joint Commission (TJC), targeted solutions tool (TST).

| Types of HAIs | Average Cost per HAI |
|--|----------------------|
| Surgical Site Infection (SSI) | \$25,546 |
| Central Line associated Bloodstream Infection (CLABSI) | \$36,441 |
| Catheter associated Urinary Tract Infection (CAUTI) | \$1,006 |

Table 1. Classification of HAIs and associated average cost
Source: Stone, P. W. (2010). Economic burden of healthcare-associated infections: an American perspective. *Expert review of pharmacoeconomics & outcomes research*, 9(5), 417-422.

Figure 4. Image of TJC TST hand hygiene observation tool.

Figure 5. All clinical staff on 6 East/West participated in the UCSDH 300% hand hygiene pledge.