Utilization of a Workshop to Assist Frontline Leaders to Use High Reliability Science to Perform Apparent Cause Analysis

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Introduction

- Hospital medical errors are the third leading cause of death in the United States (Swensen, 2017)
- 1 in 10 patients develops a Hospital acquired health condition (HAC) during hospitalization (NPSF, 2015)
- Second victims are created due to adverse events which include the staff involved

Significance to Healthcare

- Adverse patient safety events cause disruption for the patient, providers, and staff resulting in an increase in resources, time, cost, and negative publicity for healthcare facilities
- There is an opportunity to learn from adverse events by utilizing consistent methodology for review
- Organizations are held to financial performance standards for safety and may lose reimbursement for allowing certain HACs

Purpose

- Prepare front-line leaders to utilize high reliability science (HRS) to complete apparent cause analysis in a standard format.
- The goal is to develop a workshop that will assist frontline leaders to learn and identify safety trends from adverse events and over time reach zero patient harm.

Clinical Question

- In hospitalized intensive care unit (ICU) patients how does utilization of a standardized, apparent cause analysis (ACA) process compared to non-utilization of a standard (ACA) process affect the ability to identify safety trends that will likely reduce reoccurrence of adverse events?

Short & Long Term Goals

- Increase in ACA's performed on near miss events
- 90% of the frontline leaders will complete safety Attitude Questionnaire (SAQ)
- 100% participation of frontline leaders in HRS workshop
- Dissemination of HRS workshop hospital wide; then system wide
- Reduce adverse safety events over time

Setting Population & Participants

- 605-bed licensed acute care facility.
- n=13 frontline leaders in the ICU's which includes nurse managers and assistant nurse managers
- Secondary population includes ICU patients that experience a preventable adverse event or near miss during the project implementation

Literature Review

- Several studies identified that many adverse medical events are preventable and there is opportunity to learn from medical errors by completing a standardized review (Hoppes et al., 2012; Bagian et al., 2015; Brady, 2013; Karl & Karl, 2012; Fletcher, 2012; Cerniglia-Lowensen, 2015)
- Six studies identified "5 Why's methodology" as important to determine underlying causes that dig deeper than the human error and focus on system causation (Hoppes et al., 2012; Bagian et al., 2015; Brady, 2013; Karl & Karl, 2012; Fletcher, 2012; Cerniglia-Lowensen, 2015)
- Two studies discussed the correlation between safety culture, patient experience, and patient outcomes (Lang et al, 2016; Abrahamson et al 2016).
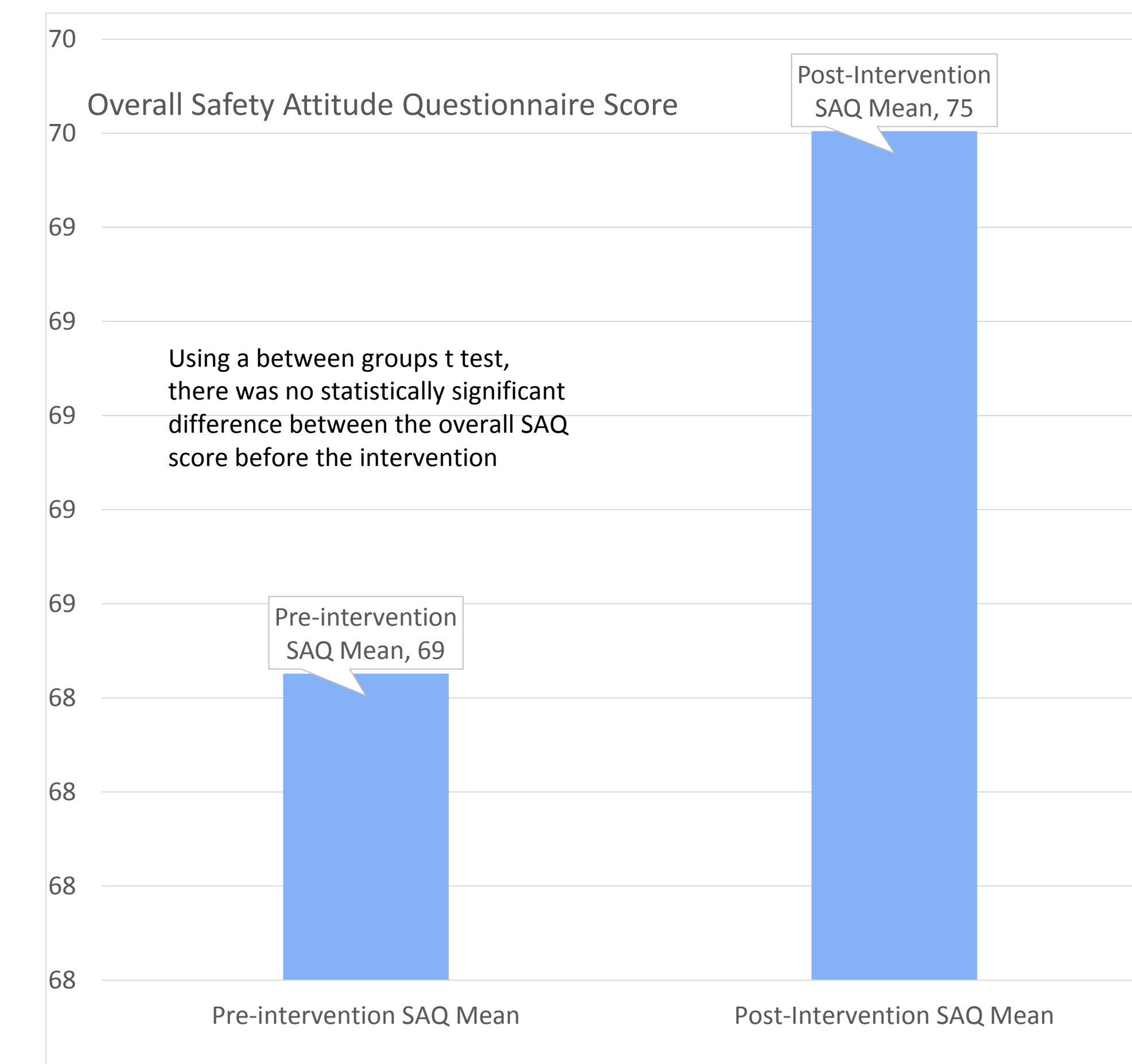
Theoretical Framework

- Theoretical Framework: Rogers Diffusion of Innovation

Methods

- Design: Plan-Do-Study-Act (PDSA) cycle to formulate and structure the HRS workshop
- Intervention and Tools: Administration of the Safety Attitude Questionnaire (SAQ) preintervention and postintervention; Analyze patient safety events with ACA preintervention and post intervention
- HRS workshop for frontline ICU leaders to introduce standard tools and methodology to complete ACA's on March 8th and March 16th, 2018 (focus on identification, analysis, and change)

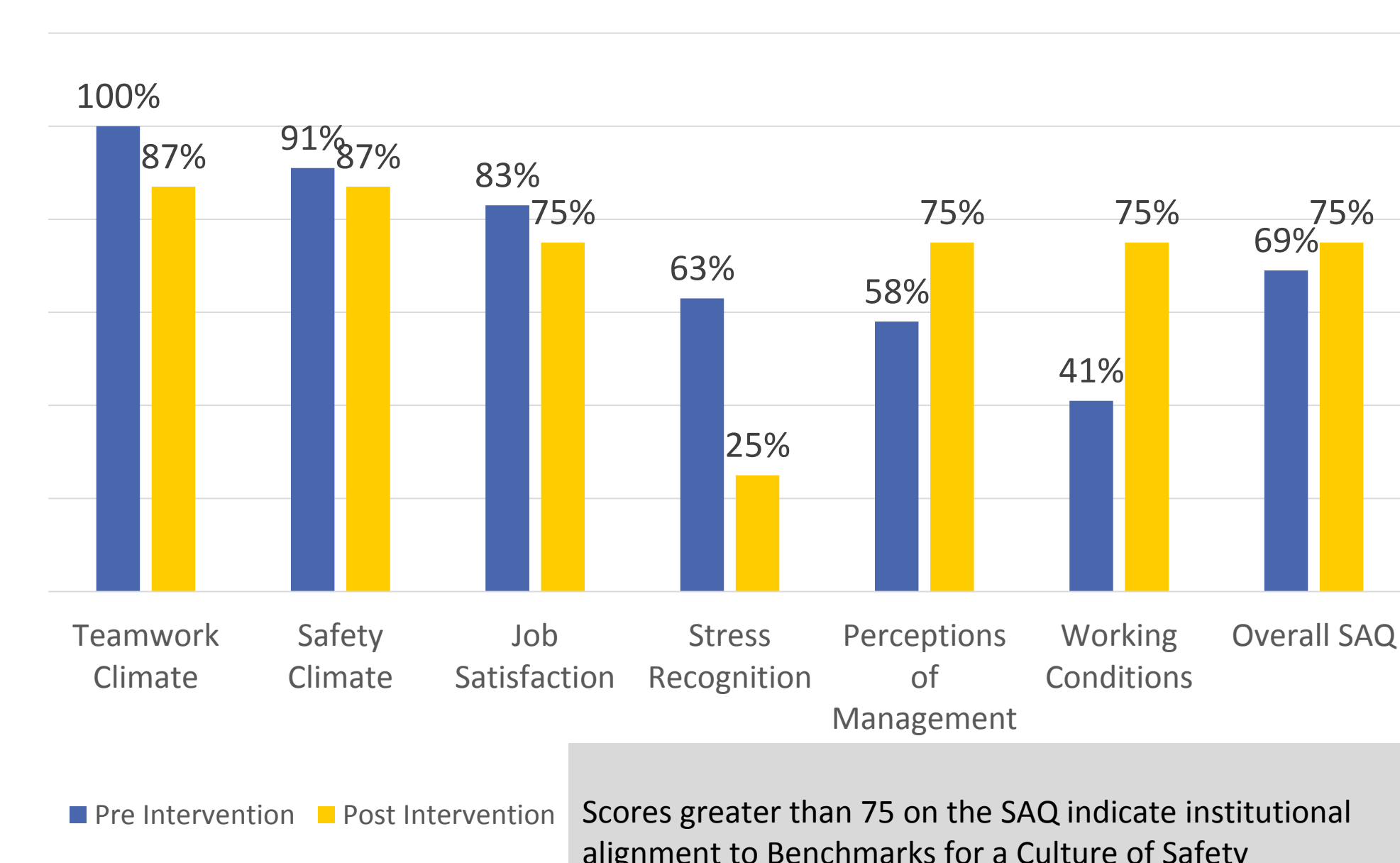What Happened?

Why did it happen?

How can we prevent it from happening again?

Results

Overall Safety Attitude Questionnaire Score

Using a between groups t test, there was no statistically significant difference between the overall SAQ score before the intervention

Pre-intervention SAQ Mean, 69

Post-Intervention SAQ Mean, 75

Percentage of Safety Events with severity A-D that had an Apparent Cause Analysis Performed Pre-intervention and Post-intervention

2% before

19% after
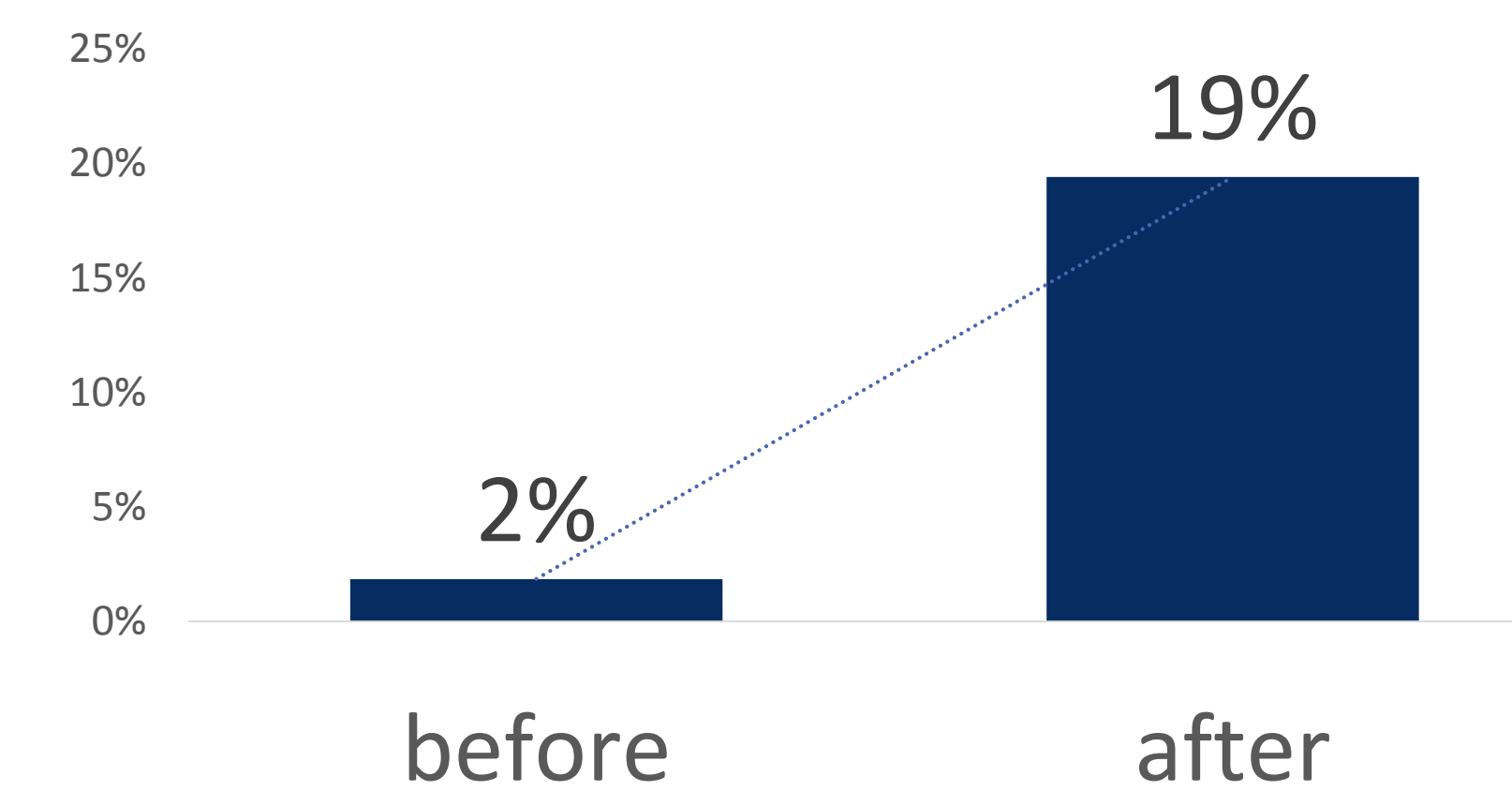
Data Analysis

% of Agreement by Respondents with scores greater than 75 on Safety Attitudes Questionnaire

	Pre Intervention	Post Intervention
Teamwork Climate	100%	87%
Safety Climate	91%	87%
Job Satisfaction	83%	75%
Stress Recognition	63%	25%
Perceptions of Management	58%	75%
Working Conditions	41%	75%
Overall SAQ	69%	75%

Scores greater than 75 on the SAQ indicate institutional alignment to Benchmarks for a Culture of Safety

Discussion

- 92% of the frontline leaders completed the SAQ pre intervention
- Pre-intervention SAQ mean 69
- Post-intervention SAQ mean 75
- 77% of the frontline leaders completed the SAQ post intervention
- 100% of the frontline ICU leaders attended the HRS workshop
- ACAs performed on near miss (NCC MERP) scale A-D was 2% preintervention
- ACAs performed on near miss (NCC MERP) scale A-D was 19% postintervention (statistically significant P=0.000)

Limitations

- Unable to determine if the intervention had an impact in reduction of adverse safety events over time
- Time of intervention and measurement was short < 60 days
- SAQ needs to be measured again in 18months – 2 years

Recommendations

- Expand the HRS workshop to other frontline leaders within the facility
- Provide feedback and coaching on ACA's quality with the frontline leaders in real time
- Complete audits to ensure standard format and tools are utilized for ACA's

Conclusions

- Understanding safety culture is an important step to building a high reliable organization
- Project suggest that a standardized process to complete ACAs may lead to an increase in near miss ACA reviews
- Short term outcome measures were achieved
- Long term measures will require further study and trending over time