

Reducing Staphylococcus Bacteremia in ICU Patients: a Quality Improvement Project

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Introduction

- Staphylococcus aureus is the leading health care associated pathogen in hospitals worldwide²²
- Most common blood stream infection associated with poor outcomes, secondary infections, hospitalization, and death¹⁷
- Decolonization “Gold” standard^{21,10,11}
- Evidence supports CHG bath, with or without mupirocin reduces all cause bacteremia^{2,10,11}
- Despite interventions implemented by hospitals; mortality from staphylococcus aureus bacteremia continues in hospitals worldwide.
- Need for higher quality hospital preventative interventions to reduce HAI²²
- Education improves practice, compliance, knowledge, skills, and ultimately the quality and safety of patient care³
- In literature audits positively impact compliance of health care workers by supporting the target implementation and improves practice⁴

Purpose & Aims

- This DNP Project evaluated, educated, and implemented an audit tool decrease staphylococcus rates in the ICU.

AIMS

- Decrease ICU rates of staphylococcus bacteremia
- Implement an infection audit tool to measure decolonization adherence.
- Measure nurse’s knowledge of staphylococcus bacteremia prevention.

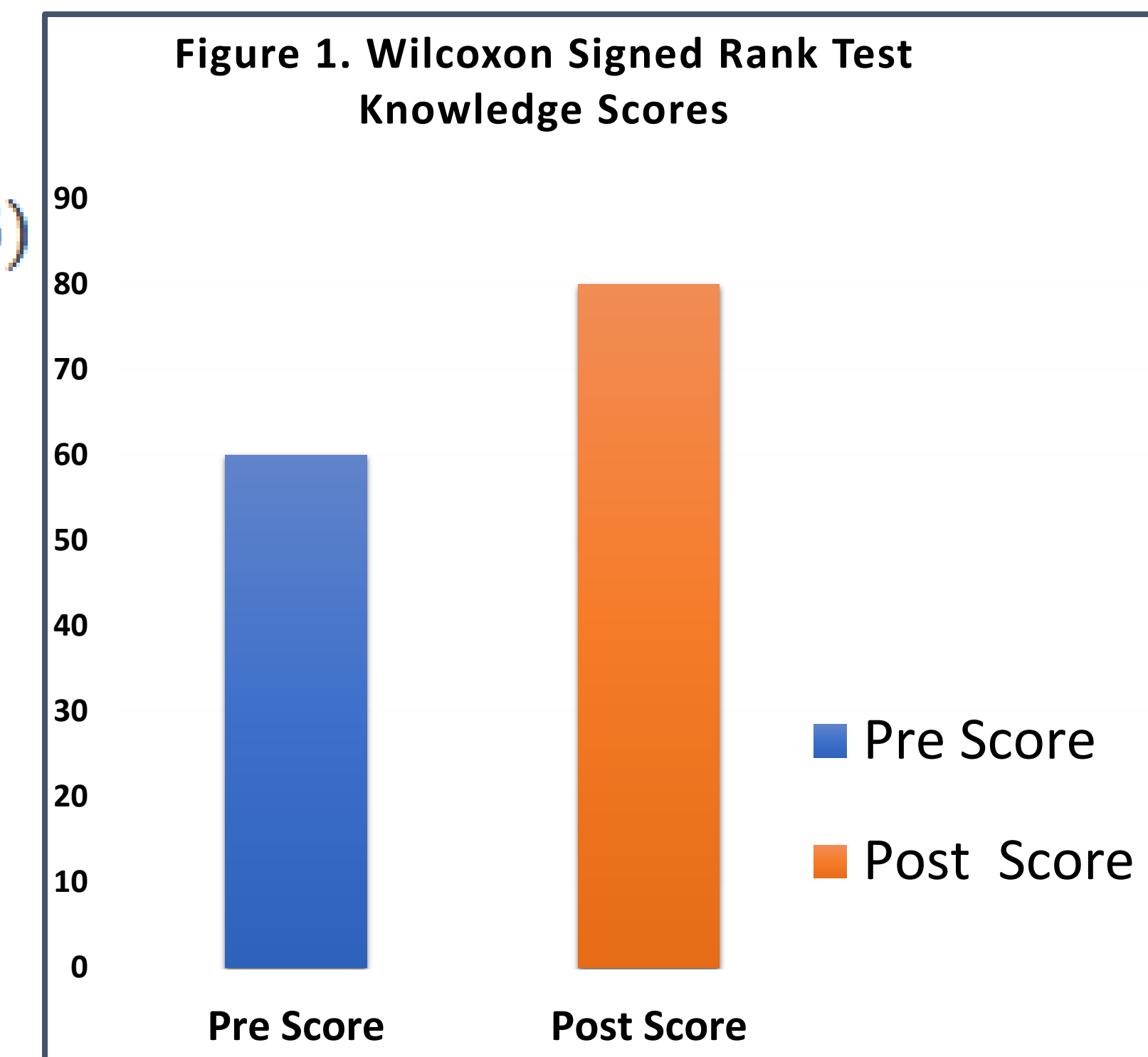
Methods

Project design: Prospective, pre and posttest study design
Setting: 10-bed ICU in Mid Atlantic urban tertiary community hospital
Intervention: CDC Infection Audit Tool, established education from HealthStream learning
Measurement: CDC Audit Tool, Qualtrics pre and posttest
Limitations: COVID 19, Reassigned ICU, low sample size, PPE reduction, decreased MRSA surveillance testing
Sample: 13 nurses

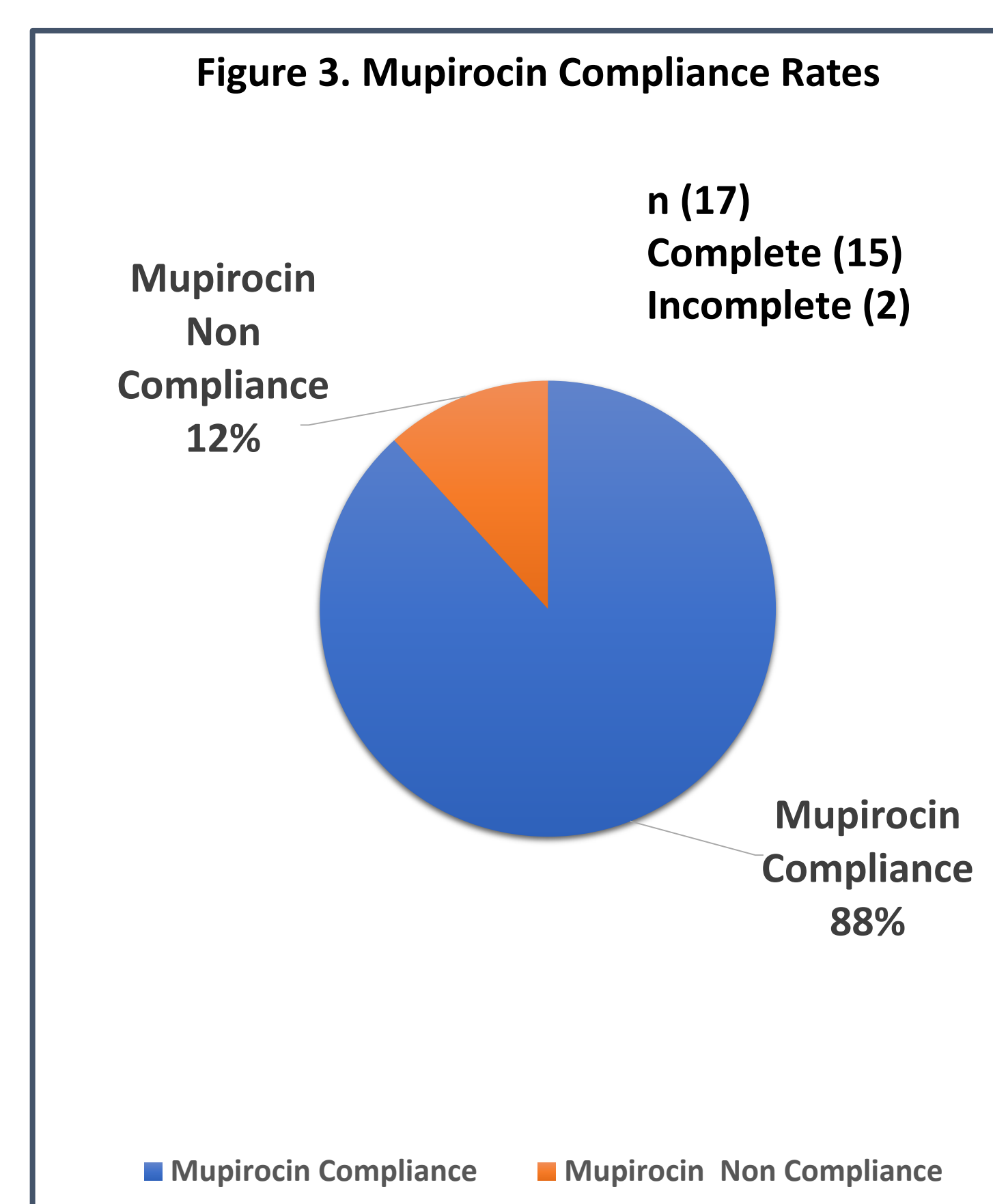
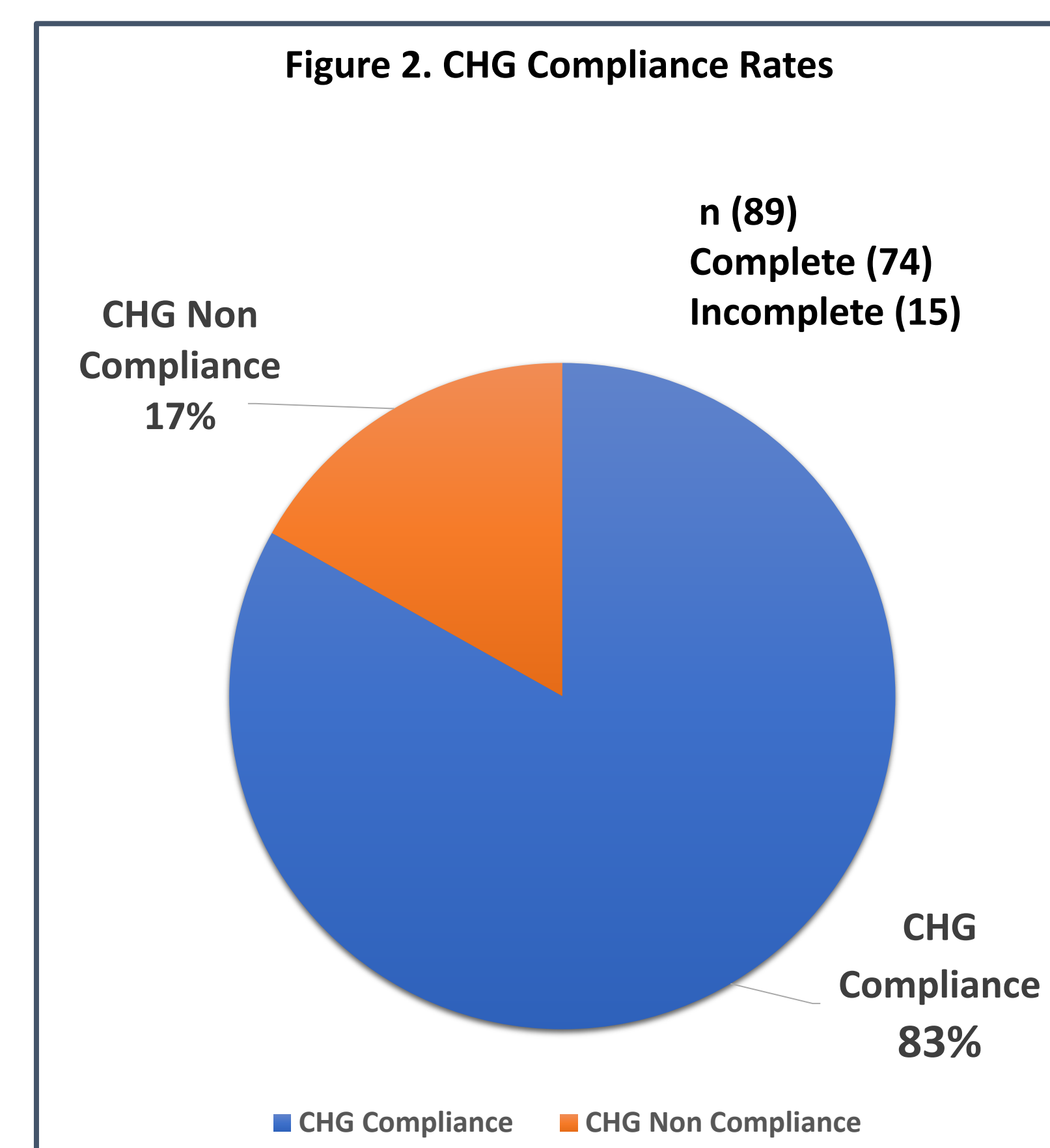
Results

Table 1. Demographic Characteristics

Demographics	Sample group(N=13)
Age Range	
age 21-29	5 (35.5%)
age 30-39	3 (23.1%)
age 40-49	2 (15.4%)
age 50-59	2 (15.4%)
missing	1 (7.7%)
Experience #yrs.	
0-1 year	1 (7.7%)
1+ to 4 years	1 (7.7%)
4+ to 9 years	6 (46.2%)
> 10 years	4(30.8%)
missing	1 (7.7%)
Education level	
ASN	4 (30.8%)
BSN	7 (53.8%)
MSN	1 (7.7%)
missing	1 (7.7%)



- AIM #1
- Quarterly SIR (0) post intervention, no change .
- AIM #2
- Compliance rate below target for CHG and Mupirocin, no change or new incidence of SAB with lower rates. (fig. 2,3)
- AIM #3
- Knowledge scores increased by mean diff of 24%, p=0.012 statistical significance. (fig. 1)



Conclusion

- The Project findings showed no change or new incidence in SAB rates.
- Nurses Knowledge scores increased post intervention.
- Compliance scores range less than 100% with no change in SAB or new incidence.
- Combination of CHG/ Mupirocin audits and reeducation together prevented any new incidence of staphylococcus bacteremia.
- Further studies are needed to determine if decolonization audits, and education will decrease SAB

Dissemination

- This project findings shared with the infection control department, mentor and ICU.
- Findings shared with educational and safety committee.
- Submission of abstract sent to MNA annual convention
- Sustainability
 - Future use of audit tool to measure compliance

Reference

See reference list attached

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