



Cardiac Rehabilitation Referral Optimization

Annette King, MSN, APRN, ANP-BC, Judith Ascenzi, DNP, RN, APRN-CNS, CCRN & Janet Johnson, DNP, ANP-BC, ACNP, FAANP

Introduction

- Cardiovascular disease (CVD) is the leading cause of morbidity and mortality worldwide.
- CVD accounts for \$351 billion+ of US healthcare costs.
- Cardiac Rehabilitation (CR) improves patients' functional capacity, symptoms, and reduces disability and mortality by 20-30%.
- However, only 20-30% of individuals eligible for CR participate due many barriers such as provider knowledge, distance, and co-pay costs.¹

Objectives

The purpose of this 12-week Quality Improvement (QI) project was to implement and evaluate an evidence-based CR referral algorithm tool. The project's aim were to:

- Increase provider knowledge of CR criteria,
- Decrease the number of inappropriate referrals to CR, and
- Assess usability of the referral algorithm tool

Intervention

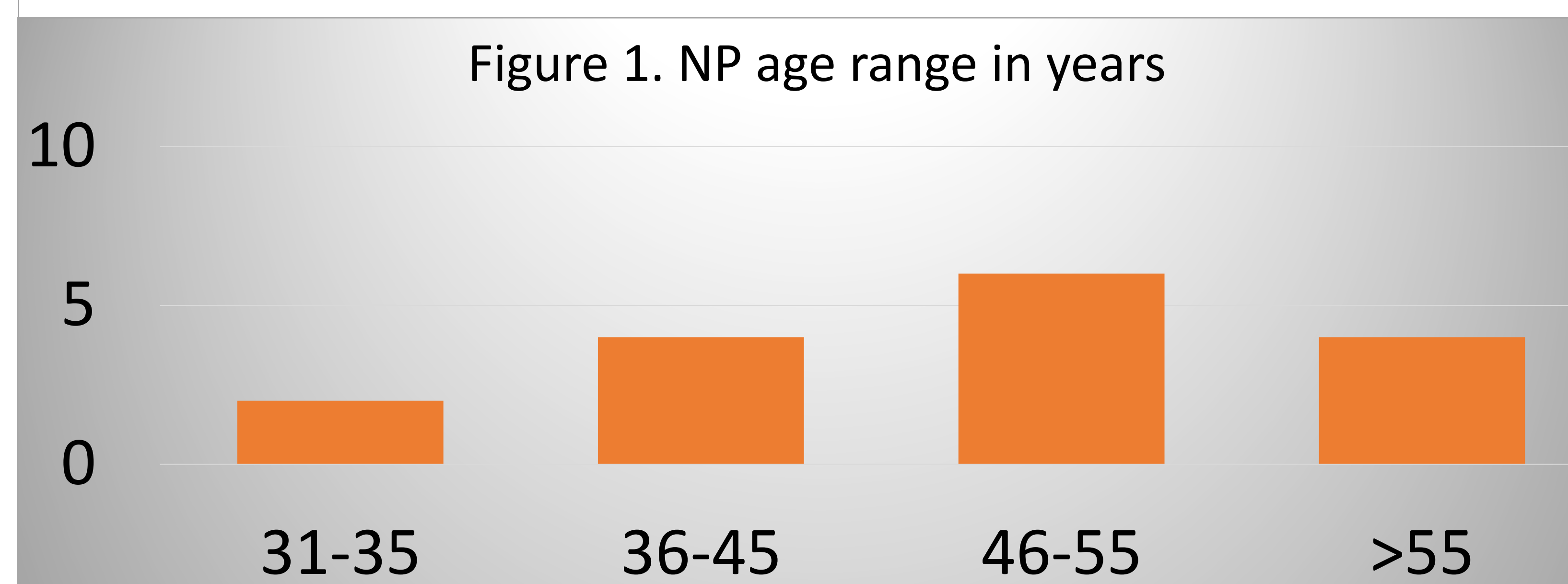
Using two cycles of Plan-Do-Study-Act (PDSA) framework a referral algorithm tool was developed that identified CR inclusion/exclusion criteria and an education module was delivered to providers on the use of the referral algorithm.

Methods

- Design:** Pre/Post intervention
- Setting:** Urban cardiology inpatient service
- Sample:** NP providers
- Measures:** CR provider knowledge questionnaire, % inappropriate referrals received, Systems Usability Scale
- Analysis:** Descriptive, Mann-Whitney U, Chi-square

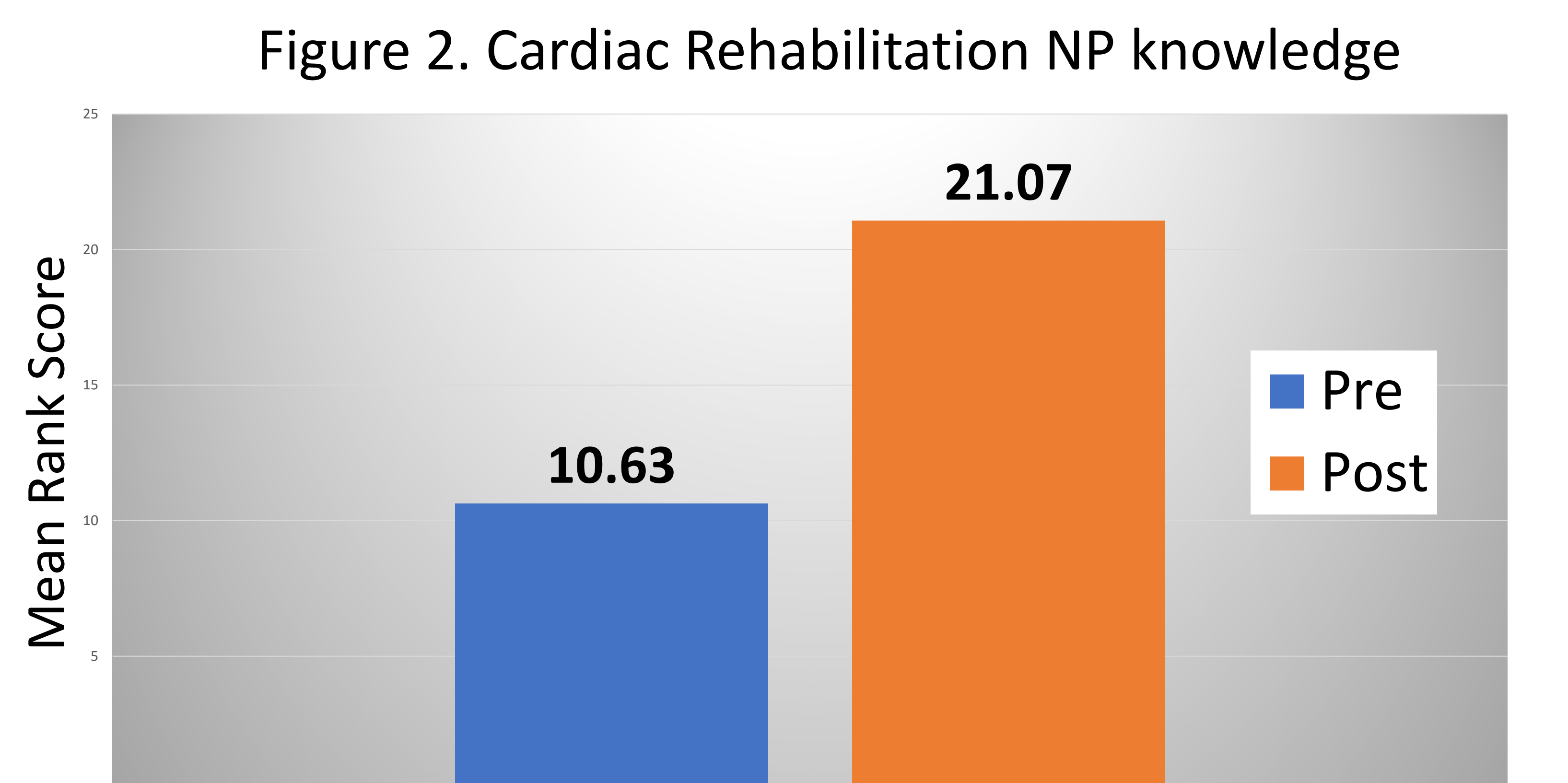
Sample Characteristics

There was a total of 16 NP participants in the pre-test and 14 in the posttest. More than 60% (n = 16) of the sample was 46 years or older, with more than 80% (n = 16) of the sample having greater than 6 years of NP experience and a similar rate of cardiology experience. See Figure 1.



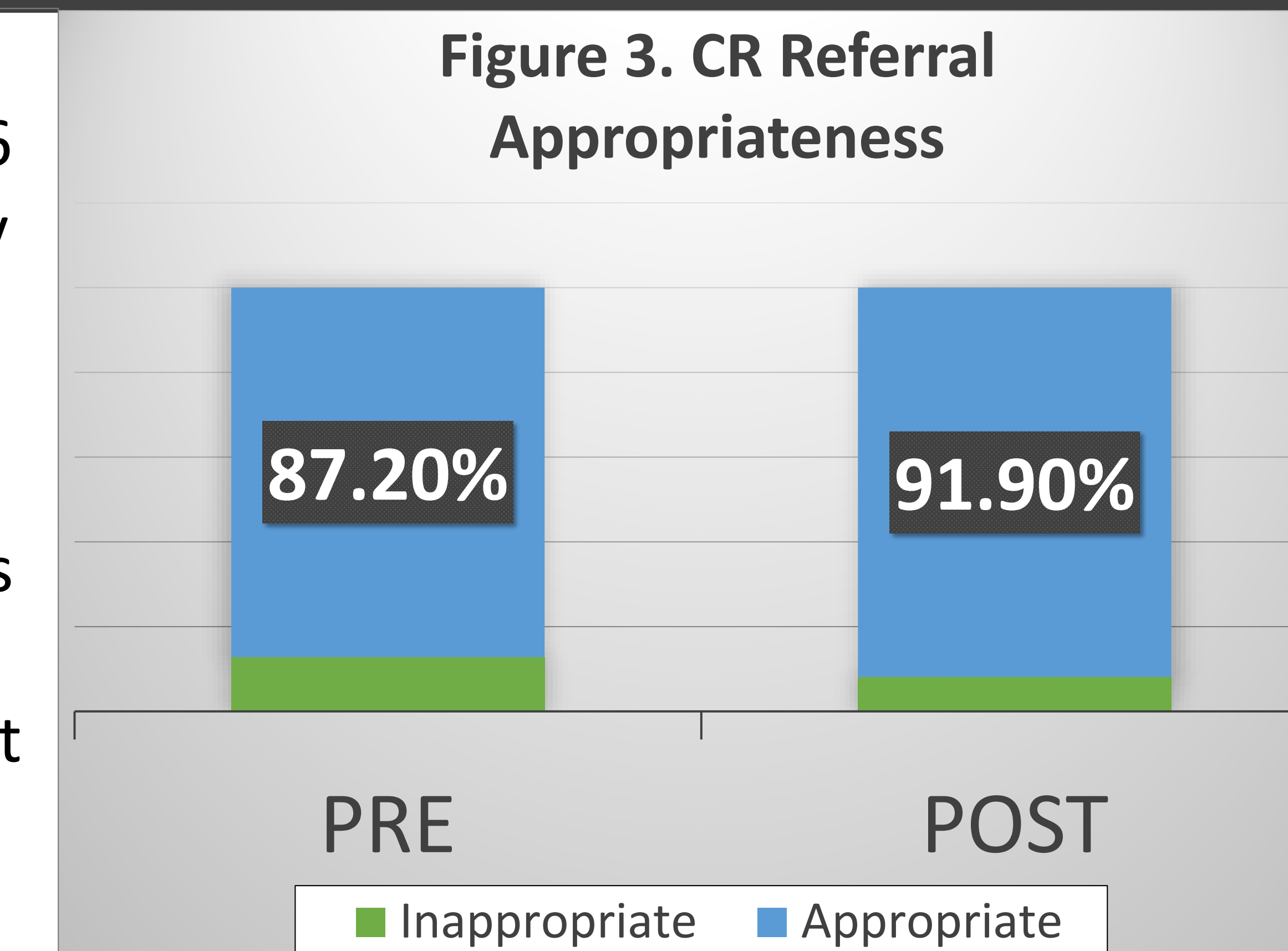
Aim 1: NP Knowledge

The median pre-test score was 31 points, and the median post test score was 41.5 points. The median increase was 10.5 points or 29%, which was a statistically significant increase in the post-test knowledge (U = 34, p < 0.05).

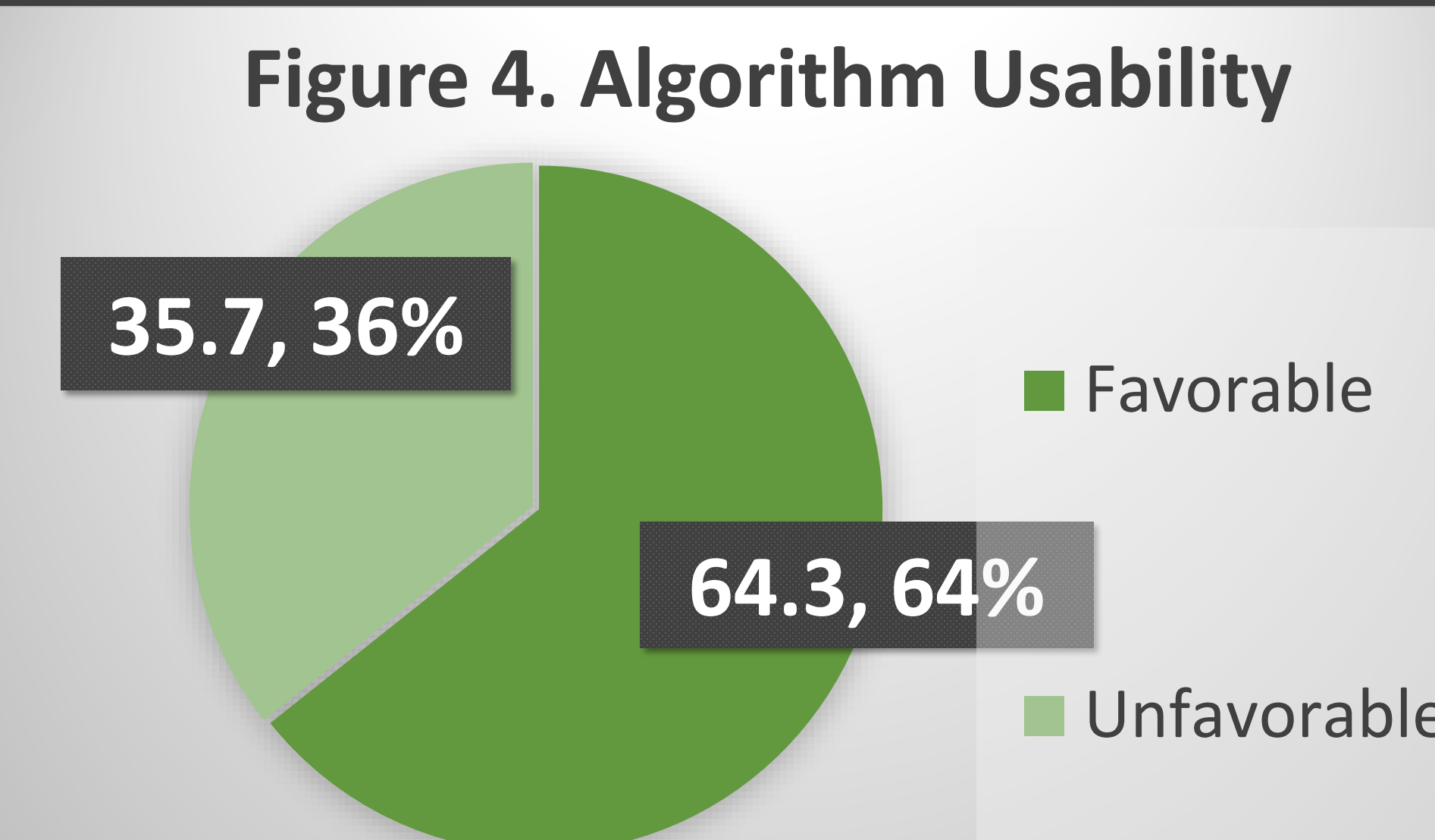


Aim 2: CR Referral Appropriateness

There were 202 referrals pre-intervention, of which 26 (12.8%) were inappropriately referred. Post-intervention, there were 186 charts, of which 15 (8.1%) were inappropriately referred. This represents a 36.7% decrease in inappropriate referrals, but it was not significant, x2 = 2.37, p = 0.12. See Figure 3.



Aim 3: Algorithm Usability Results



Over 64% (n=9) of the sample said the algorithm was favorable. See Figure 4. Unfavorably ratings were due to the algorithm being awkward to use and requiring support or additional skills for it to be useable.

Conclusion

CR can improve functional capacity and symptoms, reduce disability, and to optimize a person's quality of life. This project successfully demonstrated a CR a referral algorithm and provider education reduced barriers to CR referral and decreased the rate of inappropriate CR referrals. Integrating the algorithm into electronic medical record can reinforce appropriate CR referral.

References

- Ades, et al. (2017). Increasing cardiac rehabilitation participation from 20% to 70%: A road map from the million hearts cardiac rehabilitation collaborative.