

Point of Care Testing in the Emergency Department: A Quality Improvement Initiative

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PROBLEM STATEMENT

Point of Care Testing (POC) has a significant financial impact on healthcare costs and appropriate utilization is imperative. Three available POC tests being used in the Emergency Department (ED) are B-type natriuretic peptide (BNP), Basic Metabolic Profile (BMP), and Troponin. Engaging the medical providers in the educational process regarding clinical criteria for POC testing is an integral part of a quality improvement Initiative.

PROJECT PURPOSE

The purpose of this project was to evaluate the medical providers to determine if POC testing is clinically indicated and provide a clinical decision tree for guidance. The providers were surveyed regarding the clinical decision tree and the perceived importance of the education between the types of medical providers. The utilization rates post education were also evaluated.

MODEL/NURSING THEORY

The Tyler Collaborative Model for evidenced based medicine was used as the framework for this project. This model focuses on determining the teaching objective, assessing current knowledge on the topic, organizing the information and evaluating the outcomes.

Kurt Lewin's Change Theory focuses on assisting the learner to "unfreeze" the current way of thinking to make changes in the utilization of POC testing.

METHODS

Target Population

The emergency room medical providers (MD, NP and PA) were included in the educational component and were provided a survey. 31 medical providers were surveyed.

Subjects

ED patients that had one of the three available POC tests ordered during their visit.

Setting

This project was implemented in a large metropolitan emergency room with annual visits ~80,000.

Instrument Tools

The SFDP 26 evaluation tool was administered to the medical providers following education update on POC testing and a clinical decision tree was provided for review. Results between the three groups of medical providers were measured.

Intervention and Data Collection

All ED patients that had one of the three POC tests ordered were included in the project.

instruments/Tools

- Utilization rates of each of the 3 POC tests were evaluated at 30 days, 6 weeks and 3 months post implementation. A chi square test was performed to determine clinical significance.
- The SFDP26 was given to each of the medical providers. The survey is based on a 5-point Likert scale. Results were evaluated using a one-way anova and chi square tests.

RESULTS

The chi square test results for the 3 POC tests demonstrated p values of .007 for BMP, .006 for BNP, and .09 for Troponin. Two of the three results revealed statistical significance related to the education and use of POC.

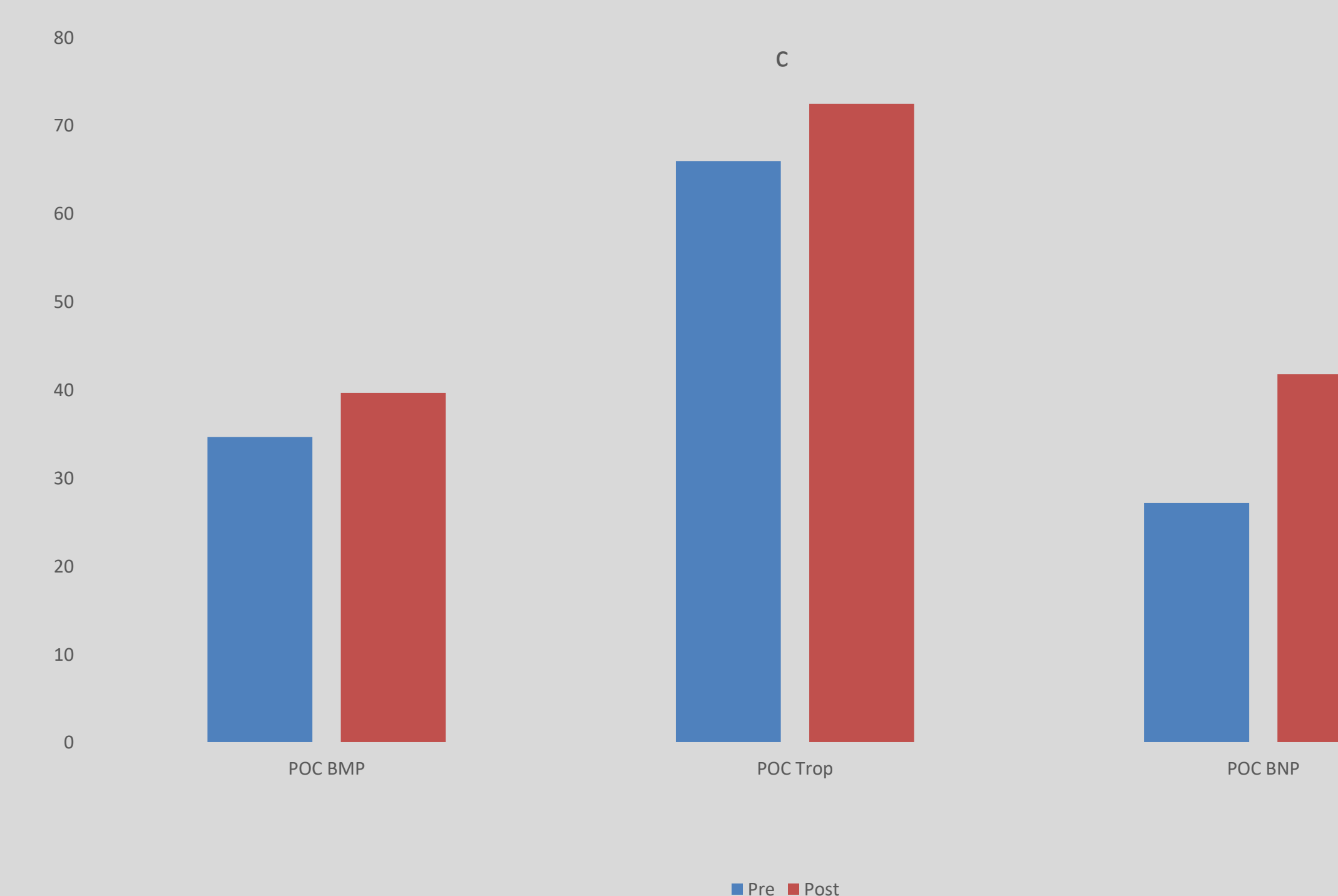
The SFDP 26 results were compared using the one-way Anova among the 3 groups of medical providers and no statistical significance was determined. The p value was .37 and the f value was 1.02.

Although the overall utilization rates of POC use increased, these increases were not statistically significant.

Overall satisfaction of provider engagement in the educational update was approximately 97%.

(Likert Scale 1-5 on 26 questions of 31 surveys $4030/3926=.97$)

POC Tests Results:



DISCUSSION

This project was designed as a QII to educate medical providers on the appropriate use of POC testing in the ED, provide a clinical decision tree with the goal to decrease healthcare cost.

Utilization rates and a survey on the perceived importance of the education were evaluated with a 97% satisfaction of the provider.

Potential limitations of this study are the negative impact of COVID19 on emergency room visits and staffing.

IMPLICATIONS FOR ADVANCED PRACTICE NURSING

This project demonstrates the ability of the Advanced Practice Nurse to bring evidence-based practice into the hospital setting when planning on future QII.

The development and use of a clinical decision tree is important as new providers and staff are onboarded in the ED.

A more holistic approach to implementing initiatives should be considered as a means to maximize the effectiveness of POC.

SUSTAINABILITY

Protocols were developed for future quality improvement initiatives in the ED that include provider engagement.

REFERENCES

References



Provider engagement in quality improvement initiatives in the ED should be an integral part of protocol development