

# Anesthesia Staffing models Cost-Benefit Analysis: An Educational Tool to Increase Awareness



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## Background & Problem Statement

- Rising healthcare costs have caused hospitals to find ways to decrease cost
- Will SRNA knowledge of CRNA cost-effectiveness and safety increase after intervention



Retrieved from: [https://www.aana.com/docs/default-source/sga-my-aana-web-documents-\(members-only\)/state-association-resources/crna-cost-effective-infographic](https://www.aana.com/docs/default-source/sga-my-aana-web-documents-(members-only)/state-association-resources/crna-cost-effective-infographic)

## Paired t-test results

Difference Scores Calculations:

$$\begin{aligned} \text{Mean: } 0.18 \\ \mu &= 0 \\ S^2 &= SS_{\text{diff}} / (11 - 1) = 0.02 \\ S^2_M &= S^2 / N = 0.02 / 11 = 0 \\ S_M &= \sqrt{0} = 0.04 \end{aligned}$$

T-value calculation

$$t = (M - \mu) / S_M = (0.18 - 0) / 0.04 = 4.63$$

**Statistical analysis demonstrates a significant difference in test scores after intervention participation**

## Project Design and Methods

- A descriptive comparative research study was used along with a pre-intervention test to assess knowledge and post-intervention to assess the increase in knowledge of cost-benefit and safety of different anesthesia delivery models

## Results

- 11 SRNA Participants took a pretest, participated in the intervention, and took a post-test to determine a change in knowledge
- Statistical analysis showed a significant difference,  $t=4.632$  and  $p=0.00093$ , which demonstrates a significant increase in mean test scores after the intervention

## Review of Literature

- Studies included produced data about the different anesthesia care teams' costs, particularly those that employ CRNAs, anesthesiologists, or both.
- All articles used were produced between 2010 to 2020

## Purpose

- To assess the change in knowledge in senior student registered nurse anesthetists (SRNA) on the cost and safety difference associated with different anesthesia delivery models

## Interpretation and Discussion

- The SRNAs who participated in this study improved their knowledge of anesthesia provider cost and safety as evidenced by a statistical analysis that compared test scores before and after a presentation on the subject
- Healthcare costs can be decreased utilizing CRNAs