

Difference in Outcome & Quality of Care C.A.A. vs C.R.N.A. provided Anesthesia Services

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Introduction

Quality of care and positive patient outcomes remains the upmost controversial subject in the healthcare industry, effecting hospital reimbursement from insurance companies, hospital ranking, and overall patient satisfaction and well-being. Quality of care can be limitlessly defined, but roughly summarized as to what degree standards of clinical practice and achievements of quality outcomes for designated services (Institute of Medicine, 1990). Both Certified Anesthesiologist Assistants and Certified Registered Nurse Anesthetists practice with a physician in a physician-led, team-based model of anesthesia care (Surgical Outcomes, 2018) creating a situation where a physician assistant-based background, and an advanced practice nursing based background may controverse with the approach of patient care and positive outcomes dependent on training, education, and approach.

Background

The Anesthesia Care Team (ACT) functions under the direction of a physician, Board Certified Anesthesiologist, and consists of both Certified Registered Nurse Anesthetists (CRNA) and Certified Anesthesiologist Assistants (CAA), both with differing education, experience, and training backgrounds. A CRNA is an Advanced Practice Registered Nurse (ARNP) that meets the requirements of 1-2 years of fulltime nursing experience in an intensive care setting before completing a master's degree from an accredited Nurse Anesthetist program that will vary in length from 28-36 months (Matsusaki, 2011). Becoming a CAA requires a bachelor's degree with inclusion of background in premedical coursework, numerous hours of documented anesthesia observation in the operating room setting, and successful upper percentile scoring on the graduate record exam (GRE) or Medical College Admissions Test (MCAT) and completion of an accredited AA program that will range from 24-28 months. Two substantial differences are present between the prerequisites of the CRNA and CAA education. While CAA's educational background is required to weigh heavy on premedical sciences and research, CAA's are recommended but are not required to have patient care related experience in clinical settings before acceptance into anesthesia schooling. CRNA's acceptance into anesthesia schooling does not require as demanding of a science background at the bachelor level for foundation of their undergraduate education, as their nursing degree will suffice. The age-old controversy is that one specialty provides more adequate quality of care and positive patient outcomes than the other based on experience verse educational background. Understanding the statistical data on death rates, hospital length of stay, and costs between admission and discharge of surgical patients under the influence between the two mid-level providers.

Objective

The purpose of this study is to investigate if patients under the care of Certified Anesthesiologist Assistants verses Certified Registered Nurse Anesthetists experience a discrepancy in the overall quality of care and positive patient outcomes based on statistical evidence involving death rates, hospital length of stay, and costs between admission and discharge of surgical patients under the influence of the anesthesia care team.



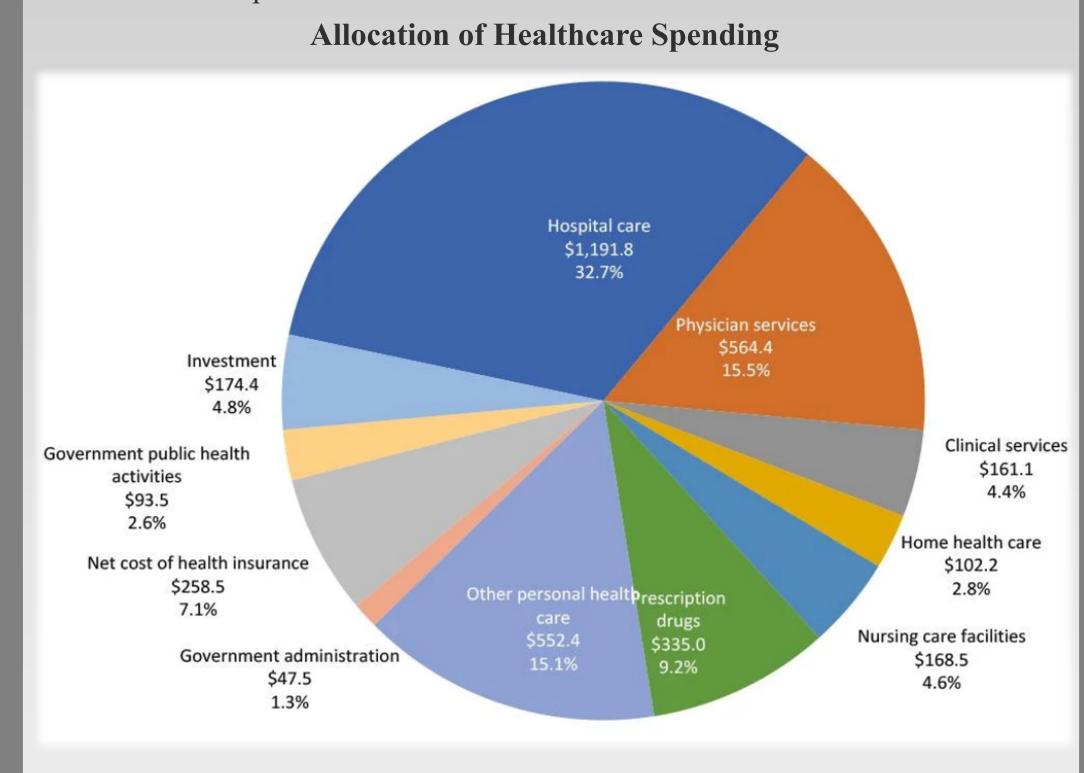
Materials and Methods

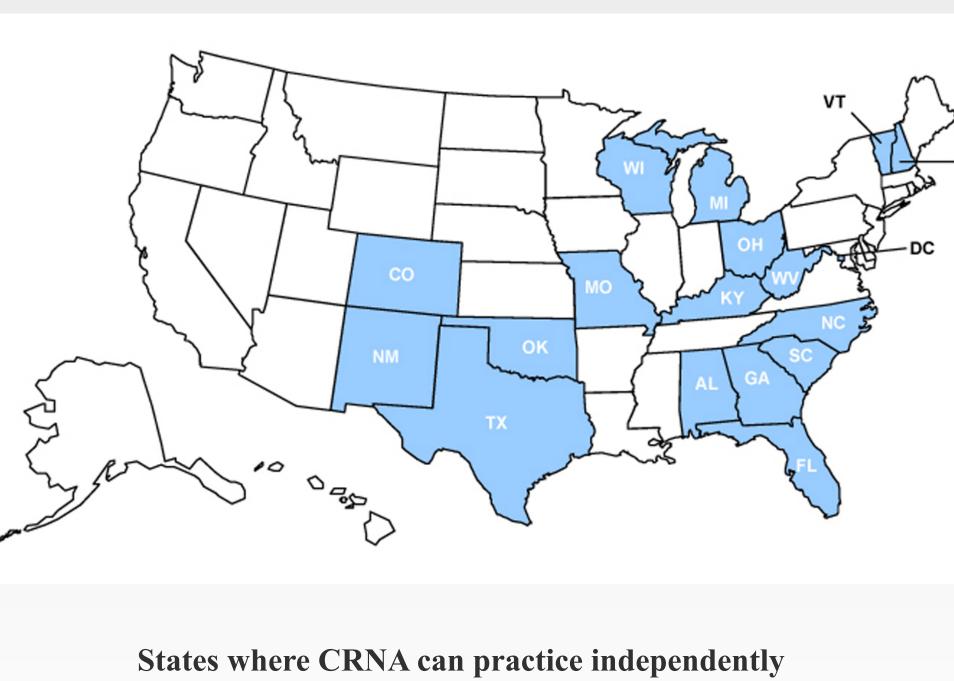
Participants:

A historical cohort study was performed on elderly, insured patients between 65 and 89 years of age who participated in inpatient surgical procedures over a seven-year span, between the dates of January 1, 2004 and December 31, 2011.

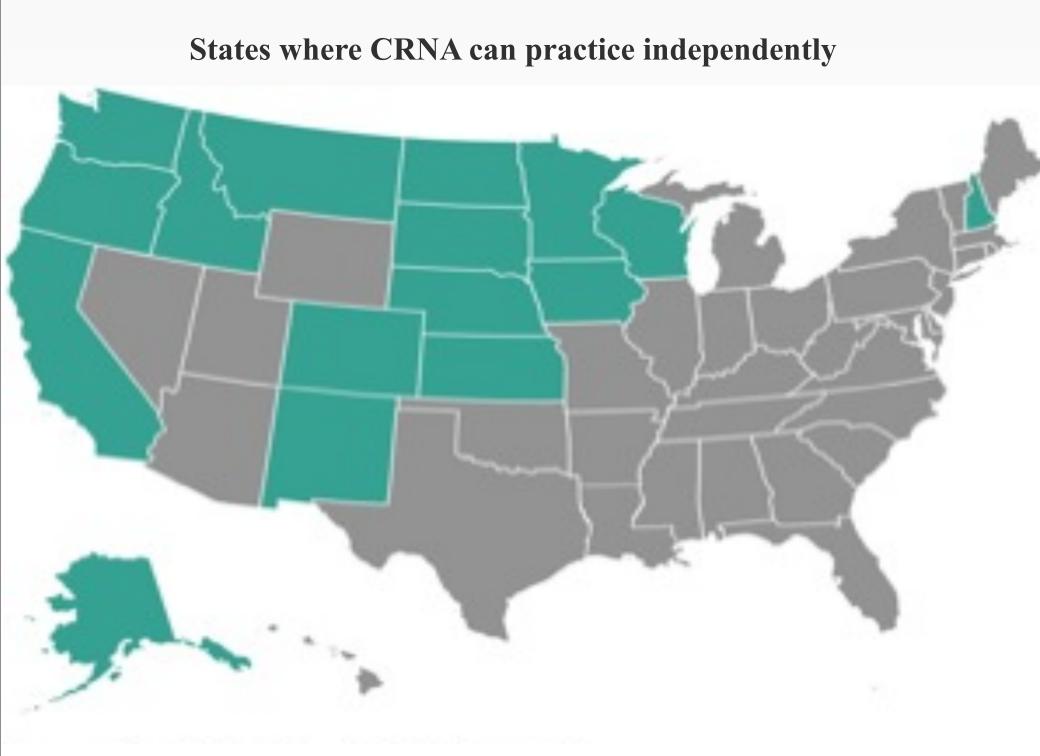
Procedures:

Of these patients, 443,098 patients were analyzed to evaluate the differences in healthcare costs, duration of hospital stay, and overall inpatient mortality rate between the Certified Anesthesiologist Assistant and Certified Registered Nurse Anesthetists, under the direct supervision of Anesthesiologists. To prevent biases and confounding results, quasi-randomization was utilized to distribute these patients.





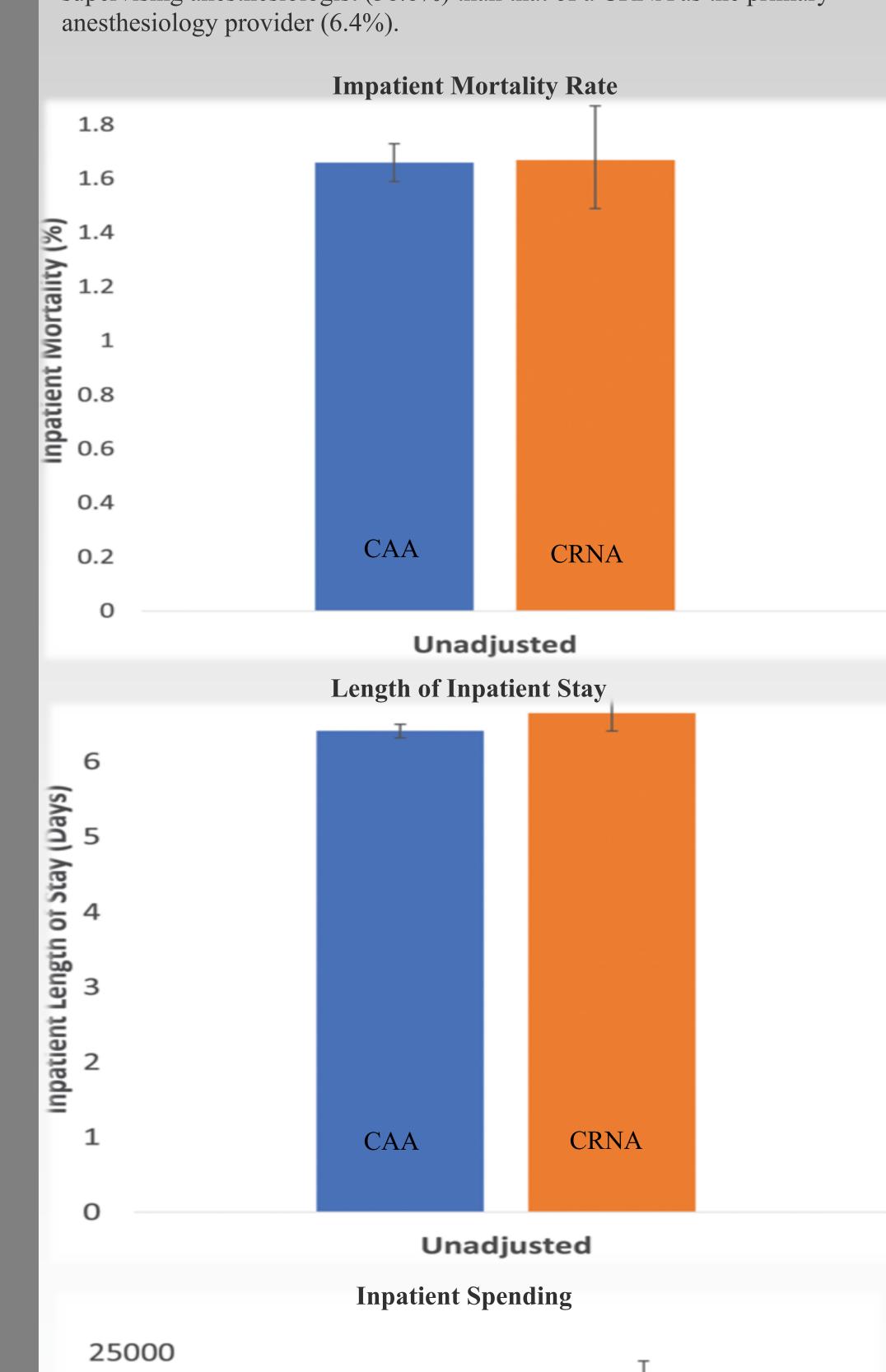
States where CAA can practice



Results

Mortality rates between the two anesthesia care teams were 1.6% and 1.7% respectively for the Certified Anesthesiologist Assistants and the Certified Registered Nurse Anesthetists as anticipated.

An insignificant result for hospital length of stay and cost of service was noted, with p-values of 0.89 and 0.70 respectively. The data shows that more than half (56.8%) of all surgical cases were performed by a CRNA anesthetist under the supervision of a physician anesthesiologist, while 11.7% of cases were performed by a CRNA without physician supervision. Of the two distinctions, high surgical case complexity was noted to most always have a supervising anesthesiologist (38.8%) than that of a CRNA as the primary anesthesiology provider (6.4%).





Discussion

With no supporting statistical difference between mortality, length of stay, or patient costs, there is no basis for discrimination in the provided care of the CAA compared to that of the CRNA. With the results of this study one could even argue that the CAA has a lower mortality (1.6%) than that of the CRNA (1.7%), although statistically insignificant. An insignificant result for hospital length of stay and cost of service was noted, with p-values of 0.89 and 0.70 respectively denoting that hospital length of stay and cost of care are statistically the same between each anesthesia provider.

The Hippocratic Oath is one of the most well-known ethical laws in healthcare, holding physicians and healthcare providers accountable for the services they provide, promising to uphold standards of care, and do no harm (North, 2002). As the healthcare provider a responsibility is delegated that everything in the provider's power will be done to ensure a patient is taken care of to the extent medicine, training, and skill will allow. The governing bodies of each specialty regulate the quality of education required for each provider to graduate from their respective training. The National Board of Certification and Recertification of Nurse Anesthetists (NBCRNA) and the National Commission for Certification of Anesthesiologist Assistants (NCCAA) ensure that providers are prepared to maintain the Hippocratic Oath and provide positive patient care and quality outcomes.

The long-time battle between the overall skills between the CAA and CRNA have stemmed from CNRA's desire to be the sole provider without working under the license of a physician anesthesiologist, demanding more power and to be retitled Nurse Anesthesiologists (Surgical Outcomes, 2018). With creation of the anesthesia version of a physician's assistant, the CAA, CRNA's are challenged, sharing their career field with the up-and-coming anesthesia provider. Scrambling to undermine the competition, the battle between CAA and CRNA has become political, slanderous, and dangerous with the CRNA political body declaring the CAA background, experience, and education and miniscule to that of the CRNA.

The facts speak for themselves, and patient safety and quality of care will be upheld despite the controversy in today's medicine. There is statistically no difference in care between the Certified Anesthesiologist Assistant and the Certified Registered Nurse Anesthetist.

Reference

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