CERTIFIED ANESTHESIOLOGIST ASSISTANTS

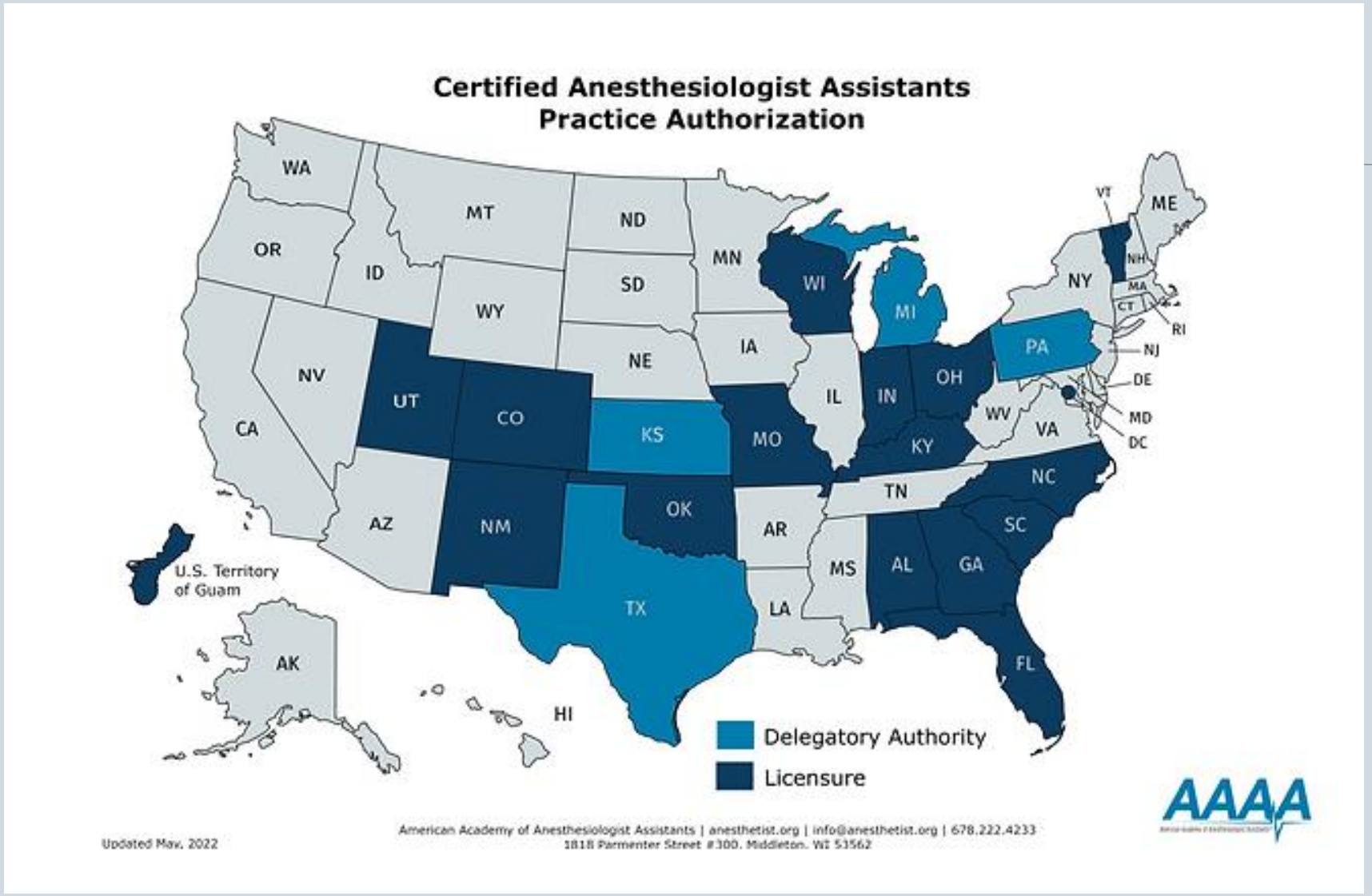
Technical Review Committee
Proposal
Meeting 1 • August 25, 2022

Certified Anesthesiologist Assistants

An Introduction

- Certified Anesthesiologist Assistants (CAAs) are highly skilled health professionals who practice as part of an Anesthesia Care Team (ACT) under the direction and supervision of a licensed physician anesthesiologist.
- CAAs perform tasks such as administering drugs, obtaining vascular access, applying and interpreting monitors, establishing and maintaining the patient's airway, and assisting with preoperative assessment.
- Approximately 3,200 CAAs are certified in the US and AA educational programs graduate about 325 new AAs each year.

Where can CAAs Practice?



CAAs can practice via licensure or delegatory authority in 21 jurisdictions.

CAA Responsibilities

CAA responsibilities on the ACT include:

- Elicit a pre-anesthesia health history and perform a physical examination
- Establish patient monitoring devices and intravenous access
- Assist in the application and interpretation of advanced monitoring techniques such as pulmonary artery catheterization or echocardiography
- Assist in the induction, maintenance, and emergence of a patient's anesthetic
- Secure the patient's airway through mask, endotracheal tube, or laryngeal mask airway
- Interpret and record the patient's physiological and pharmacological status
- Provide continuity of care into and during the post-operative period

Physician Supervision/Immediate Availability

CMS Billing Rules

- The Center for Medicare and Medicaid Services (CMS) rules define both CAAs and CRNAs as qualified non-physician anesthetists.
- CMS rules allow a physician anesthesiologist to supervise up to four CAAs when billing for "medical direction" and require that the physician "remain physically present and available for immediate diagnosis and treatment of emergencies".
- The American Society of Anesthesiologists further defines immediately available as:
  - a medically directing anesthesiologist is immediately available if s/he is in physical proximity that allows the anesthesiologist to re-establish direct contact with the patient to meet medical needs and any urgent or emergent clinical problems. These responsibilities may also be met through coordination among anesthesiologists of the same group or department."

Examples of Hospitals employing CAAS (partial list)

Cleveland Clinic
Ranked 4th in the US 2022-2023 by US News and World Report
Best Hospitals Honor Roll

UNIVERSITY HEALTH SYSTEMS

University of Colorado

University of Florida

Emory University Hospital

Indiana University Hospital

St. Louis University Hospital

University of New Mexico Medical Center

The Ohio State Medical Center

Toledo University

University Hospitals of Cleveland Medical Center

George Washington University Hospital

University of Vermont Medical Center

University of Wisconsin

CHILDREN'S HOSPITALS

Children's Hospital Colorado

Nicklaus Children's Hospital (FL

Scottish Rite Children's Hospital (GA)

Riley Hospital for Children (IN)

Children's Mercy Hospital (MO)

Children's Medical Center of Dallas (TX)

Children's National Medical Center (DC)

Children's Hospital of Wisconsin (WI)

LEVEL 1 TRAUMA CENTERS

Memorial Regional Hospital (FL)

Orlando Regional Medical Center

University of Florida-Shands

Grady Memorial Hospital (GA)

Metro Health Medica Center (OH)

Miami Valley Hospital (OH)

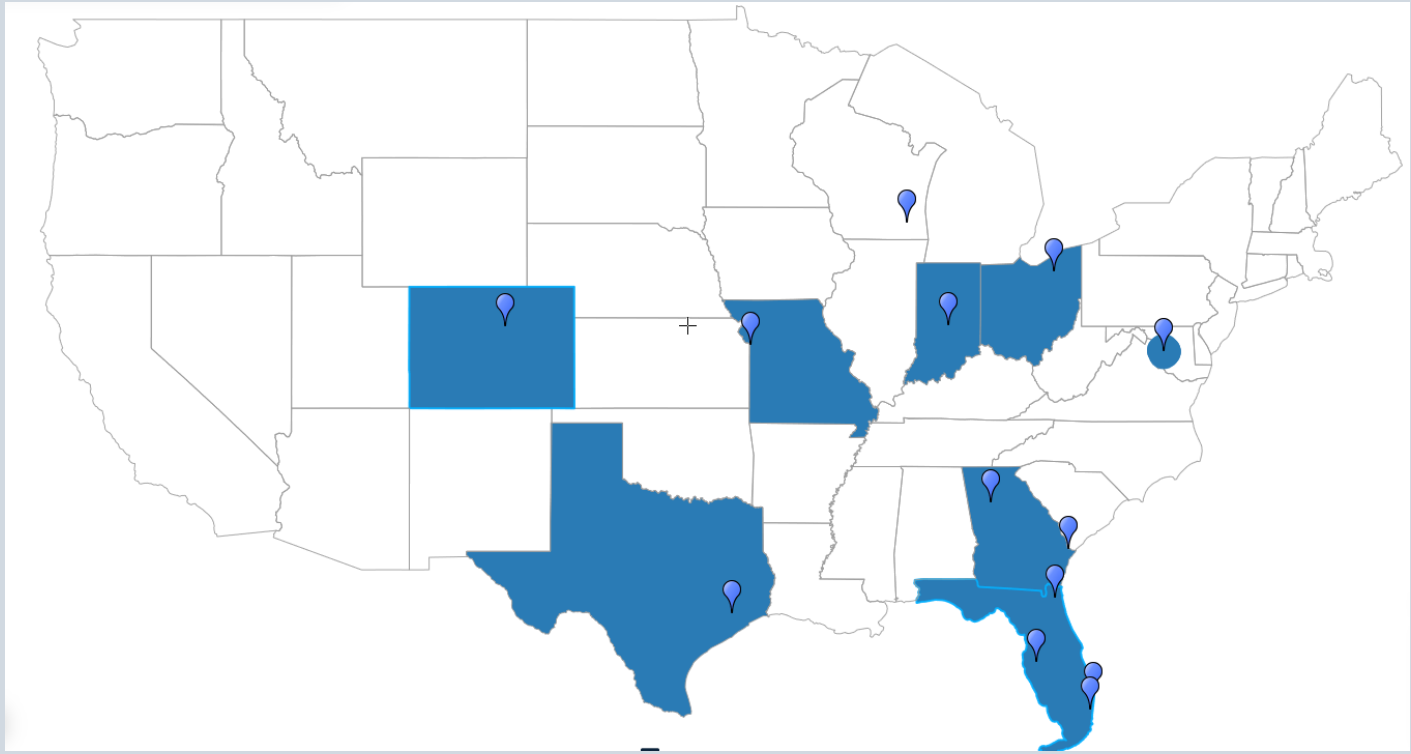
Certified Anesthesiologist Assistants

Education & Training

- CAAs obtain a bachelor's degree with prerequisites typical of premedical coursework.
- Take the MCAT or GRE.
- Minimum of 24-28 months in a Master's level program accredited by the CAAHEP, based at, or in collaboration with, a university that has a medical school and academic anesthesiologists physician faculty.
- Each CAA program must have at least one director that is a licensed, board-certified anesthesiologist.
- Main clinical sites must be academic medical centers
- Average of 600 hours of class/lab, 2500 of clinical anesthesia education, and more than 600 anesthetics administered, including all types of surgery

13 Accredited AA Programs

- Case Western Reserve University
  - Cleveland, OH
  - Washington, DC
  - Houston, TX
- Emory University in Atlanta, Georgia
- Indiana University in Indianapolis, Indiana
- Nova Southeastern University
  - Fort Lauderdale, FL
  - Tampa, FL
  - Jacksonville, FL
- South University
  - Savannah, GA
  - Palm Beach, FL
- University of Colorado in Denver, Colorado
- University of Missouri-Kansas City (UMKC) in Kansas City, Missouri
- Medical College of Wisconsin in Milwaukee, Wisconsin



Education & Training

Classroom and Lab Education

- Basic medical sciences, including anatomy, biochemistry, physiology, and pharmacology, with particular emphasis on the cardiovascular, respiratory, renal, nervous, and neuromuscular systems.
- Medical biophysics appropriate to anesthesia practice, emphasizing the principles underlying the function of the devices used in anesthesia delivery systems, life support systems, and basic and advanced patient monitors.
- Principles of patient monitoring.
- The function of lab instruments and data interpretation.
- Patient interviewing and assessment.
- Extensive instruction in the clinical practice of anesthesia and patient monitoring in the operating room, preoperative areas, postoperative recovery areas, intensive care units, pain clinics, affiliated clinical laboratories, and other supporting services.
- Emergency preparedness.

Clinical Rotations

- AA students complete an average of 2,500 clinical hours
- Clinical rotations include:
  - General
  - Neuro
  - Trauma
  - Pediatric
  - Obstetric
  - Out of OR/Ambulatory
  - Cardiovascular and Cardiothoracic
  - ICU

Certified Anesthesiology Assistants

Sample CAA Curriculum from the University of Missouri-Kansas City

Year 1 - Didactic Phase

Spring
Anatomy for Anesthesiologist Assistants
Professionalism for Anesthesiologist Assistants I
Patient Monitoring and Instrumentation
Physiology for Anesthesiologist Assistants I
Introduction to Anesthesia
Orientation to Simulation & Clinical Application
Pharmacology for Anesthesiologist Assistants I
Research Applications in Medicine
Summer
Professionalism for Anesthesiologist Assistants II
Methods of Anesthesia I
Physiology for Anesthesiologist Assistants II
Anesthesia and Coexisting Disease I
Anesthesia Clinical Experience I
Physiological Model-based Simulation I
Fall
Anatomy for the Anesthesiologist Assistant II
Professionalism for Anesthesiologist Assistants III
Anesthesia and Coexisting Disease II
Anesthesia Clinical Experience II
Pharmacology for Anesthesiologist Assistants II
Methods of Anesthesia II
Physiological Model-based Simulation II

Year 2 - Clinical Phase

Spring
Anesthesia Clinical Correlation II
Anesthesia Clinical Experience III
Summer
Anesthesia Clinical Correlation III
Anesthesia Clinical Experience IV
Fall
Anesthesia Clinical Correlation IV
Anesthesia Clinical Experience V

Year 3 - Clinical Phase

Spring
Senior Seminar
Anesthesia Clinical Experience VI

http://med.umkc.edu/msa/curriculum/#5518-5528-5538

Certified Anesthesiologist Assistants

Certification & Recertification

- An AA student may become certified by passing the NCCAA examination administered and scored by the National Board of Medical Examiners.
- To recertify, an AA must complete 40 hours of CME every two years (transitioning to 50 hours)and register the activities with NCCAA. Additionally, CAA's must take the Continuing Demonstration of Qualification Exam every 6 years (transitioning to every 10 years).

Study Comparing ACT

Stanford Study

- A 2018 study published in the journal Anesthesiology reviewed 443,000 Medicare claims involving CAAs and CRNAs practicing in the Anesthesia Care Team model and found that:
  > "The specific composition of the anesthesia care team was not associated with any significant differences in mortality, length of stay, or inpatient spending".

- No studies have shown that care provided by CAAs is less safe than that of a nurse anesthetist.

Statement Comparing Anesthesiologist Assistant and Nurse Anesthetist Education and Practice

American Society of Anesthesiologists Statement

The ASA Committee on the Anesthesia Care Team published a statement in 2007 regarding their review of the comparison of Nurse Anesthetist and CAA Education and Practice.

The Committee concluded that differences “do exist between anesthesiologist assistants and nurse anesthetists with regards to the educational program prerequisites, instruction, and requirements for supervision in practice as well as maintenance of certification. These are the result of the different routes that the two professions took toward development, and the stated preference of anesthesiologist assistants to work exclusively on teams with physician anesthesiologists**. None of these differences, in the opinion of the Committee, results in significant disparity in knowledge base, technical skills, or quality of care.**

"Having worked with both Certified Anesthesiologist Assistants and Certified Registered Nurse Anesthetists in Colorado for 7+ years, I can say that both provide high quality care for patients. In practice, the anesthesia care team in Colorado is composed similarly to how we work in the intensive care unit. Anesthesiologists who practice intensive care medicine in Nebraska already work collaboratively with advanced practice providers that include both nurse practitioners and physician assistants. This care team model is quite similar to when anesthesiologists work collaboratively with Certified Registered Nurse Anesthetists and Certified Anesthesiologist Assistants in the operating room."

Karsten Bartels M.D., Ph.D.
Omaha Anesthesiologist

Shortage of Anesthesia Providers

Solution

Increase the number of anesthesia providers who can practice in Nebraska.

Anesthesia Provider Gap

Already a shortage of personnel (both anesthesiologists, nurse anesthetists).

Increased Surgical Needs

Increased medical services as Baby Boomers age into Medicare, increased outpatient surgical centers, delayed/deferred care related to the COVID-19 pandemic.

Shortage of Anesthesia Providers

Need for CAAs in Nebraska

- Search of www.gasworks.com shows the following:
  - 27 openings for anesthesiologists (17 full-time positions)
  - 109 openings for nurse anesthetists (46 full-time positions)
- Openings include both urban and rural hospitals
  - Omaha
  - Norfolk
  - Scottsbluff
  - North Platte
  - Sidney
  - Valentine
  - Holdrege

Addressing Concerns

"Decreased educational opportunities for nurse anesthetist students"

- Bryan College and Clarkson College both offer CRNA training and graduate about 30 nurse anesthetists annually
- Sites include urban areas (Nebraska Medicine, Creighton, Kearney) as well as rural sites such as Norfolk and York
- CAA programs vary in size, but UMKC opened in 2008 with 4 students and has grown to 16 students

- Open anesthesia sites without trainees in one Nebraska hospital system:
  - Week of August 1st: 26 sites per day
  - Week of August 8th: 23 sites per day
  - Week of August 15th: 23 sites per day

Technical Review Committee

The Four Criteria

1. Unregulated practice can clearly harm or endanger the health, safety, or welfare of the public; (Or, Absence of a separate regulated profession creates a situation of harm or danger to the health, safety, or welfare of the public)

2. Regulation of the profession does not impose significant new economic hardship on the public, significantly diminish the supply of qualified practitioners, or otherwise create barriers to service that are not consistent with the public welfare and interest; (Or, Creation of a separate regulated profession would not create a significant new danger to the health, safety, or welfare of the public)

3. The public needs assurance from the State of initial and continuing professional ability; (Or, Creation of a separate regulated profession would benefit the health, safety, or welfare of the public)

4. The public cannot be protected by a more effective alternative.

Review Criteria 1

Unregulated practice can clearly harm or endanger the health, safety, or welfare of the public; (Or, Absence of a separate regulated profession creates a situation of harm or danger to the health, safety, or welfare of the public)

- Certified Anesthesiologist Assistants cannot currently work in Nebraska because they are not licensed or regulated here and are not authorized to practice except in federal Veterans Affairs facilities.
- CAAs are typically regulated by state medical boards that establish requirements for licensure, continuing education, and oversee investigations and disciplinary actions.
- Some states (Kansas, Michigan, Pennsylvania and Texas) allow CAAs to practice without being licensed because their state medical practice acts empower physicians to delegate certain responsibilities to unlicensed providers. Nebraska law does not provide for this type of "delegated authority". CAAs in these states would still be required to be credentialed by the hospital where they are employed.

Review Criteria 2

Regulation of the profession does not impose significant new economic hardship on the public, significantly diminish the supply of qualified practitioners, or otherwise create barriers to service that are not consistent with the public welfare and interest; (Or, Creation of a separate regulated profession would not create a significant new danger to the health, safety, or welfare of the public)

- Regulation of CAAs will not impose a significant new economic hardship on the public. CAAs are regulated by state medical boards that are authorized to set application fees to cover the cost of regulating the profession.
- Regulating CAAs will benefit the public by allowing additional health care providers to enter the market. An August 15, 2022 search of the CRNA job postings on the comprehensive anesthesia employment website gaswork.com includes a list of 110 postings for CRNA positions in Nebraska, some which contain multiple open positions.
- CAAs perform the same scope of services in an operating room as nurse anesthetists and allowing CAAs to be licensed will provide hospitals with additional options to fill these anesthetist positions.
- Many hospitals around the state and country are facing provider shortages which is impacting the ability of patients to undergo necessary surgeries.

Review Criteria 3

The public needs assurance from the State of initial and continuing professional ability; (Or, Creation of a separate regulated profession would benefit the health, safety, or welfare of the public)

- There are several safeguards in place to ensure that CAAs have the professional ability to safely provide care to patients
- CAAs must graduate from an accredited AA program that is 24-28 months and awards a Masters' Degree
- CAAs are required to pass a national certification examination and be re-certified every ten years
- CAAs are required to complete 40 hours (transitioning to 50 hours) of continuing medical education every 2 years
- Hospitals will require CAAs to be credentialed in order to practice and will establish the scope of practice that a CAA can perform
- State licensing legislation typically includes educational, certification and CME requirements in addition to supervision requirements and scope of practice that a CAA may perform

Review Criteria 4

The public cannot be protected by a more effective alternative.

- Nebraska state law establishes that no individual shall engage in the practice of medicine “unless such individual has obtained a credential under the Uniform Credentialing Act”.
- In order for CAAs to practice in Nebraska we must be credentialed to be in compliance with state law.

Conclusions

- CAAs are highly-trained anesthesia providers who undergo equivalent training to other non-physician anesthesia providers.
- CAAs practice under the direct supervision of physician anesthesiologists.
- There have been no studies demonstrating that ACTs with CAAs are any less safe.
- The ramifications of current shortages are being felt by hospitals and healthcare providers financially, and by patients, in terms of increased waiting times and cancelled procedures when there is a lack of anesthesia providers.
- CAAs are another tool in our toolbox of anesthesia providers.