JOINT COMMISSION ON HEALTH CARE

STRATEGIES TO STRENGTHEN THE ANESTHESIA WORKFORCE IN VIRGINIA

REPORT TO THE GOVERNOR AND THE
GENERAL ASSEMBLY OF VIRGINIA

REPORT DOCUMENT #939

COMMONWEALTH OF VIRGINIA
RICHMOND
2024

Code of Virginia § 30-168.

The Joint Commission on Health Care (the Commission) is established in the legislative branch of state government. The purpose of the Commission is to study, report and make recommendations on all areas of health care provision, regulation, insurance, liability, licensing, and delivery of services. In so doing, the Commission shall endeavor to ensure that the Commonwealth as provider, financier, and regulator adopts the most cost-effective and efficacious means of delivery of health care services so that the greatest number of Virginians receive quality health care. Further, the Commission shall encourage the development of uniform policies and services to ensure the availability of quality, affordable and accessible health services and provide a forum for continuing the review and study of programs and services.

The Commission may make recommendations and coordinate the proposals and recommendations of all commissions and agencies as to legislation affecting the provision and delivery of health care. For the purposes of this chapter, "health care" shall include behavioral health care.

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Strategies to Strengthen the Anesthesia Workforce in Virginia

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POLICY OPTIONS IN BRIEF

Option 1: Direct BON to update regulations governing practice of CRNAs to remove references to any specific edition of the American Association of Nurse Anesthetists' Standards for Nurse Anesthesia Practice.

Option 2:

Not recommend any policy that would make supervision of certified registered nurse anesthetists more restrictive.

Option 3:

Direct the DHP to develop a plan to transition CRNAs with sufficient training and experience to independent practice.

Option 4:

Require DHP to re-analyze the state of the anesthesia workforce in Virginia.

Option 5:

Provide funding to VHWDA to study the capacity and needs of current anesthesiology residency programs and CRNA training programs in Virginia and make recommendations for further expansion.

FINDINGS IN BRIEF

Multiple authorities are responsible for determining supervision requirements of CRNAs

There are at least three layers of rules that may impact the extent to which CRNAs are supervised, including federal rules, state laws, and hospital or facility bylaws. Due to the interplay between these overlapping authorities, CRNA supervision requirements vary widely in each state. In Virginia, CRNAs are currently subject to the federal rule and Code of Virginia § 54.1-2957.

Stakeholders agree that more restrictive supervision requirements would be detrimental to efforts to address anesthesia workforce shortages

Stakeholders agreed that implementing more restrictive supervision requirements for CRNAs would greatly impact how anesthesia care is delivered in Virginia, particularly for remote or rural facilities in Virginia which use proceduralists as CRNA supervisors and may not have physician anesthesiologists on staff.

Available evidence supports a measured approach to changes in CRNA supervision requirements

Evidence indicates that less restrictive CRNA supervision requirements present a low risk of harm to patients and a possible benefit to the anesthesia workforce. State models that step down from supervision into independent practice could be considered so that possible impacts can be monitored over time.

Strengthening Virginia's anesthesia workforce requires a multifaceted approach

Stakeholders interviewed by the JCHC offered alternative strategies to address anesthesia provider workforce shortages beyond changes to CRNA supervision, including the licensing of CAAs to practice in Virginia and developing additional capacity for physician anesthesiologist residency programs and CRNA training programs.

JCHC Analyst: Emily Atkinson

Strategies to Strengthen the Anesthesia Workforce in Virginia

Concerns about the anesthesia workforce in Virginia received significant debate during the 2024 General Assembly session with the introduction of two bills, HB 1322 and SB 33, pertaining to the supervision of Certified Registered Nurse Anesthetists (CRNA; APPENDIX 1a and 1b). CRNAs are advanced practice nurses who specialize in administering anesthesia and, per Virginia law, are required to be supervised by a licensed doctor of medicine, osteopathy, podiatry, or dentistry (*Code of Virginia* § 54.1-2957).

Lacking stakeholder consensus on the impact changes to CRNA supervision requirements would have on the anesthesia workforce, HB 1322 and SB 33 were both tabled and referred by letter to the Joint Commission on Health Care (JCHC) from the House Committee on Health and Human Services and the Senate Committee on Education and Health. These letters requested that the JCHC study "issues related to the supervision of CRNAs, and an assessment of the anesthesia provider workforce including physician anesthesiologists, CRNAs, and certified anesthesiologist assistants (CAAs)."

During the June 2024 Commission meeting, JCHC members directed staff to conduct a targeted, narrowly scoped study on the anesthesia workforce in Virginia, with a focus on:

- Understanding and describing the anesthesia provider workforce to include the role of anesthesiologists, CRNAs, and CAAs, and
- Assessing the impact of and noting considerations for state strategies to expand the anesthesia provider workforce, including changes to CRNA supervision requirements.

Multiple health care professionals are involved in the delivery of anesthesia care to patients

Anesthesia is an important aspect of patient care and prevents patients from feeling pain during surgery or other medical procedures (SIDEBAR). There are three types of health care professionals who can deliver anesthesia care, two of which practice in Virginia. A physician anesthesiologist is a doctor of medicine or osteopathy who administers anesthesia. A CRNA is an advanced practice registered nurse who specializes in administering anesthesia. CAAs practice as members of care teams who work under the direction of a physician anesthesiologist to carry out the anesthesia care plan. CAAs are

Types of anesthesia serve different purposes and vary in intensity. Local anesthesia numbs a small part of the body while regional anesthesia, such as an epidural, blocks pain in large parts of the body. Sedation puts a patient partially to sleep with the ability to easily wake them and is typically used for colonoscopies. General anesthesia makes a patient completely unconscious and unaware of pain and is typically used for major surgeries.

not permitted to practice in Virginia but do practice in 21 other states/localities. Each provider has differing levels of education, training, and responsibilities as it pertains to a patient's anesthesia care.

Anesthesia providers vary in education, training, certification, and licensing requirements

Anesthesia providers must meet varying educational and training requirements before they can practice (TABLE 1). Anesthesiologists complete four years of pre-med undergraduate education and four years of medical school followed by four years of a residency program in anesthesiology, resulting in a minimum of 12 years of education. It is difficult to quantify the number of clinical hours a physician anesthesiologist receives over the course of their training; however, it is estimated that they receive close to 16,000 hours. This is calculated based on anesthesia residency restrictions which state that residents cannot work more than 80 hours per week. CRNAs pursue a nursing degree through four years of nursing school and then must work for at least one year obtaining hands-on experience in an intensive care unit (ICU). They can then apply to attend a three-year doctoral nurse anesthesia program, during which they complete 2,000 clinical hours. Similar to anesthesiologists, CAAs first complete pre-med training through an undergraduate program. They then pursue a two-year master's level Anesthesia Assistant program during which they complete 2,000 clinical hours, resulting in a minimum of 6 years of educational training.

TABLE 1. Anesthesia providers differ in their educational and training requirements

Education Comparison	Anesthesiologist	CRNA	CAA
Degree Level	MD or DO	Doctor of Nursing	Master's Program
Months of Anesthesia Program	48	36 (Note 1)	24-28
Patient Cases	Unclear	650-700	600
Clinical Hours	~16,640 (4 years at 80 hours per week)	2000	2000
Minimum Total Number of Years of Education	12	7	6
Certification	Board Certification	Exam and national certification	Exam and national certification
Licensing in Virginia	Board of Medicine	Board of Nursing & Medicine	N/A (Note 2)

MD = Doctor of Medicine; DO = Doctor of Osteopathy
NOTE 1: By 2025, all new CRNAs must have a doctorate degree from a nurse anesthesia program that is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA).
NOTE 2: CAAs are not permitted to practice in Virginia.
SOURCE: JCHC staff analysis of program documentation, 2024.

While the length of the anesthesia programs represents minimum educational requirements, stakeholders reported that in Virginia, many physician anesthesiologists and CRNAs pursue additional years of training. For example, CRNA programs have such competitive applicants that many seek additional years of experience in an ICU setting before applying. In addition, physician anesthesiologists may move into a fellowship for specialty anesthesia following their residency, instead of going directly into practice. Anesthesiologists interviewed by JCHC staff highlighted their advanced skill set, either in terms of the hours of clinical training in certain procedures, or exposure to complex cases during residencies and fellowships, which they felt qualified them to address more difficult cases and specialty cases, such as pediatric or cardiac patients.

In addition to education, all anesthesia providers can receive certification although the processes and certification bodies differ. Anesthesiologists are medical doctors who can obtain board certification; however, board certification is not required to practice. Conversely, CRNAs and CAAs are both mandated to take certification exams through national accrediting bodies. CRNAs receive certification through the National Board Certification and Recertification for Nurse Anesthetists (NBCRNA) and CAAs receive certification through the National Commission of Certification of Anesthesiologist Assistants (NCCAA).

Responsibilities and tasks can vary depending on the type of anesthesia provider

Responsibilities for anesthesia providers can be divided into (1) preoperative, (2) intraoperative, and (3) postoperative responsibilities. Preoperative responsibilities include tasks such as obtaining patient health history, evaluating the patient, ordering tests, prescribing preanesthetic medications, and developing the anesthesia care plan. Intraoperative responsibilities occur during the procedure and include duties such as prescribing anesthetic medications, administering anesthetic agents, establishing airway interventions, monitoring the patient, and recording intraoperative events. Post operative responsibilities include facilitating emergence and recovery from anesthesia, prescribing post-anesthetic agents, conducting post-anesthesia evaluation, and discharging the patient.

Anesthesiologists and CRNAs can perform similar preoperative, intraoperative, and postoperative responsibilities, while CAAs have less scope (APPENDIX 2). For example, physician anesthesiologists and CRNAs are both capable of developing an anesthesia care plan for a patient; however, CAAs must work under the supervision of a physician anesthesiologist to assist in creating the plan. Also, physician anesthesiologists and CRNAs can prescribe anesthetic medications, while CAAs cannot.

Anesthesia providers deliver services via two models of care

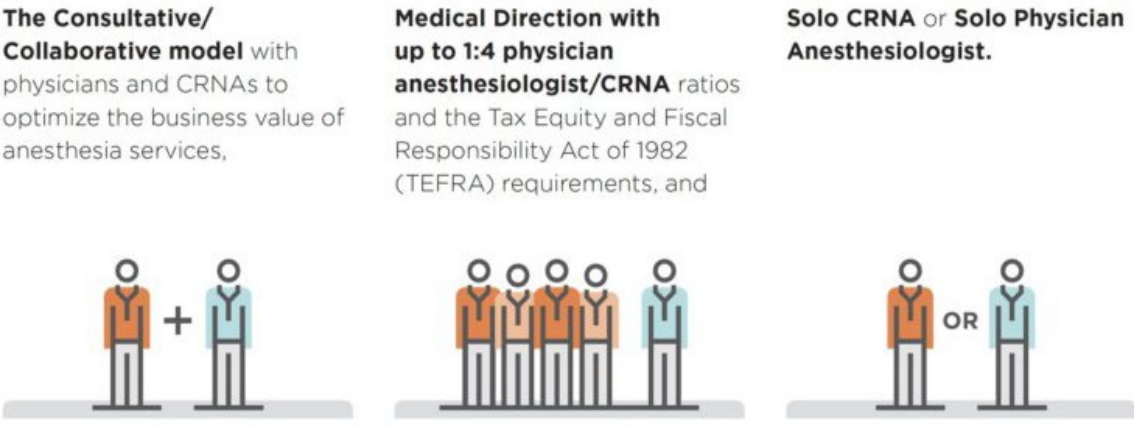
Anesthesia departments may choose to implement services through one of two delivery models: (1) the Anesthesia Care Team (ACT) Model, or (2) the Efficiency Driven Anesthesia Model.

The Anesthesia Care Team Model is directed by a physician anesthesiologist who supervises non-physician anesthesia providers, such as CRNAs or CAAs. There is a clear hierarchy within the model, with the physician anesthesiologist responsible for management of team personnel, patient preanesthetic evaluation, prescription of the anesthetic plan, management of the anesthetic, post anesthesia care, and anesthesia consultation. According to the ACT model, the anesthesiologist may delegate tasks to other team members but should, "participate in critical parts of the anesthetic, and remain immediately available for management of emergencies.[i]"

The Efficiency Driven Anesthesia Model is non-hierarchal and identifies the optimal distribution of anesthesia providers based on factors such as provider availability, provider capabilities, patient acuity, and procedure type while maintaining quality and increasing patient access. The model is flexible to match local demand and financial capacity with three team structures (FIGURE 1):

- The ***consultative/collaboration model*** includes the use of both physician anesthesiologists and CRNAs.
- The ***medical direction model*** uses one physician anesthesiologist who is responsible for overseeing up to four CRNAs, or a 1:4 ratio.
- The ***solo CRNA*** or ***solo physician anesthesiologist model*** involves the selected practitioner delivering anesthesia by themselves.

FIGURE 1. The Efficiency Driven Anesthesia Model offers flexible team structures



SOURCE: American Association of Nurse Anesthesiology. *Efficiency Driven Model Toolkit*, 2022.

[i] American Society of Anesthesiologists. *Statement on the Anesthesia Care Team.* 2023.

Anesthesia providers report multiple factors influence the type of anesthesia delivery models available in Virginia facilities

Based on Virginia Medicare claims from 2022, the most recent year available, 55 percent of anesthesia procedures were performed using the medical direction model. For stakeholders practicing under this model, the most frequently mentioned ratio was 1:4, meaning one anesthesiologist was responsible for supervising four CRNAs. Ratios were even more stringent for specialty and higher acuity cases with providers reporting either a ratio of 1:1 or 1:2 when treating pediatric patients or cardiac cases. Another 23 percent of procedures were performed using the consultative/collaborative model, and 22 percent were performed by a solo anesthesiologist. Stakeholders interviewed for this study indicate that the model used to deliver anesthesia services in Virginia varies based on facility type, geographic location, patient acuity, or the complexity of the surgical procedure.

CRNAs and physician anesthesiologists more often work separately in rural areas than in urban ones. In one national sample of rural hospitals, nearly 55 percent of counties had no anesthesia provider, and for those that did, on average more than 80 percent of anesthesia providers in rural counties were CRNAs. Consistent with national literature, larger hospitals and health systems in Virginia more often reported using the ACT model with a physician anesthesiologist as lead, while smaller rural hospitals and ambulatory surgical centers reported using the solo CRNA model where operating physicians work with CRNAs to provide services. JCHC staff analysis of procedures among Virginia Medicare recipients in rural and remote health districts indicates a smaller proportion of procedures are performed by solo physician anesthesiologists compared to procedures using the medically directed model or the consultative/collaborative model (APPENDIX 3). Given their increased presence in rural areas, studies also indicate that CRNAs were more likely to be the anesthesia providers for vulnerable populations, such as lower-income, uninsured, unemployed, and Medicaid eligible patients, rather than anesthesiologist-provided care.

Specialty cases, such as pediatric or cardiac patients, and higher acuity cases are better suited for anesthesiologists

In Virginia, anesthesiologists, CRNAs, proceduralists (e.g., operating physicians or dentists), and health systems interviewed for this study agree that anesthesiologists are better qualified to take on higher acuity and specialty cases. Interviewees indicated that anesthesiologists were necessary in facilities that served patients with high acuity or complex procedures, and within certain specialty areas, particularly pediatrics and cardiology.

Stakeholders also acknowledged confidence in CRNAs' ability to determine when it is clinically necessary to transfer a case to a higher level of care or determine if a case is not appropriate for the practice setting in which the patient is being treated. CRNAs recognized their role in ensuring patients are being treated in the appropriate setting and described several instances in which high acuity patients were stabilized and transferred to a facility

with an anesthesiologist. As one CRNA interviewed for this study explained, "it's my role as an anesthesia provider to say, hey, this is not a patient that is appropriate for this setting."

Provider shortages are a barrier to timely anesthesia care for patients in Virginia

Nationally, the number of anesthesia providers, including physician anesthesiologists, CRNAs, and CAAs, has increased by 54 percent since 2012. Stakeholders in Virginia however, cite the increasing demand for anesthesia services as the main reason why a shortage of anesthesia providers is still the largest barrier to timely anesthesia care in Virginia.

Supply of anesthesia providers is not keeping pace with demand

Research on the anesthesia workforce points to several factors impacting the demand for anesthesia services, including a growing elderly population, an increasing number of elective and outpatient procedures, and proliferation of non-operating room anesthesia (NORA) sites. Stakeholders in Virginia point to an "explosion" of NORA sites, including imaging centers and ambulatory surgical centers, leading to rationing of the anesthesia provider workforce. At the same time, the supply of physician anesthesiologists is impacted by limits on the number of residency slots, an aging workforce, and burnout. In addition, hospitals expressed increasing financial pressures from rising salaries and competition with private equity groups that offer significant benefits to anesthesiologists and CRNAs not available through private practices or small hospitals.

The number of anesthesiologists practicing in Virginia has increased

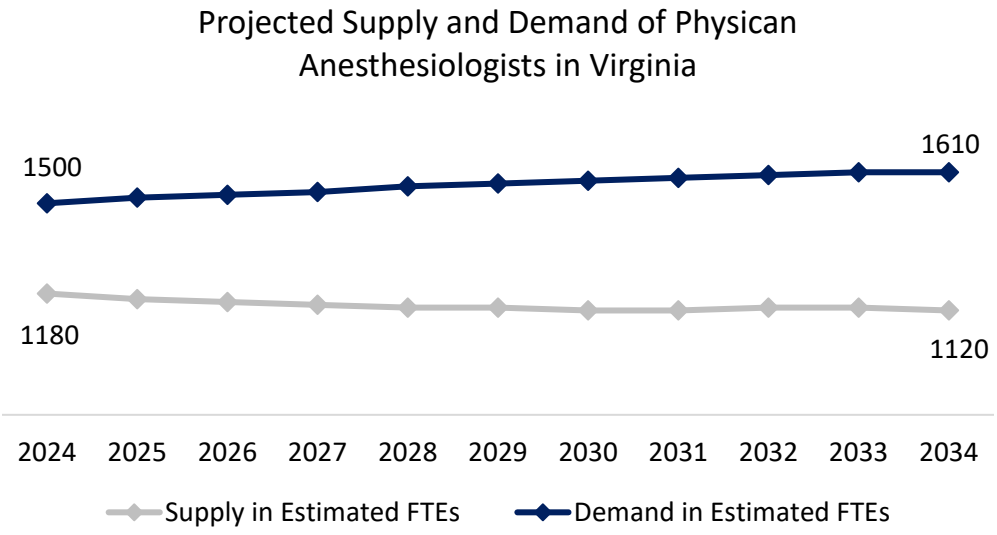
Data from the Virginia Department of Health Professions (DHP) indicate that the number of physicians who are board certified in anesthesiology has increased by 125 providers between 2014 to 2020.[ii] Since the COVID-19 pandemic, stakeholders interviewed for this study report significant shifts in the physician anesthesiologist workforce, including more residents choosing to enter fellowships instead of entering into practice, an increase in retirements, changes in specialties that require less intensive schedules, and a shift towards positions with better work/life balance.

The National Center for Health Workforce Analysis estimates that Virginia's physician anesthesiologists are at 79 percent adequacy in 2024, meaning the current workforce can

[ii] DHP reports a significant decrease in the number of board-certified anesthesiologists practicing in Virginia in 2022, the most recent year of data available. However, DHP staff indicate that the decrease may have resulted from board certifications no longer being a required reporting element.

meet 79 percent of current demand. By 2034, they estimate that adequacy for physician anesthesiologists will drop to 70 percent, attributed to a five percent decrease in the workforce and a seven percent increase in demand (FIGURE 2). This suggests that Virginia will require additional physician anesthesiologists to ensure patients have access to anesthesia services.

FIGURE 2. The demand for anesthesiologists is predicted to increase faster than the supply

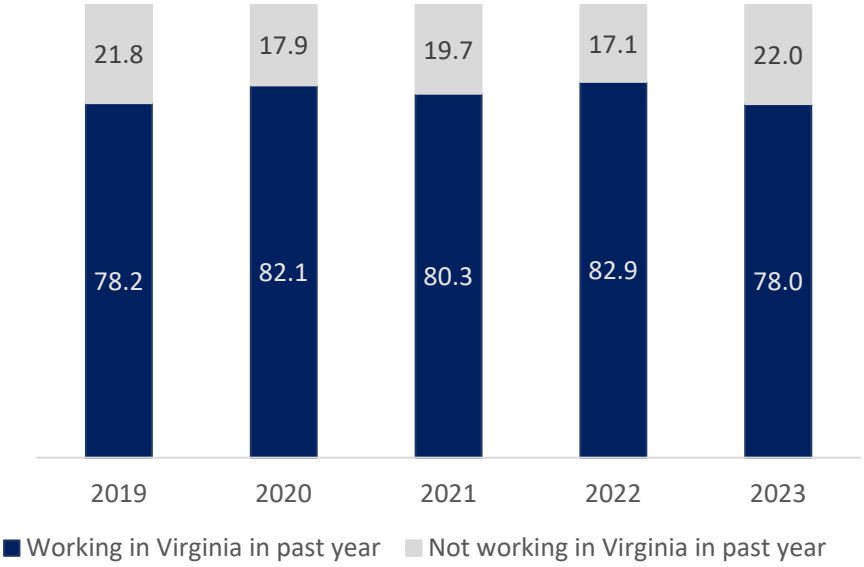


FTE = Full time equivalent
SOURCE: JCHC staff analysis of data from the National Center for Workforce Analysis, 2024.

The number of CRNAs licensed and practicing in Virginia has increased

The total number of CRNAs licensed in Virginia increased by 33 percent in the past five years, from 2,070 in 2019 to 2,771 in 2023. JCHC staff analysis of available DHP data indicates, on average, 80 percent of CRNAs licensed in Virginia also practice in Virginia (FIGURE 3). In 2023, the most recent year available, DHP estimates that 2,162 of 2,771 CRNAs worked in Virginia in the past year. These estimates exclude CRNAs working in Virginia for the federal government, the military, or Veterans Affairs facilities.

FIGURE 3. On average, eighty percent of CRNAs licensed in Virginia also practice in Virginia



SOURCE: JCHC staff analysis of DHP profession report data, 2019-2023.

Between 2024 and 2036, the National Center for Health Workforce Analysis predicts a 24 percent increase in supply of CRNAs in Virginia, but only an 8 percent increase in demand. While Virginia does not currently have enough CRNAs to meet demand, the rapid increase in the number of CRNAs practicing in the state indicates a narrowing, rather than widening, gap between supply and demand.

The Virginia General Assembly considered changing CRNA supervision requirements to strengthen the anesthesia workforce

Currently, Virginia law requires CRNAs to be supervised by a licensed doctor of medicine, osteopathy, podiatry, or dentistry. Some stakeholders suggest that removing supervision requirements would increase access to anesthesia services through the independent practice of CRNAs, while others suggest that CRNAs practicing independently may compromise patient safety and quality of care.

HB 1322 and SB 33 on CRNA Supervision

During Virginia's 2024 legislative session, two bills were introduced regarding CRNA supervision requirements. HB 1322 would have changed the requirement that a CRNA practice *under the supervision of* a doctor of medicine, osteopathy, podiatry, or dentistry to a requirement that a CRNA practice *in consultation with* a doctor of medicine, osteopathy, podiatry, or dentistry. In contrast, SB 33 would have defined supervision as "the licensed doctor of medicine, osteopathy, podiatry, or dentistry is present during an operation or procedure or is immediately available to respond and provide patient care as needed." This sparked a debate within the Virginia General Assembly around the merits of current CRNA supervision requirements. Those in favor of HB 1322 suggested that removing CRNA supervision requirements would increase access to anesthesia care for patients and assist with anesthesia workforce shortages, while those opposed believed removing supervision requirements would be detrimental to the quality and safety of anesthesia care for patients. Those in favor of SB 33 felt that supervision should be further defined to provide clarity around the practice of CRNAs, while those opposed believed SB 33 to define supervision more restrictively than current law requires, therefore potentially exacerbating anesthesia workforce shortages.

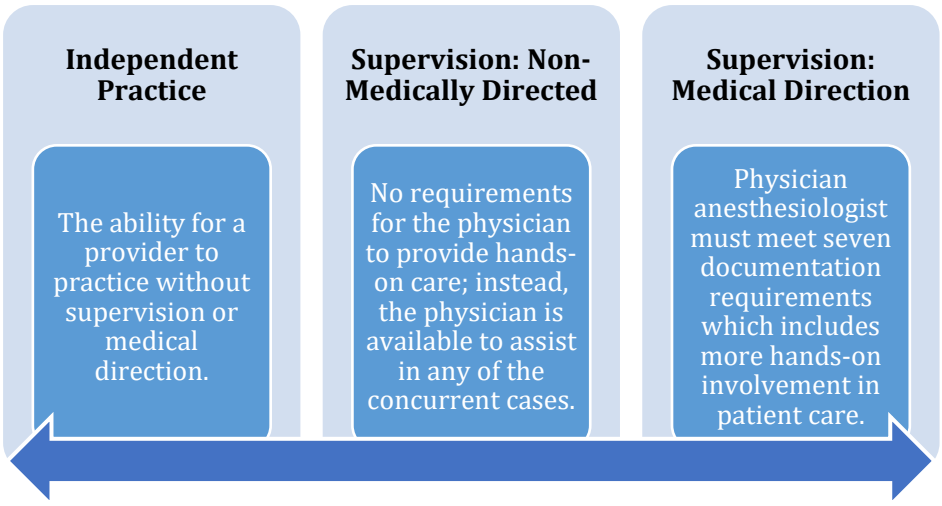
JCHC staff reviewed relevant documents and scientific literature and conducted interviews with more than 50 stakeholders to determine factors influencing CRNA supervision and the potential impacts of proposed changes (see APPENDIX 4 for a full description of methods).

CRNA supervision and scope of practice are separate, distinct concepts

Differing definitions and uses of terms describing CRNA practice, such as supervision and scope of practice, have caused confusion during discussions of key issues on CRNA practice in Virginia. According to the American Medical Association**, scope of practice** "refers to those activities that a person licensed to practice as a health professional is permitted to perform." Scope of practice is best explained as the actual *procedures* a CRNA can perform based on their education and license.

Scope of practice is a distinct and separate concept from **supervision,** which refers to the *type of oversight* with which a CRNA may practice. The type and degree of supervision required for CRNA practice can range from direct, in-person supervision by an anesthesiologist to no supervision (FIGURE 4). The presence of supervision does not innately limit CRNAs' scope of practice. When a CRNA is practicing under supervision, they may still practice the full scope of anesthesia procedures and services they have been trained to perform. Virginia law currently requires CRNAs to practice under the supervision of a licensed doctor of medicine, osteopathy, podiatry, or dentistry but does not require the in-person presence of the supervising practitioner. Nothing in Virginia law currently restricts CRNA scope of practice beyond the American Association of Nurse Anesthesiology standards.

FIGURE 4. CRNAs practice under a spectrum of supervision models



SOURCE: JCHC staff analysis of relevant documentation, 2024.

Multiple authorities are responsible for determining supervision requirements of CRNAs

Supervision requirements are not solely determined by state law or regulation. There are at least three layers of rules that may impact the extent to which CRNAs are supervised, including federal rules, state laws, and hospital or facility bylaws. Due to the interplay between these overlapping authorities, CRNA supervision requirements vary widely in each state. This makes interpreting CRNA supervision by state difficult, as it could vary substantially across patient population and facility types.

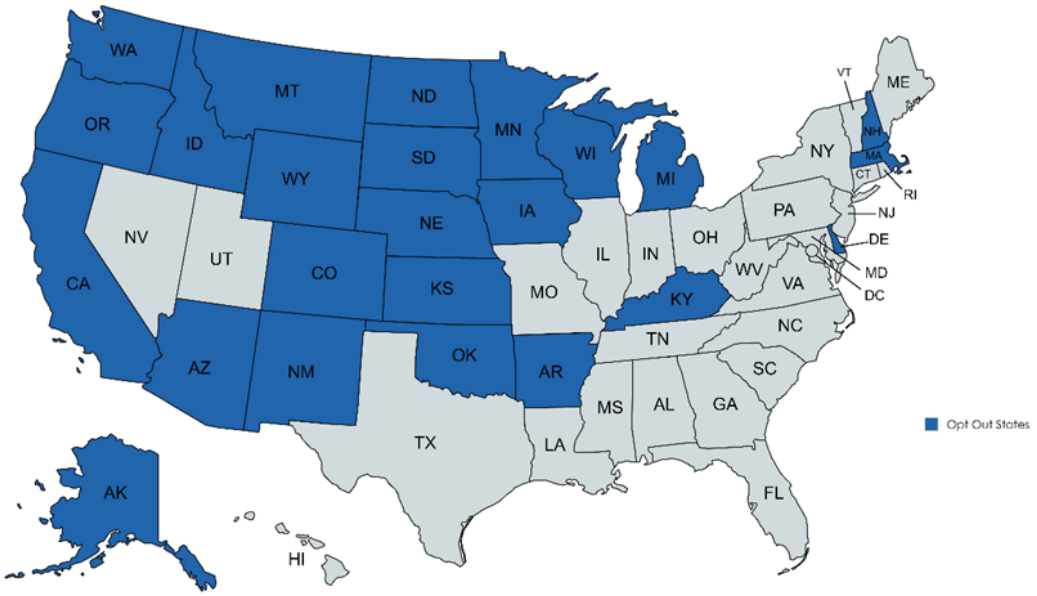
States may choose to opt-out of the federal rule requiring CRNA supervision

Prior to 2001, the federal Centers for Medicare & Medicaid Services (CMS) required, as a Condition of Participation (SIDEBAR) for Medicare and Medicaid reimbursement, that CRNAs in hospitals, critical access hospitals, and ambulatory surgery centers administer anesthesia only under the supervision of an operating practitioner or of an anesthesiologist who is immediately available (42 C.F.R. pts. 416, 482, and 485). Beginning in 2001, CMS permitted states to opt out of this rule if the state's governor sent a letter to CMS attesting consultation with the state's Boards of Medicine and Nursing, affirmed that the opt-out is consistent with state law, and concluded that opting out would be in the best interest of the state.

CMS developed **Conditions of Participation** (CoPs) that health care organizations must meet to begin and continue participating in the Medicare and Medicaid programs. These standards are the foundation for improving quality and protecting the health and safety of beneficiaries.

As of May 2024, 24 states and Guam have opted out of the federal CRNA supervision rule (FIGURE 5). For the remaining 26 states, including Virginia, the federal CRNA supervision rule is still in effect for hospitals and facilities seeking reimbursement from Medicare and Medicaid for CRNA services.

FIGURE 5. Twenty-four states and Guam have opted out of the federal CRNA supervision rule



SOURCE: JCHC staff analysis of documentation provided by CMS, 2024.

Opting out of the federal rule does not guarantee CRNA independent practice. The federal CRNA supervision rule is relevant to reimbursement for CRNA services in hospitals, including critical access hospitals and ambulatory surgical centers. In other scenarios, state law applies, and in some opt out states, the applicable state statute or regulation is more restrictive than the federal rule. In other words, it is possible for a state to opt out of the federal rule and still have state statute or regulations which require CRNAs to practice under supervision or medical direction. For example, Arizona opted out of the federal rule in 2020; however, their state law requires CRNAs to practice under the direction of a physician or surgeon and requires an in-person presence of this supervisor. This language makes Arizona's state law more restrictive than the federal rule. Similarly, Wisconsin opted out of the federal rule in 2005 and has state statute which requires CRNAs to perform anesthesia services "in the presence of a supervising anesthesiologist or performing physician." There are also states that have opted out of the federal rule but still require supervision in particular care settings. For example, New Hampshire opted out of the federal rule in 2002 but only allows CRNAs to deliver anesthesia services without supervision in critical access hospitals. California opted out of the federal rule in 2009 but requires CRNAs to be supervised in trauma centers. So, while these states are typically

counted as "opt-out states," CRNAs are not permitted to practice independently in all settings.

All states describe CRNA supervision in state law or regulation, but language varies considerably

JCHC staff identified state statutes or regulations that describe CRNA supervision in all 50 states and the District of Columbia (see APPENDIX 5 for language from each state). While there are consistencies across states in defining the role of CRNAs, JCHC did not identify a single standard or model policy that multiple states use to describe supervision requirements. In fact, fourteen different terms or phrases are used to describe how CRNAs relate to other health care professionals, such as operating physicians or anesthesiologists, with many states using multiple terms (TABLE 2). States most commonly described the relationship between CRNAs and physicians as collaborative (18 states) or supervisory (11 states, including Virginia). Only 5 states specifically use the term "independent." Fifteen states use language that requires a health care professional other than the CRNA to be immediately available (eight states) or physically present (ten states). Three states require a physician to be immediately available *and* physically present.

TABLE 2. States use 14 terms to describe the relationship between CRNAs and other health care professionals

Term Appearing in Statute or Regulation	Number of States
In collaboration with	18
Under supervision	11
In consultation with	9
Under the direction of	7
Independent	5
Responsible to	2
Refer to	2
Interdependent	2
Without supervision	2
With the consent of	1
Accountable to	1
Delegate to	1
In coordination with	1
Upon request of	1
Total	**63**

NOTE: States can use more than one term.
SOURCE: JCHC staff analysis of state statutes and regulations, 2024.

In Virginia, CRNAs are currently subject to the federal rule and *Code of Virginia* § 54.1-2957. Virginia has not opted out of the federal ruling for CRNA supervision. In addition, *Code of Virginia* § 54.1-2957 requires CRNAs to practice under the supervision of a licensed doctor of medicine, osteopathy, podiatry, or dentistry; however, supervision is not further defined. Virginia regulations in *18VAC90-30-121* further state that, "the practice of a certified registered nurse anesthetist shall be based on specialty education preparation as an advanced practice registered nurse in accordance with standards of the applicable certifying organization and with the functions and standards defined by the American Association of Nurse Anesthetists (Standards for Nurse Anesthesia Practice, Revised 2013)." However, the Standards for Nurse Anesthesia Practice were most recently updated in 2019.

➔ **OPTION 1:** The JCHC could introduce a Section 1 bill directing the Board of Nursing to update regulations governing practice of advance practice registered nurses licensed as certified registered nurse anesthetists (CRNAs) to remove references to any specific edition of the American Association of Nurse Anesthetists' Standards for Nurse Anesthesia Practice, so that the practice of a CRNA shall be consistent with the most recent version of the Standards for Nurse Anesthesia Practice available.

Hospital bylaws determine team structure and define roles for anesthesia providers

In addition to the federal rule and state statute, hospitals and health systems implement their own bylaws for CRNA supervision that can be more restrictive than the state law limiting CRNA practice. For example, a facility could choose to use a more restrictive model of practice, such as **medical direction,** which would mean that the procedures and services a CRNA could perform could be limited by the supervisor to an extent that is more limited than the CRNA's scope of practice. Literature reviewed by JCHC staff indicates that anesthesia team structure, supervision requirements, and the type of procedures and tasks a CRNA is allowed to perform are more hospital-driven than federal rule or state statute-driven. Even in states that opt out of the federal rule and have permissive supervision requirements, some health care facilities still choose to engage in the Anesthesia Care Team model. In Virginia, CRNAs interviewed by JCHC staff reported that the application of hospital bylaws limits the type of procedures and tasks they are allowed to perform more than the state supervision law.

Given the authority health systems have to implement their own bylaws, stakeholders interviewed by JCHC staff expressed uncertainty about the impact of changes in the federal rule or state law. Anesthesiologists hypothesized that hospital bylaws requiring CRNA supervision would likely not change if Virginia opted out of the federal rule. However, health systems said they would consider moving to an efficiency-driven model, where CRNAs could practice independently at certain facilities or under certain circumstances. One health system noted, "we would probably still keep [supervision] in place at our

hospitals because in the acute setting, those patients are sicker, and the anesthesia is more complicated. But what we would also do is, in an ambulatory setting, we might loosen [supervision restrictions]."

Stakeholders do not want more restrictive CRNA practice but disagree on the impact of reducing CRNA supervision requirements

While stakeholders interviewed by JCHC for this study had varying opinions on reducing CRNA supervision requirements, they were unanimously opposed to implementing more restrictive supervision requirements.

Stakeholders agree that more restrictive supervision requirements would be detrimental to efforts to address anesthesia workforce shortages

In general, CRNAs and proceduralists indicated that Virginia statute, as currently written, was flexible enough to allow anesthesia providers to practice as they preferred and to allow proceduralists to deliver anesthesia care to their patients as they preferred, with CRNAs under the supervision of an anesthesiologist or a proceduralist. Some anesthesiologists expressed a preference for more restrictive supervision, where CRNAs always practiced under their supervision, but they also recognized that such a structure would be impractical given current workforce shortages. Most anesthesiologists believe that the current state law is working for Virginia. One anesthesiologist stated, "good care is happening under our current system" and another recognized that the current law is flexible enough for hospitals to implement the supervision requirements that fit their situation. Stakeholders universally agreed that implementing more restrictive supervision requirements for CRNAs would greatly impact how anesthesia care is delivered in Virginia, particularly for remote or rural facilities in Virginia which use proceduralists as CRNA supervisors and may not have physician anesthesiologists on staff.

➔ **OPTION 2:** The JCHC should not recommend any policy that would make supervision of certified registered nurse anesthetists more restrictive than current state statute or federal rule require.

There is no consensus among stakeholders regarding the impact of reducing supervision requirements

Stakeholders had varying opinions on the impact that reducing CRNA supervision requirements would have on the anesthesia provider workforce in Virginia. Anesthesiologists generally oppose reducing supervision due to concerns about patient safety. They hypothesized that, if CRNA supervision were removed, anesthesia care would develop into a two-tiered model in Virginia, where certain populations would have access to an anesthesiologist and certain populations would have access to a CRNA depending on

where they live and not the type of care they need. In terms of the impact on the workforce, anesthesiologists typically believed that changing CRNA supervision requirements would create additional workforce concerns as anesthesiologists would seek out practice environments where they are "actually contributing to care rather than just signing pieces of paper" and proceduralists who are uncomfortable in a CRNA-only environment would choose to practice elsewhere.

CRNAs interviewed by JCHC staff supported reducing supervision requirements. CRNAs reported that the current state law does not, in their opinion, reflect current practice with its emphasis on supervision instead of collaboration. Anesthesiologists interviewed for this study often used the word "collaborative" to describe their relationship with CRNAs. One CRNA stated, "it's the anesthesiologist's job to assess the risk of the patient, do the pre-operative, and then be there for that extra set of hands if you ever need them, but then we're performing 95% of the anesthesia that happens." CRNAs felt that changing supervision requirements could eliminate confusion about current practice and address concerns about the relationship between supervision and liability that make some proceduralists hesitant to work with CRNAs.

Many CRNAs expressed that in cases where a proceduralist is providing supervision, they are providing supervision on paper, but not in practice. Proceduralists are not experts in airways or anesthesia and therefore do not truly supervise CRNAs in the way that a physician anesthesiologist would. CRNAs believe that loosening supervision requirements in Virginia would not have a huge impact on how anesthesia care is being delivered but would instead more accurately reflect what is already occurring in practice and possibly reduce the administrative burdens supervision carries, leading to less costly care for patients, and more CRNAs wanting to come to Virginia to practice.

Hospitals and health systems remained neutral in their opinions around the impact of changing CRNA supervision requirements. While they would not oppose additional flexibility around supervision rules and would welcome the opportunity to move to an efficiency driven model, changes to supervision requirements at the state level would likely not have significant impacts on how they operate, particularly for specialty cases and higher acuity cases. One health system indicated that, if state law became less restrictive, they would be willing to reconsider their bylaws to allow CRNAs to practice more independently. In contrast, a specialty hospital indicated that they would not change their bylaws regarding CRNA supervision, even if state law became less restrictive, given the acuity of patients that come to their hospital.

There is little evidence to suggest that CRNAs decrease patient safety, patient outcomes, or quality of care compared to anesthesiologists

Anesthesiologists opposed to changes in CRNA practice believed patient safety would be compromised if supervision requirements were removed as CRNAs would not have back up in the operating room if something went wrong. However, the literature reviewed by JCHC

staff does not support this concern. A number of studies provided quantitative evidence that there is no difference in patient safety or patient outcomes with CRNAs compared to anesthesiologists. Multiple stakeholders interviewed for this study agreed that both anesthesiologists and CRNAs provide safe, effective, and high-quality anesthesia services to patients. Several Virginia-based health systems also expressed that they did not see a difference in care quality between the different anesthesia providers that were employed by their health system.

Evidence is mixed on whether CRNAs increase access to care for patients

Proceduralists interviewed by JCHC staff noted that working with CRNAs had improved access to care for their patients by allowing them to treat patients in an outpatient setting who would otherwise have had to be hospitalized. However, evidence from the scientific literature is mixed on the impact of CRNA supervision on access to anesthesia care. While CRNAs have been shown to assist with workforce shortages and access to anesthesia services more generally, it is unclear if changes in supervision requirements are the reason patients' access to anesthesia services increases. A handful of studies provided evidence that CRNAs are more likely to practice in rural and underserved areas, but multiple studies also showed that reducing supervision requirements had no impact on patient's access to anesthesia services. This suggests that the presence of CRNAs on a care team might increase access to anesthesia services more generally, but changes in supervision requirements do not necessarily equate to increased access for patients.

Available evidence supports a measured approach to changes in CRNA supervision requirements

In summary, evidence reviewed by JCHC staff for this study indicates that less restrictive CRNA supervision requirements present a low risk of harm to patients and a possible benefit to the anesthesia workforce. If repealing or reducing CRNA supervision requirements is of interest to the General Assembly, state models that step down from supervision into independent practice could be considered so that possible impacts can be monitored over time, including any unintended consequences.

Three states allow CRNAs to transition from supervised practice to independent practice based on specific criteria. In Michigan, for example, CRNAs may practice without supervision after 3 years of experience and a minimum of 4,000 hours as a nurse anesthetist. In Vermont, a formal agreement with a collaborating provider is required until CRNAs reach 12 months of experience or 1,600 hours. And in Connecticut, CRNAs must practice under a physician for the first three years after receiving their initial licensure.

➔ **OPTION 3:** JCHC could introduce a Section 1 bill directing the Department of Health Professions, in consultation with the Board of Medicine and the Board of Nursing, to develop a plan to transition CRNAs with sufficient training and experience to independent practice. Development of the plan should include stakeholder engagement, considerations

for opting out of the federal rule, and methods to monitor the effects of implementation. The plan should specify the training and experience necessary for transition to independent practice, including (i) the appropriate number of clinical hours and years of practice required for transition to independent practice and any requirements related to clinical hours dedicated to specialty anesthesia services such as anesthesia services for pediatric, cardiac, or higher acuity patients, if appropriate, and (ii) the process by which a CRNA may apply for and obtain permission to practice without supervision. DHP would submit the plan and suggested language for legislation to the Joint Commission on Health Care by October 1, 2025.

Strengthening Virginia's anesthesia workforce requires a multifaceted approach

Stakeholders interviewed by the JCHC offered alternative strategies to address anesthesia provider workforce shortages beyond changes to CRNA supervision, including the licensing of CAAs to practice in Virginia and developing additional capacity for physician anesthesiologist residency programs and CRNA training programs.

CAAs practice in 21 states and Washington, D.C. but supply is limited

CAAs practice in 21 states and Washington, D.C. Currently, Virginia does not allow CAAs to practice and there are no CAA training programs in the state. Most states that license CAAs have explicit licensure through the state medical board, but four states (Kansas, Michigan, Pennsylvania, Texas) require CAAs to practice under delegatory authority of an anesthesiologist's license, and one state (Kentucky) requires CAAs to also have a physician assistant license to practice. There are 20 CAA training programs across the United States, with the closest to Virginia being in Washington, D.C., and as of 2024, there were approximately 4,000 CAAs in total across the entire country. For CAAs to be a health care extender in Virginia, additional training capacity would be required. As such, CAAs would not necessarily address short-term workforce issues.

CAAs are limited in the tasks they can perform and, unlike CRNAs, must always be under the direction of an anesthesiologist. Although the tasks that CAAs can carry out vary from state to state, most commonly CAAs can administer controlled substances, establish airway interventions, and perform epidurals. Anesthesiologists and health systems who provided perspective on the CAAs felt that even with their limited scope, CAAs could assist with workforce shortages in areas where anesthesiologists are practicing by reducing strain on the current anesthesia workforce and providing hospitals additional staffing flexibility. For example, one health system indicated that they would use CAAs consistent with their skill set, adding, "we can control the safety and make sure we have the same level of care, not because of anything the Commonwealth would do, but because of our own regulations and bylaws."

In 2017, DHP conducted a study on the feasibility of licensing CAAs at the request of the Virginia General Assembly. At that time, the DHP report concluded that licensing CAAs was not recommended due, in part, to a lack of proof of a statewide shortage of anesthesia providers. However, workforce projections used in DHP's analysis have changed significantly since that time given the impacts of the COVID-19 pandemic and the slow pace at which the health care workforce generally, and the anesthesia provider workforce specifically, has been able to recover.

➔ **OPTION 4:** JCHC could submit a Section 1 bill requiring the Department of Health Professions to re-analyze the state of the anesthesia workforce in Virginia with the most current data available to determine whether there is sufficient proof of an anesthesia workforce shortage that would justify licensure of certified anesthesiologist assistants. The Department would submit a report to the Joint Commission on Health Care by October 1, 2025.

Stakeholders support increasing the pipeline of anesthesiologists and CRNAs in Virginia

Stakeholders interviewed for this study nearly unanimously supported increasing the capacity of Virginia's physician anesthesiology residency programs and CRNA doctoral training programs as a strategy to address provider shortages. National research also supports the value of increasing the anesthesia provider pipeline, with one study indicating that an annual increase of two percentage points in the entry rate of anesthesia providers would eliminate nearly all excess demand within seven years.

Virginia's anesthesiology residency programs and CRNA training programs are operating at capacity

Education and training program leaders indicate significant interest in pursuing careers in anesthesia; however, programs lack capacity to accommodate all qualified candidates. Currently, there are three anesthesiology residency programs in Virginia, located at Virginia Commonwealth University (VCU), the University of Virginia (UVA), and Eastern Virginia Medical School (EVMS). Data from the National Residency Matching Program reports the number of residency slots for anesthesiologists in Virginia has increased from 27 residents in 2020 to 33 residents in 2024. Except for 2020, when there was one less resident than slots, residency slots for the three programs in Virginia have been filled. In addition, Mary Baldwin University announced a new anesthesiology residency program to begin in July 2025 with a class of 6 residents.

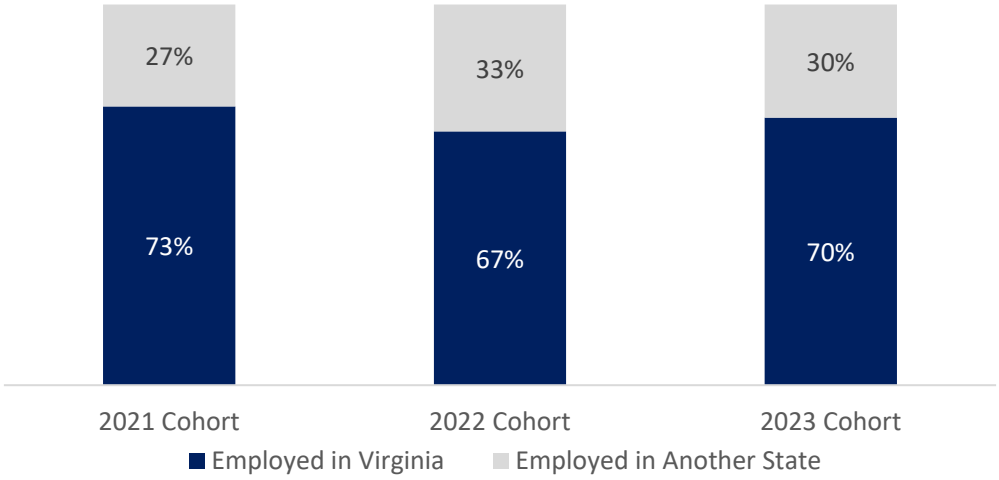
Old Dominion University (ODU), Virginia Commonwealth University (VCU), and Mary Baldwin University operate Virginia's three accredited CRNA training programs. Program capacity varies, with VCU admitting 55 students, ODU admitting 30 students, and Mary Baldwin admitting 25 students into their most recent cohorts. These programs are very

popular and competitive; one program director reported turning away over 500 qualified applicants.

Most anesthesia providers who graduate from Virginia programs gain employment in Virginia

Among physicians with a board certification in anesthesiology currently practicing in Virginia, 34 percent completed graduate school or their post-graduate training in Virginia and an additional 25 percent completed graduate school or their post-graduate training in a state/locality bordering Virginia. Similarly, most graduates from CRNA training programs at VCU and ODU gain employment in Virginia following graduation (FIGURE 6).[iii] In 2023, 70 percent of graduating CRNAs reported employment in Virginia whereas 30 percent reported employment in other states.

FIGURE 6. CRNAs graduating from Virginia programs seek employment in Virginia following graduation



SOURCE: JCHC analysis of CRNA training program data, 2024.

Adding capacity to existing programs or creating new programs requires careful consideration to balance the resources needed for additional faculty and clinical training opportunities within existing workforce needs. Proper planning also avoids workforce saturation and ensures programs are of appropriate educational quality and can provide meaningful clinical training to their students.

[iii] Mary Baldwin expects their first graduating cohort in 2025.

➔ **OPTION 5:** JCHC could submit a budget amendment, providing funding to the Virginia Health Workforce Development Authority (VHWDA) to, in collaboration with the State Council of Higher Education for Virginia, and other relevant stakeholders, study the capacity and needs of current anesthesiology residency programs and CRNA training programs in Virginia and make recommendations for further expansion. VHWDA would submit a report to the Joint Commission on Health Care and to the Chairs of the House Appropriations Committee and Senate Finance and Appropriations Committee by October 1, 2026.

Appendix 1a: House Bill 1322

2024 SESSION

HOUSE SUBSTITUTE

24107103D

HOUSE BILL NO. 1322
AMENDMENT IN THE NATURE OF A SUBSTITUTE
(Proposed by the House Committee on Health and Human Services
on February 8, 2024)
(Patron Prior to Substitute—Delegate Sickles)

A BILL to amend and reenact §§ 54.1-2900 and 54.1-2957 of the Code of Virginia, relating to certified registered nurse anesthetist; elimination of supervision requirement.

Be it enacted by the General Assembly of Virginia:

1. That §§ 54.1-2900 and 54.1-2957 of the Code of Virginia are amended and reenacted as follows:

§ 54.1-2900. Definitions.

As used in this chapter, unless the context requires a different meaning:

"Acupuncturist" means an individual approved by the Board to practice acupuncture. This is limited to "licensed acupuncturist" which means an individual other than a doctor of medicine, osteopathy, chiropractic or podiatry who has successfully completed the requirements for licensure established by the Board (approved titles are limited to: Licensed Acupuncturist, Lic.Ac., and L.Ac.).

"Advanced practice registered nurse" means a certified nurse midwife, certified registered nurse anesthetist, clinical nurse specialist, or nurse practitioner who is jointly licensed by the Boards of Medicine and Nursing pursuant to § 54.1-2957, has completed an advanced graduate-level education program in a specialty category of nursing, and has passed a national certifying examination for that specialty.

"Auricular acupuncture" means the subcutaneous insertion of sterile, disposable acupuncture needles in predetermined, bilateral locations in the outer ear when used exclusively and specifically in the context of a chemical dependency treatment program.

"Birth control" means contraceptive methods that are approved by the U.S. Food and Drug Administration. "Birth control" shall not be considered abortion for the purposes of Title 18.2.

"Board" means the Board of Medicine.

"Certified nurse midwife" means an advanced practice registered nurse who is certified in the specialty of nurse midwifery and who is jointly licensed by the Boards of Medicine and Nursing as an advanced practice registered nurse pursuant to § 54.1-2957.

"Certified registered nurse anesthetist" means an advanced practice registered nurse who is certified in the specialty of nurse anesthesia, who is jointly licensed by the Boards of Medicine and Nursing as an advanced practice registered nurse pursuant to § 54.1-2957, and who practices ~~under the supervision of~~ *in consultation with* a doctor of medicine, osteopathy, podiatry, or dentistry but is not subject to the practice agreement requirement described in § 54.1-2957.

"Clinical nurse specialist" means an advanced practice registered nurse who is certified in the specialty of clinical nurse specialist and who is jointly licensed by the Boards of Medicine and Nursing as an advanced practice registered nurse pursuant to § 54.1-2957.

"Collaboration" means the communication and decision-making process among health care providers who are members of a patient care team related to the treatment of a patient that includes the degree of cooperation necessary to provide treatment and care of the patient and includes (i) communication of data and information about the treatment and care of a patient, including the exchange of clinical observations and assessments, and (ii) development of an appropriate plan of care, including decisions regarding the health care provided, accessing and assessment of appropriate additional resources or expertise, and arrangement of appropriate referrals, testing, or studies.

"Consultation" means communicating data and information, exchanging clinical observations and assessments, accessing and assessing additional resources and expertise, problem-solving, and arranging for referrals, testing, or studies.

"Genetic counselor" means a person licensed by the Board to engage in the practice of genetic counseling.

"Healing arts" means the arts and sciences dealing with the prevention, diagnosis, treatment and cure or alleviation of human physical or mental ailments, conditions, diseases, pain or infirmities.

"Licensed certified midwife" means a person who is licensed as a certified midwife by the Boards of Medicine and Nursing.

"Medical malpractice judgment" means any final order of any court entering judgment against a licensee of the Board that arises out of any tort action or breach of contract action for personal injuries or wrongful death, based on health care or professional services rendered, or that should have been rendered, by a health care provider, to a patient.

"Medical malpractice settlement" means any written agreement and release entered into by or on behalf of a licensee of the Board in response to a written claim for money damages that arises out of

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any personal injuries or wrongful death, based on health care or professional services rendered, or that should have been rendered, by a health care provider, to a patient.

"Nurse practitioner" means an advanced practice registered nurse, other than an advanced practice registered nurse licensed by the Boards of Medicine and Nursing in the category of certified nurse midwife, certified registered nurse anesthetist, or clinical nurse specialist, who is jointly licensed by the Boards of Medicine and Nursing pursuant to § 54.1-2957.

"Occupational therapy assistant" means an individual who has met the requirements of the Board for licensure and who works under the supervision of a licensed occupational therapist to assist in the practice of occupational therapy.

"Patient care team" means a multidisciplinary team of health care providers actively functioning as a unit with the management and leadership of one or more patient care team physicians for the purpose of providing and delivering health care to a patient or group of patients.

"Patient care team physician" means a physician who is actively licensed to practice medicine in the Commonwealth, who regularly practices medicine in the Commonwealth, and who provides management and leadership in the care of patients as part of a patient care team.

"Patient care team podiatrist" means a podiatrist who is actively licensed to practice podiatry in the Commonwealth, who regularly practices podiatry in the Commonwealth, and who provides management and leadership in the care of patients as part of a patient care team.

"Physician assistant" means a health care professional who has met the requirements of the Board for licensure as a physician assistant.

"Practice of acupuncture" means the stimulation of certain points on or near the surface of the body by the insertion of needles to prevent or modify the perception of pain or to normalize physiological functions, including pain control, for the treatment of certain ailments or conditions of the body and includes the techniques of electroacupuncture, cupping and moxibustion. The practice of acupuncture does not include the use of physical therapy, chiropractic, or osteopathic manipulative techniques; the use or prescribing of any drugs, medications, serums or vaccines; or the procedure of auricular acupuncture as exempted in § 54.1-2901 when used in the context of a chemical dependency treatment program for patients eligible for federal, state or local public funds by an employee of the program who is trained and approved by the National Acupuncture Detoxification Association or an equivalent certifying body.

"Practice of athletic training" means the prevention, recognition, evaluation, and treatment of injuries or conditions related to athletic or recreational activity that requires physical skill and utilizes strength, power, endurance, speed, flexibility, range of motion or agility or a substantially similar injury or condition resulting from occupational activity immediately upon the onset of such injury or condition; and subsequent treatment and rehabilitation of such injuries or conditions under the direction of the patient's physician or under the direction of any doctor of medicine, osteopathy, chiropractic, podiatry, or dentistry, while using heat, light, sound, cold, electricity, exercise or mechanical or other devices.

"Practice of behavior analysis" means the design, implementation, and evaluation of environmental modifications, using behavioral stimuli and consequences, to produce socially significant improvement in human behavior, including the use of direct observation, measurement, and functional analysis of the relationship between environment and behavior.

"Practice of chiropractic" means the adjustment of the 24 movable vertebrae of the spinal column, and assisting nature for the purpose of normalizing the transmission of nerve energy, but does not include the use of surgery, obstetrics, osteopathy, or the administration or prescribing of any drugs, medicines, serums, or vaccines. "Practice of chiropractic" shall include (i) requesting, receiving, and reviewing a patient's medical and physical history, including information related to past surgical and nonsurgical treatment of the patient and controlled substances prescribed to the patient, and (ii) documenting in a patient's record information related to the condition and symptoms of the patient, the examination and evaluation of the patient made by the doctor of chiropractic, and treatment provided to the patient by the doctor of chiropractic. "Practice of chiropractic" shall also include performing the physical examination of an applicant for a commercial driver's license or commercial learner's permit pursuant to § 46.2-341.12 if the practitioner has (i) applied for and received certification as a medical examiner pursuant to 49 C.F.R. Part 390, Subpart D and (ii) registered with the National Registry of Certified Medical Examiners.

"Practice of genetic counseling" means (i) obtaining and evaluating individual and family medical histories to assess the risk of genetic medical conditions and diseases in a patient, his offspring, and other family members; (ii) discussing the features, history, diagnosis, environmental factors, and risk management of genetic medical conditions and diseases; (iii) ordering genetic laboratory tests and other diagnostic studies necessary for genetic assessment; (iv) integrating the results with personal and family medical history to assess and communicate risk factors for genetic medical conditions and diseases; (v) evaluating the patient's and family's responses to the medical condition or risk of recurrence and providing client-centered counseling and anticipatory guidance; (vi) identifying and utilizing community

resources that provide medical, educational, financial, and psychosocial support and advocacy; and (vii) providing written documentation of medical, genetic, and counseling information for families and health care professionals.

"Practice of licensed certified midwifery" means the provision of primary health care for preadolescents, adolescents, and adults within the scope of practice of a certified midwife established in accordance with the Standards for the Practice of Midwifery set by the American College of Nurse-Midwives, including (i) providing sexual and reproductive care and care during pregnancy and childbirth, postpartum care, and care for the newborn for up to 28 days following the birth of the child; (ii) prescribing of pharmacological and non-pharmacological therapies within the scope of the practice of midwifery; (iii) consulting or collaborating with or referring patients to such other health care providers as may be appropriate for the care of the patients; and (iv) serving as an educator in the theory and practice of midwifery.

"Practice of medicine or osteopathic medicine" means the prevention, diagnosis, and treatment of human physical or mental ailments, conditions, diseases, pain, or infirmities by any means or method.

"Practice of occupational therapy" means the therapeutic use of occupations for habilitation and rehabilitation to enhance physical health, mental health, and cognitive functioning and includes the evaluation, analysis, assessment, and delivery of education and training in basic and instrumental activities of daily living; the design, fabrication, and application of orthoses (splints); the design, selection, and use of adaptive equipment and assistive technologies; therapeutic activities to enhance functional performance; vocational evaluation and training; and consultation concerning the adaptation of physical, sensory, and social environments.

"Practice of podiatry" means the prevention, diagnosis, treatment, and cure or alleviation of physical conditions, diseases, pain, or infirmities of the human foot and ankle, including the medical, mechanical and surgical treatment of the ailments of the human foot and ankle, but does not include amputation of the foot proximal to the transmetatarsal level through the metatarsal shafts. Amputations proximal to the metatarsal-phalangeal joints may only be performed in a hospital or ambulatory surgery facility accredited by an organization listed in § 54.1-2939. The practice includes the diagnosis and treatment of lower extremity ulcers; however, the treatment of severe lower extremity ulcers proximal to the foot and ankle may only be performed by appropriately trained, credentialed podiatrists in an approved hospital or ambulatory surgery center at which the podiatrist has privileges, as described in § 54.1-2939. The Board of Medicine shall determine whether a specific type of treatment of the foot and ankle is within the scope of practice of podiatry.

"Practice of radiologic technology" means the application of ionizing radiation to human beings for diagnostic or therapeutic purposes.

"Practice of respiratory care" means the (i) administration of pharmacological, diagnostic, and therapeutic agents related to respiratory care procedures necessary to implement a treatment, disease prevention, pulmonary rehabilitative, or diagnostic regimen prescribed by a practitioner of medicine or osteopathic medicine; (ii) transcription and implementation of the written or verbal orders of a practitioner of medicine or osteopathic medicine pertaining to the practice of respiratory care; (iii) observation and monitoring of signs and symptoms, general behavior, general physical response to respiratory care treatment and diagnostic testing, including determination of whether such signs, symptoms, reactions, behavior or general physical response exhibit abnormal characteristics; and (iv) implementation of respiratory care procedures, based on observed abnormalities, or appropriate reporting, referral, respiratory care protocols or changes in treatment pursuant to the written or verbal orders by a licensed practitioner of medicine or osteopathic medicine or the initiation of emergency procedures, pursuant to the Board's regulations or as otherwise authorized by law. The practice of respiratory care may be performed in any clinic, hospital, skilled nursing facility, private dwelling or other place deemed appropriate by the Board in accordance with the written or verbal order of a practitioner of medicine or osteopathic medicine, and shall be performed under qualified medical direction.

"Practice of surgical assisting" means the performance of significant surgical tasks, including manipulation of organs, suturing of tissue, placement of hemostatic agents, injection of local anesthetic, harvesting of veins, implementation of devices, and other duties as directed by a licensed doctor of medicine, osteopathy, or podiatry under the direct supervision of a licensed doctor of medicine, osteopathy, or podiatry.

"Qualified medical direction" means, in the context of the practice of respiratory care, having readily accessible to the respiratory therapist a licensed practitioner of medicine or osteopathic medicine who has specialty training or experience in the management of acute and chronic respiratory disorders and who is responsible for the quality, safety, and appropriateness of the respiratory services provided by the respiratory therapist.

"Radiologic technologist" means an individual, other than a licensed doctor of medicine, osteopathy, podiatry, or chiropractic or a dentist licensed pursuant to Chapter 27 (§ 54.1-2700 et seq.), who (i)

performs, may be called upon to perform, or is licensed to perform a comprehensive scope of diagnostic or therapeutic radiologic procedures employing ionizing radiation and (ii) is delegated or exercises responsibility for the operation of radiation-generating equipment, the shielding of patient and staff from unnecessary radiation, the appropriate exposure of radiographs, the administration of radioactive chemical compounds under the direction of an authorized user as specified by regulations of the Department of Health, or other procedures that contribute to any significant extent to the site or dosage of ionizing radiation to which a patient is exposed.

"Radiologic technologist, limited" means an individual, other than a licensed radiologic technologist, dental hygienist, or person who is otherwise authorized by the Board of Dentistry under Chapter 27 (§ 54.1-2700 et seq.) and the regulations pursuant thereto, who performs diagnostic radiographic procedures employing equipment that emits ionizing radiation that is limited to specific areas of the human body.

"Radiologist assistant" means an individual who has met the requirements of the Board for licensure as an advanced-level radiologic technologist and who, under the direct supervision of a licensed doctor of medicine or osteopathy specializing in the field of radiology, is authorized to (i) assess and evaluate the physiological and psychological responsiveness of patients undergoing radiologic procedures; (ii) evaluate image quality, make initial observations, and communicate observations to the supervising radiologist; (iii) administer contrast media or other medications prescribed by the supervising radiologist; and (iv) perform, or assist the supervising radiologist to perform, any other procedure consistent with the guidelines adopted by the American College of Radiology, the American Society of Radiologic Technologists, and the American Registry of Radiologic Technologists.

"Respiratory care" means the practice of the allied health profession responsible for the direct and indirect services, including inhalation therapy and respiratory therapy, in the treatment, management, diagnostic testing, control, and care of patients with deficiencies and abnormalities associated with the cardiopulmonary system under qualified medical direction.

"Surgical assistant" means an individual who has met the requirements of the Board for licensure as a surgical assistant and who works under the direct supervision of a licensed doctor of medicine, osteopathy, or podiatry.

§ 54.1-2957. Licensure and practice of advanced practice registered nurses.

A. As used in this section, "clinical experience" means the postgraduate delivery of health care directly to patients pursuant to a practice agreement with a patient care team physician.

B. The Board of Medicine and the Board of Nursing shall jointly prescribe the regulations governing the licensure of advanced practice registered nurses. It is unlawful for a person to practice as an advanced practice registered nurse in the Commonwealth unless he holds such a joint license.

C. Every nurse practitioner who meets the requirements of subsection I shall maintain appropriate collaboration and consultation, as evidenced in a written or electronic practice agreement, with at least one patient care team physician. A nurse practitioner who meets the requirements of subsection I may practice without a written or electronic practice agreement. A certified nurse midwife shall practice pursuant to subsection H. A clinical nurse specialist shall practice pursuant to subsection J. A certified registered nurse anesthetist shall practice ~~under the supervision of~~ *in consultation with* a licensed doctor of medicine, osteopathy, podiatry, or dentistry *and under the regulations jointly promulgated by the Board of Medicine and the Board of Nursing*. An advanced practice registered nurse who is appointed as a medical examiner pursuant to § 32.1-282 shall practice in collaboration with a licensed doctor of medicine or osteopathic medicine who has been appointed to serve as a medical examiner pursuant to § 32.1-282. Collaboration and consultation among advanced practice registered nurses and patient care team physicians may be provided through telemedicine as described in § 38.2-3418.16.

Physicians on patient care teams may require that an advanced practice registered nurse be covered by a professional liability insurance policy with limits equal to the current limitation on damages set forth in § 8.01-581.15.

Service on a patient care team by a patient care team member shall not, by the existence of such service alone, establish or create liability for the actions or inactions of other team members.

D. The Boards of Medicine and Nursing shall jointly promulgate regulations specifying collaboration and consultation among physicians and advanced practice registered nurses working as part of patient care teams that shall include the development of, and periodic review and revision of, a written or electronic practice agreement; guidelines for availability and ongoing communications that define consultation among the collaborating parties and the patient; and periodic joint evaluation of the services delivered. Practice agreements shall include provisions for (i) periodic review of health records, which may include visits to the site where health care is delivered, in the manner and at the frequency determined by the advanced practice registered nurse and the patient care team physician and (ii) input from appropriate health care providers in complex clinical cases and patient emergencies and for referrals. Evidence of a practice agreement shall be maintained by an advanced practice registered nurse and provided to the Boards upon request. For advanced practice registered nurses providing care to

patients within a hospital or health care system, the practice agreement may be included as part of documents delineating the advanced practice registered nurse's clinical privileges or the electronic or written delineation of duties and responsibilities in collaboration and consultation with a patient care team physician.

E. The Boards of Medicine and Nursing may issue a license by endorsement to an applicant to practice as an advanced practice registered nurse if the applicant has been licensed as an advanced practice registered nurse under the laws of another state and, pursuant to regulations of the Boards, the applicant meets the qualifications for licensure required of advanced practice registered nurses in the Commonwealth. An advanced practice registered nurse to whom a license is issued by endorsement may practice without a practice agreement with a patient care team physician pursuant to subsection I if such application provides an attestation to the Boards that the applicant has completed the equivalent of at least five years of full-time clinical experience, as determined by the Boards, in accordance with the laws of the state in which the nurse practitioner was licensed.

F. Pending the outcome of the next National Specialty Examination, the Boards may jointly grant temporary licensure to advanced practice registered nurses.

G. In the event a physician who is serving as a patient care team physician dies, becomes disabled, retires from active practice, surrenders his license or has it suspended or revoked by the Board, or relocates his practice such that he is no longer able to serve, and an advanced practice registered nurse is unable to enter into a new practice agreement with another patient care team physician, the advanced practice registered nurse may continue to practice upon notification to the designee or his alternate of the Boards and receipt of such notification. Such advanced practice registered nurse may continue to treat patients without a patient care team physician for an initial period not to exceed 60 days, provided that the advanced practice registered nurse continues to prescribe only those drugs previously authorized by the practice agreement with such physician and to have access to appropriate input from appropriate health care providers in complex clinical cases and patient emergencies and for referrals. The designee or his alternate of the Boards shall grant permission for the advanced practice registered nurse to continue practice under this subsection for another 60 days, provided that the advanced practice registered nurse provides evidence of efforts made to secure another patient care team physician and of access to physician input.

H. Every certified nurse midwife shall practice in accordance with regulations adopted by the Boards and consistent with the Standards for the Practice of Midwifery set by the American College of Nurse-Midwives governing such practice. A certified nurse midwife who has practiced fewer than 1,000 hours shall practice in consultation with a certified nurse midwife who has practiced for at least two years prior to entering into the practice agreement or a licensed physician, in accordance with a practice agreement. Such practice agreement shall address the availability of the certified nurse midwife who has practiced for at least two years prior to entering into the practice agreement or the licensed physician for routine and urgent consultation on patient care. Evidence of the practice agreement shall be maintained by the certified nurse midwife and provided to the Boards upon request. A certified nurse midwife who has completed 1,000 hours of practice as a certified nurse midwife may practice without a practice agreement upon receipt by the certified nurse midwife of an attestation from the certified nurse midwife who has practiced for at least two years prior to entering into the practice agreement or the licensed physician with whom the certified nurse midwife has entered into a practice agreement stating (i) that such certified nurse midwife or licensed physician has provided consultation to the certified nurse midwife pursuant to a practice agreement meeting the requirements of this section and (ii) the period of time for which such certified nurse midwife or licensed physician practiced in collaboration and consultation with the certified nurse midwife pursuant to the practice agreement. A certified nurse midwife authorized to practice without a practice agreement shall consult and collaborate with and refer patients to such other health care providers as may be appropriate for the care of the patient.

I. A nurse practitioner who has completed the equivalent of at least five years of full-time clinical experience, as determined by the Boards, may practice in the practice category in which he is certified and licensed without a written or electronic practice agreement upon receipt by the nurse practitioner of an attestation from the patient care team physician stating (i) that the patient care team physician has served as a patient care team physician on a patient care team with the nurse practitioner pursuant to a practice agreement meeting the requirements of this section and § 54.1-2957.01; (ii) that while a party to such practice agreement, the patient care team physician routinely practiced with a patient population and in a practice area included within the category for which the nurse practitioner was certified and licensed; and (iii) the period of time for which the patient care team physician practiced with the nurse practitioner under such a practice agreement. A copy of such attestation shall be submitted to the Boards together with a fee established by the Boards. Upon receipt of such attestation and verification that a nurse practitioner satisfies the requirements of this subsection, the Boards shall issue to the nurse practitioner a new license that includes a designation indicating that the nurse practitioner is authorized

to practice without a practice agreement. In the event that a nurse practitioner is unable to obtain the attestation required by this subsection, the Boards may accept other evidence demonstrating that the applicant has met the requirements of this subsection in accordance with regulations adopted by the Boards.

A nurse practitioner authorized to practice without a practice agreement pursuant to this subsection shall (a) only practice within the scope of his clinical and professional training and limits of his knowledge and experience and consistent with the applicable standards of care, (b) consult and collaborate with other health care providers based on the clinical conditions of the patient to whom health care is provided, and (c) establish a plan for referral of complex medical cases and emergencies to physicians or other appropriate health care providers.

J. A clinical nurse specialist licensed by the Boards of Medicine and Nursing who does not prescribe controlled substances or devices may practice in the practice category in which he is certified and licensed without a written or electronic practice agreement. Such clinical nurse specialist shall (i) only practice within the scope of his clinical and professional training and limits of his knowledge and experience and consistent with the applicable standards of care, (ii) consult and collaborate with other health care providers based on the clinical condition of the patient to whom health care is provided, and (iii) establish a plan for referral of complex medical cases and emergencies to physicians or other appropriate health care providers.

A clinical nurse specialist licensed by the Boards who prescribes controlled substances or devices shall practice in consultation with a licensed physician in accordance with a practice agreement between the clinical nurse specialist and the licensed physician. Such practice agreement shall address the availability of the physician for routine and urgent consultation on patient care. Evidence of a practice agreement shall be maintained by a clinical nurse specialist and provided to the Boards upon request. The practice of clinical nurse specialists shall be consistent with the standards of care for the profession and with applicable laws and regulations.

Appendix 1b: Senate Bill 33

2024 SESSION

SENATE SUBSTITUTE

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SENATE BILL NO. 33
AMENDMENT IN THE NATURE OF A SUBSTITUTE
(Proposed by the Senate Committee on Education and Health
on January 25, 2024)
(Patron Prior to Substitute—Senator Locke)

A BILL to amend and reenact § 54.1-2957 of the Code of Virginia, relating to supervision of certified registered nurse anesthetists; work group; report.

Be it enacted by the General Assembly of Virginia:

1. That § 54.1-2957 of the Code of Virginia is amended and reenacted as follows:

§ 54.1-2957. Licensure and practice of advanced practice registered nurses.

A. As used in this section, "clinical experience" means the postgraduate delivery of health care directly to patients pursuant to a practice agreement with a patient care team physician.

B. The Board of Medicine and the Board of Nursing shall jointly prescribe the regulations governing the licensure of advanced practice registered nurses. It is unlawful for a person to practice as an advanced practice registered nurse in the Commonwealth unless he holds such a joint license.

C. Every nurse practitioner who meets the requirements of subsection I shall maintain appropriate collaboration and consultation, as evidenced in a written or electronic practice agreement, with at least one patient care team physician. A nurse practitioner who meets the requirements of subsection I may practice without a written or electronic practice agreement. A certified nurse midwife shall practice pursuant to subsection H. A clinical nurse specialist shall practice pursuant to subsection J. A certified registered nurse anesthetist shall practice under the supervision of a licensed doctor of medicine, osteopathy, podiatry, or dentistry. *"Supervision" for the purpose of this subsection means that the licensed doctor of medicine, osteopathy, podiatry, or dentistry is present during an operation or procedure or is immediately available to respond and provide patient care as needed.* An advanced practice registered nurse who is appointed as a medical examiner pursuant to § 32.1-282 shall practice in collaboration with a licensed doctor of medicine or osteopathic medicine who has been appointed to serve as a medical examiner pursuant to § 32.1-282. Collaboration and consultation among advanced practice registered nurses and patient care team physicians may be provided through telemedicine as described in § 38.2-3418.16.

Physicians on patient care teams may require that an advanced practice registered nurse be covered by a professional liability insurance policy with limits equal to the current limitation on damages set forth in § 8.01-581.15.

Service on a patient care team by a patient care team member shall not, by the existence of such service alone, establish or create liability for the actions or inactions of other team members.

D. The Boards of Medicine and Nursing shall jointly promulgate regulations specifying collaboration and consultation among physicians and advanced practice registered nurses working as part of patient care teams that shall include the development of, and periodic review and revision of, a written or electronic practice agreement; guidelines for availability and ongoing communications that define consultation among the collaborating parties and the patient; and periodic joint evaluation of the services delivered. Practice agreements shall include provisions for (i) periodic review of health records, which may include visits to the site where health care is delivered, in the manner and at the frequency determined by the advanced practice registered nurse and the patient care team physician and (ii) input from appropriate health care providers in complex clinical cases and patient emergencies and for referrals. Evidence of a practice agreement shall be maintained by an advanced practice registered nurse and provided to the Boards upon request. For advanced practice registered nurses providing care to patients within a hospital or health care system, the practice agreement may be included as part of documents delineating the advanced practice registered nurse's clinical privileges or the electronic or written delineation of duties and responsibilities in collaboration and consultation with a patient care team physician.

E. The Boards of Medicine and Nursing may issue a license by endorsement to an applicant to practice as an advanced practice registered nurse if the applicant has been licensed as an advanced practice registered nurse under the laws of another state and, pursuant to regulations of the Boards, the applicant meets the qualifications for licensure required of advanced practice registered nurses in the Commonwealth. An advanced practice registered nurse to whom a license is issued by endorsement may practice without a practice agreement with a patient care team physician pursuant to subsection I if such application provides an attestation to the Boards that the applicant has completed the equivalent of at least five years of full-time clinical experience, as determined by the Boards, in accordance with the laws of the state in which the nurse practitioner was licensed.

F. Pending the outcome of the next National Specialty Examination, the Boards may jointly grant

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temporary licensure to advanced practice registered nurses.

G. In the event a physician who is serving as a patient care team physician dies, becomes disabled, retires from active practice, surrenders his license or has it suspended or revoked by the Board, or relocates his practice such that he is no longer able to serve, and an advanced practice registered nurse is unable to enter into a new practice agreement with another patient care team physician, the advanced practice registered nurse may continue to practice upon notification to the designee or his alternate of the Boards and receipt of such notification. Such advanced practice registered nurse may continue to treat patients without a patient care team physician for an initial period not to exceed 60 days, provided that the advanced practice registered nurse continues to prescribe only those drugs previously authorized by the practice agreement with such physician and to have access to appropriate input from appropriate health care providers in complex clinical cases and patient emergencies and for referrals. The designee or his alternate of the Boards shall grant permission for the advanced practice registered nurse to continue practice under this subsection for another 60 days, provided that the advanced practice registered nurse provides evidence of efforts made to secure another patient care team physician and of access to physician input.

H. Every certified nurse midwife shall practice in accordance with regulations adopted by the Boards and consistent with the Standards for the Practice of Midwifery set by the American College of Nurse-Midwives governing such practice. A certified nurse midwife who has practiced fewer than 1,000 hours shall practice in consultation with a certified nurse midwife who has practiced for at least two years prior to entering into the practice agreement or a licensed physician, in accordance with a practice agreement. Such practice agreement shall address the availability of the certified nurse midwife who has practiced for at least two years prior to entering into the practice agreement or the licensed physician for routine and urgent consultation on patient care. Evidence of the practice agreement shall be maintained by the certified nurse midwife and provided to the Boards upon request. A certified nurse midwife who has completed 1,000 hours of practice as a certified nurse midwife may practice without a practice agreement upon receipt by the certified nurse midwife of an attestation from the certified nurse midwife who has practiced for at least two years prior to entering into the practice agreement or the licensed physician with whom the certified nurse midwife has entered into a practice agreement stating (i) that such certified nurse midwife or licensed physician has provided consultation to the certified nurse midwife pursuant to a practice agreement meeting the requirements of this section and (ii) the period of time for which such certified nurse midwife or licensed physician practiced in collaboration and consultation with the certified nurse midwife pursuant to the practice agreement. A certified nurse midwife authorized to practice without a practice agreement shall consult and collaborate with and refer patients to such other health care providers as may be appropriate for the care of the patient.

I. A nurse practitioner who has completed the equivalent of at least five years of full-time clinical experience, as determined by the Boards, may practice in the practice category in which he is certified and licensed without a written or electronic practice agreement upon receipt by the nurse practitioner of an attestation from the patient care team physician stating (i) that the patient care team physician has served as a patient care team physician on a patient care team with the nurse practitioner pursuant to a practice agreement meeting the requirements of this section and § 54.1-2957.01; (ii) that while a party to such practice agreement, the patient care team physician routinely practiced with a patient population and in a practice area included within the category for which the nurse practitioner was certified and licensed; and (iii) the period of time for which the patient care team physician practiced with the nurse practitioner under such a practice agreement. A copy of such attestation shall be submitted to the Boards together with a fee established by the Boards. Upon receipt of such attestation and verification that a nurse practitioner satisfies the requirements of this subsection, the Boards shall issue to the nurse practitioner a new license that includes a designation indicating that the nurse practitioner is authorized to practice without a practice agreement. In the event that a nurse practitioner is unable to obtain the attestation required by this subsection, the Boards may accept other evidence demonstrating that the applicant has met the requirements of this subsection in accordance with regulations adopted by the Boards.

A nurse practitioner authorized to practice without a practice agreement pursuant to this subsection shall (a) only practice within the scope of his clinical and professional training and limits of his knowledge and experience and consistent with the applicable standards of care, (b) consult and collaborate with other health care providers based on the clinical conditions of the patient to whom health care is provided, and (c) establish a plan for referral of complex medical cases and emergencies to physicians or other appropriate health care providers.

J. A clinical nurse specialist licensed by the Boards of Medicine and Nursing who does not prescribe controlled substances or devices may practice in the practice category in which he is certified and licensed without a written or electronic practice agreement. Such clinical nurse specialist shall (i) only practice within the scope of his clinical and professional training and limits of his knowledge and experience and consistent with the applicable standards of care, (ii) consult and collaborate with other

health care providers based on the clinical condition of the patient to whom health care is provided, and (iii) establish a plan for referral of complex medical cases and emergencies to physicians or other appropriate health care providers.

A clinical nurse specialist licensed by the Boards who prescribes controlled substances or devices shall practice in consultation with a licensed physician in accordance with a practice agreement between the clinical nurse specialist and the licensed physician. Such practice agreement shall address the availability of the physician for routine and urgent consultation on patient care. Evidence of a practice agreement shall be maintained by a clinical nurse specialist and provided to the Boards upon request. The practice of clinical nurse specialists shall be consistent with the standards of care for the profession and with applicable laws and regulations.

2. That the Secretary of Health and Human Resources, in collaboration with the Board of Medicine, the Board of Nursing, and the Department of Health Professions, shall convene a work group to evaluate and make recommendations to increase the anesthesia provider workforce in the Commonwealth, including an assessment of (i) the factors limiting the current and future numbers of physician anesthesiologists and certified registered nurse anesthetists, (ii) the projected impact of licensing anesthesiology assistants who are currently in the anesthesia provider workforce in the Commonwealth, (iii) how potential changes to the current law regarding the practice of certified registered nurse anesthetists will impact patients in historically economically disadvantaged communities and underserved areas of Virginia, and (iv) whether potential changes to the law will increase or decrease health disparities. The work group shall include representatives from the Virginia Society of Anesthesiologists, the Virginia Association of Nurse Anesthetists, the Virginia Hospital and Healthcare Association, the Virginia Academy of Anesthesiologist Assistants, and other relevant stakeholders. The work group shall report its recommendations to the Chairmen of the Senate Committee on Education and Health and the House Committee on Health and Human Services by November 1, 2024.

Appendix 2: Operative responsibilities by anesthesia provider

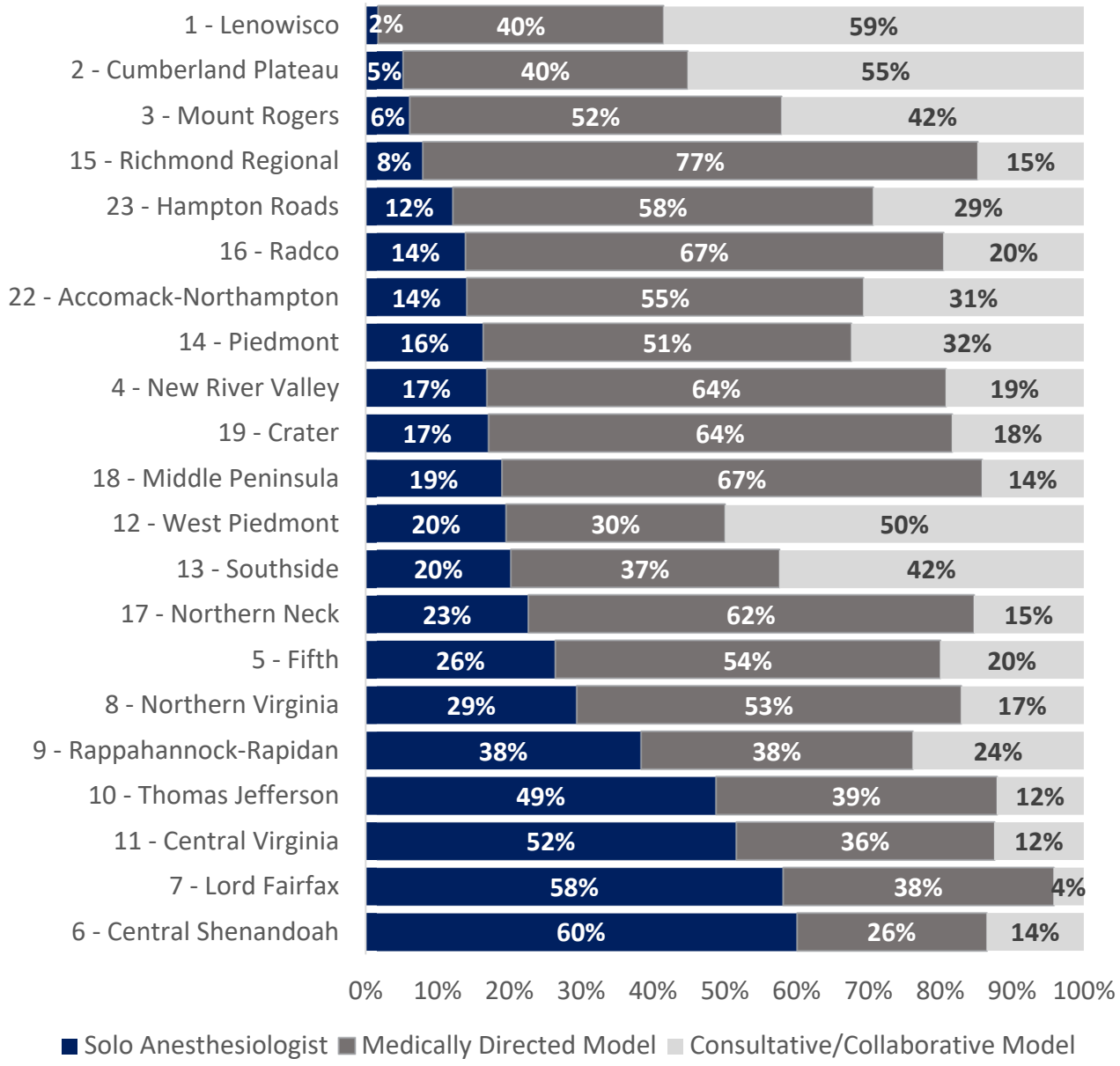
TABLE 3. Anesthesiologists and CRNAs are capable of performing similar preoperative, intraoperative, and postoperative responsibilities

	AN	CRNA	CAA
Preoperative Responsibilities			
Obtain pre-anesthesia health history	X	X	X
Provide patient education and counseling	X	X	
Examine, assess, and evaluate patient	X	X	X
Order tests	X	X	X
Obtain Informed Consent	X	X	X
Select, order and prescribe preanesthetic medications	X	X	
Develop anesthesia plan for anesthesia, analgesia, multimodal pain management, and recovery	X	X	
Intraoperative Responsibilities			
Implement plan of care	X	X	
Administer anesthetic agent and anesthetic techniques, such as general, regional, and local anesthesia, sedation, and multimodal pain management	X	X	
Select, order, and prescribe anesthetic medication	X	X	
Select and insert invasive and noninvasive monitoring modalities	X	X	
Establish airway intervention	X	X	X
Monitor patient	X	X	X
Assist in induction, maintenance, and emergence of patient anesthetic			X
Record intraoperative events	X	X	X
Postoperative Responsibilities			
Facilitate emergence and recovery from anesthesia	X	X	
Select, order, and prescribe post anesthetic medication	X	X	
Conduct post anesthesia evaluation	X	X	
Ensure transfer of care information	X	X	
Remain with patient until receiving provider arrives	X	X	X
Record patient progress	X	X	X
Perform duties delegated by anesthesiologist			X
Perform administrative duties			X
Record patient progress			X
Educate patient on recovery	X	X	
Discharge patient	X	X	

AN = Anesthesiologist; CRNA = Certified Registered Nurse Anesthetist; CAA = Certified Anesthesiologist Assistant
SOURCE: JCHC staff review of documents and literature.

Appendix 3: Anesthesia models by health district

FIGURE 7. Proportion of procedures among Medicare recipients performed by solo anesthesiologists varies by health district



NOTE: Percentages may not equate to 100% due to rounding.
SOURCE: JCHC staff analysis of Medicare claims data, 2022.

Appendix 4: Sources and methods

Narrative Review

JCHC staff conducted a literature review to address three study questions: (1) what is the scope of current and projected shortages for anesthesia providers and do shortages disproportionately impact specific populations; (2) how have historical licensing changes among anesthesia providers impacted the anesthesia provider workforce and do changes in the workforce disproportionately impact specific populations; and (3) how does patients' access, quality, and safety vary by anesthesia provider type and do variations in patient outcomes disproportionately impact specific populations.

Staff identified common words and phrases associated with the anesthesia workforce in existing literature. Using these key terms, a search phrase was created for each study question:

(1) anesthes* AND workforce shortage

(2) "nurse anesthetist AND licens*" OR "nurse anesthetist AND regulat*"

(3) "anesthesiologist AND nurse anesthetist AND patient outcomes" OR "anesthesiologist AND nurse anesthetist AND access" OR "anesthesiologist AND nurse anesthetist AND quality" OR "anesthesiologist AND nurse anesthetist AND safety"

JCHC staff used these phrases to conduct an advanced literature search, identifying articles in which these terms were used in either the title or the abstract. This search was conducted in research databases available through VCU libraries and staff identified 118 articles which fit the search criteria. JCHC staff independently reviewed articles for relevance to the inclusion criteria. The inclusion criteria required that studies be: (1) written in English, (2) published between 2000 and 2024, and (3) published in a credible peer-reviewed journal.

Staff then reviewed articles for applicability to the three study questions of interest. Articles could be relevant to more than one category, which resulted in some article overlap between study questions. 547 articles were removed for lack of relevance to study questions, 15 articles were removed due to article type, and 107 articles were removed because they were not based in the United States, leaving 118 articles for content analysis. JCHC staff reviewed the remaining articles in detail, using content analysis techniques to identify significant themes across studies addressing each study question.

Interviews

JCHC staff conducted stakeholder interviews to address three study questions: (1) what is the current standard of care for administering anesthesia and how are anesthesia services being delivered in Virginia; (2) how have historical licensing changes among anesthesia providers impacted the anesthesia provider workforce and do changes in the workforce disproportionately impact specific populations; and (3) how does patients' access, quality, and safety vary by anesthesia provider type and do variations in patient outcomes disproportionately impact specific populations.

JCHC staff conducted interviews with relevant stakeholders to develop a clearer understanding of the three study questions. These interviews were conducted with numerous types of anesthesia providers, proceduralists and operating physicians, provider associations, and health systems. Detailed notes were taken by a secondary interviewer and JCHC staff transcribed interview notes. JCHC staff performed qualitative analysis to identify overarching categories and themes. Any categories and themes that emerged were used to derive a deeper understanding of anesthesia services in Virginia.

Data Analysis

JCHC staff analyzed data from multiple sources to understand trends in the anesthesia provider education pipeline and workforce in Virginia and nationally, including:

- Health Care Profession reports from the Virginia Department of Health Professions, available for Advanced Practice Registered Nurses, including CRNAs, and MD/DOs that summarize data from the state's licensure database and voluntary surveys completed during licensure renewal;
- Virginia Department of Health Professions Provider Profile that maintains individual-level data on physicians licensed in Virginia;
- Data on enrollment, graduation and employment rates from the three accredited CRNA training programs in Virginia;
- Anesthesia provider billing modifiers from Medicare claims data on anesthesia services, provided in aggregate by Virginia Health Information;
- Anesthesiology residency match data from the National Resident Matching Program;
- Provider-level practice location data on providers with National Provider Identifiers from the National Plan and Provider Enumeration System; and
- State and county-level data on providers with National Provider Identifiers from the US Health Resources and Services Administration Area Health Resources Files.

50-State Scan

JCHC staff used WestLaw, a legal research database, to identify state statute or regulation relevant to the practice of CRNAs in 50 states and the District of Columbia. Staff used the search terms, "nurse anesthetist,", "CRNA", and "anesthesia" to identify relevant sections of state statute that described the nature of the relationship between CRNAs and other health care professionals, including operating physicians, podiatrists, dentists, and anesthesiologists. If such language was not explicit in state statute, staff used the same search terms to review state regulations. Staff were able to capture language in all 50 states and the District of Columbia, current as of September 2024.

Appendix 5: State statutes and regulations

Table 4 summarizes the language in either state statute or regulation relevant to the relationship between CRNAs and other health care professionals, typically operating physicians or anesthesiologists, in hospital settings. Key words to describe the relationship, if applicable, are **bolded**. States that use different standards for other health care settings, such as critical access hospitals, ambulatory surgical centers, or medical offices are noted.

TABLE 4. CRNA supervision language by state, hospital settings

NOTE: * indicates states where CRNA practice varies by health care setting.

State	Citation	Language
Alabama	Ala. Code § 34-21-81	The nurse anesthetist…functions **under the direction of or in coordination with** a physician licensed to practice medicine, a podiatrist, or a dentist, who is **immediately available**. Nothing in this paragraph shall be construed to restrict the authority of a health care facility to adopt policies relating to the provision of anesthesia and analgesia services.
Alaska*	Alaska Admin. Code tit. 7, § 12.130	Anesthesia care may be provided only by a physician or dentist with anesthesia privileges, a registered nurse anesthetist, or an appropriately supervised trainee in an educational program approved by the department.
Arizona	Ariz. Rev. Stat. Ann. § 32-1634.04	A certified registered nurse anesthetist may administer anesthetics **under the direction of and in the presence of** a physician or surgeon in connection with the preoperative, intraoperative or postoperative care of a patient or as part of a procedure performed by a physician or surgeon.
Arkansas	Ark. Code Ann. § 17-87-102	"Practice of certified registered nurse anesthesia" means the performance for compensation of advanced nursing practices by a certified registered nurse anesthetist that are relevant to the administration of anesthetics **in consultation with, but not necessarily in the presence of,** a licensed physician, licensed dentist, or other person lawfully entitled to order anesthesia.
California*	Cal. Code Regs. tit. 22, § 70235	Anesthesia care shall be provided by physicians or dentists with anesthesia privileges, nurse anesthetists, or appropriately supervised trainees in an approved educational program.
Colorado	Colo. Rev. Stat. Ann. § 12-255-111	An advanced practice registered nurse shall practice in accordance with the standards of the appropriate national professional nursing organization and have a safe mechanism for **consultation or collaboration with a physician or, when appropriate, referral to** a physician.

State	Citation	Language
Connecticut	Conn. Gen. Stat. Ann. § 20-87a	An advanced practice registered nurse…shall, for the first three years after having been issued such license, **collaborate** with a physician licensed to practice medicine in this state…except such advanced practice registered nurse licensed pursuant to section 20-94a and maintaining current certification from the American Association of Nurse Anesthetists who is prescribing and administrating medical therapeutics during surgery may only do so if the physician who is medically directing the prescriptive activity is **physically present** in the institution, clinic or other setting where the surgery is being performed.
District of Columbia	D.C. Code Ann. § 3-1206.05a	A certified registered nurse anesthetist may plan and deliver anesthesia, pain management, and related care to patients or clients of all health complexities across the lifespan. This practice incorporates the use of **independent judgement as well as collaborative interaction** with other health care professionals.
Delaware	Del. Code Ann. tit. 24, § 1902	"Advanced practice registered nurse" includes certified nurse practitioners, certified registered nurse anesthetists, certified nurse midwives, or clinical nurse specialist. Advanced practice nursing is an expanded scope of nursing licensed as an **independent** licensed practitioner in a role and population focus approved by the Board of Nursing, with or without compensation or personal profit, and includes the RN scope of practice.
Florida*	Fla. Stat. Ann. § 464.012	An advanced practice registered nurse shall perform those functions authorized in this section within the framework of an established protocol that must be maintained on site at the location or locations at which an advanced practice registered nurse practices, unless the advanced practice registered nurse is registered and practicing under s. 464.0123. In the case of multiple supervising physicians in the same group, an advanced practice registered nurse must enter into a **supervisory protocol** with at least one physician within the physician group practice.
Georgia*	Ga. Code Ann. § 43-26-11.1	In any case where it is lawful for a duly licensed physician practicing medicine under the laws of this state to administer anesthesia, such anesthesia may be administered by a certified registered nurse anesthetist, provided that such anesthesia is administered **under the direction and responsibility of** a duly licensed physician.
Hawaii	Haw. Rev. Stat. Ann. § 431:10C-103	"Anesthetist" means a registered nurse-anesthetist who performs anesthesia services **under the supervision of** a licensed physician.
Idaho	Idaho Code Ann. § 54-1402	Advanced practice registered nurses shall include the following four (4) roles: certified nurse-midwife; clinical nurse specialist; certified nurse practitioner; and certified registered nurse anesthetist as defined in board rule. An advanced practice registered nurse **collaborates** with other health professionals in providing health care.

State	Citation	Language
Illinois*	225 Ill. Comp. Stat. Ann. 65/65-35	In the case of anesthesia services provided by a certified registered nurse anesthetist, an anesthesiologist, a physician, a dentist, or a podiatric physician must participate through discussion of and agreement with the anesthesia plan and **remain physically present and available** on the premises during the delivery of anesthesia services for diagnosis, **consultation**, and treatment of emergency medical conditions.
Indiana	Ind. Code Ann. § 25-23-1-30	A certified registered nurse anesthetist may administer anesthesia if the certified registered nurse anesthetist acts **under the direction of and in the immediate presence** of a physician.
Iowa	Iowa Admin. Code r. 481-51.19(135B)	Written policies and procedures governing anesthesia services shall be developed and implemented in consultation with and with the approval of the hospital's medical staff and, at a minimum, provide for… anesthesia services **under the direction of** a qualified doctor of medicine or osteopathy.
Kansas	Kan. Stat. Ann. § 65-1158	A registered nurse anesthetist shall perform duties and functions in an **interdependent** role as a member of a physician or dentist directed health care team.
Kentucky	Ky. Rev. Stat. Ann. § 314.042	**Nothing in this chapter shall be construed as requiring an advanced practice registered nurse designated by the board as a certified registered nurse anesthetist to enter into a collaborative agreement** with a physician, pursuant to this chapter or any other provision of law, in order to deliver anesthesia care.
Louisiana	La. Stat. Ann. § 37:930	The registered nurse administers anesthetics and ancillary services **under the direction and supervision of** a physician or dentist who is licensed to practice under the laws of the state of Louisiana.
Maine*	Me. Rev. Stat. Ann. tit. 32, § 2211	A certified registered nurse anesthetist **is responsible and accountable to** a licensed physician or dentist for aspects of anesthesia practice that require execution of the medical regimen as prescribed by that physician or dentist.
Maryland	Md. Code Ann., Health Occ. § 8-513	A nurse anesthetist shall **collaborate** with an anesthesiologist, a licensed physician, or a dentist in the following manner: (1) An anesthesiologist, a licensed physician, or a dentist shall be **physically available** to the nurse anesthetist for **consultation** at all times during the administration of, and recovery from, anesthesia; (2) An anesthesiologist shall be available for **consultation** to the nurse anesthetist for other aspects of the practice of nurse anesthesia; and (3) If an anesthesiologist is not available, a licensed physician or dentist shall be available to provide this type of **consultation**.
Massachusetts	244 Mass. Code Regs. 4.06	A CRNA who does not register for prescriptive authority administers anesthesia pursuant to the signed order of a registered prescriber. Such CRNA may select anesthetic agents based upon protocols that are mutually developed with a registered prescriber responsible for the perioperative care of a patient, as appropriate for the practice setting.

State	Citation	Language
Michigan	Mich. Comp. Laws Ann. § 333.17210	All of the following apply to a registered professional nurse who holds a specialty certification as a nurse anesthetist: B. If he or she meets both of the following requirements, he or she may provide the anesthesia and analgesia services described in subdivision (a) **without supervision:** (i) He or she meets either of the following: (A) He or she has practiced in the health profession specialty field of nurse anesthetist for 3 years or more and has practiced in that health profession specialty field in a health care facility for a minimum of 4,000 hours. (B) He or she has a doctor of nurse anesthesia practice degree or doctor of nursing practice degree. (ii) He or she is **collaboratively** participating in a patient-centered care team. (c) He or she may provide the anesthesia and analgesia services described in subdivision (a) in a health care facility if the health care facility has a policy in place under subsection (4) allowing for the provision of the anesthesia and analgesia services and ensuring that a qualified health care professional **is immediately available** in person or through telemedicine to address any urgent or emergent clinical concerns.
Minnesota	Minn. Stat. Ann. § 148.171	"Registered nurse anesthetist practice" means the provision of anesthesia care and related services including: (1) selecting, obtaining, and administering drugs and therapeutic devices to facilitate diagnostic, therapeutic, and surgical procedures; (2) ordering, performing, supervising, and interpreting diagnostic studies, excluding interpreting computed tomography scans, magnetic resonance imaging scans, positron emission tomography scans, nuclear scans, and mammography; (3) prescribing pharmacologic and nonpharmacologic therapies; and (4) **consulting with, collaborating with, or referring to** other health care providers as warranted by the needs of the patient.
Mississippi	Miss. Code Ann. § 73-15-20	An advanced practice registered nurse shall perform those functions authorized in this section within a **collaborative/consultative relationship** with a dentist or physician with an unrestricted license to practice dentistry or medicine in this state and within an **established protocol or practice guidelines**, as appropriate, that is filed with the board upon license application, license renewal, after entering into a new collaborative/consultative relationship or making changes to the protocol or practice guidelines or practice site. The board shall review and approve the protocol to ensure compliance with applicable regulatory standards.
Missouri	Mo. Ann. Stat. § 334.104	A certified registered nurse anesthetist…shall be permitted to provide anesthesia services **without a collaborative practice arrangement** provided that he or she is **under the supervision** of an anesthesiologist or other physician, dentist, or podiatrist who is **immediately available** if needed.
Montana	Mont. Admin. R. 24.159.1480	Certified Registered Nurse Anesthetist (CRNA) practice is the **independent and/or collaborative** performance of any act involving the determination, preparation, administration, or monitoring of anesthesia care and anesthesia-related services, and the management of acute and chronic pain.

State	Citation	Language
Nebraska	Neb. Rev. Stat. Ann. § 38-711	The determination and administration of total anesthesia care shall be performed by the certified registered nurse anesthetist or a nurse anesthetist temporarily licensed pursuant to section 38-708 in **consultation and collaboration with and with the consent of** the licensed practitioner.
Nevada*	Nev. Admin. Code 449.388	A certified registered nurse anesthetist who is **under the direction of** the operating practitioner or of an anesthesiologist who is **immediately available** if needed.
New Hampshire*	N.H. Code Admin. R. He-P 802.33	The anesthesiologist shall be qualified in anesthesiology in accordance with the medical staff bylaws of the hospital.
New Jersey*	N.J. Admin. Code § 8:43G-6.3	General or major regional anesthesia shall be administered and monitored only by the following… (3) An APN/anesthesia, in accordance with a joint protocol established in accordance with N.J.A.C. 13:37–6.3, which joint protocol shall require sections governing: i. The availability of an anesthesiologist to **consult** with the APN/anesthesia on site, on-call or by electronic means; and ii. The **presence** of an anesthesiologist during induction, emergence and critical change in status.
New Mexico	N.M. Stat. Ann. § 61-3-23.3	Certified registered nurse anesthetists shall function in an **interdependent** role as a member of a health care team in which the medical care of the patient is directed by a licensed physician, osteopathic physician, dentist or podiatrist licensed in New Mexico pursuant to the Dental Health Care Act, the Medical Practice Act or the Podiatry Act. The certified registered nurse anesthetist shall **collaborate** with the licensed physician, osteopathic physician, dentist or podiatrist concerning the anesthesia care of the patient. As used in this subsection, **"collaboration"** means the process in which each health care provider contributes the health care provider's respective expertise. Collaboration includes systematic formal planning and evaluation between the health care professionals involved in the **collaborative practice arrangement**.
New York*	N.Y. Comp. Codes R. & Regs. tit. 10, § 405.13	Anesthesia shall be administered in accordance with their credentials, competencies and privileges by the following…(iv) certified registered nurse anesthetists (CRNA's) **under the supervision of** an anesthesiologist who is **immediately available** as needed or **under the supervision of** the operating physician who has been found qualified by the governing body and the medical staff to supervise the administration of anesthetics and who has accepted responsibility for the supervision of the CRNA.
North Carolina	21 N.C. Admin. Code 36.0226	Only a registered nurse who completes a program accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs, is credentialed as a certified registered nurse anesthetist by the Council on Certification of Nurse Anesthetists, and who maintains recertification through the Council on Recertification of Nurse Anesthetists, shall perform nurse anesthesia activities **in collaboration with** a physician, dentist, podiatrist, or other lawfully qualified health care provider.

State	Citation	Language
North Dakota	N.D. Admin. Code 54-05-03.1-03.1	The advanced practice registered nurse has evolved into the roles of certified nurse practitioner, certified registered nurse anesthetist, certified nurse midwife, or certified clinical nurse specialist. The advanced practice registered nurse functions in any setting as a member of the interdisciplinary team and provides care to the fullest extent of the scope of practice which includes…**Collaborate** with the interdisciplinary team.
Ohio	Ohio Rev. Code Ann. § 4723.43 (West)	A nurse authorized to practice as a certified registered nurse anesthetist, consistent with the nurse's education and certification and in accordance with rules adopted by the board, may do the following: (1) With **supervision and in the immediate presence** of a physician, podiatrist, or dentist, administer anesthesia and perform anesthesia induction, maintenance, and emergence.
Oklahoma	Okla. Stat. Ann. tit. 59, § 567.3a (West)	"Certified Registered Nurse Anesthetist" is an Advanced Practice Registered Nurse who…(2) administers anesthesia **in collaboration with** a medical doctor, an osteopathic physician, a podiatric physician or a dentist licensed in this state and under conditions in which timely **onsite consultation** by such doctor, osteopath, podiatric physician or dentist is available.
Oregon	Or. Admin. R. 851-006-0010	"Anesthesia care" means the Certified Registered Nurse Anesthetist (CRNA) **independent or collaborative** performance of any act involving the treatment of a client presenting for a procedure including, but not limited to, sole or concurrent use of sedation, analgesia or anesthesia.
Pennsylvania	63 Pa. Stat. Ann. § 218.9 (West)	A certified registered nurse anesthetist shall have the authority to perform anesthesia services **in cooperation with** a physician, podiatrist or dentist involved in a procedure for which anesthesia care is being provided.
Rhode Island	5 R.I. Gen. Laws Ann. § 5-34.2-2 (West)	"Practice of certified registered nurse anesthesia" means providing certain healthcare services **in collaboration with** anesthesiologists, licensed physicians, or licensed dentists.
South Carolina	S.C. Code Ann. § 40-33-20	A CRNA must practice in accordance with **approved written guidelines** developed **under supervision of** a licensed physician or dentist or approved by the medical staff within the facility where practice privileges have been granted.
South Dakota	S.D. Codified Laws § 36-9-3.1	The certified registered nurse anesthetist shall **collaborate with** a physician, a dentist, a podiatrist, a certified nurse practitioner, a certified nurse midwife, or a physician assistant when providing anesthesia services.
Tennessee*	Tenn. Comp. R. & Regs. 0720-14-.07	Anesthesia must be administered only by: 1. A qualified anesthesiologist; 2. A doctor of medicine or osteopathy (other than an anesthesiologist); 3. A dentist, oral surgeon, or podiatrist who is qualified to administer anesthesia under State law; 4. A certified registered nurse anesthetist (CRNA); or 5. A graduate registered nurse anesthetist under the supervision of an anesthesiologist who is immediately available if needed.

State	Citation	Language
Texas	Tex. Occ. Code Ann. § 157.058 (West)	In a licensed hospital or ambulatory surgical center, a physician **may delegate to** a certified registered nurse anesthetist the ordering of drugs and devices necessary for the nurse anesthetist to administer an anesthetic or an anesthesia-related service ordered by the physician.
Utah	Utah Code Ann. § 58-31b-102	Practice of advanced practice registered nursing includes: (a) maintenance and promotion of health and prevention of disease; (b) diagnosis, treatment, correction, consultation, and referral; (c) prescription or administration of prescription drugs or devices including: (i) local anesthesia; (ii) Schedule III-V controlled substances; and (iii) Schedule II controlled substances; or (d) the provision of preoperative, intraoperative, and postoperative anesthesia care and related services **upon the request of** a licensed health care professional by an advanced practice registered nurse specializing as a certified registered nurse anesthetist
Vermont	20-4 Vt. Code R. § 1100	An APRN with fewer than 24 months and 2,400 hours of licensed active advanced nursing practice in an initial role and population focus or fewer than 12 months and 1,600 hours for any additional role and population focus shall have a **formal agreement with a collaborating provider** as required by 26 VSA § 1613.
Virginia	Va. Code Ann. § 54.1-2957	A certified registered nurse anesthetist shall practice **under the supervision of** a licensed doctor of medicine, osteopathy, podiatry, or dentistry.
Washington*	Wash. Admin. Code 246-840-300	ARNP practice is grounded in nursing process and incorporates the use of **independent** judgment. Practice includes interprofessional interaction with other health care professionals in the assessment and management of wellness and health conditions.
West Virginia	W. Va. Code Ann. § 30-7-15	In any case where it is lawful for a duly licensed physician or dentist practicing medicine or dentistry under the laws of this state to administer anesthetics, such anesthetics may lawfully be given and administered by any person (a) who has been licensed to practice registered professional nursing under this article, and (b) who holds a diploma or certificate evidencing his or her successful completion of the educational program of a school of anesthesia duly accredited by the American association of nurse anesthetists: Provided, That such anesthesia is administered by such person **in the presence and under the supervision of** such physician or dentist.
Wisconsin	Wis. Admin. Code HS § 107.065	A nurse anesthetist shall perform services **in the presence of a supervising** anesthesiologist or performing physician.

State	Citation	Language
Wyoming*	Wyo. Admin. Code 048.0061.12 § 10	Policies and procedures for the administration of all anesthetics shall be in place. In hospitals where there is no department of anesthesia, the department of surgery and/or medical staff shall assume the responsibility for establishing general policies regarding the administration of anesthetics. For hospitals with (twenty-five) 25 licensed beds or less, a CRNA may administer anesthetics **without physician supervision** if the CRNA's practice is otherwise consistent with the medical staff bylaws. The medical staff shall designate those individuals qualified to administer anesthetics and shall delineate what each individual is qualified and approved to do.

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