

Tenuous Balancing Act: Finding the Right Roles for Anesthesia Providers

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Abstract

In anesthesiology, addressing midlevel encroachment and finding an optimal mix of various anesthesia providers (e.g., Anesthesiologists and Certified Nurse Anesthetists (CRNAs)) has numerous implications to patient care, cost-effectiveness, and physician shortages in certain communities. While there has been significant disagreement between two major professional groups, the American Society of Anesthesiologists and the American Association of Nurse Anesthetists, there may be collaborative solutions that benefit rural communities, resource-constrained environments, and critically ill patients. This article discusses considerations central to this topic and posits potential solutions.

Among many medical subspecialties, a worry about midlevel encroachment shapes providers' perceptions about their prospects in the job market and their role in the healthcare system hierarchy, and anesthesiology has been one subspecialty that has been the recent focus of such worries. Anesthesiology services are most commonly provided by some arrangement of physician anesthesiologists, including resident physicians, as well as anesthesia assistants and certified nurse anesthetists (CRNAs); in procedures where anesthesia service is provided by resident physicians, anesthesia assistants, and CRNAs, an attending anesthesiologist is usually responsible for the supervision of multiple operating rooms at the same time (Orser et al., 2022). With hospital systems attempting to install cost-cutting measures,

including relying on more CRNAs for anesthesia services, anesthesia providers have been forced to face off against one another, to the detriment of patient safety and relationship with their colleagues in the healthcare system. In actuality, the healthcare landscape has a great need for more anesthesia providers of all types and specialties. Addressing how to achieve this proper mix of providers is the key to addressing both patient needs and provider concerns.

Since at least the 1980s, there has been concern among anesthesiologist groups that hospital systems would view their roles as expendable. Not only was there an increasing availability of younger anesthesiologists from medical residency, but there was also a constant supply of CRNAs, who on average earned a net income that was \$100,000 less than anesthesiologists (Rosenbach and

Cromwell, 1989). Naturally, the concern was that anesthesia costs were rapidly exceeding, and as a specialty that was not considered a revenue stream for hospitals, a less expensive alternative would likely be embraced. This was quite different however from other physician specialists, in particular among the surgical specialties. Not only were surgeons considered the major revenue providers for most hospitals, but it was also relatively unheard of for other allied health staff to perform surgeries on their own if they even took part in surgical procedures at all. Instead, they may have been responsible for the management of patients on the surgical floors or in the clinic setting instead. This arrangement was not replicated in anesthesiology, however. While in most hospitals, CRNAs and anesthesia assistants still practiced under the supervision of an anesthesiologist, similar to a resident physician, they largely were capable of performing the basic roles of an anesthesiologist independently.

In some states, over the past several years CRNAs gained the ability to legally practice independently, largely spurred by a physician shortage in more rural communities. Over time, outside of a few holdouts in the Northeast and Mid-Atlantic, states have begun to allow CRNAs to practice independently. Supporters of such a move, including many nursing groups, point to evidence that nurse anesthetists can provide care of equal value to anesthesiologists at far lower costs, and suggestions to the contrary were examples of physician hostility towards nurses. They also

argued that their anesthesia providers were willing to work in locations where most physician anesthesiologists were unwilling, or had previously been unwilling, to provide services (Cromwell, 1999). Anesthesiologist groups, on the other hand, expressed concern over their replacement, arguing that there is a substantial difference in outcomes when patients are under the care of physician anesthesiologists compared to nurse anesthetists (De Oliveira, 2020). The American Society of Anesthesiologists also counters the claim made by nursing associations that argue there is no difference in operative outcomes by suggesting that the four most frequently cited studies that the American Association of Nurse Anesthetists utilizes have been studies funded by the association itself. In most studies, however, for relatively straightforward surgical cases, there seems to not be a meaningful difference in outcomes between physician anesthesiologists and nurse anesthetists.

In particular, there has been a significant disagreement between the two groups on how they should quantify the amount of training a practitioner receives before being able to practice anesthesiology. Nurse Anesthetist groups claim they receive more training and experience than physicians before they are ready to practice, claiming an average of 3 years of critical care training and at least 12,000 hours of hands-on experience in a master's level anesthesia training program after receiving their undergraduate nursing degree. They claim that this is a significantly higher training amount than is attained by resident physicians during their

course of study. It is without a doubt that these practitioners do receive a substantial amount of hands-on experience, however, it is a stretch to claim that their experience and education either rival or surpass that of physician anesthesiologists, as the American Association of Nurse Anesthetists claims (CRNA PAC Central, 2023). First, the group includes undergraduate nursing degrees as educational years for CRNAs but fails to include undergraduate years for physicians. The group also does not differentiate between the level of education achieved in a three-year master's level nursing course in anesthesia in comparison to a four-year medical doctor degree training as well as neglecting any mention of the difference in education between a nurse trainee and a resident physician. Ultimately, the level of medical education that these two providers receive is substantially different in quality, and while experience may help other providers make up for gaps in medical knowledge they may have, to claim that the training achieved is equivalent would be disingenuous.

Regardless, both groups have valid arguments regarding their role in the operating room; anesthesiologists may provide more comprehensive care, and to more critically ill patients, but current staffing shortages and hospital financial concerns also make CRNAs viable and effective alternatives for many operating room procedures.

With these two professional groups seemingly at an impasse in crafting a workable resolution, what can be done? First,

it would be important to point out that midlevel encroachment, in the way most physicians envisioned, has not truly materialized. By one estimate, in the early 2010's there was a shortage of almost 4,000 anesthesiologists and at least 1,200 CRNAs in order to meet US demand, and that number has increased in the decade that followed. A similar pattern has been seen in all surgical subspecialties, as the AAMC estimates that there may be a 15,000-30,000 surgeon shortage in the US by 2034. In these specialties, however, they cannot rely on other health providers such as CRNAs to make up for the deficit. In addition, the roles in which both are currently used are quite different and highly dependent on the region of the country in which they practice. The type of setting in which the different anesthesia providers practice is also quite different. Anesthesiologists spend a greater percentage of time in cases involving general anesthesia and predominantly practice in large hospitals in urban centers, whereas CRNAs are far more likely to spend time in monitored anesthesia care cases and are more likely to be employed in rural areas (Daugherty et al., 2011). One of the more common critiques regarding the rural shortages of anesthesiologists has been that relatively well-compensated providers are hesitant to practice in rural and remote communities due to lifestyle concerns and there is little that can be done to incentivize them to practice in these areas. An additional concern is that rural hospitals simply do not see the same case volume needed to train and retain physician anesthesiologists, who

would both lack the requisite experience and also would be large financial commitments for struggling hospitals. However, given that patients in these communities are lacking adequate and timely care, and in general have more severe medical comorbidities, what they need are more physician anesthesiologists.

The shortage of anesthesia services in rural communities is likely the key bridge to resolving disputes in operating room staffing between anesthesiologists and CRNAs. As mentioned earlier, rural and remote setting hospitals are not able to attract specialized physicians, such as anesthesiologists, due to low procedure volumes and less case complexity, resulting in increased CRNA hiring. However, this attempt at addressing anesthesia shortages has not been sustainable. First, it has resulted in limited numbers of anesthesiologists on staff supervising an increasing number of operating rooms, largely being managed by CRNAs. Anesthesiologists having to supervise the care of three operating rooms or more, regardless of the type of provider managing patient care, has been shown to have statistically worse outcomes for patients (Orser et al., 2022). The troubling trend as well is that the shortage in these communities keeps growing, and without the physician staff available to care for these patients, hospitals in these areas are shutting down. Simply put, without anesthesiologists, there are fewer elective surgeries possible that keep hospitals' financial stability supported. This has led to many rural hospitals being completely unable to offer higher levels of

care to patients needing urgent and specialized medical attention. With rural hospitals being transformed into outpatient care and medical triage centers, many have closed as a result (Orser et al., 2019). The question then is whether we can alleviate this physician shortage while properly delineating roles among anesthesia providers in these hospitals.

When it comes to the management of critically ill patients such as those with severe traumatic injuries or underlying medical problems such as severe pulmonary hypertension, anesthesiologists with critical care training are necessary for the management these patients. While CRNAs have training as ICU nurses, even their leadership organizations do not claim that their members are comparable to medical intensivists or can manage intensive care units (De Oliveira, 2020). Providing anesthesiologists the training and the incentive to populate the critical care environment in these rural and remote settings may in fact be the key to collaboration for these dueling groups of anesthesia providers. In many European nations, anesthesiologists take an additional year for specific training in critical care medicine that is not required in the United States but is offered as a fellowship option. However, many anesthesiologists in training are hesitant to embrace critical care medicine as an option. This may in part be due to the fact that medical intensivists, including critical care anesthesiologists, are not compensated as well as they are involved in fewer operating room procedures. Physician

anesthesiologists are compensated significantly more for the number of operating room procedures they take part in. In rural communities, which already have lower amounts of surgical cases volumes, becoming a critical care anesthesiologist would be a significant reduction in one's overall income potential, even though there are more jobs potentially available for them. An anesthesiologist spending a greater portion of time overall in the intensive care unit would also allow for less financially profitable hospitals to utilize their more cost-effective CRNAs in the operating room for relatively straightforward cases. However, until a payment model that incentivizes physicians to move away from the operating room and consider intensive care unit management as a reasonable financial option is created, there will be a hesitancy for anesthesiologists to embrace that as an option and a greater desire to perform more operating room procedures. This will only serve to widen the disparities in healthcare access in urban and rural communities and ensure that physician anesthesiologists and other anesthesia providers are at odds over a select number of patients when untold millions could use their combined efforts.

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