

## Anesthesia Policies- Increasing Costs with No Improvement in Value

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### Introduction

The U.S spends more than any other country on healthcare, exceeding 17.9% of the GDP [1]. Policy makers are too easily swayed by interest groups inducing them to create regulations and standards with no notice of scientific data regarding methods to improve health and control costs. In the midst of healthcare reform which attempts to provide value and accountability to our patients, providers take advantage of weaknesses in Medicare design and administration to maximize their reimbursement. Anesthesia stipends paid to groups have risen over 400% since the year 2000 with no improvement in quality [2].

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### The Origin of Supervision

Sometimes, health policy statutes are created not to change laws- but rather to define what is occurring. Nuns, nurses, and students performed the first anesthetics in the 1800s and by 1917, anesthesia schools and state licensure requirements were instituted [3]. Few physicians chose to specialize in anesthesia as it was considered the ugly stepsister of surgery. In 1911, Dr. Francis McMechan, an anesthesiologist who became disabled early in his career, began a crusade to claim the anesthesia field solely for physicians. He petitioned the Ohio State Board to take action to prevent nurses from performing anesthesia. A well respected surgeon of the period, George Crile, worked predominantly with nurse anesthetists and had participated in the creation of a nurse anesthesia school. In order to protect the nurse anesthesia profession, he introduced a bill into the Ohio Legislature permitting the administration of an anesthetic by nurses under the direction and in the immediate presence of a licensed physician [3]. From 1919-1936, a number of states adopted statutes recognizing nurse anesthesia practice as a nursing service provided in the direct presence of the surgeon. This was the uniformly accepted practice in operating rooms [4]. The word supervision never adequately defined the relationship between surgeons and anesthesia providers and this later became a battlefield for interest groups [5].

The National Association of Nurse Anesthetists, later the American Association of Nurse Anesthetists was established in 1931 while

the American Society of Anesthesiologists (ASA) was founded in 1936 [6]. World War II escalated the need for nurse anesthetists in military and civilian hospitals and Certified Registered Nurse Anesthetists (CRNAs) outnumbered physician anesthesia providers (MDAs) seventeen to one. In 1947, a massive public relations campaign began as many anesthesiologists returned from the war with great economic incentive to protect their occupation [4]. Statements such as nurse "anesthetists today are not qualified for their job" and "Will you live through your operation?" were published in magazines of the period. During the 1960s and 1970s, financial support for physician education by Congress tripled the number of anesthesiologists. Anesthetists, who in 1970 had previously outnumbered anesthesiologists 1.5 to 1, soon became outnumbered by anesthesiologists [3].

### Establishing Value

The Medicare program was enacted in 1965 as the largest public benefit health program in the United States. The fast growing Medicaid program has now surpassed Medicare spending [7]. CRNAs contracted with hospitals or private physicians which allowed the hospital or private physicians to share in a percentage of the income. Many CRNAs were employed by anesthesiologists and Medicare reimbursed anesthesiologists regardless of whether or not they were present in the operating room while the CRNA performed the anesthetic. During the late 1970s health care costs increased from 69 billion to 230 billion in the 1980s and policy makers were determined to cut costs [3]. Surgeons were

furious that anesthesiologists were able to capitalize on CRNAs and claim fees for concurrent anesthetic procedures. CRNAs performed anesthesia when anesthesiologists were not present in the hospital and sometimes even out of town [6]. The United States Department of Health Education and Welfare stated that approximately 25% of Medicare fraud and abuse investigations involved anesthesia services. The need for improved accountability motivated the Tax Equity and Fiscal Responsibility Act (TEFRA) in 1982 [8]. TEFRA limited payment to anesthesiologists when they supervised more than four concurrent anesthesia cases and imposed seven conditions which had to be fulfilled to qualify for payment. These conditions required the anesthesiologist to be physically present and available for induction of anesthesia, emergence, provide pre and post anesthetic care and monitor the course of anesthesia at frequent intervals [9]. Medicare did not demand that CRNAs had to be supervised by an anesthesiologist, only that these conditions had to be met to warrant payment to the anesthesiologist. In fact, the Health Care Financing Administration was very clear that these were not to be construed as quality assurance criteria [10]. In actuality CRNAs only needed to be supervised by a physician which CRNAs were accustomed to since working alone with a surgeon fulfilled this requirement. However, CRNAs were not directly reimbursed by Medicare. Their income was earned through their employment for a hospital or other physicians so the initiation of TEFRA did become a form of standard practice. There was great economic incentive to have CRNAs working under anesthesiologists since when an MDA supervised multiple CRNA staffed rooms the payments were 140% of what a solo MDA would be paid [10].

With the assistance of interest groups, and a great lobbying effort, CRNAs won the ability to be directly reimbursed for their services with the Omnibus Reconciliation Act of 1986. This ability to directly bill allowed CRNAs to work independently, most often in rural areas which helped increased patient access to health care [7].

## Quality of Care for Non Supervised Practice

With more CRNAs working alone with a surgeon there were attempts to determine quality of care. One of the earliest studies was performed in 1954 and evaluated patient death rates. This study reflected that physician anesthetists had twice the number of deaths than nurse anesthetists [11]. A second research study was performed in the 1970s by the Veterans Administration. They reported to Congress that no significant differences were found when providers were compared. In 1980, yet another study performed by an anesthesiologist, W.H. Forrest, again concluding there were no differences in anesthesia outcomes. There was no evidence to link the supervision of CRNAs to increased quality [10].

In the 1990s an investigation performed by the Government Accounting Office revealed that anesthesiologists medically directing CRNAs were reimbursed 120%-140% more than MDs or CRNAs working alone. This system meant that an anesthesiologist who supervised the anesthesia services of four CRNAs, would have a higher income than MDs that worked alone. This study revealed the great incentive for anesthesiologists to employ CRNAs to

perform the anesthetics [12]. The Government Accounting Office decided that it was reasonable to have one equivalent payment for anesthesia services, regardless of if the service was performed by a CRNA or an MD. This was a dramatic push to encourage hospitals to adopt cost effective anesthesia workforce of "equal pay for equal work" since an MDA generally had twice the income of a CRNA. Studies had shown that it made sense that if a patient underwent a knee replacement the reimbursement should be the same - regardless of if there was one provider or five providers performing the anesthetic. Billing regulations also reflected that if hospitals insisted on anesthesiologist supervision of a CRNA without fulfilling the seven TEFRA guidelines, then the physician portion of the fee would be reduced (**Table 1**) [13].

Multiple more unsuccessful attempts were made to validate an increased quality of care when anesthesia was provided with anesthesiologist involvement. Additional strains came in the form of managed care organizations which pressured organizations to streamline healthcare services and resulted in a 24-40% decline in anesthesiologists workload by 1992 [3].

## Captain of the Ship Doctrine

Interest groups wrote letters to surgeons warning them that they would be held liable for the negligent acts of a nurse anesthetist. The goal was to create anxiety for surgeons by claiming that they faced a higher risk of being involved in malpractice suits if they worked with CRNAs. All physicians fear malpractice lawsuits by nature of their profession. Misgivings proliferated with the "Captain of the Ship" doctrine which originated from vicarious liability concerns [14]. In 1985, the president of the American Society of Anesthesiologists wrote to *JAMA* the operating surgeon or obstetrician who purports to provide medical direction of the nurse, in the absence of an anesthesiologist, carries a high risk of exposure, on a variety of legal theories, for the acts of the nurse [5].

Multiple attorneys have addressed these concerns stating that the legal principles that determine liability are dependent on the specific facts of each case. In *Harris v. Miller* the court supported that a surgeon is not responsible for the quality of anesthesia since they do not select the anesthesia [10]. Vicarious liability is determined by whether or not you control the performance of someone else [14]. There are cases where surgeons were sued due to the errors of an anesthesiologist as well as cases where surgeons were not found to be liable when working with nurse anesthetists. Court law is clear that liability is imposed only

**Table 1** Billing and reimbursement.

Billing Category	Physician Amount /CRNA amount
M.D. Personally Performed AA	100%/0%
Medical Direction QK/QX	50%/50%
Medical Supervision AD/QX	3 base units +1 time unit (if present at induction)/ 50%
CRNA Performed w/o Supervision QZ	0%/100%

**Note:** Adapted from "Billing for Anesthesia Services and the QZ Modifier: A Lurking Problem" by Byrd, Merrick, & Stead, 2011, American Society of Anesthesiologist 75: 36-38.

when the surgeon directed the procedure or participated in the negligence [14]. There is not a single published case where a surgeon was held liable for the CRNA based on the surgeon having "supervised" a CRNA to meet Medicare reimbursement regulations. Although legal counsel for the ASA later acknowledged that their statement was incorrect, opponents of nurse anesthetists convince physicians and hospitals to adopt bylaws demanding supervision and this actually increases the exposure of surgeons and hospitals to liability. In *Denton Regional Medical Center v LaCroix*, 947S.W. 2d 941, a jury awarded \$10 million in damages against the hospital. This case is particularly interesting in that it was determined that neither the CRNA nor physician anesthesiologist was negligent. Instead, it ruled that the hospital was not enforcing their bylaws and policies which required the CRNA to provide anesthesia "under the direct and personal supervision of the physician". The supervision guidelines were defined too narrowly [5]. The reality is that few state laws require supervision of nurse anesthetists. Neither the federal Medicare program, nor the Joint Commission on the Accreditation of Health Care Organizations have supervision requirements. The hospital put itself in a position where it did not follow self-imposed requirements for anesthesia care delivery and a malpractice attorney used this to his advantage. Hospitals with policies that restrict CRNA practice are simply inviting lawsuits from patients as policies regulate practice.

## Opt out Law

Unfortunately, many hospitals continue to feel that they are providing better services by demanding TEFRA ratios of 1 MDA to four CRNAs. Despite these ratios, most anesthesia care team models don't follow TEFRA guidelines and no data has ever shown that it has resulted in improved patient care. The problem lies with Medicare reimbursement which does not allow hospitals to be reimbursed for procedures performed by unsupervised CRNA. Medical reimbursements tightened, and even though surgeons could qualify as a physician supervisor, providers engaged in turf battles to increase market share and protect their practice. The Captain of the Ship doctrine played on the fears of surgeons and hospitals and press releases played on patient concerns that the government was cutting costs at the expense of safety. It was felt that removing the "supervision" requirement from Medicare regulations would alleviate surgeons' worries for increased malpractice risks and could impact practice throughout the country. In 1994, legislation was introduced in both houses. Mike Kreidler introduced HR 4291 which would allow states to decide how to practice and Senator Conrad introduced S 2310 a companion bill [6]. In March 2000, the Health Care Financing Administration (HCFA) ruled that CRNAs could practice without physician supervision and recognized there was "no compelling evidence that an across the board federal physicians supervision requirement for CRNAs leads to better outcomes" [15]. The Clinton administration on January 18, 2001 completely eliminated the federal requirement for hospital based physician supervision of CRNAs as a condition for reimbursement [16]. However, Nov 13, 2001, just before the regulation was to go into effect, the incoming Bush administration and new Secretary for Health and Human Services revised it. The rule currently states that physician

supervision requirements for CRNAs are maintained unless the Governor of the State in consultation with States Board of Medicine opt out of this law. The implementation of this policy has largely been a debate of whether the implementation affects quality of care and access to care. Iowa was the first state to opt out of the requirement as Governor Vilsack in 2001 recommended the change as 90 of the states 118 hospitals used CRNAs as exclusive providers to anesthesia services [16]. Currently seventeen states have opted out of the physician regulation [7].

With the new opt out regulations, there was now the opportunity to further research quality of care and cost effectiveness to encourage other states and hospitals to use these policies to their advantage. Hogan, Siefer, Moore and Simonson [17] cited quality of care and demonstrated cost effectiveness in using an all CRNA staff. A hospital with twelve operating rooms could save over a million a year compared to a hospital using the medical direction model. Their study once again found no increased risk associated with unsupervised CRNAs. Dulisse and Cromwell [18] performed an often cited study which evaluated 480,000 cases. Again, no difference in quality of care was noted. They encouraged hospitals and states to change their policies. "We recommend that CMS return to its original intention of allowing nurse anesthetists to work independently of surgeons or anesthesiologist supervision without requiring state governments to formally petition for an exemption" [18].

## New Research Details Potential Billing Concerns

Like any new health policy, implementation is not immediate or pervasive. Even without the opt out law, no state requires CRNA to be supervised by anesthesiologists. The ASA actively promotes and supports bills requiring MDA involvement in every case and MDAs have quite successfully negotiated agreements with hospitals and limited CRNA practice. Ironically, groups which pushed for the medical direction rarely can follow the de facto restrictions. In 2012, a research study demonstrated that meeting a medical direction model of care to be extremely difficult and costly. When anesthesiologists are supervising multiple rooms and morning cases start simultaneously, anesthesiologists find it very difficult to be in multiple rooms for induction and present for all critical portions of the case. These lapses in meeting TEFRA requirements can occur over 90% of the time. Researchers showed that if regulations were followed, then money would be lost with delayed operating room starts while awaiting the presence of an anesthesiologist. The study recommended lowering the supervision ratio to one anesthesiologist per two or three CRNAs to eliminate lapses in supervision [19]. This results in quite a monetary investment for anesthesia providers whose presence has not been shown to increase quality. Around the same time a powerful article appeared in *Anesthesiology*, warning groups to insure that documentation corresponded with the billing of cases. Medicare data was studied and anesthesia care team practices which had the intention of performing medical direction were starting to code and bill their cases with the modifier created for independently practicing CRNAs [9]. The figure below depicts coding modifiers for Medicare reimbursement.

According to researchers, insurance billing forms were documented as QZ so that groups could capture 100% of the reimbursement without worrying about meeting or documenting medical direction requirements. Groups that were technically documenting and performing supervision (AD/QX) were instead coding these cases as QZ, non-medically directed so reimbursement was maximized [9]. Particularly concerning to researchers was that if MDAs don't document their involvement in cases, it becomes difficult to validate the need for their presence. It also skews claims data verification of what type of anesthesia provider is performing anesthesia, invalidating any further quality comparison studies. The Washington D.C. authors who are involved with regulatory affairs and coding for Washington D.C. caution that documentation and billing have to match- as this is a common target for the federal government Recovery Audit contractors and that if lapses in medical direction occur, then cases should default to medical supervision which is reimbursed at a lower rate. This warning is not without merit. In 2013 a fraud case out of University of California reflected that MDAs were frequently documenting their presence in the operating room and billing for medical direction when they were actually performing anesthetic cases in other buildings, all to maximize their reimbursement [20].

Two publications have been recently published showing that maximizing reimbursement by defaulting to the QZ modifier has become common practice. Sun [21] notes that 100% reimbursement is achieved with billing these cases as QZ (non medically directed) and that it is difficult to decipher what the QZ modifier means anymore. He goes so far as to suggest that the definition of QZ should be changed to reflect the roles of anesthesiologist. However, the Federal Register and Medicare guidelines specify the role of the QZ modifier. Various anesthesia groups have twisted and contorted their definition of what constitutes use of the billing code QZ. Miller, Abouleish and Halzack [22] also referenced how QZ is used to gain 100% reimbursement with less onerous documentation of TEFRA. Medicare regulations are cited and the authors discuss how the coding modifier is used to indicate a nurse anesthetist working without the supervision of a physician even though when anesthesiologists work in the same hospital it is most likely that the relationship includes collaboration, supervision and direction. The QZ modifier, has been termed as a catch all coding modifier, as well as a loophole to meeting TEFRA regulations. This is ironic, since TEFRA regulations were initially enacted to help prevent fraud. The government has not yet questioned this practice. Perhaps they should. When hospitals staff their anesthesia department the board of directors establishes policies for how anesthesia services are organized. There are federal regulations, state regulations, hospital bylaws and reimbursement issues to consider. Most hospitals request 24 hour anesthesia care and providers cannot bill for their services when patient care is not being provided. Therefore, the unreimbursable availability of anesthesia providers must be funded through hospital coffers. With a stipend, the hospital pays an anesthesia group a predetermined rate to cover staffing periods for which anesthesia services are not used or inefficiently utilized. Indeed, an anesthesia subsidy survey performed in 2012 revealed that 98.8% of district, nonprofit and for profit hospitals pay

anesthesia subsidies. While the average anesthesia department subsidy was \$250,000 in 2000, a hospital with 20 operating rooms paid an astounding \$3.2 million in anesthesiology subsidies in 2012 [23]. Anesthesia stipends were \$103,000 per full time anesthesiologist in 2007 and this has steadily increased to a rate of \$140,000 in 2010 and \$160,000 in 2011 [2].

## Conclusion

Value is the new metric of the Affordable Care Act and an all CRNA practice can produce millions in savings. It costs six times as much to train an anesthesiologist as a nurse anesthetists and anesthesiologists are paid twice the amount of a nurse anesthetists. Nurse anesthesia programs yield professionals who produce the same safe level of anesthesia care as anesthesiologists. Multiple studies have documented there are no differences in outcomes. The costs to hire multiple providers to do the same job is absorbed by various public programs in the health care system and is money that could be allocated more efficiently [24]. Scientific research on outcomes and value should be the guide to determining health care policy. Interest groups, politics and archaic notions should not dictate medical practice. States, healthcare facilities, and accountable care organizations should make their decisions based on ensuring access to quality care and managing costs. Practices should strongly consider remodeling their anesthesia care team and updating their hospital policies. Investigate that the anesthesia contract is aligned to how the anesthesia group practices, documents, and bills. Are the additional anesthesia providers providing value? Is it cost effective? Can the anesthesia subsidies to support this model be justified? The costs incurred by facilities utilizing the medically directed model are by far, the highest and most inefficient of all models used [25]. If Medicare and private insurance plans pay the same rate, regardless of whether a CRNA or an MD is providing the care, then the additional costs to employ an anesthesiologist is being shifted away from critical services for healthcare facilities, patients, and ultimately taxpayers.

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