

# Maintaining Physician-Led Anesthesia Care: Research Supports Value for Hospital and Health System Outcomes, Cost, and Access

## Executive Summary

Health care executives are increasingly held accountable for patient outcomes while also being pressured to cut costs and improve efficiencies. As experts in perioperative care, anesthesiologists can help hospitals and health systems address this challenge by delivering quality care across many medical and surgical specialties and providing irreplaceable and proven expertise to keep patients safe, while also controlling costs and protecting an institution's financial health and reputation.

Anesthesiologists are the guardians of patient safety, uniquely educated and trained for the critical moments in health care—in the operating room, in the delivery room, in the intensive care unit, and in a crisis. They oversee the Anesthesia Care Team because they have an unparalleled level of education and training: 12–14 years of higher education, including medical school, and 12,000–16,000 hours of clinical training focused on anesthesia care, pain control, and responding to complications and emergencies in surgery. This specialized training allows them to identify and reduce patient risk before surgery, prevent and respond to complications and emergencies during surgery, and enhance postoperative recovery and pain relief. While nurse anesthetists are important members of the Anesthesia Care Team, they only have five–seven years of higher education, complete 2,500 hours of clinical training focused on anesthesia administration, and can't replace a physician.

This paper reviews the research related to physician-led anesthesia care, including studies demonstrating that anesthesiologist-led anesthesia care saves lives and mitigates other risks while reducing costs. It also shows that there is a lack of evidence for the claim that allowing nurses to administer anesthesia without supervision increases access to care and decreases costs.

## Saves Lives, Improves Outcomes

Whether necessary or elective, a minor or major procedure, surgery is inherently dangerous. Orthopedic surgeries, such as hip and knee replacements, are among the most common and profitable elective procedures and, as with any surgery, come with risks to the patient, including death.

Mitigating those risks is vital. **The presence of an anesthesiologist prevented 6.9 deaths in 1,000 cases in which a complication occurred**, according to an independent analysis of nearly 200,000 Medicare patients who had orthopedic surgery.<sup>1</sup> The researchers factored in more than 40 health conditions to ensure a fair comparison and found the odds of death were 8% higher, and the odds of preventable deaths due to a complication—known as failure to rescue—were 10% higher in patients whose anesthesia was not provided by an anesthesiologist.

Death isn't the only risk of surgery. Preventing hospitalization is a big driver of ensuring quality care. Patients expect to return home after having an outpatient surgery. Hospitals want that too—hospitalization after outpatient surgery is costly. Physician-led anesthesia care helps decrease the risk of hospitalization by reducing unexpected disposition after surgery—meaning admission to the hospital or (rarely) death.<sup>2</sup>

The odds of hospitalization after outpatient surgery were **80% higher** when anesthesia care was led by a nurse anesthetist instead of an anesthesiologist.

Source: An independently funded analysis of more than 2.4 million outpatient knee and shoulder surgeries.<sup>2</sup>



There also is no independent research that supports removing physician-led anesthesia care. The Department of Veterans Affairs (VA) proposed eliminating anesthesiologists from the surgical team and replacing them with nurses, yet its own research could not prove it would be safe to do so. In fact, the authors of VA's Quality Enhancement Research Initiative (QUERI) document questioned whether more complex surgeries can safely be managed by certified registered nurse anesthetists, noting that the evidence that is used to support full practice authority related to nurse anesthetists is insufficient and at high risk of bias.<sup>3</sup>

Additionally, an analysis of six studies of more than 1.5 million patients found no evidence of an increase in confidence in the skills of nurse anesthetists. Authors of the independently funded Cochrane Collaboration analysis found no trials in which an anesthesia provider—whether nurse anesthetist or anesthesiologist—was randomly assigned to a patient without regard to the severity of the patient's condition or type of surgery and concluded that the required randomization would be unacceptable to health service providers, research ethics committees, and patients.<sup>4</sup> Of the six studies included in the review, four were at medium risk of inaccuracy and four received funding that could have influenced the reporting and interpretation of the results.

Further, surgical outcomes are equivalent whether anesthesiologists are assisted by a nurse anesthetist or an anesthesiologist assistant, suggests an analysis of national claims data for more than 400,000 elderly Medicare patients who had surgery.<sup>5</sup> The adjusted mortality was 1.6% for anesthesia care teams with anesthesiologist assistants vs. 1.7% for those with nurse anesthetists.

## Reduces Costs and Protects Bottom Line

When it comes to costs and the bottom line, the reality is Medicare and virtually all commercial insurers pay the same no matter who administers the anesthesia—a physician or a nurse. But evidence shows anesthesiologists also help save costs and protect their institution's financial health via improved outcomes and increased efficiencies.

As reviewed, physician-led anesthesia care reduces mortality. This saves costs relative to life expectancy gains—in other words, dollars per year of life saved.



Physician-led anesthesia resulted in savings of \$4,410 to \$38,778 for each year of life saved.

Source: Cost-benefit analysis based on survey data of anesthesia payment and outcomes studies.<sup>6</sup>

Another study factored in the 2.3 additional unexpected dispositions per 100 procedures for nurse anesthetists vs. anesthesiologists, and determined that the higher level of care provided under the direction of an anesthesiologist came at a reasonable cost of only \$31 more per outpatient procedure.<sup>7</sup>

Anesthesiologists also deliver unique value throughout the perioperative period via their expertise and leadership that results in improved efficiencies, including reducing unnecessary tests and canceled surgeries. **Medical consultation requests were reduced by 75%, costs of laboratory tests were reduced by 59% and medically related surgical cancellations were reduced by 88% when an anesthesiologist was involved**, according to a review article.<sup>8</sup> The article assessed preparation of patients for surgery, development of anesthetics and techniques, pain management using a variety of techniques, and post-operative complications related to anesthesia.

## Ensures Same Access

Multiple researchers have assessed if allowing nurses to practice without the supervision of an anesthesiologist increases access to care, particularly in rural and underserved areas, by looking at access in states that have chosen to be exempt from the long-standing Medicare patient safety standard requiring physician supervision of nurse anesthetists in the delivery of anesthesia care.



In so-called opt-out states, patients did not have increased access to surgical care and anesthesia, and surgical care costs were actually 8.7% higher in those states.

Source: An analysis of the impact of state "opt-out" policy on access to and costs of surgeries and other procedures requiring anesthesia services.<sup>9</sup>

Authors looked at access to inpatient and outpatient surgery by analyzing both the Nationwide Inpatient Sample (assessing 13,573 facility-year observations) and the State Ambulatory and the State Ambulatory Surgery and Services Database (comparing access in three opt-out states to three non-opt-out states based on 9,994 facility-year observations).

Patients in opt-out states also traveled the same distance for care as those in non-opt-out states, according to an analysis of more than 1.1 million Medicare patients that looked at the distance patients traveled for five common elective procedures (knee and hip replacement, cataract surgery, colonoscopy/sigmoidoscopy, and gallstone removal) and two emergency surgeries (appendectomy and hip fracture repair).<sup>10</sup>

Additional research found: patients in opt-out states were not more likely to be admitted for care, nor less likely to suffer from a ruptured appendix, according to an analysis of more than 2.3 million patients from the National Inpatient Survey; anesthesia utilization growth rates were higher in most non-opt-out states compared to opt-out states based on a comparison of Medicare fee-for-service claims of anesthesia in opt-out and non-opt-out states; and opt-out states aren't more likely to offer certified registered nurse anesthetist services, according to an analysis of the American Hospital Association dataset of 1,581 acute care hospitals combined with Area Health Resource Files and Area Deprivation Index scores (even when the analysis is restricted to those in the most disadvantaged areas).<sup>11-13</sup>

## Takeaway

The clear takeaway from the scientifically rigorous research? Anesthesiologists should remain in charge of the Anesthesia Care Team to ensure patient safety and improved outcomes, as well as reduce costs.

The evidence shows that anesthesiologists protect health care institutions by delivering the highest quality and safest care while reducing costs. The evidence also shows there are no benefits to replacing anesthesiologists with nurses. Ultimately, removing anesthesiologists from anesthesia care is risky for every hospital and health system.

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