ANESTHESIA WORKFORCE SHORTAGE : PART I

How did we get here, and what are the implications?

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The healthcare industry is facing an escalating anesthesia workforce shortage. Many practices have reported losing anesthesiologists and anesthetists, and even more have had difficulty finding individuals to hire. It is quite ironic since the quip used to be that for the typical anesthesia group when asked to jump; the only response was how high. But now, with a critical shortage of providers nationwide, simply securing minimum coverage is becoming indispensable to managing surgical facilities. So, how did we get here, and what are the implications of the current shortage?

How We Got Here

In September 1994, the ASA released the final text of a workforce assessment prepared by Abt and Associates. The report suggested an oversupply of anesthesia residents and that residency programs were training 30% too many residents. Due to this conclusion, many residency training programs contracted. Over the next few years, it became apparent that the assumptions based on the report were invalid and did not account for a persistent increase in anesthetizing locations. 1996 was the low water mark for the number of anesthesia providers, and the market has been in catch-up mode ever since. Anesthesia residency output has increased each year for the past 26 years to the current levels, with the last ten years shown in Table 1.

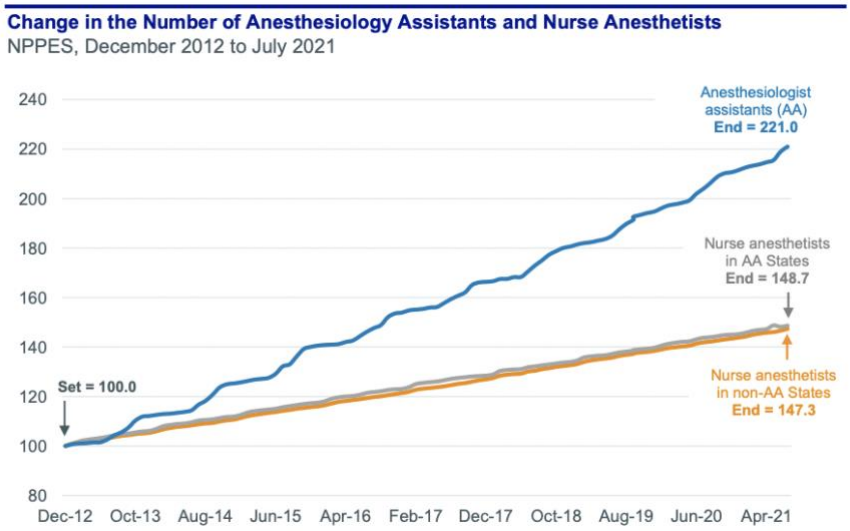
TABLE 1. Applicants and Total Matched from ASA Monitor August 2021

	Applicants and Total Matched										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Applicants	3,286	3,561	3,682	3,667	3,511	3,610	3,914	4,241	4,466	4,980	38,918
% Matched	44	45	44	44	46	46	46	43	42	38	44
MATCHED by CATEGORY											
US Allopathic Senior	1,129	1,153	1,093	1,127	1,075	1,043	1,121	1,163	1,211	1,249	11,364
Osteopathic**	149	175	185	197	213	235	297	366	356	369	2,542
Subtotal	**1,278**	**1,328**	**1,278**	**1,324**	**1,288**	**1,278**	**1,418**	**1,529**	**1,567**	**1,618**	**13,906**
% of Total	88	83	80	81	80	77	79	83	83	85	82
International & Other											
Canadian & Fifth Pathway	2	2	0	2	1	0	1	1	1	1	11
Non-US IMG	48	79	88	99	92	137	128	106	104	87	968
US Grad	38	89	133	102	95	114	130	94	110	120	1,025
US IMG	78	100	105	97	126	129	126	109	101	77	1,048
Subtotal	**166**	**270**	**326**	**300**	**314**	**380**	**385**	**310**	**316**	**285**	**3,052**
TOTAL	**1,444**	**1,598**	**1,604**	**1,624**	**1,602**	**1,658**	**1,803**	**1,839**	**1,883**	**1,903**	**16,958**

Source: 10 years of reports (2012 to 2021) from: National Resident Matching Program, Results and Data: Main Residency Match®. National Resident Matching Program, Washington, DC.
*Applicants and matches include PGY-1, PGY-2, and from 2014-2021, Physician (R) programs. Represents NRMP designated specialty programs in: Anesthesiology, Emergency Medicine-Anesthesiology, Medicine-Anesthesiology and Pediatrics-Anesthesiology.
See "Definitions" for category descriptions.
**Osteopathic student or graduate.

Since then, CMS claims data reveals that the total number of anesthesiologists who billed Medicare went up from 2012 to 2022 by 29%, from 47,833 to 61,978. The number of CRNAs and Anesthesia Assistants (AAs) has grown even faster, as seen in Figure 1.

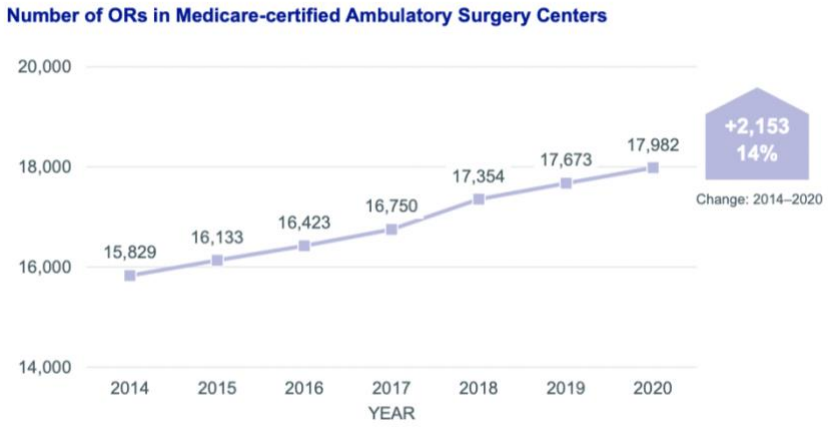
Figure 1. Change in the Number of Anesthesiology Assistants and Nurse Anesthetists



Source: Calculations by the Center for Anesthesia Workforce Studies based on NPPES/NPI Datasets, December 2012–July 2021.

Despite these positive trends, it has become clear that the number of providers cannot keep up with demand, which has been driven by increased hospital-based Non-OR Anesthesia ("NORA") locations and a 14% increase in ASC ORs, as seen in Figure 2.

Figure 2. Change in the Number of Anesthesiology Assistants and Nurse Anesthetists



Source: Analysis of data from Medicare Provider of Service files, 2014–2020. Data as of December 2020

Another factor impacting workforce instability is the increasing number of mobile providers. It used to be true that once an anesthesia provider was accepted for a position, they tended to stay at that facility and in that community until retirement. That is no longer true. Never has there been so much mobility of anesthesiologists and CRNAs, with many factors contributing to this situation. To some extent, this is a function of demographics; the younger generation tends to be more impulsive and impatient than

their elders. They are more willing to try positions out and move on if they don't like them. This lack of commitment results in a less reliable workforce, with providers moving to unfamiliar facilities and incurring a learning curve to maximize their productivity in a new environment.

For many anesthesia departments, the national COVID crisis was a significant and traumatic experience, and they can trace their staffing challenges back to events from early 2020. The average anesthesia practice suffered significant short-term caseload reductions followed by inconsistent recovery, resulting in an unstable financial framework. By the end of 2020, surgical volume loss compared to the prior year averaged about ten percent. Although most practices saw a recovery in 2021, this was not consistent, and endoscopy continued to lag for many. During this period, many practices had to be creative with their staff to avoid losing key providers. Furloughs and attempts to shift personnel to ICU or intubation teams were common in early to mid-2020. Due to financial concerns and operational changes, the pandemic undermined provider confidence in their anesthesia groups and raised many questions about the ongoing viability of their work situations. While the evidence remains anecdotal, many physicians and CRNAs chose to relocate or retire from practice. Many providers who felt under-supported or alienated from their group or hospital decided to become locum or per diem providers at an ever-increasing hourly compensation. This increased earning power seems to have caused some to reduce their hours worked, thus further exacerbating staffing shortages.

Irrespective of how well practices recovered in 2021, the pandemic was destabilizing. Many anesthesia practices simply did not survive, requiring their facilities to urgently seek alternative coverage arrangements. Anesthesia has now become a game of musical chairs, with hospitals and groups trying to move a set number of resources around to fit coverage requirements. The specialty's challenge is now to reset customer expectations considering today's staffing realities.

Implications of the Current Shortage

In our experience with hospitals, health systems, and anesthesia groups nationwide, we are seeing groups of all sizes struggle to meet their requested coverage. Some are working longer hours, some are utilizing additional locum tenens providers, and others are attempting to expand their supervision ratios of anesthetists. We estimate a current 5-10% shortage of anesthesia providers across all markets. However, until there is some reconciliation of facility coverage expectations and the reality of anesthesia provider availability, there is not likely to be a stable, sustainable resolution of this national anesthesia workforce shortage.

Given that there is already a significant shortage of providers, we expect a worsening supply/demand imbalance. This will result in an ongoing escalation of both provider compensation and the need for anesthesia group financial support. To control the delivery of this vital service, hospitals are employing their providers or resorting to RFPs to look for alternative local or national solutions. While these approaches may offer some improvement in coverage, cost, or service, any solution must perform under the same market dynamics. There is no "magic bullet" to go back to pre-pandemic levels of provider availability and subsidy needs. In our opinion, there is little hope of a short-term resolution of the current situation unless stakeholder attitudes change to a market driven by efficiency, not convenience. The market is ripe and ready for innovative approaches.

ABOUT THE AUTHORS

Robert Stiefel, MD is a board-certified anesthesiologist and co-founder of Enhance Healthcare Consulting. Dr. Stiefel was a co-founder of a large anesthesia practice management company operating 27 separate facilities, a management service organization, and an internal billing and collections operation. He has over 20 years of experience as a clinical, consultant, and strategist, which allowed him to lead numerous initatives addressing a wide variety of issues including assisting anesthesia groups re-design of governance, subsidy negotiations, policy/procedures, compensation methodology, and implementation.

Howard Greenfield, MD is a board-certified anesthesiologist and co-founder of Enhance Healthcare Consulting. Dr. Greenfield was one of the original founding partners of Sheridan Healthcare and spent his clinical career at Memorial Regional Hospital in Hollywood, Florida. As Chief of Anesthesia he provided clinical and operational oversight to an Anesthesia Care Team providing tertiary level care to 24 anesthetizing sites. He spent much of his management career starting up new anesthesia practices in many states and is an expert in all aspects of anesthesia practice management.