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Staffing Shortages, Patient Safety, and Me: Embracing the Reality of a Symbiotic Feedback Loop

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Perhaps we have all felt it: in breakrooms, reminiscing of colleagues recently retired; on call nights, shuddering at the idea of additional trauma nights to cover empty slots in the call schedule; in operations boardrooms, strategizing the surgical volume forecast with the elephant-in-the-room speaking louder and louder. Staffing challenges are here, or were here, or are expected to get worse. Ebbs and flows of incoming and outgoing staff are part of the usual operations of a hospital, but since the COVID pandemic, the outgoing flow seems to be exceeding the incoming. Across the country, everyone seems to have anecdotes about nursing and physician shortages, all of which can have a profound impact not just on health care provider burnout but also patient safety.

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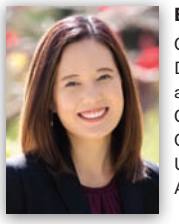

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"We don't need another study to tell us we have a supply/demand imbalance"

Mary Dale Peterson, MD, MHA, FACHE, FASA, 2020 ASA President and chair of the ASA Anesthesia Workforce Summit held in June 2022, addressed the national hospital workforce staffing shortage in her November 2022 *ASA Monitor* guest editorial (*ASA Monitor* 2022;86:20-2). In it, she details the staggering workforce supply/demand issue within anesthesiology. While the number of matriculants into the field exceeds that of our surgical colleagues, the need for surgical, procedural, and diagnostic anesthesia services is exponentially growing and outpacing current supply. Dr. Peterson finishes with an optimistic vision of opportunity for our specialty to find strategies to correct this supply/demand imbalance.

However, staffing shortages do not belong solely to anesthesiology. The impact of staffing shortages within other medical specialties and other disciplines, specifically nursing, can directly influence not only our anesthetic volumes but also our ability to recruit and retain our staff. Take emergency medicine, for example, which had a remarkable year for the Match in 2023, and not in a positive way. More than one out of six emergency medicine residency spots were left unfilled this year – more than 550 positions – up 252% from 2022 (asamonitor.pub/3VLL7ml). Similar projections of reduced surgeon subspecialties have concerned groups like otolaryngology and general, thoracic, and cardiovascular surgery.

At the same time, our colleagues around the OR, i.e., OR nurses and surgical technicians, are facing staffing shortage crises, high staff turnover rates, and a significant number of staff expected to leave the workforce (asamonitor.pub/3VOCNlK). On the floor, nursing shortages have reached crisis levels, and in a unified statement from America's top four nursing associations, the future remains bleak given the increasing median age of nursing faculty (asamonitor.pub/3MaEvej).

While we probably do not need further studies describing the state of staffing shortages in anesthesiology, staffing shortages in other disciplines have direct impacts on our day-to-day workload. The COVID-19 pandemic shuttered elective and nonurgent surgeries for more than a year. We are now in the middle or backend of a surgical backlog for millions of procedures (*JAMA Netw Open* 2022;5:e2227443).

Staffing shortages, burnout, and patient safety: an unfortunate positive feedback loop

Staffing shortages can negatively affect patient safety. In anesthesiology, our foundations of patient safety culture are built upon reduction of risk and maintenance of redundancies of safety. The latter is most vulnerable to staffing shortages. Perceived staffing shortages were an independent risk factor (odds ratio 2.06, 95% CI, 1.76 to 2.42) for burnout in anesthesiologists, according to a 2021 *Anesthesiology* study (*Anesthesiology* 2021;134:683-96). In the same study, 35.1% of anesthesiologist respondents experienced staffing shortages at their institution, while 59.2% and 13.8% were at high risk or were actively experiencing burnout syndrome, respectively.

Burnout, staffing shortages, and patient safety outcomes are likely closely, cyclically interconnected. A negative influence on one could easily permeate into another. Burnout leads to attrition from the discipline or specialty, which leads to staffing shortages, and eventually to more burnout in other staff. Burnout also potentiates staffing shortage issues through reductions in work hours and effort. In studies prior to the COVID-19 pandemic, burnout was associated with not only leaving the workforce but also reductions in work hours. Physicians experiencing emotional exhaustion – an indicator of burnout – were more likely to reduce their clinical work hours or full-time equivalents over the next 12-24 months (*Mayo Clin Proc* 2016;91:422-31).

Burnout is also associated with increased risk of major medical errors (*Ann Intern Med* 2019;171:555-67). Physician burnout is independently associated with patient safety and patient satisfaction (*JAMA Intern Med* 2018;178:1317-31). To complete this cycle, perceptions of an inability to provide quality, safe care were most frequently associated with emotional exhaustion in a large systematic review and meta-analysis of burnout/patient safety studies (*Ann Intern Med* 2019;171:555-67). In both physician and nurse groups, those directly involved in a patient safety incident were more likely to suffer burnout symptoms, leading to more severe harm to the patient (*Med Care* 2016;54:937-43). In addition, those involved in any patient safety incidents were more likely to have stronger considerations to change their current profession.

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Turning to progress

The good news is that this is a very high priority for ASA, as evidenced by the June 2022 workforce summit. In March 2023, ASA sent recommendations to Congress on how to improve staffing shortages in anesthesiology, which included funding research on improving efficiency within the OR, providing additional funding for training of anesthesia providers, and increasing the size of existing residencies. Interestingly, the recommendations also included allowing for reciprocal board certification of physicians from mature national health care systems such as the United Kingdom, Germany, and Australia (asamonitor.pub/44Jl2s7).

The problem of staffing shortages in anesthesiology does not occur in a vacuum; rather, shortages in nursing, for example, lead to long waits for recovery room beds that can exacerbate burnout in specialties like anesthesiology and surgery, leading to burnout and attrition. In order to address these shortages, there must be tactical cooperation on a national scale among leaders in nursing, surgery, and anesthesiology. In the interim, while solutions are being explored at the national level, there must be local intervention. Hospitals should make dedicated, visible efforts to acknowledge and embrace the existence of the staffing shortage problem, invest in efforts to maintain and improve health care worker mental health and well-being, and explore creative strategies on how to address surgical backlogs and meet the needs of our patients while maintaining a healthy workforce.

We aim to bring the interconnectivity of anesthesiology, other medical disciplines, patient safety, burnout, and staffing shortages to the forefront. It remains certain that addressing staffing shortages within our specialty could positively moderate burnout and patient safety outcomes and likely vice versa. As leaders in perioperative medicine, we find ourselves uniquely positioned to optimistically impact future anesthesia providers, our colleagues, and patients. ■

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Ask the Expert

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How do you view the future of cardiac surgery, given disruptors like invasive cardiology and fluctuating reimbursement? Positive, negative, neutral?

Most cardiac surgeons have embraced less invasive procedures. TAVR, MitraClip, and PCI have encouraged cardiologists to treat more coronary and valvular disease, which has dramatically increased the number of patients overall. Working as a heart team with the cardiologists, we decide together whether surgery or catheter-based therapy is best for the patient. I think the future of cardiac surgery is certainly more catheter-based and minimally invasive, so you must embrace this technology if you want to keep working. We all know that the U.S. population is becoming much sicker, so there certainly is no shortage of cases. We set record volumes last year – my partner and I did 748 total pump cases and TAVRs. This is far more than we actually want to do, so we are hiring a third surgeon. In addition, we were just named a 3-star STS program, so I'm sure our referrals and patient volume will continue to grow as that word gets out. I guess it's good to be busy, but honestly, it's getting a bit too busy.

Can you describe a particularly interesting or challenging case you managed?

To answer the question in a general sense, with the improvements in ECMO and temporary assist devices, we are now able to help sicker and sicker patients. As long as the patient is not in multisystem, multiorgan failure, we can offer procedural intervention(s). We have embraced the Impella assist devices and, with this and other technologies, we can now get most patients through an operation we never would have even considered before.

As a proceduralist in a demanding field, how do you stay current, given rapid advances in medical knowledge and science?

Fortunately, we live in the Information Age, and using social media and attending conferences (live or virtual) make it much easier to keep up.

What do you do for fun, outside of work?

Well, I have six kids, so most of my free time is spent with them doing family activities, sports, and traveling. I wouldn't want it any other way.

Any parting words for ASA members?

We (cardiac surgeons) greatly appreciate you, whether we admit it or not! ■