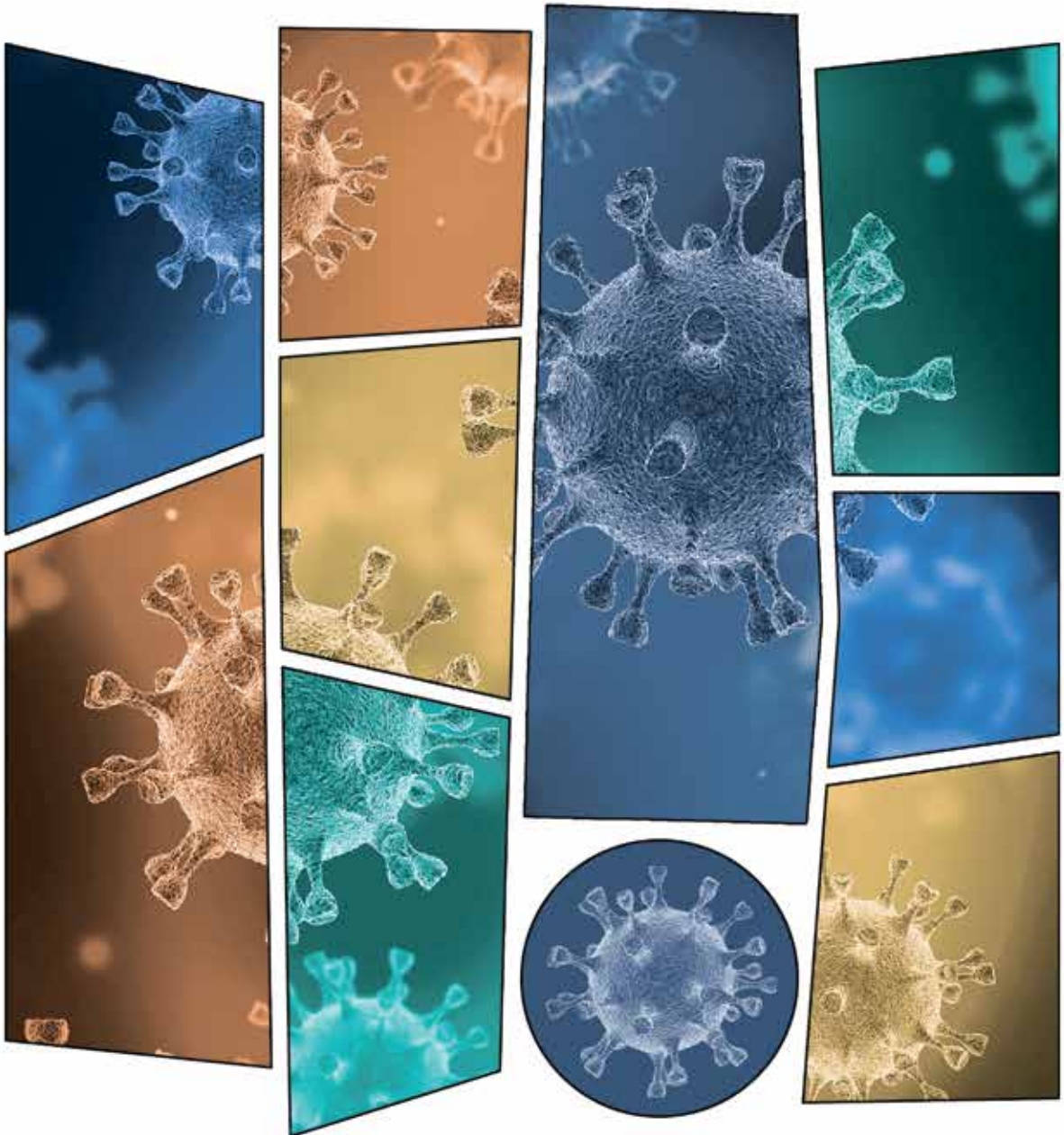


Bulletin

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Effects of COVID-19
on Residents and Early Career Surgeons

The Operative Word



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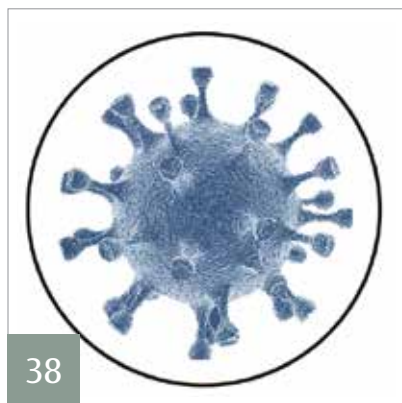
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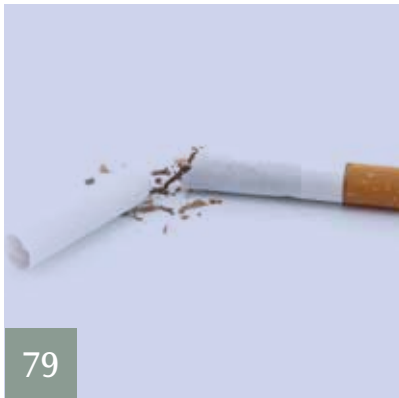
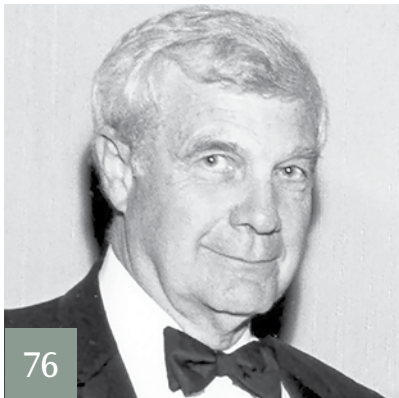
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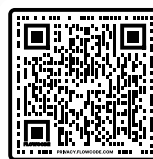
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Scut and the Other Side of the Pandemic

by Patricia L. Turner, MD, MBA, FACS

One of the most fundamental lessons I learned during my residency had to do with scut work.

Scut work is not pretty; it is not educational. It will never be the subject of a research proposal, nor will it be the topic of a keynote lecture at an international conference. Scut is work that must get done for a patient. It does not matter who does it or how it gets done. It must be, nonetheless, accomplished for the good of the patient. It is at the very center of patient-centered care and, because it advances the care of the patient, none of it is beneath any of us.

Residents know that excellent patient care is their highest priority. The overarching lesson that pervaded my training was that anything the patient needed, anything that advanced their care instantly became the top priority. Sometimes that meant scut work. We now try to focus our trainees' time on more educational endeavors.

Surgical residents have had unprecedented experiences during the COVID-19 pandemic. Practicing surgeons have had to adjust, sacrifice, and reprioritize, while learning and teaching in all new ways. This issue of the *Bulletin* examines the effects of COVID-19 on surgical training and looks strategically forward so that we learn from our experiences to advance patient-centric care. Because many operations were postponed or canceled, and teaching occurred on Zoom or only in clinic rather than in the OR, many residents missed out on much of the hands-on patient care that is the hallmark of a surgery residency.

Core tenets of exquisite patient care means that we must redouble our efforts to be certain that our trainees have everything they need to be prepared for the future. Scut may look different now than it did when I was in training, but in the end, all residents want the best experience possible and want to gain knowledge, even if it isn't always in the OR, where we all love spending our time.

Hands-On Experience

No residency, by definition, is more hands-on than that of a surgeon. We need to examine our patients. We need the proper instruments in the OR. We deliver the bad news—or the good news—to our patients. So much of what we do in clinic, in the OR, and on the floors with the nurses and with families at the bedside simply must be done in person.

We are thankful for the technology of online meetings to handle some of the didactic elements of education, but none of that can replace the hands-on components that are so significant in the life of a surgical trainee. Computer technology cannot stand in for the organic experiences of discussing cases over breakfast with your team or watching and learning from a senior staff surgeon.

The ACS has always supported residents with skills courses, appropriate for those in training or anyone in practice who might need a refresher. As we return to in-person events, these courses, coupled with robust interaction with experts in the field, will once again provide invaluable experiences to young surgeons.

Mentorship programs are also available across the College, allowing surgeons of all ages to connect with more senior (or more junior) surgeons in mentoring relationships. Lifelong relationships take root, in person, and both members of the dyad benefit.

Among the starker figures you may read in this issue is that 75% of surgical residents responding to a survey reported experiencing anxiety and 43% reported experiencing increased anxiety. The pandemic has added a level of disruption to our lives, and world events can be unsettling.

The RAS-ACS Education Committee informs us that 82% of respondents reported that their elective surgery experience was negatively

I see a light at the end of the COVID tunnel that includes all of us, stronger together.

affected, and lower percentages confirm that their clinic experience and performances were also negatively affected.

Light at the End of the Tunnel

As we (hopefully) see the end of the pandemic approach, the ACS is devoted to providing training, education, mentorship, and camaraderie to help our residents make up for lost time. We know that a surgeon's anxiety can be lessened when his or her knowledge base is expanded. We all focused as well as we could during the height of the pandemic, and it is now time to supplement the pandemic teaching regimens with as much in person and hands-on training as we can provide.

As we move forward, our profession will embrace some of the positive processes that evolved from COVID, and we will develop a new norm. Social media and virtual platforms will continue to transform the residency recruitment and interview process, relieving young surgeons of some of the travel-induced stress, and freeing attendings to participate in more conferences, lectures, and other activities.

We also will continue the important conversations focusing on health inequities and access to care that were even more acutely illuminated during the pandemic. The voice of young surgeons will be critical in these discussions.

At Clinical Congress in October, we will recognize and celebrate 3 years of new initiates, each of whom represents a new light in the House of Surgery—fresh perspectives and energized hope.

While this edition of the *Bulletin* focuses on some of the strains that residents and virtually all surgeons have all felt over the past few years, I feel hopeful. I see a light at the end of the COVID tunnel that includes all of us, stronger together.

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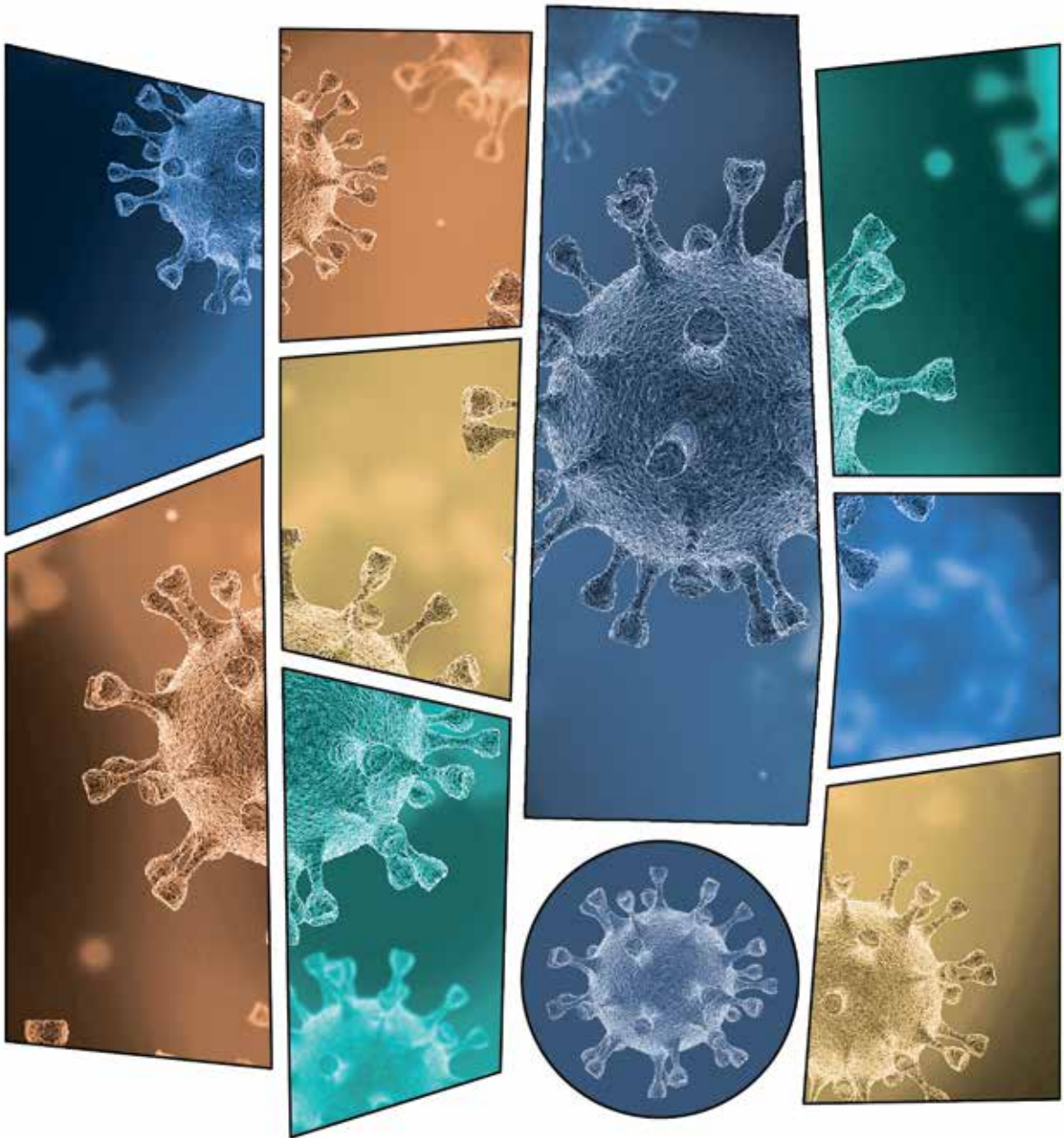
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Our newest residents and initiates make us better. They make us smarter, more efficient, and more creative, by virtue of their new perspectives.

Working together, we will assess, adapt, and adopt new ways based on the lessons we have learned. Growing from the COVID-19 experience and paving a steadier, less-bumpy road ahead may or may not be considered scut work, but if we keep the patient at the center, we will always chart the right course, and achieve the best outcomes. ♦

If you have comments or suggestions, please send them to Dr. Turner at executivedirector@facs.org.



Introduction:

As COVID-19 Continues, Residents and Early Practice Surgeons Face Ongoing Challenges

by Julia Coleman, MD, MPH,
Yewande Alimi, MD, MHS,
and Kaitlin Ritter, MD



Resident and Associate Society
American College of Surgeons

In December 2019, COVID-19 was first documented in Wuhan, China. By January 2020, the World Health Organization declared the outbreak a public health emergency of international concern, followed by an unprecedented spread of this virus akin to the 1918 flu pandemic. As of May 2022, more than 517 million people had been infected and more than 6.2 million people worldwide had died from the virus—nearly 1 million in the US alone.

Unprecedented Stressor

From the nidus of the pandemic, the US healthcare system has been prodigiously stressed, with a ripple effect not just on patients, but also on providers. Recognizing this incredible and unique stress on surgeons, and particularly surgical trainees and early career surgeons, the Resident and Associate Society of the American College of Surgeons (RAS-ACS) wanted to better understand its constituents' experiences to determine how to support them best during this crisis.

As context, the RAS-ACS provides surgical trainees and early practice surgeons with opportunities for participation in ACS affairs, fosters leadership skills in academic surgery, and offers a platform for young surgeons and trainees to voice their opinions and concerns to the College leadership. RAS-ACS is the home of Resident Members and Associate Fellows, whereas the Young Fellows Association (YFA) represents ACS Fellows age 45 and younger.

In response to the COVID-19 pandemic, RAS-ACS formed a COVID-19 Resident Taskforce in May 2020 to analyze the effects of the pandemic on RAS and YFA members. The taskforce disseminated an anonymous, online survey to the RAS and YFA listservs in July 2020. A total of 1,160 individuals (40% [465] residents and 60% [695] early career surgeons) responded, and the results were remarkable. Respondents provided a sobering depiction of how COVID-19 had negatively affected their clinical and personal

experiences and revealed a striking lack of access to personal protective equipment (PPE).*

A multivariable, stepwise logistic regression model identified that individuals who reported high depression and burnout symptoms were more likely to be women, less likely to report availability of wellness resources, more likely to report taking care of known COVID-positive patients, and less likely to report access to adequate PPE. The results of this survey inspired a discussion with the ACS leadership and led to an official College statement regarding the necessity to prioritize and preserve access to PPE for surgical residents.

The reality is that COVID-19 remains an ongoing phenomenon, with an average of nearly 60,000 people diagnosed and 400 deaths per week in the US. Hence, the virus places an ongoing demand on the healthcare system and continues to affect surgeons and surgical trainees.

Survey Design and Purposes

To assess how the pandemic continues to affect RAS-ACS members, the Executive Committee and Committee Chair disseminated a follow-up survey in March 2022. The anonymous, online survey—identical to the 2020 survey but with a few additions—was disseminated through the RAS listserv (see Table 1, page 10). A five-point Likert scale was used to quantify the effect of the pandemic on these experiences.

The degree of depression and burnout among residents and early career surgeons was assessed using the Patient Health Questionnaire (PHQ-9), which screens for depression using nine questions, and the modified, abbreviated Maslach Burnout Inventory-Human Services Survey for Medical Personnel (aMBI), which examines emotional exhaustion and depersonalization. An invitation to participate in the study by completing the anonymous, online survey was disseminated in July 2020.

Over a 2-week period, an initial survey was disseminated, followed by two reminders for individuals who had not initially replied. Recipients were notified

*Coleman JR, Abdelsattar JM, Glocker RJ. COVID-19 pandemic and the lived experience of surgical residents, fellows, and early-career surgeons in the American College of Surgeons. *J Am Coll Surg.* 2021;232(2):119-135.

TABLE 1. COVID-19 2022 SURVEY

Respondent Demographics	Residents (n = 361)	Associate Fellows/ Young Fellows Association (n = 486)	Total (n = 847)
Age in years			
20–25	3 (0.83%)	0 (0%)	3 (0.35%)
26–30	131 (36.3%)	4 (0.82%)	135 (15.9%)
31–35	163 (45.2%)	149 (30.7%)	312 (36.8%)
36–40	48 (13.3%)	199 (40.9%)	247 (29.2%)
40+	12 (3.3%)	95 (19.5%)	107 (12.6%)
Female	187 (51.8%)	154 (31.7%)	341 (40.3%)
Race			
Asian	64 (17.7%)	144 (29.6%)	208 (24.6%)
Black	21 (5.8%)	43 (8.8%)	64 (7.6%)
Hispanic/Latino	41 (11.4%)	43 (8.8%)	84 (9.9%)
Caucasian	212 (58.7%)	218 (44.9%)	430 (50.8%)
Other	12 (3.3%)	21 (4.3%)	33 (3.9%)
Prefer not to answer	11 (3.1%)	17 (3.5%)	28 (3.3%)
Institution location			
Northeast	98 (27.1%)	54 (11.1%)	152 (17.9%)
Midwest	63 (17.5%)	57 (11.7%)	120 (14.2%)
South	81 (22.4%)	89 (18.3%)	170 (20.1%)
Western	55 (15.2%)	51 (10.5%)	106 (12.5%)
International	64 (17.7%)	235 (48.4%)	299 (35.3%)
Institution affiliation			
University affiliated	282 (78.1%)	280 (57.6%)	562 (66.4%)
Non-university affiliated	71 (19.7%)	155 (31.1%)	226 (26.7%)
Other	8 (2.2%)	51 (10.5%)	59 (7.0%)
Graduating chief residents/year			
Less than 3	78 (21.6%)		
4–5	108 (29.9%)		
6–8	128 (35.5%)		
Greater than 8	47 (13%)		

Respondent Demographics	Residents (n = 361)	Associate Fellows/ Young Fellows Association (n = 486)	Total (n = 847)
Fellow postgraduate (PGY) year			
PGY-1	33 (9.1%)		
PGY-2	65 (18%)		
PGY-3	57 (15.8%)		
PGY-4	61 (16.9%)		
PGY-5	71 (19.7%)		
Research	33 (9.1%)		
Other	41 (11.3%)		
Surgical specialty			
Acute care surgery/trauma/critical care	12 (3.3%)	71 (14.6%)	83 (9.8%)
Bariatric/minimally invasive surgery	8 (2.2%)	34 (7.0%)	42 (5.0%)
Breast	2 (0.6%)	8 (1.6%)	10 (1.2%)
Cardiothoracic	6 (1.7%)	20 (4.1%)	26 (3.1%)
Colorectal	5 (1.4%)	23 (4.7%)	28 (3.3%)
Endocrine	1 (0.3%)	2 (0.4%)	3 (0.4%)
General	286 (79.2%)	163 (33.5%)	449 (53%)
Neurologic	3 (0.8%)	9 (1.9%)	12 (1.4%)
Oral maxillary facial surgery	2 (0.6%)	5 (1.0%)	7 (0.8%)
Ophthalmology	0 (0.0%)	8 (1.6%)	8 (0.9%)
Orthopaedic	3 (0.8%)	20 (4.1%)	23 (2.7%)
Otolaryngology	5 (1.4%)	21 (4.3%)	26 (3.1%)
Pediatric	3 (0.8%)	25 (5.1%)	28 (3.3%)
Plastic	3 (0.8%)	20 (4.1%)	23 (2.7%)
Surgical oncology	7 (1.9%)	17 (3.5%)	24 (2.8%)
Transplant	1 (0.3%)	10 (2.1%)	11 (1.3%)
Urology	2 (0.6%)	17 (3.5%)	19 (2.2%)
Vascular	10 (2.8%)	11 (2.3%)	21 (2.5%)
Other	2 (0.6%)	2 (0.4%)	4 (0.5%)

Individuals who reported high depression and burnout symptoms were more likely to be women, less likely to report availability of wellness resources, more likely to report taking care of known COVID-positive patients, and less likely to report access to adequate PPE.

that completing the survey was considered consent to share their anonymous responses. The study design was previously submitted to the American Institutes for Research Institutional Review Board and received exempt status. The survey data were aggregated on a secure spreadsheet for ACS administrative use only.

Overall, 847 individuals responded (361 resident members, 486 Associate Fellows); 37% were ages 31–35, with 36–40 year olds representing the second largest group (29%) followed by 26–30 year olds (6%). Women accounted for 40% of the respondents, and most participants identified as Caucasian (51%). Sixty-six percent reported working at a university-affiliated institution, with the largest representation coming from southern locations (20%). International members accounted for 36% of responses.

Most participants reported practicing or training in general surgery (53%), with a small percentage (0.5%–10%) representing surgical subspecialties. We saw a relatively even response of trainees across postgraduate years, with interns being the least represented group (9% of trainee respondents). Most respondents (78%) came from medium to large programs—that is, four or more graduating chiefs per year.

The Results

Several themes emerged from the 2022 survey results and will be examined by each of the five RAS-ACS committees through their unique perspectives. In the following pages:

- The Communications Committee describes how the COVID-19 pandemic has affected resident wellness—from burnout and depression to fear of contracting the virus—and outlines residents' concerns related to educational opportunities (see pages 12–15)
- The Advocacy and Issues Committee provides perspective on the crucial role of advocacy measures during the COVID-19 pandemic as they pertain to surgical trainees and physician wellness (see pages 16–18)
- The Associate Fellows Committee explores how the COVID-19 pandemic continues to affect early practice surgeons, specifically with respect to operative volume, compensation, career opportunities, and wellness (see pages 19–23)
- The Education Committee considers how the COVID-19 pandemic radically changed the training and surgical education format and how some of these modifications have become enduring alterations (see pages 24–30)
- The Membership Committee examines how COVID-19 has affected residents' ability to engage in professional societies and how this dilemma affects residents professionally and personally (see pages 31–37)

These articles depict the issues facing surgical residents and early practice surgeons as the COVID-19 pandemic continues to strain our healthcare system and its providers.

In addition, members of the ACS Medical Student Task Force describe how COVID-19 has increased their exposure to surgery and surgical mentors through virtual learning, but decreased peer-to-peer interaction and in-person experiences (see pages 38–43). ♦

DR. JULIA COLEMAN is a surgical critical care fellow, The Ohio State University, Columbus, and Vice-Chair, RAS Executive Committee.



COVID-19 Pandemic Significantly Affects Resident Wellness

by Nadege Fackche, MD,
Fedra Fellahian, MD,
LaDonna Kears, MD,
Thomas G. Wyatt, DO,
and Alyssa Peace, MD



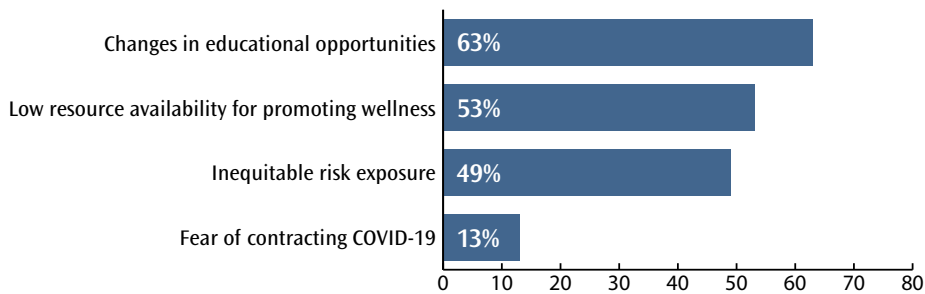
HIGHLIGHTS

- Describes the 2-year impact of COVID-19 on resident well-being
- Outlines residents' concerns related to changes in educational opportunities, inequitable risk of COVID-19 exposure, and minimal resources for promoting wellness
- Summarizes the College's ongoing commitment to supporting resident wellness, particularly during a public health crisis

Surgical residency is considered a grueling and arduous journey. Long hours, little sleep, and extensive mental, physical, and emotional demands take a toll on all trainees. The expectations and requirements of surgical training programs affect residents on a personal basis.

Over the last decade, wellness programs have been introduced into surgical training curricula. Still, no standardized metrics have been established to define a successful wellness program or even comparable metrics to quantify resident well-being. In fact, the term “wellness” has been the subject of debate. Lall and colleagues define wellness as multifactorial, encompassing variables such as work-life balance, quality of life, mindfulness, and resilience.¹

FIGURE 1. CONCERNS OF SURGICAL RESIDENTS IN 2022



Resident-reported questionnaires have periodically assessed well-being and quality of life. The results have been disappointing. The results of a 2016 study showed that almost two-thirds of general surgery residents in the US met criteria for burnout.² A study published a year later found that one-third of surgery residents experienced mild depression, and one-quarter experienced clinical psychological distress.³

The COVID-19 pandemic had a largely negative affect on resident wellness.⁴ Coleman and colleagues evaluated residents' perceptions of the impact of COVID on surgical training (n = 1,160) and found that most experienced a deleterious impact on their surgical education, and nearly half reported a negative or extremely negative effect on their sense of physical safety.⁴ Perhaps most disconcerting, 70% of residents reported a negative or extremely negative effect on their mental health.⁴

As a follow-up to these results, another survey was distributed to general surgery residents to assess the 2-year impact of COVID-19 on resident well-being. Participants were asked to report their perceptions of how COVID directly affected their physical, mental, and emotional well-being during surgical training (n = 1,879). The results were sobering. Many residents expressed concerns related to changes in educational opportunities (63%), inequitable risk exposure (49%), fear of contracting COVID-19 (13%), and low resource availability for promoting wellness (53%) (see Figure 1, this page). All of these factors have contributed to feelings of emotional exhaustion, depersonalization, anxiety, and depression among residents. It is clear from these findings that resident wellness should be prioritized further nationwide to encourage long-term growth and career satisfaction.

Changing Educational Opportunities

Residents and fellows have been on the front lines of the physician response to COVID-19. One of the most significant concerns the survey results

illustrated was that surgical education was forced to yield to the pandemic-related care of patients. COVID-19 significantly altered instructional designs and content delivery, as well as assessment of clinical competencies. At the expense of surgical skills training and curricula implementation, programs were required to swiftly implement social distancing and virtual learning.

Simulation-based strategies served as an additional safeguard to ensure adequate training and preparation, and several other educational strategies were integrated in the initial stages of the pandemic. These abrupt changes required quick adaptation to a new learning environment and significantly affected opportunities to interact with peers and faculty. As a result, 10.3% of residents were concerned about their educational experience, and 11.9% were concerned about meeting clinical competency benchmarks—ultimately contributing to heightened stress and anxiety.

Furthermore, when rating several of their biggest concerns during the COVID-19 pandemic, residents rated their surgical caseload experience high on their list of priorities. Previous studies have investigated the trends in surgical residents' case logs and operative experience and found increased case volume but decreased breadth of case types.^{5,6} Given the previously reported trends in surgical caseload numbers and the abrupt halt in elective cases, it is understandable that approximately 30% of surveyed residents were fearful about the impact of the pandemic on their operative experience.

Fear of Contracting COVID-19

In the face of institutional emergencies and to mitigate exposure risks to older attending physicians, the Accreditation Council for Graduate Medical Education established that fellows may spend up to 20% of their academic year serving as fully independent physicians.⁷

With an aging American population and a well-documented physician shortage, resident and fellow retention is critical.

Our survey indicated that nearly half of the surveyed residents (49%) felt that they carried a greater exposure risk than attending physicians. At times, residents (12%) reported inadequate access to personal protective equipment (PPE) and were even asked to supply their own PPE (9%). More than 40% of the respondents indicated that one of their most prominent concerns was the possibility of contracting COVID-19 themselves and spreading infection to their families.

Furthermore, more than 50% of respondents reported that testing for COVID-19 was optional at their institution and only done if the resident was symptomatic. Most alarming, 15% of respondents reported that they were required to continue working if they tested positive.

Most respondents (74%) stated that their hospital system did not provide residents with bonuses or hazard pay. More than 50% of patients considered high risk for COVID-19 whose tests were pending were initially evaluated by chief residents rather than attendings (5%). This finding not only illustrates the disproportionate risk at which residents were exposed to COVID-19, but also explains why residents experienced increased anxiety, depression, and burnout. Noteworthy is the apparent disparity in treatment between trainees and faculty, which raises valid concerns about how much value institutions assign to trainees' well-being.

Resource Availability for Residents

Considering the many educational and safety concerns residents have faced during the pandemic, the renewed need for wellness resources became even more evident. Queries regarding the establishment of formal mechanisms to support wellness and promote resiliency illustrated this need, as 52.7% of respondents reported that their institutions had not provided any new resources. Furthermore, 85.9% of residents did not use the American College of Surgeons (ACS) wellness toolkit or other society-offered resources. The reasons behind this drastic

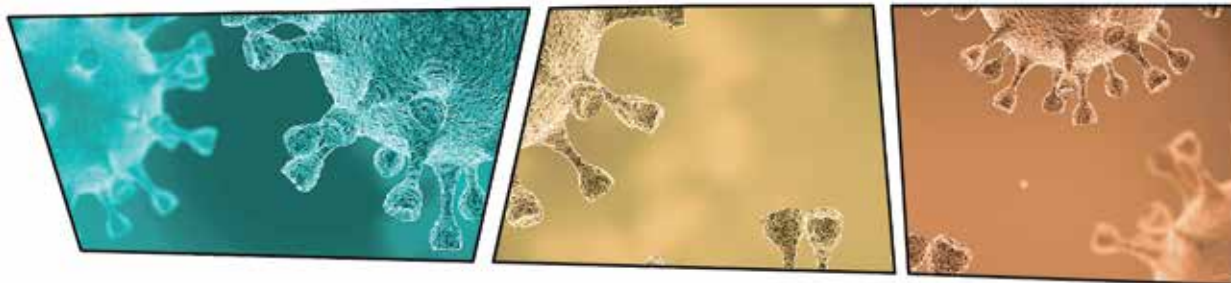
underuse may be multifactorial; however, the Resident and Associate Society (RAS) Communications Committee surmises that lack of awareness played a significant role.

Impact on Resident Well-Being

Overall, more than half of trainees reported experiencing new or increased symptoms of depression and anxiety in the year before this survey. In addition, approximately 72% of respondents reported emotional exhaustion, and 61% reported depersonalization toward patients during the same time. Only 62% of trainees reported feeling personally accomplished in the year before this survey, specifically described as “feelings of competence and successful achievement in one’s work.” Furthermore, 32% of respondents reported they had considered making a significant change in job status, including leaving the profession, changing employers, moving into significantly different roles, and leaving medicine altogether.

Numerous studies have identified these symptoms, collectively referred to as burnout, as risk factors for physician self-harm, alcohol and substance abuse, broken personal relationships, and even suicide.⁸⁻¹¹

An extensive ACS study published in 2010 also found that surgeon burnout was an independent predictor of reporting a recent major medical error.¹² In our survey, 38% of trainees tested positive for burnout or exhaustion, similar to results from the cross-sectional survey administered in conjunction with the 2018 American Board of Surgery In-Training Examination.¹³ However, 49% of trainees reported they had not been issued an employer-directed survey or screening to identify symptoms of burnout during the last academic year, suggesting institutions may be unaware of the severity of these problems within their own systems. In the wake of the added stress associated with COVID-19, some may find this lack of insight alarming given the far-reaching implications of physician burnout. With an aging American population and a well-documented physician shortage, resident and fellow retention is critical.¹⁴



Conclusion

The findings from this survey reveal a sobering reality heightened by the COVID-19 pandemic: resident wellness is in a state of emergency. The deleterious impact of social isolation, compounded by anxiety, stress, and uncertainty, brings forth several urgent action items for surgical societies and institutions alike. In addition to interventions aimed at improving awareness of and access to wellness resources, a redesign of training paradigms, even during a pandemic, to incorporate resident wellness as a core value is sorely needed. The accelerated digitalization of interpersonal interactions using online meeting platforms as seen during the pandemic can provide avenues for sharing of resources.

RAS is committed to continuing to understand the issues facing surgical trainees and advocating for resident wellness. The RAS Membership Committee and social media campaigns led by the RAS Communications Committee, such as the #SurgMatch2022 campaign, are examples of effective outreach tools. In its December 2021 Statement on Surgeon Well-Being, the ACS recognized how critical surgeon wellness is to ensuring optimal patient care and addressed the predicted physician shortage.¹⁵

Ultimately, these data highlight an undeniable truth: much needs to be done. RAS is committed to developing strategies to enhance surgery trainees' experiences and will continue to be at the forefront of the change that is needed. ♦

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DR. NADEGE FACKCHE is a complex general surgical oncology postdoctoral fellow at Moffitt Cancer Center, Tampa, FL.



The Importance of Advocacy Increased during the Pandemic

by Navin G. Vigneshwar, MD, Rachael Essig, MD,
Alexandra Justine Johns, MD, Michael Visenio, MD,
Rachel Sundland, MD, and Kevin Koo, MD, MPH, MPhil

HIGHLIGHTS

- Outlines the pandemic's effect on health policy
- Describes legislative measures intended to curb burnout and lessen financial burden, including the CARES Act
- Summarizes the Dr. Lorna Breen Health Care Provider Protection Act, which is intended to reduce and prevent suicide, feelings of burnout, and other mental health conditions among providers of care

The American College of Surgeons (ACS) has long been involved in healthcare advocacy at the national and state level. The ACS supported front-line healthcare providers during the COVID-19 pandemic by advocating for improved access to personal protective equipment (PPE), pushing for financial support for surgical trainees and private practice clinicians, and promoting legislative and health policy support for wellness resources and initiatives.

COVID-19's Effects

At the start of the COVID-19 pandemic, elective cases were halted, with some surgeons redeployed to other specialties to help fill the void in critical care.¹ With the extensive changes in healthcare delivery occurring daily, surgeon advocacy not only was important at a national level, but also within institutions and individualized surgical specialty programs.

The pandemic prompted changes in the health policy landscape, particularly with respect to the support of training physicians who bore the brunt of the pandemic workload. Assessment of trainee mental health noted there was an exceedingly high rate of new onset or worsened depression and burnout symptoms among residents and early career surgeons.²

The initial ACS Resident and Associate Society (RAS) survey of residents and early career surgeons demonstrated that inadequate PPE supplies correlated directly with those trainees and young surgeons who reported the highest rates of depressive and burnout symptoms.² These findings prompted the ACS to conduct qualitative studies to better understand the association between burnout and PPE shortages. Pilot studies to assess areas where residents were struggling with the lack of PPE ultimately led to an ACS statement on prioritizing PPE for residents.

The initial RAS-ACS survey of residents and early career surgeons demonstrated that inadequate PPE supplies correlated directly with those trainees and young surgeons who reported the highest rates of depressive and burnout symptoms.

The College advocated for several legislative measures to help combat burnout among surgeons and lessen the burden of the COVID-19 pandemic. With 73% of medical school graduates in 2019 holding some amount of educational debt, and with the median debt at \$200,000, financial burden has a major impact on resident well-being.

Understanding the importance of wellness and burnout prevention, SurgeonsVoice, the ACS Professional Association's nationwide, interactive advocacy program, was integral in endorsing the Coronavirus Aid, Relief, and Economic Security (CARES) Act. This law, introduced in March 2020, temporarily paused repayment of federal student aid, instituted a 0% interest rate for all active loans, and halted debt collection on defaulted loans. Monthly payments, even if zero dollars, would continue to count toward the 120 payments required for Public Service Loan Forgiveness (PSLF).³

These policies provided some financial relief as the effects of the pandemic worsened.⁴ Although these measures were automatically applied to most types of student loans, emergency assistance also was extended to traditionally ineligible loans such as Federal Perkins Loans and Federal Family Education Loans, as well as loans on previously ineligible repayment plans. Originally scheduled to end in September 2020, these policies were extended multiple times in response to the longevity of the pandemic. At present, repayment is scheduled to resume in September 2022.⁵ Along with temporary relief for federal student loan debt, the Biden Administration has discussed one-time limited loan forgiveness for all borrowers, with an amount and eligibility still being finalized.⁶

Dr. Lorna Breen Health Care Provider Protection Act

In March 2022, after the US Congress passed H.R. 1667/S. 610, President Biden signed into law the Dr. Lorna Breen Health Care Provider Protection Act. This act was named in memory of Dr. Breen, who was the medical director of New York Presbyterian Hospital's emergency department starting in 2008 and into

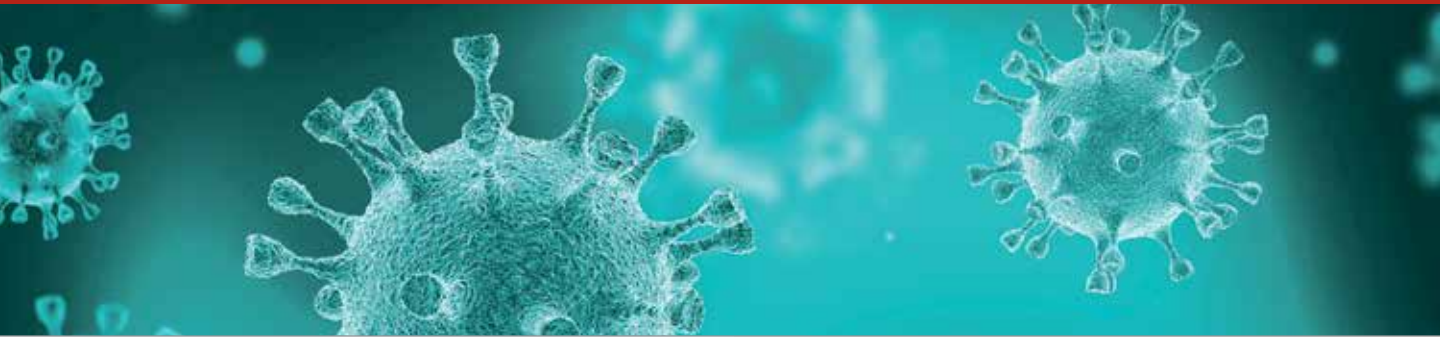
the COVID-19 pandemic, which severely affected New York City in the earliest days of the pandemic in the US. As a frontline physician, Dr. Breen treated a tremendous number of critically ill COVID-19 patients under austere conditions, including insufficient PPE and rationing of resources such as oxygen, ventilators, and extracorporeal membrane oxygenation circuits. The experience deeply affected Dr. Breen and, sadly, she died by suicide in April 2020.⁷ Her death highlighted the unprecedented mental health and wellness challenges faced by healthcare professionals during the pandemic.

The Dr. Lorna Breen Health Care Provider Protection Act was introduced in Congress in March 2021 to "reduce and prevent suicide, burnout, and mental health conditions among healthcare professionals."⁷ The law establishes grants from the US Department of Health and Human Services (HHS) for healthcare professionals to create programs that improve mental health and resilience among healthcare providers, requires HHS to develop a national educational campaign, requires HHS to disseminate best practices for dealing with mental health issues, and provides grants for educational activities and peer-support programs.⁸

It is anticipated that the funding allocated for grants will allow for comprehensive research to develop programs that best address the mental health crisis among healthcare professionals, which has been present for decades but worsened and was brought to the public's attention during the pandemic. This legislation will allow multiple projects to be conducted simultaneously to determine which mental health and wellness programs can provide the most benefit to healthcare professionals.

The ACS endorsed the legislation, and it was highlighted as a legislative priority at the 2021 ACS Leadership & Advocacy Summit. Surgeons and surgical trainees across the US participated in dozens of virtual congressional meetings to discuss the impact of the COVID-19 pandemic at their hospitals and clinics and to advocate for their colleagues' mental well-being.

By sharing Dr. Breen's story and their own experiences with moral injury and burnout, RAS members focused legislators' attention on the ongoing impact



of the pandemic on healthcare professionals' mental well-being. The bipartisan bill gained dozens of new cosponsors following the summit, and by the time of passage the bill had 166 cosponsors in the House and 29 in the Senate—a testament to the purposeful and sustained advocacy of surgeons.

During the second year of the pandemic, individual hospital systems and national physician organizations attempted to combat depression and burnout through various means. Data from the RAS-ACS COVID-19 survey indicate that 37% of the respondents reported new formal mechanisms to support resident wellness and promote resilience at their individual programs, and approximately 30% of respondents were aware of the wellness and resiliency resources available to them via the ACS or other professional societies.

Although these numbers are low, they are a first step toward supporting healthcare providers in the effort to improve wellness, reduce burnout, and decrease the stigma of mental illness. As previously described, the ACS led prodigious advocacy efforts over the past 2 years, and these efforts could not have been undertaken without the strong support of ACS members. Residents and early career surgeons are encouraged to get involved with advocacy efforts by joining the Advocacy and Issues Committee of the RAS-ACS.

Voice Your Views

At a local level, SurgeonsVoice provides a way for any physician to contact their elected officials with the click of a button. This resource allows surgeons to engage and build valuable relationships with lawmakers, advance pro-surgery policy and legislation, and help foster champions for surgery in Congress. ♦

DR. NAVIN VIGNESHWAR is a postgraduate year-6 general surgery resident, University of Colorado School of Medicine, Denver.

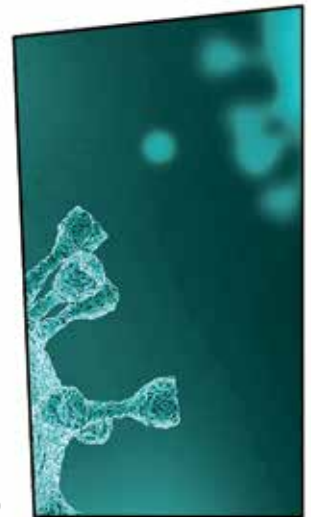
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The New Normal: ACS Associate Fellows Continue to Feel the Effects of COVID-19

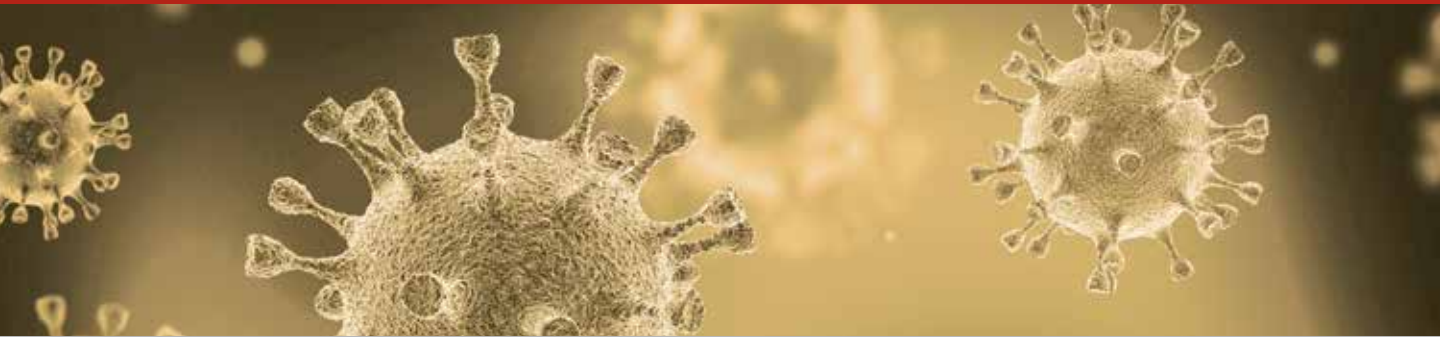
by Christina Colosimo, DO, MS,
Tiffany J. Sinclair, MD,
Joana E. Ochoa, MD,
and Lyndsey J. Kilgore, MD



HIGHLIGHTS

- Summarizes the findings of an ACS survey of young surgeons and the effects of COVID-19
- Describes both diminished career opportunities and fluctuations in operative volume as a result of the pandemic
- Outlines the challenges associated with virtual CME learning and telehealth platforms
- Identifies the effect of the pandemic on mental health and wellness, including burnout and reduced job satisfaction

The transition from residency and fellowship training to becoming an attending and an Associate Fellow of the American College of Surgeons (ACS) can be a daunting proposition. Associate Fellows are surgeons who have completed their training but are not yet eligible or have not yet applied to be a Fellow. Learning to operate autonomously, navigating a new electronic health record (EHR) system, billing, coding, and engaging in continuing medical education (CME) are just a few of the areas young surgeons must navigate when starting a new position. The jump from residency to independent practice is complex, and it can take a while for Associate Fellows to find confidence and stability in their new role.



Creating further obstacles in this difficult transition period, the World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020.¹ Associate Fellows were tasked not only with the obligations cited earlier but also had to perform their duties in the face of a pandemic. The Centers for Medicare & Medicaid Services (CMS) issued new criteria regarding what operations could be performed.² As a result, depending on one's specialty, a surgeon may have been unable to operate at all or only able to operate on urgent or emergent cases.

This article describes how Associate Fellows have been affected by the pandemic in terms of diminished job prospects, loss in operative volume, challenges associated with virtual learning platforms, and maintaining mental health and wellness. A total of 486 Associate Fellows responded to the ACS Survey of Young Surgeons: Effects of COVID-19 Pandemic on Clinical, Educational, and Personal Experience. The results of that study are further analyzed in this article.

Job Prospects

The goal of most surgical trainees is to enter independent practice as soon as possible. Even in the best of times, finding your first job can be an arduous and convoluted process. Although some areas of healthcare, such as the pharmaceutical sector,³ have seen an increase in employment opportunities as a result of the COVID-19 pandemic; anecdotally, surgeons have not had this experience.

Many of us have colleagues whose jobs were rescinded at the start of the pandemic or had difficulty finding jobs after graduation.⁴ Some new graduates were unfortunately forced to take the first job that came along or accept terms of employment that were less than ideal because of concerns about the pandemic's effects on the job market. The main factor in decreased job opportunities is the loss of hospital revenue resulting from a decrease in surgical volume.⁵ According to the latest results of the ACS Survey of Young Surgeons, there were reported reductions of

85% in elective cases and 45% in emergency surgery. Without the revenue generated by a high volume of surgical procedures, many surgery departments and group practices were unable to secure the funds to hire new surgeons.

For young surgeons unable to secure satisfactory permanent positions, many turned to locum tenens work to bridge the gap between graduation and full-time employment or unexpected time between jobs. Consequently, some new graduates were practicing outside of their preferred specialty, forced to spend more time away from family, or felt that they were delaying the advancement of their careers.

As we transition to the new normal of the pandemic, many hospitals have returned to prepandemic volumes of elective and emergency cases, although the financial losses will take much longer to recuperate. Perhaps the increase in caseloads will translate into a rise in the availability of jobs for newly trained surgeons; however, return to prepandemic compensation is unlikely as hospitals continue to grapple with the repercussions of COVID-19.

For the 2021–2022 academic year, more than one-third of survey respondents reported a decrease in compensation compared with the pre-COVID era. Hopefully, as the healthcare arena continues to adapt to this new reality, graduating surgeons will have less difficulty finding suitable jobs, and recent graduates will have the opportunity to transition to their ideal job or renegotiate any suboptimal contract terms, resulting in better compensation.

Loss in Operative Volume

Although many surgeons have seen drastic changes in their practices during the COVID-19 pandemic, new graduates have no prior experience with which to compare their current practice. Gaining confidence with diminished operative and clinical volumes was challenging for many Associate Fellows. As new attendings, they anticipated being able to hit the ground running and build a practice, but instead were thrown one obstacle after another.

Surgical departments struggled to find operative times for their current staff, let alone new surgeons.

The fluctuations in operative volume had a substantial impact on the necessary repetition and autonomy that many fellows and residents normally would have had in their final year of training. Surgical departments struggled to find operative times for their current staff, let alone new surgeons. This situation made negotiating block time difficult, leading to significantly decreased operative volumes for individuals trying to build a practice and gain operative confidence as new attendings.

As the pandemic has evolved, Associate Fellows have continued to adapt their operative and clinical schedules to accommodate their institutions' various needs. As previously mentioned, 85% of Associate Fellows reported a reduction in the elective operative volume. Although clinical schedules were changed during the pandemic, 51% of respondents reported that their schedules within the last year have yet to stabilize. Many Associate Fellows reported changes in outpatient clinic schedules as well, such as decreased clinic load and more telehealth visits. Although almost half of Associate Fellows have now reported a return to normal schedules, the question remains: Do we really know what normal is, or is this the “new normal” for surgeons during the ongoing pandemic?

Transition to a Virtual Platform

CME is required to maintain your medical licensure, and requirements vary by state and certifying body. During the pandemic, many in-person CME classes transitioned to virtual platforms. Overall, virtual settings had many advantages. Participants could attend from the comfort of offices and homes, it was possible to add more flexibility to schedules, and overhead costs declined. One negative effect many Associate Fellows mentioned in the survey was a lack of opportunity to network with peers.

The survey asked whether young surgeons had found other opportunities to connect with peers locally or nationally. The answers varied greatly. Twenty percent of Associate Fellow respondents

said they had less peer interaction. They indicated that they felt overburdened by work, isolated, and unable to engage on virtual platforms. Another 20% of respondents indicated that while networking opportunities suffered, they had more time for family, research, and reading.

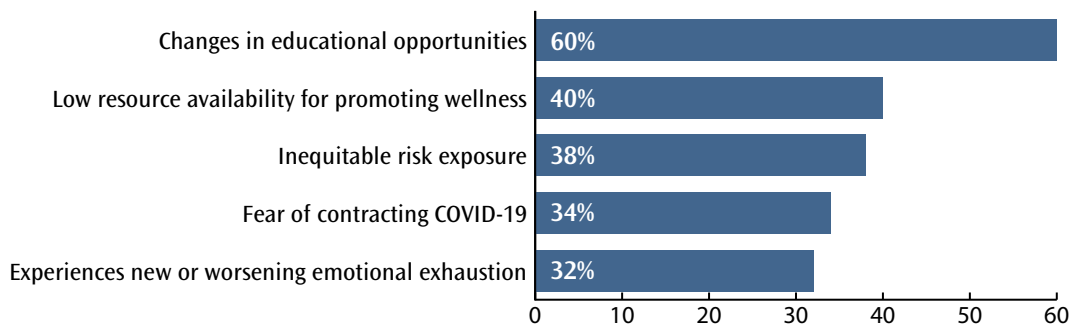
Fifty-six percent of the surveyed Associate Fellows said they continued to pay dues to professional societies, and 59% stated they had less involvement in professional societies during the pandemic. Whether these findings are attributable to a lack of in-person meetings or an increase in personal or work stressors is unknown. Decreased engagement has been apparent in many national organizations, including the Resident and Associate Society of the ACS (RAS-ACS).

Many mentoring and multidisciplinary relationships suffered as well during the pandemic due to limited in-person interactions. With the refinement of virtual meetings improving accessibility, surgeons are now reporting improved connections with other surgeons and other subspecialties in virtual tumor boards and meetings.

Telehealth visits also increased during the pandemic. While this transition worked well for some specialties, many surgical specialties rely on a thorough physical exam to aid in diagnosis. A push was made to do follow-up appointments virtually, but an in-person visit was conducted if any concerning findings arose. Some providers have reported increased use and satisfaction with telehealth visits, but many report difficulty conducting these types of visits.

With COVID-19 physical restrictions in place, networking and outreach to build referral patterns and grow one's practice also were difficult for many new surgeons at the beginning of the pandemic. Many Associate Fellows did not think virtual meetings were equal substitutes to one-on-one meetings, which facilitate relationship building and fortify referral patterns. With decreasing COVID-19 numbers, it is anticipated that in-person networking events and meetings will continue to increase, but given the emergence of multiple variants, telehealth visits could continue to present challenges.

FIGURE 1. ASSOCIATE FELLOW EXPERIENCES OVER THE PAST YEAR



Mental Health

The COVID-19 pandemic has had a significant impact on the mental health of healthcare professionals, including surgeons. Finding a job and transitioning to independent practice already is a stressful and a tumultuous time in a young surgeon's life, and the difficulties of doing so during the pandemic have compounded the repercussions on their mental health. To help explore these challenges, the ACS Survey of Associate Fellows included evaluation of several aspects of mental health, including burnout and symptoms of depression and anxiety, as well as the reasons for and consequences of the pandemic's influence on these variables.

Burnout, which encompasses the symptoms of emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment, has become a popular term in the medical literature. It may serve as an overall indicator of an individual's mental health and has been associated with an increased rate of medical errors and decreased career satisfaction among surgeons.⁴⁻⁶

Nearly one-third (32%) of Associate Fellows acknowledged experiencing new or worsening emotional exhaustion over the past year, and 34% had a decreased sense of personal accomplishment. Although these data do not differ significantly from the previously reported rate of burnout among surgeons (40%),⁷ 60% of Associate Fellows expressed a new or worsening sense of depersonalization because of the pandemic, potentially affecting quality of care (see Figure 1, this page).

Burnout is highly correlated with depression, so it is of little surprise that 38% of Associate Fellow survey respondents also reported new or increased symptoms of depression. More than half of Associate Fellows experienced new or increased symptoms

of anxiety, and approximately 40% had weight changes or difficulty concentrating. The cumulative effects of the pandemic and its impact on emotional well-being and mental health likely played a role in almost half of survey respondents reporting that they considered changing jobs, employers, or roles, or leaving medicine altogether during the 2021–2022 academic year.

For many surgeons, career satisfaction significantly influences mental health. The myriad effects of the COVID-19 pandemic on healthcare delivery have directly and indirectly contributed to decreased career satisfaction among surgeons and thus negatively affected their mental health and well-being. According to the results of the survey, firing support staff, rescinding vacations, and assigning physicians to nonsurgical services have all been key factors.

Adequate surgical volume, which is particularly important to a surgeon's career development, has declined because of the pandemic. Personal factors, such as school closures and difficulty arranging childcare, also have taken a toll on the well-being of young surgeons, with 88.6% of respondents reporting childcare issues. Finally, the survey demonstrated that 31.8% of respondents feared spreading COVID to family members, which also has affected mental health. These results are consistent with other studies that showed an increased prevalence of depression and anxiety among healthcare workers who feared infecting their family members or losing their jobs because of the pandemic.⁸

Despite the clearly negative effects of the pandemic on mental health and well-being, only a third of respondents reported that their employer instituted any new formal mechanisms to support wellness and promote resiliency. Of those respondents,

Despite the clearly negative effects of the pandemic on mental health and well-being, only a third of respondents reported that their employer instituted any new formal mechanisms to support wellness and promote resiliency.

only 27% used those resources. Similarly, 26% of Associate Fellows who responded to the survey were aware of wellness or resiliency resources available from the ACS or other organizations, but only 20% used these resources.

Given these data, undoubtedly there is an opportunity for programs and institutions to address both the systemic and pandemic-specific catalysts of burnout and mental illness to better support their faculty. Additionally, societies such as the ACS may be able to fill the gap for those individuals at institutions that lack these types of resources.

Conclusion

Transitioning to practice after finishing surgical training is challenging, and graduates during the COVID-19 pandemic have had to overcome new barriers such as limited job prospects, changes in job structure, virtual networking, and increasing mental health concerns. Associate Fellows are still navigating many of these challenges, and it is unclear when the healthcare sector will recover from the effects.

As we adapt to a new normal, we must rely on each other to navigate these uncharted waters. The ACS has an extensive resource center ([facs.org/for-medical-professionals/covid-19](https://www.facs.org/for-medical-professionals/covid-19)) that trainees, new attendings, and established surgeons can use to support their colleagues and practices as we continue to work through these unprecedented times.⁹ Unfortunately, COVID-19 is here to stay, so we must continue to work together to achieve the professional outcomes that recent surgical graduates deserve. ♦

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COVID-19 Was a Gamechanger for Surgical Education in Residency

by Rebecca L. Williams-Karnesky, MD, PhD, MEdPsych,
Elizabeth Carpenter, MD,
Madhuri Nagaraj, MD, MS,
Joyce H. Pang, MD,
Brianna L. Spencer, MD,
Erfan Faridmoayer, MD,
Tayseer Shamaa, MD,
and Rachel E. Hanke, MD



HIGHLIGHTS

- Describes the pros and cons of virtual and hybrid platforms
- Explains how COVID-19 restrictions on operative volumes and lack of access to simulation centers have led to novel approaches to providing technical skills education for trainees
- Summarizes how the use of virtual platforms during board certification has decreased costs and stress for trainees
- Outlines how limitations imposed by the pandemic on time spent in training and number of cases completed have accentuated the need for competency-based education
- Explains how widespread use of virtual platforms may facilitate CME and continuous certification

TABLE 1. COVID-19 PANDEMIC IMPACT ON SURGICAL EDUCATION

		Extremely Negative or Negative	No Impact	Extremely Positive or Positive
Clinical Teaching	Didactic educational program	63%	23%	13%
	Clinic experience	46%	49%	5%
Technical Teaching	Elective operative experience	82%	16%	1%
	Emergency operative experience	27%	68%	5%
	Rotations outside primary site	51%	48%	2%

Responses are rounded to the nearest percent, and may not add up to 100%.

The COVID-19 pandemic imposed many restrictions on surgical education. Social distancing mandates interfered with administration of in-person educational conferences, necessitating the transition to virtual platforms. Changes in workforce allocation to meet the demands of caring for COVID-19 patients and restrictions on operative volumes resulting from resource scarcity restricted access to technical skills acquisition. Administration of critical certifying exams were changed to virtual formats or canceled.

In the Resident and Associate Society of the American College of Surgeons (RAS-ACS) study referenced in the introduction to this issue of the *Bulletin*, 63.2% of respondents stated that modifications made during the COVID-19 pandemic negatively or extremely negatively affected their experience with didactic education, with only 13.4% of respondents reporting that these changes had a positive or extremely positive impact on their didactic educational experience (see Table 1, this page).

While COVID-19 was the source of a variety of stressors, 30% of respondents reported their biggest concern was caseload and 10% of respondents reported that it was their education; 82.3% of respondents said that COVID-19 negatively or extremely negatively affected their elective surgery experience, 46.1% indicated their overall clinic experience was either negatively or extremely negatively affected, and 26.4% stated that opportunities to receive feedback on their clinical performance were negatively or extremely negatively affected.

In response to this situation, the surgical education community rallied to create novel solutions and adaptations to ensure the continued advancement of surgical trainees. The RAS survey showed that 77% of respondents felt their institution implemented innovative education and training strategies to some (58.4%)

or a great (18.6%) extent. This survey also showed that 75% of programs changed how they conduct morbidity and mortality (M&M) conferences and grand rounds, with more than half the programs changing methods for tumor board and research conferences. Unfortunately, approximately 60% of trainees felt these changes detracted from the learning environment and their educational experience. When asked if certain elements of education should continue to be virtual after the pandemic subsides, only one-third of trainees said M&M conferences, grand rounds, and tumor boards should remain remote.

As we reflect on the impact of the COVID-19 pandemic, it is important to take stock of these many transformations in surgical education and consider how it has changed a generation of trainees. Many adaptations during the pandemic have resulted in huge advances in surgical education for residents, fellows, and early career surgeons.¹⁻³ However, not all these changes have been beneficial.

What lessons have we learned? What changes to the education and certification process should we keep? What should we continue to expand upon? In this article, the RAS-ACS Education Committee explores how the COVID-19 pandemic has affected the convenience, content, and culture of surgical education (see Table 2, page 26).

Adaptations to Clinical Teaching

COVID-19 had a significant impact on how we teach clinical skills to residents and fellows. One of the earliest transitions during the pandemic was the adaptation of clinical meetings (such as didactics, M&M conferences, journal clubs, tumor boards, and preoperative conferences) to virtual and/or hybrid formats to comply with social distancing recommendations. These meetings were adaptable because of their discussion-based

TABLE 2. CHANGES IN SURGICAL EDUCATION DUE TO THE COVID-19 PANDEMIC

	Convenience	Content	Culture
Clinical teaching	Virtual/hybrid platforms allow for increased flexibility in scheduling of meetings and methods of attendance	Virtual platforms allow for increased access to diverse educational content and facilitate broad collaboration	Increased emphasis on equity in content delivery and access to educational content Lack of training and discussion around appropriate use of virtual/hybrid platforms has led to a shift in etiquette standards
Technical teaching	New innovations and emphasis on novel simulation models allow trainees to acquire technical skills even without access to simulation centers	Increased focus on development of robust simulation curricula and improved criteria for objective assessment of trainee proficiency	Just-in-time and independent learning opportunities have flourished The increasing emphasis on trainee-driven skill acquisition
Certification	The virtual certifying exam eliminated the financial and physical stress of traveling for the exam	Change in focus to micro-feedback and competency-based education with the upcoming adoption of EPAs	Shift to focus on competency-based assessment and decreased reliance on time- and number-based metrics for graduating surgical residents
Education in practice	E-learning offers self-paced asynchronous resources and expert commentary videos for expansion of technical learning outside the OR	Virtual platforms allow expanded access to quality content, potentially leveraging international expertise	Virtual platforms allow for increased access to mentoring and coaching E-learning has the potential to expand options for rural and international surgeons to maintain competency

format. These changes, however, had advantages and disadvantages with respect to convenience, content, and culture. Benefits associated with this restructuring included increased options for meeting times and methods of attendance.⁴ Providers could access meetings from any location and interact with individuals from other departments and institutions, leading to improved interdisciplinary collaboration. However, virtual/hybrid platforms also led to a dramatic increase in the number of meetings and, as the pandemic continued, reports of overscheduling, conflicts, and meeting fatigue curtailed the benefits of increased accessibility.⁵

This transformation illustrates the maxim “quantity does not always equal quality.” The increase in offerings highlighted the importance of content quality, as well as concerns about active participation of learners in these virtual environments. Particularly for residents, issues arose regarding the ability to attend educational meetings while simultaneously

meeting other clinical demands.⁴ Because it is far easier to multitask—answer pages, write notes, see a consult, discuss patient care with another provider—when on a computer in a remote space without oversight during a virtual meeting than while convening in-person, residents perceived this change as leading to a decrease in protected educational time.⁴ Junior residents shouldered much of this burden, as their initial introduction to direct patient care has been overshadowed by the COVID-19 pandemic.⁴

On a global scale, the pandemic revealed gaps in our healthcare system that led to the development of new curricula emphasizing health equity and access.⁶ Globally, there was a 48% increase in the use of video conferencing before the COVID-19 pandemic, but the medical field experienced an even more rapid transition after the pandemic struck.⁷ The benefits of flexibility and access to meetings were critically empowering for surgeons with busy schedules and in rural settings who previously were isolated from broad

On a global scale...the pandemic revealed gaps in our healthcare system that led to the development of new curricula emphasizing health equity and access.

collaboration. The lack of training and discussion around appropriate use of virtual/hybrid platforms, nonetheless, led to a shift in etiquette. Meetings such as didactics and M&Ms, which previously maintained a culture of formality—attire, engagement, and protected time—are now less formal engagements. Attendees can take meetings outside the workplace such as in their car, outdoors, in public spaces, or at home.⁷ Although some studies tout the benefits of this flexibility on personal wellness, only time will tell how the informality affects educational outcomes.⁸

The RAS Education Committee proposes to combat the barriers to learning using methods that include instructor training for effective virtual teaching, agenda setting and meeting management, troubleshooting technology, and using novel tools on virtual platforms to improve interactivity.

Adaptations to Teaching Technical Skills

The pandemic has resulted in a significant reduction in operative opportunities for surgical trainees.⁹ Nationally, elective operations were suspended or delayed for several months at a time as rates of infection increased. Time away from operative practice took away the fundamental principle of surgical training, namely the daily practice of surgery.

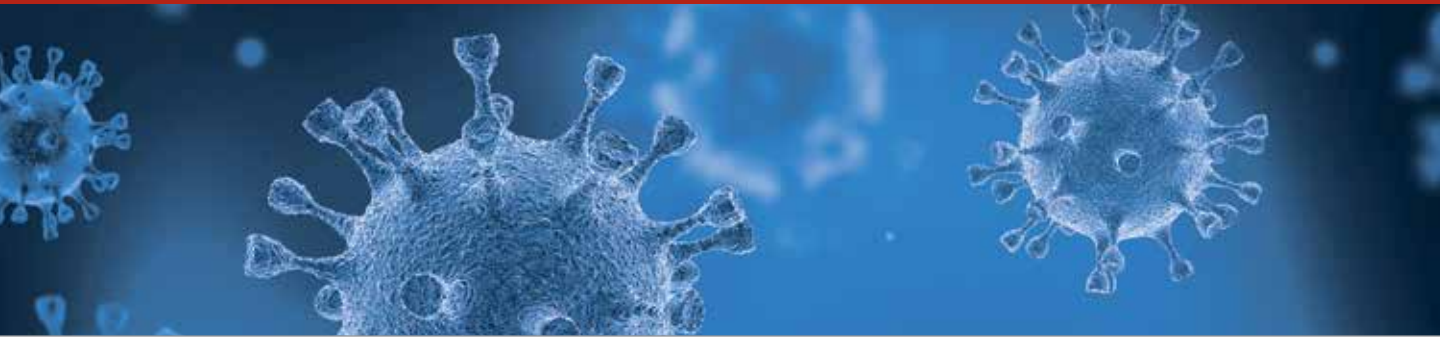
A study comparing average general surgery monthly case logs from March to June 2020 revealed a 33.5% reduction in major operative cases compared with the same period in 2019, before the COVID-19 outbreak.¹⁰ The RAS survey of young surgeons showed that COVID-19-related reduction in surgical caseload was the primary concern of respondents (29.6%). This reduction also affected trainees in fellowships, which carries a significant impact given the short duration of subspecialized training. Thus, surgical educators must compensate for reduced operative volume with innovative approaches through surgical simulation. Growing evidence shows that simulation-based training for skin lesion excision and small bowel anastomosis on porcine tissue translate to decreased time to completion and increased proficiency in the

operating room,¹¹ demonstrating the positive role of simulation in reducing operative time, improving outcomes, and increasing resident autonomy. These adjuncts to technical teaching become critically important in the setting of decreased operative volumes or trainees.

One example of the novel approaches to using simulation as a tool to progress surgical technical skills despite lack of access to direct operative experience comes from the University of Toronto, ON.¹² This institution has developed a lung transplant model for the surgical skills bootcamp in thoracic surgery, which contained equipment and supplies that were delivered to fellows' homes. Senior trainees were provided instructions on how to use a vascular anastomosis model pertaining to lung transplantation operation. Trainees were required to practice at home and perform the anastomosis with timed testing. A video recording was made of an attempt. The fellows in this study self-reported improved surgical efficiency over time.¹²

To protect trainees from exposure to COVID-19 at the height of the pandemic, virtual surgical rotations also were implemented broadly, particularly in undergraduate medical education (UME). Virtual surgical rotations consisted of interactive, live-streamed operations, outpatient telehealth visits, and virtual small groups.¹ One novel approach for surgical residents in the Netherlands involved the development of a national livestreamed surgical educational series.³ In this model, one training center conducted and livestreamed common surgical procedures on cadaveric models. Additional online resources were available for self-study before the livestream. Trainees found this hybrid model to be highly educational for technical learning and a plausible alternative given the absence of clinical rotations.³

As we move forward from the pandemic with a slow transition back to prepandemic operative volumes, programs should continue to capitalize on our collective experience with technical surgical education. With established virtual education resources and subsequent comparable outcomes in resident



learning, these resources should be maintained as an adjunct to in-person didactic lectures. Many regions still experience periods of reduced surgical volume because of spikes in COVID-19 cases. Continued effort is necessary to establish standardized simulation-based modules to prepare trainees for operative technique early in residency and to increase preparedness for operative autonomy when the opportunity is presented.

Adaptations to the Certification Process

Along with multiple adaptations in both clinical and technical surgical education, shifts in certification also occurred in both UME and graduate medical education. In the US Medical Licensing Examination (USMLE), the major change in board certification was cancellation of Step 2 Clinical Skills.¹³ For surgical trainees, modifications were seen in training requirements for 2020 graduates, including nonvoluntary offsite time toward graduation requirements, a 10% decrease in required time spent in clinical training for surgical residents, a decrease in the total case numbers required for graduation, and entrustment of program directors to “make a decision about the readiness of the resident for independent practice” even if they failed to meet the decreased time and case requirements.¹⁴ In addition to these shifts, the American Board of Surgery (ABS) General Surgery Qualifying Exam (QE) and Certifying Exam (CE) went virtual in 2020.¹⁴

These changes brought both successes and failures. The virtual administration of the 2020 General Surgery QE was intended to be safer and more convenient for trainees, but the use of a remote proctoring service resulted in delays and interruptions, as well as security concerns that resulted in the complete cancellation of the July 2020 exam.¹⁴ Many of these early challenges were surmounted during the administration of the 2021 exam.

In contrast, the virtual administration of the General Surgery CE has been largely successful, with 78% of candidates preferring the virtual exam when surveyed following the first administration.¹⁵

Passing rates also were comparable to previous in-person CE.¹⁵ Additional advantages to the virtual CE include the benefit of testing in familiar surroundings—reducing the stress of taking a high-stakes exam in a unfamiliar environment—and the alleviation of travel-related stress and expense.¹⁵ Cited disadvantages to the virtual CE included exam security concerns, and the loss of camaraderie and social support before and after the exam for both candidates and faculty.¹⁵ Overall, however, most candidates surveyed agreed that the disadvantages of the virtual format of the exam did not seem to outweigh the numerous advantages,¹⁵ and it would appear that the virtual CE may be here to stay.

Other changes, including the cancellation of Step 2 CS and changes in residency graduation requirements, appear to be a preview of the transition of the future of medical education to a competency-based model. With the elimination of Step 2 CS, the responsibility of assessing clinical skills readiness falls on medical schools, emphasizing the need to advance competency-based education.¹³ Similarly, changes in the surgical learning environment created by the COVID-19 pandemic have accelerated the need for improved metrics to determine whether graduating surgical residents are ready for practice.

The limitations resulting from the pandemic on classic surrogates of competency—time spent in training and number of cases completed—has necessarily accelerated the shift to direct evaluation of competency. The concept of competency-based medical education is at the core of entrustable professional activities (EPAs). EPAs are observable and measurable units of work focused on actual healthcare delivery.¹⁶ Initially piloted in UME and pediatrics, EPAs now have been developed and piloted in general surgery, and are set to be adopted broadly by the ABS in July 2023.^{16,17}

The aim of the ABS EPA project is to develop a full suite of approximately 19 EPAs representative of the core elements of general surgical practice with the goal of creating microassessments that can be used for improvement-oriented performance feedback.¹⁷ Although EPAs will not replace standardized assessments or case requirements, they do demonstrate

Although EPAs will not replace standardized assessments or case requirements, they do demonstrate a shift in the culture of surgical education, where learner outcomes and feedback, rather than numbers, are emphasized.

a shift in the culture of surgical education, where learner outcomes and feedback, rather than case numbers, are emphasized.¹⁶ The pandemic accelerated the discussion around trainee competency and, as EPAs are implemented, will continue to be the focus of surgical education for years to come.

Changes to Education for Early Career Surgeons

Surgical residents were not the only ones affected by COVID-19-related shutdowns and changes. Early career surgeons faced the challenge of transitioning to independence in a time of unparalleled change. Important technological innovations that were brought about by the COVID-19 pandemic, as well as the more widespread use and comfort with e-learning and virtual meeting platforms, have had a meaningful impact on maintenance of certification and lifelong learning.

Many publicly available asynchronous resources created by surgical societies or residency programs allow self-paced viewing for the busy surgeon.⁴ Audio-only formats such as podcasts also are increasingly popular.¹⁸ Meanwhile, group viewing of operations from a surgical society video library, especially when expert commentary is available, offers a more interactive approach to recordings and has some evidence of improving technical proficiency outside the operating room.^{2,19}

Like virtual or hybrid resident didactics, the concept of webinars and virtual conferences for CME and maintaining certification is attractive. E-learning is especially appealing to rural and international surgeons as a less costly option that is welcoming of a wider audience.^{5,19} Unfortunately, these formats have similar limitations to those previously discussed, including reduced engagement and loss of the socialization many appreciate when attending an in-person meeting.^{1,5} Moving forward, just as with residency education, it is likely that a hybrid model of conferences will predominate, one that incorporates the strengths of both virtual and in-person formats based on individual learner needs.

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Finally, telementoring is a promising means not only of maintaining certification, but also gaining new skills by leveraging resources and expertise remotely. The pandemic has accelerated the expansion of existing technologies, including teleconferencing and development of novel telementoring methods, including telestration and augmented reality.²⁰ During a time with limited travel or restrictions on personnel in the OR for trainees and staff alike, alternative approaches to carrying training forward are essential. Beyond the COVID-19 pandemic, these technologies carry great promise for the future of advanced surgical training.

Conclusion and Recommendations

The pandemic has irrefutably changed the face of surgical education. Adaptations to allow for resource scarcity, allocation of workforce, and social distancing accelerated the pace of development of virtual and e-learning technologies. As a result, access to educational content has increased exponentially. It has become increasingly convenient to access educational content and collaborations. Advances in surgical simulation have increased access to technical skills training. Opportunities for local, national, and global collaboration have expanded, and new opportunities for networking, professional development, and mentoring have arisen. The process of board certification has changed in response to pandemic-related restrictions, which have also highlighted the need for true competency-based assessment methods. The wealth of resources now available and the ease of access these novel platforms allow has led to changes in expectations and etiquette. As we move forward as a community of surgeons and educators, it is important to continue to examine the progress we have made and continue to make advances for the future. ♦

DR. REBECCA WILLIAMS-KARNESKY is a recent graduate of the general surgery residency program at the University of New Mexico, Albuquerque, and recently began an endocrine surgery fellowship at the University of Wisconsin, Madison. She is Chair, RAS-ACS Education Committee, and RAS-ACS liaison to the ACS Committee on Medical Student Education.

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COVID-19 Changed How We Engage with Our Professional Societies and Each Other

by Nathan S. Rubalcava, MD,
J. Nathan Mynard, MD,
Woodson Smelser, MD,
and Christopher L. Kalmar, MD, MBA



HIGHLIGHTS

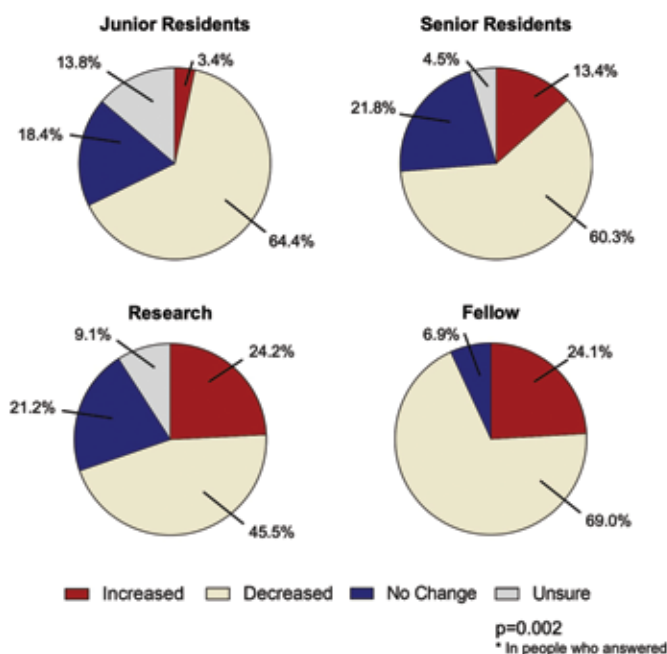
- Describes the effect of COVID-19 on membership participation in surgical societies
- Summarizes how professional society involvement may enhance mental health during the pandemic
- Outlines engagement opportunities supported by the RAS-ACS

COVID-19 undoubtedly forced surgical residency training programs to restructure their workflows to meet the general demands of their hospitals.¹ Anesthesia providers, nursing staff, and surgical residents at many institutions were redeployed to the wards to care for COVID-19 patients. Furthermore, staff shortages secondary to personnel infected with or exposed to the virus limited the ability of residents, fellows, and attendings to perform operative cases. Simulation and in-person didactic conferences were prohibited because of quarantine regulations, which compounded the detrimental impact on surgical education.^{2,3}

In a recent article by Coleman and colleagues, 96% of residents and young attendings reported that

FIGURE 1.
CHANGES IN PROFESSIONAL SOCIETY PARTICIPATION SINCE
THE COVID-19 PANDEMIC

Q: How have you felt your participation (virtual or in-person) in professional societies has changed since the COVID-19 pandemic?



COVID-19 negatively affected their clinical experience, with 84% of residents reporting a more than 50% reduction in operative volume at the beginning of the pandemic.⁴ Many respondents also reported negative effects on personal wellness.⁴ As we seem to begin experiencing an ebb in the outbreak, it is uncertain how pervasive these repercussions will be in the future.

Although the clinical demands of the pandemic resulted in lulls in surgical workflow, trainees saw the opportunity to embrace wellness and extracurricular activities.^{5,6} Many trainees were even able to attend international research conferences via virtual platforms, which would otherwise have been precluded because of time and budget constraints. These findings beg the question of the impact the pandemic had on membership participation in surgical societies. Did members look to their societies, such as the American College of Surgeons (ACS) and Resident and Associate Society (RAS), for support or a sense of community during the pandemic? How might surgical societies play a better role in mental health? Likewise, did surgical societies rise to the occasion and adapt to the needs of their members?

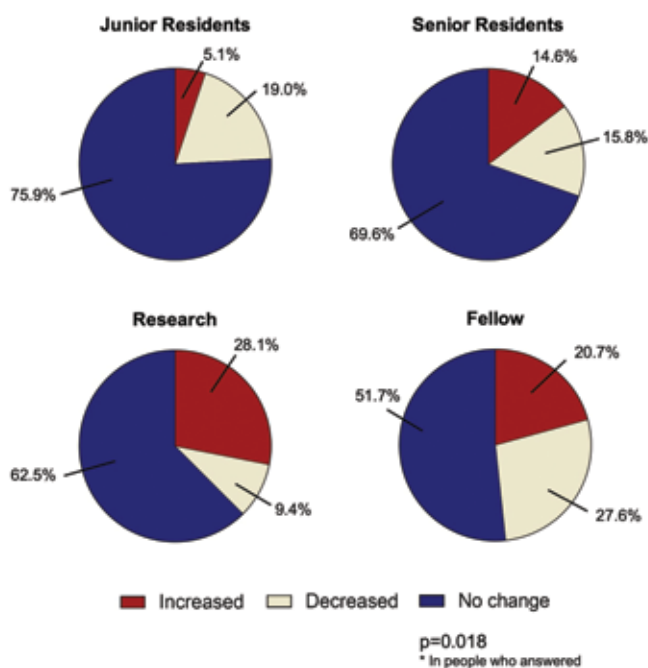
This article discusses the effect the pandemic had on member participation in surgical societies and interpersonal professional relationships. It also suggests different opportunities to connect with other members through the various platforms RAS-ACS offers.

Involvement in Professional Societies

The survey posed five specific questions intended to elucidate the perception of RAS Member participation in professional societies because of the pandemic. A total of 334 RAS members recorded responses to each question. The core question (Q1) was: "How have you felt your participation in professional societies has changed since the COVID-19 pandemic?" Most RAS Members (60%) reported decreased participation, whereas only 13% reported increased participation. When asked to indicate any change in the number of active memberships in dues-paying professional societies (Q2), a similar amount of RAS members (15%) reported increased quantity in addition to increased overall participation, whereas the majority (68%) reported no change. Only 17% reported a

FIGURE 2.
PROFESSIONAL SOCIETY ENGAGEMENT SINCE THE PANDEMIC

Q: Has the number of professional societies in which you are an active dues-paying member changed since the COVID-19 pandemic?



decrease in the number of active professional society memberships.

Interestingly, when RAS members were asked about their perception of peer involvement in professional societies, answers varied. Most respondents thought that peers at or below their training level were more involved, 33% and 39%, respectively. RAS Members' perception of individuals above their training level most closely resembled self-reported participation, with only 9% perceiving increased professional society involvement among more senior residents and 68% perceiving decreased involvement.

Training Level and Professional Society Membership

A subgroup analysis of RAS Members was performed to evaluate the interplay of trainee level and changes observed in professional society participation. Survey respondents were grouped into four trainee categories by postgraduate year (PGY): junior (PGY-1–2), senior (PGY-3–5), fellow (PGY-6 or above), or research. A total of 328 survey respondents provided both their PGY level and how their

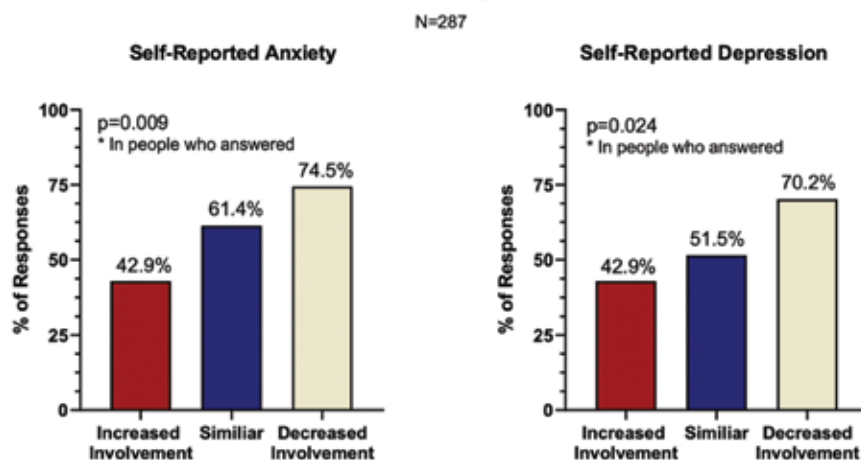
individual participation in professional societies has changed during the COVID-19 pandemic.

Overall, professional society participation decreased, with 60% of senior residents and 69% of fellow trainees noting a decline in participation. Research residents tended to be more involved in their professional societies, with only 46% noting a decline in participation (see Figure 1, page 32). Interestingly, respondents who did report increased participation said it was incremental among more senior trainee groups. For example, fellows reported the largest percentage of increased professional society involvement at 24%, eight times as frequently as junior residents at 3% and twice as often as senior residents (13%). However, the percentage of research residents who reported increased professional society membership most closely resembled the response of fellows, with 24.2% of respondents self-reporting increased professional society participation.

In addition, RAS members were asked to quantify the number of professional society memberships they maintained during the pandemic. A total of 311 survey respondents answered both the trainee-level question and how their quantity of professional society

FIGURE 3.
SELF-REPORTED SYMPTOMS STRATIFIED BY CHANGES
IN THE NUMBER OF ACTIVE PROFESSIONAL SOCIETY MEMBERSHIP

Self-reported anxiety and depression was significantly lower in residents who reported an increased number of active professional society memberships



memberships had changed during the COVID-19 pandemic (see Figure 2, page 33).

Overall, the most frequent response was that respondents did not experience a change in the quantity of professional society memberships they maintained, ranging from 52% of fellows to 76% of junior residents. Again, a positive correlation was observed in those reporting an increase in the quantity of professional society memberships and more senior trainees. For example, 5% of junior residents reported an increase in the quantity of professional society memberships versus 15% of senior residents and 21% of fellows, corresponding to a rate four times greater than that of junior residents. Unsurprisingly, research residents reported the greatest increase in the quantity of professional society membership at 28%. These findings suggest that trainees maintained previous professional society memberships, but also appeared to withdraw from ongoing participation in those organizations.

Mental Health and Professional Society Membership

Professional society participation may play a significant role in mental health during the COVID-19 pandemic. When examining the connection between professional

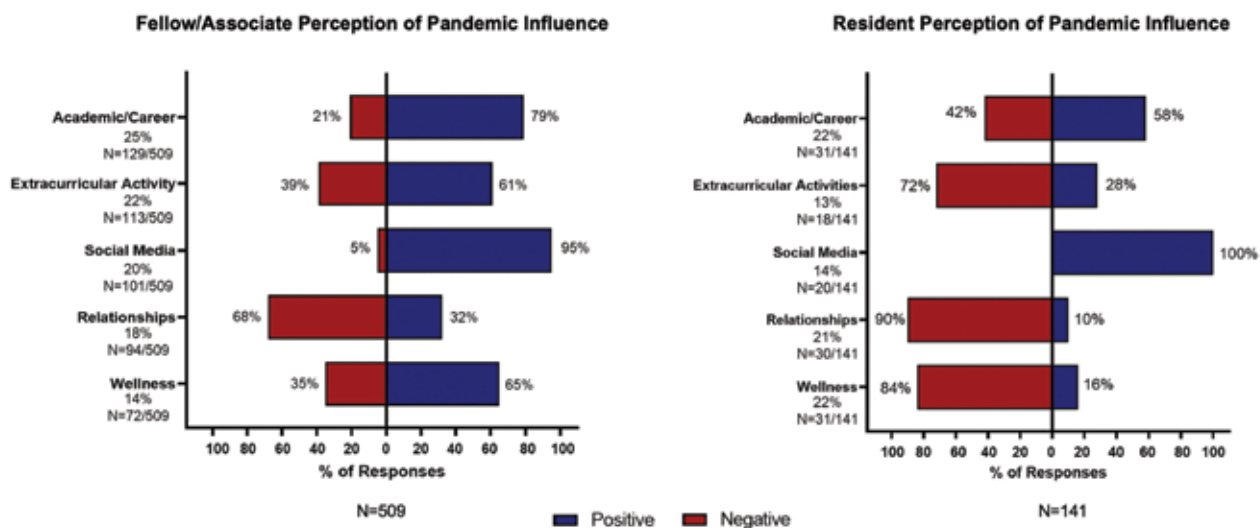
society involvement and mental health, a few findings stood out. First, in the cohort of survey respondents who reported an increase in professional society memberships, the incidence of self-reported anxiety and depression both were significantly lower than those who reported a decrease or no change (see Figure 3, this page). Among survey respondents who reported a decrease in the quantity of society memberships, 75% reported experiencing symptoms of anxiety, 61% reported no change in anxiety, and 43% reported an increase in anxiety ($p = 0.009$).

Self-reported symptoms of depression followed a similar pattern. Among respondents who reported decreased society involvement, 70% reported feeling depressed, in contrast to 43% of the respondents who were more engaged ($p = 0.024$). No significant differences in self-reported sleep disturbances, appetite changes, anhedonia, or weight change were reported. Further investigation would be needed to evaluate the impact of professional societies on the mental health of their members, as these findings could simply reflect the propensity of those with fewer symptoms of anxiety or depression to be more likely to engage in extracurricular activities. Nonetheless, these findings highlight the significant role professional societies and communities play in the well-being of surgical trainees.

FIGURE 4.

CHANGE IN EXTRACURRICULAR INVOLVEMENT SINCE THE PANDEMIC

Breakdown of free-response question into five themes



Free-Response on the Impact of the Pandemic

The final portion of our survey included a free-response question that evaluated how COVID-19 affected trainees and ACS Associate Fellows in terms of extracurricular activities. Of the 1,009 members surveyed, 480 (40%) answered the free-response question; 509 themes were expressed.

Key Themes

Five key themes were identified in relation to the positive and negative effects of the pandemic: personal wellness, relationships, social media, academic/career activities, and nonacademic extracurricular activities (see Figure 4, this page). Social media and academic/career activities are beyond the scope of this article; following is a deeper dive into the other themes.

Personal Wellness and Relationships

Trainees and early career surgeons described COVID-19's impact on personal wellness. Overall, the overwhelming majority of surgical trainees (84%) expressed a negative effect on personal wellness, in contrast to most early career surgeons (65%) reporting having experienced a positive impact on personal

wellness during the pandemic. However, 90% of trainees and 68% of Associate Fellows reported that the pandemic negatively affected their personal and professional relationships.

Although most residents were on one end of the personal wellness spectrum, considerable variability in the degree of negative impact they experienced was discernible (see Table 1, page 36). Many described “feel[ing] lonely a lot more...and not [being] able to have outings to decompress like [they] used to.” Others described themselves as “just trying to get through.” Other respondents expressed “less wellness, less free time” because of “fear of contracting illness and causing resident/fellow shortages on service.”

Some respondents did express that they had more leisure time, but in the context that they were “more motivated to completely disconnect from work and coworkers in [their] free time” and “less resident bonding.” Others leaned on ACS membership to help them, stating, “If I wasn't involved in RAS, my only connection to other peers would be through random virtual fellowship interviews and associated group chat.” This response highlights the importance of professional societies in promoting fellowship and connection. Training is difficult and having a support

TABLE 1.
CODED RESPONSES ABOUT PERSONAL WELLNESS, RELATIONSHIPS, AND SOCIAL MEDIA

	Personal Wellness			Relationships			Social Media		
	Trainee (n = 31)	AF/ECS (n = 72)	Total (n = 103)	Trainee (n = 30)	AF/ECS (n = 94)	Total (n = 124)	Trainee (n = 20)	AF/ECS (n = 101)	Total (n = 121)
Statement: Positive	5 (16%)	7 (65%)	52 (50%)	3 (10%)	30 (32%)	33 (27%)	20 (100%)	96 (95%)	116 (96%)
Negative	26 (84%)	25 (35%)	51 (50%)	27 (90%)	64 (68%)	91 (73%)	0 (0%)	5 (5%)	5 (4%)

AF/ECS= Associate Fellow/early career surgeon

system, both among fellow trainees and mentors, is crucial to the development of a surgeon today.⁷

In contrast, early career surgeons indicated that the pandemic had a positive effect on their personal wellness. Many expressed “[having]...more time to spend with family,” while noting that “virtual meetings (such as weekly conferences) [were] much easier to attend” and they were “more deliberate about contacting peers and proactively scheduling time to connect.”

This positive impact on personal wellness and leisure time may have naturally improved for recent graduates from residency. Still others described becoming “more health attentive [because] we have to take care of ourselves first in order to save patients.” In terms of relationships, many respondents found it “more difficult to connect personally to peers” with “decreased networking [leading] to less career/professional satisfaction.” However, a number of respondents noted “societies like ACS and [the Society of American Gastrointestinal and Endoscopic Surgeons]...allowed [them] to connect with peers internationally.” Others “discovered other avenues leading to more mentorship.” Similar to trainees, the personal interaction with colleagues and mentors, through professional societies and otherwise, is important, in particular because the pandemic hindered in-person interactions.

Social Media

Both trainees and Associate Fellows described an increase in social media use. A frequent reason both groups cited was to maintain “communication with

peers,” participation in virtual conferences, and “as an escape from the stress and overwhelming sadness that COVID brought.” Although trainees and Associate Fellows increased their use of social media, they mentioned the virtual platforms were “much less engaging and stimulating academically” and as a result “decreased the drive to stay involved.” The social media platforms most frequently cited were Twitter, Instagram, and different messaging tools (WhatsApp, Microsoft Teams, and text).

Conclusion

This survey highlights the impact of the COVID-19 pandemic on the surgical trainee and early career surgeon experience. The degree of stress and frustration related to the pandemic cannot be overstated. Its toll was apparent not only through the significantly reduced socialization and ability to relieve stress through extracurricular activities, but also through increased clinical responsibilities for many residents and young surgeons. Trainees and early career surgeons looked to professional societies, social media, and other outlets to provide a sense of community and belonging.

Although virtual platforms will never replace the in-person experience, surgical societies such as the ACS and RAS have stepped up during the pandemic and continue to meet the needs of their members. The pandemic has made evident the value of being part of a professional society. @RASACS, the Twitter account of RAS-ACS, not only disseminates

@RASACS, the Twitter account of RAS-ACS, not only disseminates knowledge in an easy-to-digest format, but also is a resource for upcoming events such as webinars and virtual conferences.

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RAS-ACS also started a monthly Hangout, where medical students and residents can meet online for a casual conversation to learn about different surgical specialties and other topics of interest. The RAS-ACS Journal Club is a joint venture with the *Journal of the American College of Surgeons* that was developed to engage trainees and junior attendings with current surgical literature through discussion with experts from around the world. Finally, members can get involved in a variety of committees that work on annual projects that help give surgical trainees and early career surgeons a voice to shape the future of surgery. Find more information at facs.org/ras-ac. ♦

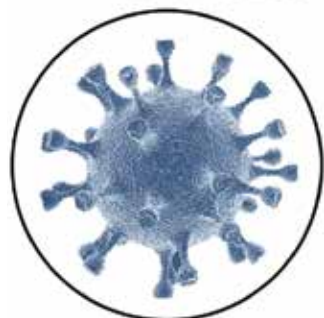
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DR. NATHAN RUBALCAVA is a general surgery resident at Creighton University-Phoenix Regional Campus, AZ. He is Vice-Chair, RAS-ACS Membership Committee.



The COVID-19 Pandemic and the Transition to Virtual Learning Profoundly Affect Medical Student Education



by Madeline A. Sauer,
Weston Ernst,
George Q. Zhang, MD, MPH,
Alice L. Zhou,
Nathan J. Cherian, MD,
Madeline M. Pashos,
and Rebecca L. Williams-Karnesky, MD, PhD, MEdPsych

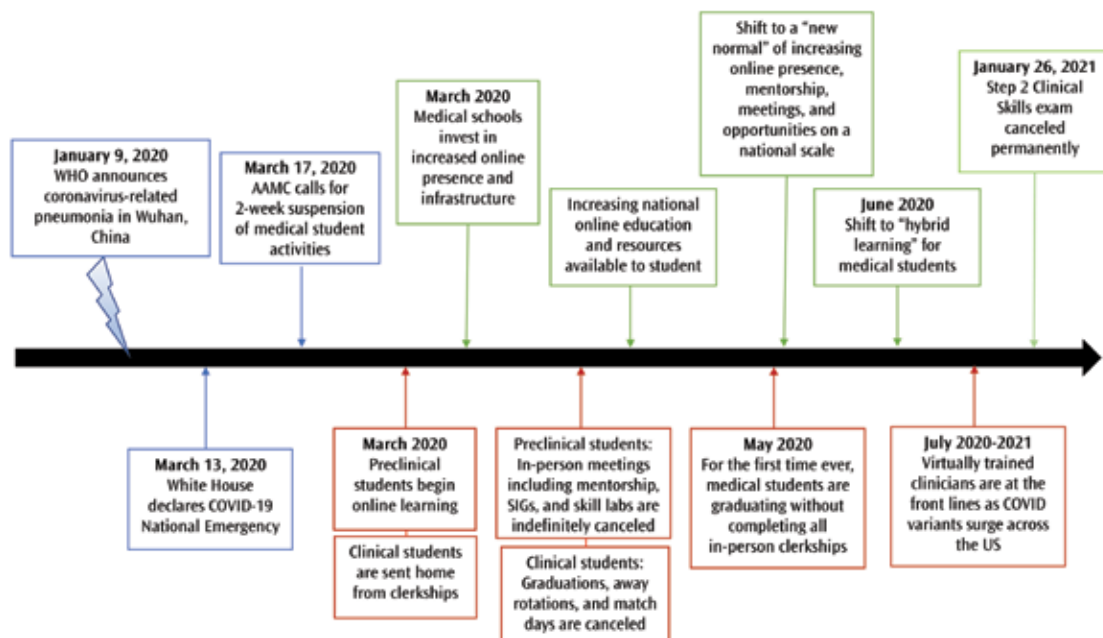
HIGHLIGHTS

- Describes the increase in virtual medical education and the subsequent decrease in peer-to-peer interaction and early clinical exposure
- Explores how virtual resources have enhanced students' exposure to surgery and surgical mentors but lack the nuances of in-person experiences
- Identifies how social media and virtual platforms have transformed the residency interview process

Over the past 2 years, the COVID-19 pandemic has significantly altered the practice of medicine and has created a new paradigm of training for a generation of medical students and surgical residents. The impact of COVID-related shutdowns includes shifts to virtual education, altered workforce structure, and changes in how patients access healthcare.

Both the preclinical and clinical phases of medical school present their own unique challenges and bore the effects of the COVID-19 pandemic in complex ways (see Figure 1, page 39).^{1,2} Studies have demonstrated that many medical students and faculty believe that COVID-19 negatively affected medical education.^{3,4} Furthermore, a nationally distributed survey of 1,668 US medical students found that more than 20% of respondents think their specialty of choice would

FIGURE 1.
TIMELINE OF THE SHIFT IN MEDICAL EDUCATION DURING THE PANDEMIC



Salient events in medical education during the pandemic, starting in January 2020:

- Boxes in blue are considered the main events starting the pandemic
- Red boxes below the line are considered negative effects on medical and surgical education in the US
- Green boxes above the line represent positive shifts in education

be affected by the pandemic, with limited ability to explore specialties of interest cited as the most common reason.⁵

During the pandemic a rapid shift to exclusively online learning during preclinical years occurred to comply with social distancing mandates. Clerkships were restructured to minimize contact with patients to reduce chances of exposure to COVID-19. Many of the traditional panels and workshops designed to introduce medical students to the field of surgery were transformed into virtual meetings or recordings. Pandemic-related alterations to these formative experiences have changed how students are exposed to the field of surgery, modified how professional identity is formed, and transformed how medical students transition to surgical residency. This article explores some of the ways the COVID-19 pandemic has affected undergraduate medical education and medical students as they progress toward surgical careers.

Impact on Preclinical Medical Education

Traditionally, during the first 2 years of medical school, the focus is on a more structured learning style, including classes, lectures, and regular examinations, with little patient-forward care. Many students use the pre-clinical time to learn more about each specialty, meet potential mentors, gain peers and supporters, and focus on the transition to becoming a physician learner. At the start of the pandemic in March 2020, the Association of American Medical Colleges (AAMC) declared medical students "non-essential workers." As a result, medical students had limited opportunities to participate in direct patient care.¹ Many schools also transitioned to virtual learning platforms for preclinical students to comply with social distancing mandates. This significantly restricted hands-on anatomic learning, interactions with peers and faculty, and opportunities for clinical experience.

Virtual learning platforms have been shown to have the potential to improve knowledge outcomes

TABLE 1. RECOMMENDATIONS FOR THE FUTURE OF HYBRID LEARNING

Phase of Training	Beneficial Innovations during the Pandemic
Preclinical Years	<ul style="list-style-type: none"> • Increased access to educational resources on virtual platforms • Increased use of national resources for surgical education • Virtual platforms allow for enhanced ability to explore all areas of surgery • New protocols put in place by schools of medicine to ensure education can continue in the face of any unforeseen circumstance requiring off-campus learning (such as pandemics, natural disasters)
Clinical Years	<ul style="list-style-type: none"> • Increased use of national resources for surgical education, such as <i>facs.org</i> • Increased access to mentors across the country with normalization of virtual meetings and introductions
Recruitment to Residency	<ul style="list-style-type: none"> • Increased use of social media by residency programs • Recruitment expanded to online meet and greets and second-look days • Increased equity among students of different social economic status with decreased travel costs during the interview process

compared with conventional learning in medical education.⁶ However, for tactile specialties such as surgery, virtual platforms can never truly replicate direct experience. As an example, for students interested in surgical subspecialties using anatomic dissection, one of the first rites of passage of medical school, may be the inciting event that sparks an interest in surgery.⁷ Regarded by many as their first patient, the cadaveric dissection provides the opportunity to appreciate the body and all its interconnected parts in three dimensions. Prior research has shown that participation in a gross anatomy course that includes cadaveric dissection may significantly increase student interest in pursuing a surgical career.⁷

During the pandemic, many schools transitioned from cadaveric dissection to prosection, often via virtual learning tools, decreasing opportunities for hands-on learning.⁸ It is unclear if these changes will persist and how this change will affect medical student interest in surgery as a potential career.

The pandemic also negatively affected shadowing, mentorship, and networking opportunities in the preclinical years. Institutional mandates resulted in fewer shadowing opportunities for preclerkship students and decreased early exposure to specialties, including surgical specialties.⁹ At many institutions, public health guidelines also prohibited students from hosting in-person events. Surgery interest groups frequently were restricted to hosting virtual events. Suturing workshops and other hands-on events that could not transition to a virtual format were canceled. For surgical subspecialties

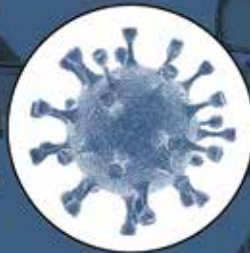
in particular, these early opportunities have been shown to significantly increase student interest in surgery as a career.^{10,11}

Conferences, which traditionally offered students a platform to present their work and engage with others in their fields of interest, either transitioned to an online format or were canceled during the height of the pandemic. Many surgical disciplines engage medical students through travel scholarships and trainee-specific programs.¹² However, during the pandemic, these programs no longer offered the same immersive experiences and access to mentorship initially intended to attract students to the field. The lack of in-person research and conference experiences during the pandemic further limited the quantity and quality of opportunities for early medical students to engage with the broader surgical community.

Without these early opportunities to find surgical mentors and role models, it will be important to study the impact this phenomenon may have on the number of future students pursuing surgical subspecialties.

Impact on Clinical Medical Education

By the third year of medical school, most students begin their clinical clerkships, with direct patient care responsibilities. To limit patient and provider exposure to COVID-19, telehealth networks were employed to provide continuous access to care.¹³ Especially early in the pandemic, many medical



schools also incorporated virtual clinical experiences to substitute for in-person clinical experiences, including during the surgical clerkship.^{5,8,14-16} Work from one program showed that clerkship grades and shelf scores were not substantially different between students who participated in the virtual clerkship compared with those who participated in-person.^{15,17} Some programs even allowed students from different institutions to complete remote or “away” clerkship rotations.¹⁸ Many students who completed virtual-only surgical clerkships also reported feeling comfortable asking for mentorship or residency letters of recommendation from the faculty with whom they worked virtually.¹⁸ Though there have been obvious successes using the virtual format for surgical clerkships, surgical specialties are inherently technical, and it has been difficult to replicate the skills-based and interpersonal components of these experiences. It will be interesting to see how students involved in truncated or virtual clerkships fare upon beginning residency.

During the COVID-19 pandemic, many students in their clinical years had at least some component of what traditionally would have been an in-person clinical experience converted to an online format. Students had less on-campus time to connect with peers, pursue leadership positions in their areas of interest, meet with mentors, and scrub in on cases.

These modified clerkships also decreased the opportunity for serendipitous experiences and exposure that can influence student career choice in unexpected ways and can be vital for recruitment of medical students into surgical careers.^{5,9,11} Surgical leaders have recognized the negative impact of the pandemic on medical students’ clinical experience and have acted at a national level to provide more significant opportunities for student engagement in surgical subspecialties; one example of this is the American College of Surgeons National Professional Development Seminars for Medical Students.¹⁹ National organizations also have used virtual platforms to connect medical students with mentorship opportunities outside their home institutions.²⁰

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Transition to Surgical Residency

The COVID-19 pandemic also dramatically disrupted the traditional residency recruitment and interview process. The 2021–2022 cycle's "one away rotation opportunity per specialty" restriction changed how surgical specialties educate and recruit prospective applicants.²¹ The pandemic brought a new focus to online and virtual programming, which has led to a dramatic increase in social media use in surgical residencies.²² Social media offered a humanizing glimpse into residency programs—an aspect of the recruitment process that has been especially difficult to assess during the pandemic.^{23,24} Social media has been effectively combined with the novel use of online platforms for virtual information sessions, open houses, meet and greets, and happy hours. During the height of the pandemic, these digital mediums often were the only available avenues to gauge a sense of the program culture.²⁴ Though perhaps lacking in the personal touches that in-person recruitment efforts possess, the uptick in virtual programming used by residencies has allowed for much greater ease and accessibility to network with residents and faculty across the US.²⁵

The transition to virtual residency interviews has had its share of challenges, but also offers many advantages for applicants.^{26,27} Flexible scheduling and mitigating travel expenses were touted as major benefits of virtual interviews.²⁸ There is evidence that it may change how program directors evaluate applicants; one survey showed that program directors were found to place less value on applicants' virtual interview day impressions and subsequently shift importance toward letters of recommendation, medical school ranking/reputation, US Medical Licensing Examination scores, and Medical Student Performance Evaluation comments when ranking applicants.²⁹ A hybrid approach for future cycles—for example, virtual interviews with subsequent in-person visits—is one possibility, but this model is not without issues.³⁰ National recommendations for applicant and program best practices for virtual versus in-person interviews will best prepare

National recommendations for applicant and program best practices for virtual versus in-person interviews will best prepare rising fourth-year medical students to get the most out of the application cycle and create a competitive residency application.

rising fourth-year medical students to get the most out of the application cycle and create a competitive residency application.

Summary and Recommendations

The pandemic has affected all facets of life and society, including healthcare. The impact on medical student education has been profound. However, many of the changes that have come about as result have been beneficial to medical education and should be continued moving forward (see Table 1, page 40).

Virtual learning tools, such as anatomy applications and demonstrative videos, provide valuable supplements to traditional modes of undergraduate medical education; however, they are not substitutes for hands-on learning. Every effort should be made to have in-person skills labs, cadaveric dissections, and opportunities for participation in direct patient care during the preclerkship years to provide the necessary exposure to the technical aspects of a surgical career and help students avoid the loss of the human connection with peers, faculty, and patients. Virtual clerkship can provide students with access to away rotations without travel expenses and can serve as a valuable adjunct to more traditional clerkship formats. Virtual interviews and social media will continue to alter the face of resident recruitment moving forward, in a way that ideally will be beneficial to both applicants and programs.

As the next wave of surgically minded medical students venture into their desired career, we must be mindful of the unique challenges facing this new generation as they continue to navigate the novel, ever-changing hybrid learning environment. ♦

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RAS-ACS Symposium: **Have EHRs Led to Better Care or Bigger Burdens in Surgical Practice?**



by Navin Vigneshwar, MD, MPH,
Rachael Essig, MD,
and Kevin Koo, MD, MPH, MPhil

CLINICAL CONGRESS 2022



HIGHLIGHTS

- Summarizes the evolution of patient medical records
- Describes the benefits of EHRs, including real-time access to patient records and integration of data across hospital systems
- Identifies the challenges presented by widespread adoption of EHRs, including burnout and diminished autonomy

The Resident and Associate Society (RAS) Advocacy and Issues Committee hosts the annual RAS Symposium at the American College of Surgeons (ACS) Clinical Congress. During the meeting, RAS members and invited guests rigorously evaluate the trends and challenges that affect surgical trainees and practicing surgeons.

This year's symposium, which takes place Sunday, October 16, during this year's Clinical Congress in San Diego, CA, will explore the promise and perils of electronic health records (EHRs), which transformed the routine practice of contemporary surgical care and had a considerable impact on surgical education.

Herein we present the background and ideas that will shape what we anticipate will be a lively debate at the RAS Symposium.

Introduction

Physicians have maintained records of patients' medical care for thousands of years.¹ The current standardized, modern form of recording medical information began in the 20th century.¹ The EHR was developed first in the US in 1972 at the Regenstrief Institute.¹ At that time, automation of these records was limited, and the cost was prohibitive for the wide adoption of the EHR. In the late 20th and early 21st century, electronics became more affordable, along with a push from the federal government to

add computers to medical practices.² In 2009, the American Recovery and Reinvestment Act provided both funding and incentives to medical systems that adopted EHRs.²

When initially conceived, the EHR sought to modernize the practice of medicine by enabling physicians and patients to have consistent and seamless access to an individual's medical history across all encounters. For researchers, it also provided large data banks to study patient outcomes and shape the future of medicine on a large scale. In theory, the EHR was supposed to be a secure, efficient, electronic version of a paper chart with a few extra benefits, such as streamlining and standardizing care. In many ways this goal has been achieved, with quick access to clinical information via smartphones and tablets, improved communication between members of the healthcare team and, as seen during the COVID-19 pandemic, the expansion of telehealth and patient EHR portals.

Nonetheless, today's EHR has been cited as a leading source of physician burnout, described as "death by a thousand clicks." The EHR may underlie dissatisfaction among patients who feel their providers are distracted by the necessity for documentation, often while the patient encounter is occurring. Though intended as an efficient mechanism for tracking patient care, EHRs continue to face implementation obstacles: inter-EHR incompatibility; frequent pop-up modules for compliance, billing, and inventory management; and hospital metric dashboards that interrupt patient care. Many physicians may wonder whether EHR software is optimized for hospital and billing management or truly designed for patient data integration and efficient clinical care.

The Promise: Speed, Access, Data Sharing

Previously, physicians flipped through the physical chart at the bedside of a patient to access vitals, view consult notes, or become aware of ancillary events. "If only this could be seen from other parts of

The increasing dependence on EHR for documentation, clinical decision support, and billing has strongly mirrored rising levels and severity of physician burnout.

the hospital,” is what surgery interns thought during those days. The development of the EHR has made this possible. Every piece of information about the patient can be accessed by the care provider via a computer or smartphone. Laboratory values update instantly, vitals are organized via time in a graph, and easily accessed imaging all are now possible with EHR technology.

In fact, one of the first things third-year medical students do before clinical time is download the EHR application to their phone. Mobile EHRs have been a regular portion of medical training for at least the past decade. Now a notification can instantly alert physicians to a new laboratory value or vital sign, allowing them to monitor a patient’s condition. Most EHRs even have a function that allows the bedside nursing staff to securely message the physician with exact details regarding any concerning signs or symptoms. This functionality can remove the sometimes laborious task of responding to a page and is a direct line of communication with the bedside care provider.

Finding a precise consult note or operative report is easy. The healthcare provider can even search the entire chart for specific content if necessary, making preparation for clinic visits a simplified task. And residents can plan for the operating room by reviewing the attending’s previous operative notes, while attendings can check whether primary care physicians, specialists, and anesthesiologists have ensured the patient has undergone preoperative optimization.

Ideally, the EHR extends between hospital systems. As patients are transferred between different hospital systems, the EHR enables the sharing of imaging, notes, and laboratory data. This coordination of care reduces unnecessary or duplicate testing and improves patient outcomes.³

Some of these benefits may seem second nature now that EHRs have been present for 50 years, and a subset of surgeons deeply appreciate the universality the EHR has brought about.¹ Input by clinically

active medical providers is imperative in continuing to create the most optimal and current EHR for the best clinical care and provider performance.

The Perils: Burnout, Inefficiency, and Loss of Control

The widespread adoption of EHRs, incentivized by the Health Information Technology for Economic and Clinical Health Act of 2009,⁴ was predicted to bring sweeping improvements to the quality of healthcare delivered in the US. In reality, however, the EHR’s impact on quality has been mixed by many measures, and the unintended consequences on clinical practice patterns and the workforce have been significant.

The increasing dependence on EHR for documentation, clinical decision support, and billing has strongly mirrored rising levels and severity of physician burnout. Time spent using the EHR has been positively associated with the likelihood of burnout symptoms.⁵ A common complaint among EHR users is the counterintuitive or inefficient usability of EHR software,⁶ which also has been correlated with adverse effects on physician satisfaction.⁷

One explanation of why EHRs have seemingly become a common enemy is that they can appear to be engineered to diminish the autonomy and control that once characterized the practice—and perhaps the joy—of medicine.⁸ Entering a single medication order can involve navigating formulary alternatives, clicking through pop-up alerts, and scrolling through multiple chart tabs. Documentation of patient visits has been reduced to copying and pasting templates optimized for coding and billing. Even the continuous stream of new results, communications, and billing inquiries to the “in basket” is now a task to be managed, rather than an integrated aspect of clinical practice. The availability of EHRs on personal mobile devices also may contribute to a real or perceived inability to detach from work.⁸

EHRs also may exacerbate existing gender disparities, with implications for professional advancement



and satisfaction. Recent evidence suggests that women physicians may spend more time using and documenting an EHR, both overall and during off-hours, compared with their male counterparts.⁹ Even after controlling for total work hours and clinical specialty, the differences remained significant. These findings also may contribute to the gender gap in physician burnout.¹⁰

Conclusion

This year's RAS Symposium will feature a debate on the promise and perils of EHRs—the potential benefits of an electronic transformation of clinical information accessibility, study, and efficiency versus the unintended consequences of decreased time with patients, interruptions to workflow, security concerns, adverse changes in care delivery, and physician burnout. What is the future of EHR, and what role should surgeons play in shaping it? Can the current EHR model be saved, or do we need to start over?

Learn more during the RAS Symposium Sunday, October 16. We look forward to seeing you there.

Register for Clinical Congress 2022

If you are not yet registered for Clinical Congress, October 16-20 in San Diego, CA, ACS Resident Members can register for free on or before October 15, 2022. Go to facs.org/clincon2022. ♦

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Back to Business: State Affairs Mid-Year Update

by Christopher L. Johnson, MPP, and Rebecca King, MHA

With COVID-19 vaccines more widely available, state legislatures planned a return to normal business in 2022. However, because of repeated surges in COVID-19 variants, several states were slow to reopen capitol buildings to visitors at the start of the year. Nonetheless, state legislatures were determined to resume regular processes and procedures, and the American College of Surgeons (ACS) prepared to advance state policy priorities on behalf of patients and the surgical profession.

The College and ACS state chapters ramped up member engagement on top legislative issues to surpass prepandemic achievements. Key priorities for ACS members include prior authorization reforms, limiting the expansion of nonphysician scope of practice, and insurance coverage of preventive cancer screenings, as well as funding for state trauma systems and STOP THE BLEED[®], among other patient care issues. In 2022, the College monitored more than 1,414 state bills, and ACS Fellows sent 1,404 emails to their state representatives and senators in response to advocacy grassroots campaigns (see Figure 1, page 49).

Following is a breakdown of the top legislative issues with which members engaged since January 1, 2022.

Prior Authorization

Improving insurance prior authorization (PA) requirements that would ensure timely access to care for patients remains a priority for the College. In 2022, several states considered legislation creating

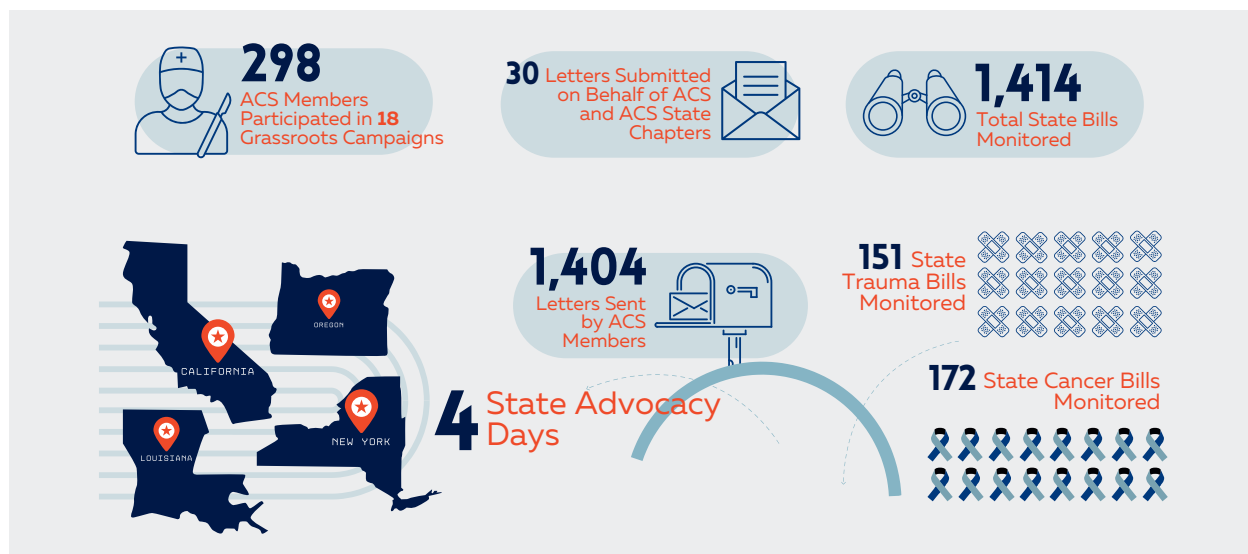
a “gold card” program to optimize processing times. Under such programs, physicians who have a 90–95% PA approval rating over a 6-month period for certain services will be exempt from PA requirements for those services.

Texas was the first state to enact legislation that created a gold card program during its 2021 legislative session, and the law took effect January 1. Gold card bills were introduced in Colorado, Indiana, Kentucky, Louisiana, Mississippi, New York, and Oklahoma this year.

The Louisiana Chapter advocated in support of S.B. 112, a bill that would establish a gold card program and prevent insurers from denying claims submitted for a medical service that was already included under a PA approval, with built-in exceptions for specific circumstances (see Figure 2, page 50). Unfortunately, the legislation was amended during the legislative process, resulting in the removal of the gold card program and any retroactive denial protections. Instead, the bill now calls for the development of a new program to “reduce unnecessary administrative burdens,” with few details on implementation.

In addition, the New York Chapter supported two separate PA reform proposals—S.B. 8299 and A.B. 9908A, which would create a gold card program similar to the one in Texas, and S.B. 6435A and A.B. 7129A, which would require insurers to rely on evidence-based, peer-reviewed information for consideration of utilization review.

FIGURE 1. STATE AFFAIRS BY THE NUMBERS (JANUARY–JUNE)



The bills also would require more timely responses for PA requests, specifically reducing the required response rate from 3 business days. The New York Chapter launched grassroots advocacy and included the legislation as a priority during its lobby day meetings. As of June 6, the New York legislature was still in session, and the bills were still active.

Trauma

The 2022 state legislative sessions to date have been a continuation of many of the same state trauma legislative priorities from 2021, including trauma system funding and advancing STOP THE BLEED® legislation.

Trauma Funding and System Development

Michigan Gov. Gretchen Whitmer dedicated \$3.5 million in her proposed fiscal year 2023 state budget to funding the state trauma system. The system lost funding last year when the legislature reallocated the original funding source—the state’s crime victims fund. If passed, the \$3.5 million will allow the state to recover any lost progress in 2022. The Michigan legislature must pass the state budget before the end of the fiscal year on September 30.

In Indiana, the state legislature passed S.B. 247 calling for the state Department of Homeland Security, Department of Health, and the statewide 911 Board to make recommendations before November 1, 2022, to the general assembly regarding improving emergency

medical services (EMS) response through increased interoperability of the 911 system, and the effectiveness of regionalized trauma systems and their impact on patient care. The legislation was a follow-up to the state legislature’s Trauma System Study Committee hearing in summer 2021.

STOP THE BLEED® continues to gain support. In California, the effort to pass legislation to mandate the installation of bleeding control kits in public buildings continues with the introduction of A.B. 2260. In 2021, grassroots advocates spearheaded efforts to pass S.B. 687, revamped from previous versions. The bill passed in the Senate but again stalled after failing to achieve approval in the Assembly Appropriations Committee despite passing in the Health and Judiciary Committees.

Significant efforts have been made over the past 6 months to build and organize a coalition of support for A.B. 2260. More than a dozen California and national physician, nursing, and trauma center organizations have united in support of the legislation, including the California Medical Association, California Emergency Nurses Association, American Trauma Society, National Association of EMS Physicians, and the Trauma Center Association of America. In addition, a dedicated website was created for the bill, AB2260.com, as a resource for critical information and supporting arguments for its passage.

“After so much success last year, we built on that momentum to shore up support among the California surgical and physician community for an organized

FIGURE 2. NOTEWORTHY STATE LEGISLATION

The ACS and its state chapters participated in activities related to the following noteworthy bills, January–June 2022:

Prior Authorization. Supporting **Louisiana** and **New York** legislation (S.B. 112 and S. 8299, respectively) that would implement a utilization “gold card,” a special exemption issued to qualifying physicians that would expedite prior authorization requests.

Scope of Practice, Optometry. Opposing **Colorado**, **Virginia**, and **West Virginia** legislation (H.B. 1233, S.B. 375/H.B. 213, and H.B. 4261, respectively) that would expand optometrists’ authority to perform surgery without requiring the necessary education and training on the procedures.

Scope of Practice, CRNAs and Anesthesia Assistants. (1) Opposing **Alabama** and **Illinois** legislation (H.B. 268 and H.B. 1820/S.B. 2566) that would remove the physician supervision requirement for certified registered nurse anesthetists, and supporting (2) **Pennsylvania** legislation (H.B. 1956) that would require licensure of certified anesthesiologist assistants.

Scope of Practice, APRNs. Opposing **New York** legislation (S. 3056/A. 1535) that would remove the requirement for a written collaborative agreement between physicians and nurse practitioners.

STOP THE BLEED®. Supporting **California** legislation including a bill (A.B. 2260) that would place bleeding control kits in public buildings and a second bill (H.B. 1929) that would provide Medi-Cal coverage for violence prevention services for survivors of community violence.

STOP THE BLEED® in Schools. **Missouri** and **New York** legislation (H.B. 1722 and A. 6462) that would develop a trauma preparedness program and install bleeding control kits in schools.

Prostate and Colorectal Cancer. Supporting (1) **Illinois** and **New Jersey** legislation (H.B. 5318 and A. 2795/S. 791) that would remove cost-sharing requirements for prostate cancer screenings, and (2) **Massachusetts** and **New York** legislation (H.D. 961 and S. 906/A. 2085A) that would require insurance carriers to cover colorectal cancer screenings for persons ages 45 and older.

Breast Cancer. **New York** legislation (S. 7881/A. 8537) that would require insurance carriers to cover chest wall reconstruction for breast cancer patients post-mastectomy.

Skin Cancer. Supporting **Massachusetts** and **New Jersey** legislation (S. 309 and A. 2957/A. 2065) that would allow children to possess and use sunscreen while in school without a physician’s note.

Certificate of Need and Cosmetic Taxes. Supporting **South Carolina** legislation (S.B. 290) that would repeal the current state’s certificate-of-need law and opposing **Kentucky** legislation (H.B. 8) that would place a 6% tax on cosmetic surgeries performed in the state.

push in support of the legislation this year. Gaining additional grassroots, coalition, and testimony support from others, including emergency nurses, EMS personnel, and trauma centers really helped to demonstrate support in the healthcare community. We are confident that A.B. 2260 will get to Gov. Gavin Newsom this year and will be a model approach for others,” said Amy E. Liepert, MD, FACS, medical director, acute care surgery, and associate professor of surgery, University of California San Diego.

All three ACS California chapters (Northern California, Southern California, and San Diego-Imperial) organized STOP THE BLEED® training sessions April 19 for state legislators (see photo, page 51). That same day, the Assembly Judiciary Committee held a hearing on A.B. 2260. Committee on Trauma (COT) member Thomas Duncan, MD, FACS, and Dr. Liepert testified before the Judiciary Committee in support of the bill. Representatives of property owners and managers associations agreed to drop their opposition to the bill, formally indicating a neutral position during the hearing.

Almost 1 month later, the bill passed in the Assembly Appropriations Committee, which had rejected previous iterations. The bill then was sent to the Assembly floor for a full vote. A week later, on May 25, the Assembly passed the legislation with a 69-0 vote, moving the bill to the Senate where a previous version had already passed in 2021 and is expected to easily pass again this year.

In addition, COT leadership sent a letter of support for A.B. 1929, which would support continued funding of hospital-based violence prevention programs through the state’s Medicaid program, Medi-Cal.



The California ACS Chapters (Northern, Southern, and San Diego-Imperial) provided STOP THE BLEED® training for California state legislators and their staff in the California Capitol Annex Office Building as part of the Chapters' April 19 Advocacy Day, in support of California A.B. 2260

From left: Alexandra Johns, MD, Thomas K. Duncan, DO, FACS, Jay Doucet, MD, FACS, Assemblymember Freddie Rodriguez (sponsor of A.B. 2260), Dr. Amy Liepert, John Maa, MD, FACS, and Sigrid Burruss, MD, FACS

The Assembly passed the bill, which is now awaiting movement in the Senate. The deadline for the California Senate to pass bills originating in the Assembly this year is August 31.

Meanwhile, the Missouri COT engaged with the legislature in support of H.B. 1722, which would require the installation of bleeding control kits in public schools. The Missouri COT worked with the bill's sponsor, Rep. Brenda Shields (R), to improve the bill's text. The bill advanced out of the House General Laws and Rules Committees but did not receive a vote on the House floor before the session ended.

"We knew this bill was out there the last couple of years, but reaching out and meeting with the sponsor provided us the opportunity to make some improvements to the language and inject some energy that wasn't there before to move the bill forward," said Doug Schuerer, MD, FACS, Chair of the Missouri COT. "Unfortunately, we ran out of time this session. I think we learned a lot to take into next year."

The New York Chapter advocated for two different STOP THE BLEED® proposals. Authored by Assemblymember David McDonough (R), A. 6462 would not only require the installation of bleeding control kits in public schools, but school personnel also would be required to participate in STOP THE BLEED® training. At press time, the legislation had advanced out of the Assembly's Education Committee.

Separately, the New York Chapter supported legislation that would include STOP THE BLEED® training

as part of the state's high school health curriculum. The STOP THE BLEED® training would be in addition to the requirement that is already in place for New York high school students to participate in cardiopulmonary resuscitation training. Legislation containing this proposal has yet to be introduced.

Cancer

The ACS Commission on Cancer (CoC) is celebrating its centennial this year and has demonstrated its evolution over the past 100 years by supporting efforts to advance legislation for several state cancer priorities. The CoC 2022 state cancer priorities include:

- Expanding insurance coverage for prostate, lung, and colorectal cancer screenings, as well as diagnostic breast cancer screenings
- Raising the minimum age to 21 years old for purchase and use of tobacco products
- Implementing a minimum age of 18 years for commercial indoor tanning
- Enabling children to possess and use sunscreen while in school without a physician's note
- Most notably, progress was made to expand insurance coverage for cancer screenings in multiple states

Prostate Cancer Screenings

Only three states—New York, Maryland, and Rhode Island—have legislation in place that removes copays and other cost-sharing requirements for prostate cancer screenings. The ACS partnered with the American Urological Association and other organizations to send a joint letter in support of Illinois H.B. 5318. The bill had staunch support in both the House and the Senate and was sent to Gov. J.B. Pritzker for signature.

The ACS also endorsed a letter of support for New Jersey bills A. 2795 and S. 791, which would require insurance carriers to provide annual prostate cancer screenings void of any cost-sharing requirements, including a digital rectal examination and prostate-specific antigen test, for men ages 50 and older who are asymptomatic and for men ages 40 and older with a family history of prostate cancer or other prostate cancer risk factors.

The CoC Advocacy Committee monitored eight prostate cancer bills over the past 6 months. Two of those bills, California A.B. 1520 and Illinois H.B. 1728, have passed in their respective committees and are awaiting chamber votes.

Prostate cancer is the second leading cause of cancer death among men in the US. The relative 5-year survival rate for prostate cancer when diagnosed at an early stage is nearly 100%; the survival rate drops to 31% when diagnosed at an advanced stage. As with any cancer, early detection is key, and removing cost barriers to screenings will allow more men to survive the disease and maintain their quality of life.

Lung Cancer Screenings

As of 2022, six states—North Dakota, Utah, Wyoming, Nebraska, Mississippi, and Alabama—have yet to expand Medicaid coverage to include lung cancer screenings for average-risk patients without cost-sharing requirements. Lung cancer is the nation's number one cause of death for both men and women diagnosed with cancer. The CoC Advocacy Committee is developing a legislative strategy to close the six-state gap.

Kentucky Gov. Andy Beshear signed H.B. 240 into law in March; the legislation establishes the Lung Cancer Screening and Prevention Program. This comprehensive program is designed to reach some of Kentucky's most vulnerable populations and offers provisions such as additional screenings for uninsured and underinsured patients, a statewide data collection system, a lung cancer screening advisory committee that can make recommendations and provide an annual progress report, and a lung cancer screening education and outreach program. The Lung Cancer Screening and Prevention Program is an excellent framework not only for states that have yet to provide Medicaid coverage for lung cancer screenings, but also for others seeking improved health outcomes for lung cancer patients.

Colorectal Cancer Screenings

Over the past few decades, prevalence of colorectal cancer in patients ages 20–49 years old has increased exponentially. Consequently, both the American Cancer Society and the US Preventive Services Task Force have released guidelines lowering the age to begin screening to 45 from 50 years old. Regardless of the scientific evidence supporting these guidelines, insurers still have the authority to deny patients coverage of routine colorectal cancer screenings if they are younger than 50 years old. The CoC Advocacy Committee has been monitoring 18 colorectal cancer bills since January.

Illinois H.B. 1728 passed through committee and is in the process of moving to the House floor for a full vote. A companion bill, A. 3523, recently was introduced in New Jersey for S. 2305, and the Massachusetts Chapter of the ACS submitted a letter of support for H.D. 961. Most notably, the New York Chapter of the ACS advocated for A. 2085A and S. 2305 during its annual advocacy day in April, which included several meetings with members of the Insurance Committees and letters of support from ACS members. As a result of conversations between ACS members and their representatives, the Assembly passed the bill, and it has been referred to the Senate.

Nonphysician healthcare practitioners continued to seek expanded scope of practice legislation at the state level in 2022.

Scope of Practice

Nonphysician healthcare practitioners continued to seek expanded scope of practice legislation at the state level in 2022. Optometrists convinced state legislators in Colorado and Virginia to pass and enact scope expansions that give them authority to perform numerous scalpel and laser eye procedures, despite their lack of training and experience with performing ophthalmic operations.

The College activated grassroots advocates to oppose Colorado H.B. 1233, while the ACS Virginia Chapter joined coalition efforts to stop S.B. 375 and H.B. 213 to no avail. Similar optometry bills were introduced and failed to advance in Alabama, Utah, Vermont, and Washington.

A bill introduced in West Virginia, H.B. 4261, which would authorize optometrists to perform eye surgery, was abandoned by the bill author, Del. Matthew Rohrbach (R), in favor of new legislation to remove scope limitations for many nonphysician healthcare providers, including optometrists, occupational therapists, and respiratory care practitioners. A coalition of physician groups, including the ACS West Virginia Chapter, succeeded in defeating the proposal.

The College and state chapters continued to support other physician specialties in opposing scope of practice expansion state bills including physician supervision of certified registered nurse anesthetists (CRNAs) and advance practice nurse practitioners (APRNs).

The College has responded to requests from the American Society of Anesthesiologists (ASA) to join the ACS Utah Chapter in signing on to a coalition letter to Utah Gov. Spencer Cox urging him to sustain the Medicare and Medicaid requirements on physician supervision of CRNAs. The Centers for Medicare & Medicaid Services (CMS) rule on anesthesia conditions of participation for hospitals, critical access hospitals, and ambulatory surgical centers allows governors to opt out of the requirements on physician supervision of CRNAs. Since 2001, 20 states have opted out of the requirements. Governor Cox agreed

to a partial opt-out limited to critical access hospitals and some rural hospitals. The College sent a letter to Wyoming Gov. Mark Gordon urging him not to take similar action.

In addition to opt-out policies, the College has supported ASA's opposition to state legislation granting independent practice without physician supervision of CRNAs. The ACS sent letters of opposition on Illinois H.B. 1820 and S.B. 2566, and Alabama H.B. 268. The Illinois bills failed to advance, and the Alabama bill was amended to remove the language authorizing CRNA independent practice.

The ACS Keystone, Metropolitan Philadelphia, and Northwestern Pennsylvania Chapters joined the ASA in sending a letter of support for H.B. 1956, which would enact certification requirements for anesthesia assistants in the state.

ACS state chapters also continued their support for efforts to oppose state legislation expanding scope of practice authority of APRNs. The ACS Virginia Chapter joined a coalition led by the Virginia Medical Association to oppose H.B. 1245, which would reduce from 5 years to 2 years the length of time an APRN is required work under supervision of a physician before practicing autonomously. The bill failed to pass during Virginia's regular session because of disagreements between the House and Senate versions of the bill.

The New York Chapter opposed A. 1535 and S. 3056, which would remove the requirement for a CRNA to reach a collaborative practice agreement with a physician after 3,600 practice hours, as well as Gov. Kathleen Hochul's state budget that included language to extend the governor's executive order exempting the physician collaboration requirement for 2 years. The legislation was abandoned after the final 2023 state budget included the exemption extension.

Medical Liability Reform

A major change in policy on medical liability occurred this year when California enacted changes to the state's Medical Injury Compensation Reform Act (MICRA) of 1975. After years of fending off trial lawyers' attempts

to repeal or significantly alter MICRA, in 2022 the California Medical Association and other healthcare groups negotiated a compromise to update the cap on compensation for noneconomic damages, originally set at \$250,000. The agreed-upon language in A.B. 35 also headed off a ballot initiative scheduled for the November 2022 election that would have eliminated several protections in MICRA and recalculated the noneconomic damages cap adjusted for inflation—an estimated \$1.5 million or more.

Governor Newsom signed the law May 23. The updated MICRA law will increase the cap on noneconomic injury cases to \$350,000 and wrongful death claims to \$500,000 beginning in 2023, followed by incremental increases over the next 10 years until limits reach \$750,000 and \$1 million, respectively. After 10 years or when the new increases are met, the caps will be adjusted 2% annually in perpetuity.

Neither the ACS nor the California chapters took a formal position on the legislation; however, the ACS is monitoring closely how the change could affect the debate on noneconomic damage caps in other states.

On the opposite side of the country, the ACS New York Chapter opposed S. 74A and A. 6770—legislation that would expand the types of damages that can be recovered for a wrongful death action, including “grief and anguish.” The legislation also expands the number of “close family members” who could sue for wrongful death damages. New York law provides no cap on the amount that can be awarded in a wrongful death action. The legislature passed S. 74A on the last day of the session June 2. The College and the New York Chapter are reviewing advocacy options to encourage the governor to veto the bill. The bill had not been sent to the governor at press time.

The Connecticut Chapter opposed H.B. 5235, legislation that would significantly change how prejudgment interest is applied in liability cases. Under the proposed law, an additional 8% annual interest payment on a potential award would start calculating on the “date of cause of action,” which is being interpreted as the date of injury rather than the date on which a lawsuit is filed. The chapter submitted testimony at the

March 4 hearing of the Joint Committee on Judiciary. The bill eventually was amended in committee, replacing the language with unrelated subject matter focused on reporting by the state’s claims commissioner.

Other Issues

The ACS and the chapters joined with other physician organizations to advocate on other state legislation that would affect surgical practices and patient care.

In South Carolina, the ACS sent a letter of support for S.B. 290, which would repeal the state’s onerous certificate of need requirement to update surgical equipment and establish ambulatory surgical centers. The South Carolina Chapter joined a coalition led by the South Carolina Medical Association to advocate for the bill. The South Carolina Senate passed the legislation, sending it to the House; it had yet to be acted on at press time.

In Kentucky, the ACS supported a coalition led by the American Society of Plastic Surgeons to oppose a provision in the state budget bill, H.B. 8, which would place a 6% tax on cosmetic surgery services. The legislation passed with the tax intact, but Governor Beshear vetoed the tax. Unfortunately, the Kentucky legislature overrode the governor’s veto and reinstated the tax.

Conclusion

The ACS State Affairs team is available to answer questions and provide background information regarding state issues and policy programs. Numerous state advocacy resources are available at facs.org/advocacy/state-legislation and state_affairs@facs.org or by calling 202-337-2701. ♦

CHRISTOPHER JOHNSON is former Manager, State Affairs, ACS Division of Advocacy and Health Policy, Washington, DC.

PROFILES IN ACS LEADERSHIP:

A Few Questions for Yewande Alimi, MD, MHS



Editor's note: The *Bulletin of the American College of Surgeons* (ACS) publishes a series of articles profiling leaders of the College. The series is intended to give readers a look at the person behind the surgical mask and inspire members to consider taking on leadership positions within the organization and the institutions where they practice.

For this month's profile, we interviewed Yewande Alimi, MD, MHS, Chair of the Resident and Associate Society of the American College of Surgeons (RAS-ACS) Executive Committee. Dr. Alimi is a minimally invasive and bariatric surgeon at MedStar Health, which includes MedStar Georgetown University Hospital, Washington, DC, and MedStar Washington Hospital Center, DC.

Why did you decide to go into surgery, specifically minimally invasive and bariatric surgery?

In medical school, I always was interested in the surgical specialties because of the benefits of being able to attack the patient's disease in a fairly short period of time. I will say that my interests changed over time. I started out being very interested in colon and rectal

surgery and then turned to minimally invasive surgery. What drew me to colon-rectal surgery was that many of the procedures were done minimally invasively.

I attended Emory University School of Medicine in Atlanta, GA, where I got my medical degree, and I went on to complete my residency at MedStar Georgetown University Hospital. I then completed my fellowship in minimally invasive surgery at Stanford University in California, which was an amazing experience, and then I came back to work at MedStar Georgetown University Hospital.

In my time as a medical student and as a resident, I was able to work with the bariatric patient population and saw how the procedures that we do for them can really change their outlook on life, both from a mental health as well as an overall health standpoint. It really intrigued me and drove me toward bariatric surgery and foregut surgery.

The satisfaction patients derive from the outcome—just seeing the smiles on their faces or that renewed self-assurance and hearing them say, “Doctor, you changed my life”—that is what drives me to do what I do.

What do you like best about being a surgeon?

I certainly most love being in an operating room (OR), working with a coordinated team, doing the procedure, and having the patient walk out of the hospital the same day or next day. With the advances in minimally invasive surgery, you are seeing patients recover quickly after surgery, and it is exciting to be able to apply new techniques, such as robotic surgery. It creates a pretty impactful and immediate response. You can see some of that in other medical and surgical specialties, but I think that really is what drives me the most right now, in addition to seeing the profound impact that bariatric surgery has on the overall health and well-being of these patients. The satisfaction patients derive from the outcome—just seeing the smiles on their faces, or that renewed self-assurance and hearing them say, “Doctor, you changed my life”—that is what drives me to do what I do.

Why should trainees and early career surgeons get involved in RAS-ACS?

My journey to becoming Chair of the RAS-ACS Executive Committee started at the committee level. I started out on the Membership Committee in 2015, attending monthly meetings over the phone during which I heard about activities and events with a focus on how we could make RAS more attractive to residents and Associate Fellows. Our charge was to draw them in and get them involved. It was just a phone call per month and some intervening work. That felt very approachable to me.

I am certainly involved in many other societies now, but when I was a postgraduate year-2 resident, I felt this was a very approachable organization that would allow me to just step in and offer my services. All I had to do to get involved was simply join a phone call or a Zoom meeting. So, that was the initiation of my engagement in RAS-ACS.

As I got more involved, I became the Secretary of the Membership Committee, rose to Committee Chair, and then proceeded to join the Executive Committee and rise to Vice-Chair and now Chair of the RAS.

For me, what has been really impactful is getting to collaborate with many people from different walks of life—residents from academic medical centers and residents from community-based hospitals. We have people who are interested in going into colon-rectal surgery and people who are interested in going into private practice, and they can all come together in the space of the ACS and, particularly, RAS.

What I find really beneficial about being active in RAS is the collegiality and the opportunity to work with people outside my own institution and my own specialty. I find it beneficial to collaborate with people outside of my institution and learn how they do things at other places, not just from a surgery standpoint, but how we build teams, how we mentor our residents, and so on. I think that residents who may not have many mentors at their own institution or who don't have people who sit on large institutional committees can see RAS as an access point for leadership positions in their communities.

I have had the opportunity to work over the past several years with some amazing people, both on the RAS Membership Committee and now the Executive Committee, including our Secretary Kaitlin Ritter, MD, and Julia Coleman, MD, our Vice-Chair, who both are powerhouses, not only with respect to their involvement in RAS, but locally in their communities and their institutions.

It has truly been an honor to take this journey to becoming Chair of RAS.

What are some of the challenges that RAS is addressing?

One of the key roles of the RAS Executive Committee is to listen to what residents and Associate Fellows are experiencing—the challenges they are facing and



Dr. Alimi in the OR at MedStar Georgetown University Hospital with Patrick Jackson, MD, FACS



Dr. Alimi in the MedStar Georgetown University Hospital OR with Lisa Boyle, MD, FACS



On the streets of San Francisco, CA, Clinical Congress 2019:

Front row, from left: Anthony Villano, MD, Allison Nauta, MD, FACS, and Erin Hall, MD, FACS

Back row: Amber Himmler, MD, Dr. Alimi, Trevor Upham, MD, FACS, Elizabeth Hechenbleikner, MD, FACS, Manish Raiji, MD, Young Hong, MD, FACS, and Russell Langan, MD, FACS

also what they believe is going well. The past few years, we have been directly tackling the effects of COVID-19 on our constituents. As this issue of the *Bulletin* demonstrates, we surveyed residents, Associate Fellows, and young surgeons to see how COVID affected their ability to access the education, training, and resources they need to enter and start a practice.

A survey initiated through the Advocacy and Issues Committee enabled us to evaluate the dire need for people in training programs, as well as our early career surgeons, to have access to personal protective equipment (PPE) during the pandemic. As a result, the RAS was influential in the College's "Statement on Resident Access to PPE," which the Board of Regents approved in June 2021.

While COVID and related challenges were top priorities the past few years, our ongoing challenge is getting residents and young surgeons more involved in and integrated into the ACS leadership structure. There are a number of opportunities within the RAS, and we now have RAS liaisons to the Advisory Councils and Board of Governors, as well as most of the ACS standing committees. These positions can be filled by any resident or early career surgeon, although we do want to see that they have

been involved and engaged with RAS at the time they apply for these positions. It is really important to get a seat at the table as a trainee, and being a representative of the RAS-ACS can help to accomplish that.

How has your involvement in RAS helped you to become part of the ACS leadership structure?

RAS has a close relationship with the Young Fellows Association (YFA) because we have similar issues. We collaborate with them on education points and other impactful activities within the young surgeons' community. As a leader of RAS, I often work with the YFA leadership.

I also work with the leaders of the College, particularly lending my voice as a representative of residents and early career surgeons in meetings with the Board of Regents and the Board of Governors. The conversations that take place at meetings of the Board of Regents are focused on what is happening within the entire House of Surgery, and I am able to impart how these issues and policies affect trainees and other younger surgeons, so that our voices are not left out of the equation.



Dr. Alimi (seated, second from right) at the 2019 Metropolitan Washington, DC, Chapter of the ACS Fall Social with (front row, from left): Ornela Dervishaj, MD, Paul Marji, MD, Chaitanya Vadlamudi, MD, and Anthony Villano, MD, and (back row) Jennifer Rosen, MD, FACS, Kelly Sutter, MD, and Amber Himmler, MD



Dr. Alimi and her husband, Travis Kaim, at a recent wedding in rural Virginia

As RAS leaders, we have a seat at the table and can make sure that the College’s leadership is taking the young surgeons’ point of view into account in developing programs, whether it is the Clinical Congress or another educational programs, such as Surgeons as Educators. I want to make sure we can get this information to the residents and early career surgeons to help them grow and develop their practices and learn everything they need to know to succeed within the House of Surgery.

How has being involved in the College helped you move your career along?

Being involved in RAS for as long as I have been has helped me get in front of important people who could help me get involved elsewhere, including other surgical societies such as the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). Involvement with RAS has helped me leverage myself as a resource in other communities, so that now I have leadership positions in SAGES and other surgical societies.

I think that anytime we can get our voices heard at the table with senior leadership, it gives us an opportunity to make sure that when they are creating new programs and making new rules, they are thinking about the perspective of the younger surgeon.

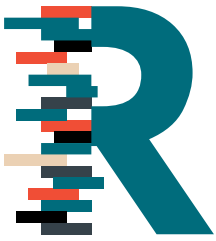
So, I think that putting in that work and that time at the table has certainly helped me develop additional leadership skills that I hope to use in my clinical practice, as well as in advancing my career.

How do you achieve work-life equilibrium?

I like the term “work-life equilibrium” because I think it is truly impossible to get a perfect balance. There are some weeks or some months when I am very busy clinically or with research or with professional societies, and there are some times when I’m focusing on my family, my husband, and just doing things outside of the workplace. But it truly is an equilibrium, where sometimes some priorities are a little bit higher and sometimes they are a little bit lower—because there are only a finite number of hours in a day.

Personally, the things I engage in professionally do give me joy. They spark joy. I am happy to be in these spaces and having these conversations because it’s not work. So, it makes it easier to be able to answer this question when it is phrased as work-life equilibrium rather than balance.

The first step is to make sure that the things that you are saying “yes” to are things that really do spark joy. For me, there is a certain aspect of service to what we do and in giving back to our institutions and organizations that is very fulfilling to me. It makes the work easier, and it makes it easier to find said equilibrium. ♦



ACS Cancer Research Program: Studying Patient-Reported Observations on Timeliness of Breast Services

by Katharine A. Yao, MD, FACS, Rebecca A. Snyder, MD, MPH, FACS, and Judy C. Boughey, MD, FACS

The PROMPT (Patient-Reported Observations on Medical Procedure Timeliness for Breast Patients) study launched in May 2022. PROMPT is a novel quality improvement project for breast care centers that the American College of Surgeons (ACS) National Accreditation Program for Breast Centers (NAPBC) has accredited that is designed to examine the timeliness of breast cancer diagnosis and first treatment.

To date, no benchmarks have been established for the time between a screening mammogram and diagnostic mammogram and the time between a diagnostic mammogram and breast biopsy. Furthermore, time from biopsy to first treatment, either surgery or neoadjuvant therapy, is unregulated.

More than 370 NAPBC sites have enrolled in the PROMPT study, which will provide centers with metrics on the time from screening mammogram to first treatment, so that centers can benchmark their individual performance. PROMPT also will

examine the patient perspective and experience with timeliness of diagnosis and treatment.

Two-Part, 2-Year Study

In the first part of the study, PROMPT will include qualitative interviews with patients who have undergone the diagnostic process and treatment for breast cancer. Patients will be asked about their experience with the diagnostic process, how long it took to get a breast biopsy, how long it took to begin therapy, and whether they felt their care was timely and patient-centered. Patients of diverse race and ethnicities undergoing care at a variety of breast centers across the country will be included, to understand the patient perspective on the timeliness of breast cancer diagnosis and treatment.

The second part of PROMPT will involve surveys of NAPBC sites regarding three metrics: time from screening mammogram to diagnostic mammogram, time from diagnostic mammogram to breast biopsy, and time from

More than 370 NAPBC sites have enrolled in the PROMPT study, which will provide centers with metrics on the time from screening mammogram to first treatment, so that centers can benchmark their individual performance.


NAPBC
National Accreditation Program for Breast Centers
 American College of Surgeons


PROMPT will be one of the first studies to report timeliness metrics from multiple institutions and to report on patient perceptions of the timeliness of breast cancer care.

initial breast biopsy identifying cancer to first treatment. Data will be collected from 2019 to 2021 to examine the impact of the COVID-19 pandemic on timeliness of care.

The study team will aggregate data from the patient interviews and the timeliness metrics and send each participating NAPBC site its aggregated data from patient interviews, as well as the timeliness metrics of their center in comparison with the same metrics averaged across all sites. The goal is that centers will then use these data to design their own quality improvement projects at their respective institutions to approach the areas of greatest delay.

The first year of the PROMPT study will involve data collection, patient interviews, and data analysis. The second year of the study will involve each NAPBC site designing its own quality improvement projects with guidance from the study team. By participating in PROMPT, NAPBC sites not only will

have access to unique data on timeliness of care, but also will receive credit for two NAPBC standards: Standard 3.2, clinical trial accrual, and Standard 6.1, quality improvement.

PROMPT will be one of the first studies to report timeliness metrics from multiple institutions and to report on patient perceptions of the timeliness of breast cancer care. Providing centers with robust data on their own timeliness, coupled with patient perspectives, will empower NAPBC sites not only to make the diagnostic process timelier and more efficient, but also more patient-centered. PROMPT aims to help centers improve the quality of care at a time when patients experience significant anxiety and uncertainty given their recent breast cancer diagnosis. ♦

DR. KATHARINE YAO is vice-chair of research, NorthShore University Healthsystem, and clinical professor of surgery, The University of Chicago Pritzker School of Medicine, IL. She is Vice-Chair, NAPBC.



Coding and Practice Management Corner: Frequently Asked Questions about CPT Coding

by Samuel Smith, MD, FACS, Megan McNally, MD, FACS,
Jayme Lieberman, MD, FACS, and Jan Nagle, MS

Correct Current Procedural Terminology (CPT)* coding is a key area for surgical practice improvement. This column identifies several frequently asked questions and the correct coding for new technology and surgical techniques that have resulted in coding confusion.

A 60-year-old male was diagnosed with colon cancer and possible metastases found on preoperative imaging. At the time of colon resection, the surgeon performs an intra-abdominal diagnostic intraoperative ultrasound to assess the extent of the disease and impact on the surgical strategy. How is the intra-abdominal diagnostic ultrasound reported?

The intraoperative diagnostic ultrasound procedure is reported with either CPT code 76700, *Ultrasound, abdominal, real time with image documentation*;

*All specific references to CPT codes and descriptions are © 2021 American Medical Association. All rights reserved. CPT is a registered trademark of the American Medical Association.

complete, or code 76705, *limited (eg, single organ, quadrant, follow-up)*. A diagnostic intra-abdominal ultrasound is a valuable tool to assess the extent of disease. This assessment may include examining the liver, other organs, and/or mesentery. Based on the results of the diagnostic intra-abdominal ultrasound, the surgeon may either perform the planned procedure, modify the operation, or discontinue it. Findings of the ultrasound should be described in a separate portion of the operative report and images should be saved in the electronic health record or placed in the patient's chart.

Can I report code 47563, *Laparoscopy, surgical; cholecystectomy with cholangiography, when indocyanine green (ICG) dye is injected into a patient in the preoperative holding area and then minimally invasive fluorescent imaging is used to view structures during dissection?*

No. It would be incorrect to report code 47563 for this clinical

This column identifies several frequently asked questions and the correct coding for new technology and surgical techniques that have resulted in coding confusion.

On March 9, 2022, CMS implemented a new Medicare policy that requires a full 30 minutes be spent above the maximum time of 74 minutes in code 99291 before add-on code 99292 may be reported.

scenario. Instead, report code 47562, *Laparoscopy, surgical; cholecystectomy*. Although evaluation using fluorescent imaging may help to visualize structures, it does not confidently demonstrate choledocholithiasis, show the intrahepatic branches, or detect drainage into the duodenum like a traditional cholangiogram. It also does not include the additional work inherent to code 47563, including placement of a cholangiocatheter, injection of radiographic contrast material while viewing the imaging monitor, or reviewing plain films placed under the patient and exposed.

Many years ago, a patient with differentiated thyroid cancer had a partial right thyroid lobectomy and partial left thyroid lobectomy. It is now necessary to remove all remaining thyroid tissue on both sides. How is this reported?

Report code 60260, *Thyroidectomy, removal of all remaining thyroid tissue following previous removal of a portion of thyroid*, and append modifier 50, *Bilateral procedure*. When a surgeon removes only a portion of a right or left thyroid lobe and then needs to later remove the rest of that

right or left thyroid lobe, it is a “completion thyroidectomy.” The end result is the complete removal of a right or a left thyroid lobe, not the complete removal of the total thyroid—both the right and left lobes.

What is the correct reporting of 90 minutes of total critical care services on a given calendar day by a single physician?

The answer depends on the payer. The CPT guidelines state that code 99292 is used to report additional block(s) of time of up to 30 minutes each beyond the first 74 minutes. Therefore, for private payers that follow CPT guidelines, you may report both code 99291, *Critical care, evaluation and management of the critically ill or critically injured patient; first 30–74 minutes*, and add-on code 99292, *each additional 30 minutes*, for a total of 90 minutes of critical care services.

However, on March 9, CMS implemented a new Medicare policy that requires a full 30 minutes be spent above the maximum time of 74 minutes in code 99291 before add-on code 99292 may be reported. Therefore, for Medicare patients (and payers that follow Medicare rules), a total of 90 minutes of critical care services would be

reported only with code 99291. The add-on code 99292 may not be reported until at least 104 minutes (74 + 30) of critical care services has been provided.

Learn more

The American College of Surgeons, as a part of its ongoing endeavor to support Fellows, has partnered with KarenZupko & Associates (KZA) to provide virtual and on-demand courses about coding for evaluation and management services, surgical procedures, and trauma/critical care services. Physicians can receive *AMA PRA Category 1 Credits™* for each course. For more information about the 2022 ACS General Surgery coding courses, visit the KZA website at karenzupko.com/general-surgery. ♦

DR. SAMUEL SMITH is a pediatric surgeon, Little Rock, AR. He is a member of the ACS General Surgery Coding and Reimbursement Committee, and ACS advisor to the American Medical Association CPT Editorial Panel.



A Look at The Joint Commission: Joint Commission Blog Offers Solutions to Retained Objects in Ambulatory Surgery Centers

by Lenworth M. Jacobs Jr., MD, MPH, FACS

Unintended retained foreign objects (URFOs) continue to vex the surgical community, including ambulatory surgery centers (ASCs).

The Joint Commission's most recently collected data on sentinel events—defined as patient safety events that result in death, permanent harm, or severe temporary harm and intervention required to sustain life—identified URFOs as the third most frequently reported sentinel event category, with 97 of the 1,197 events reported in 2021.

Furthermore, 326 such events were reported in ASCs between 2010 and 2020. After 2020, URFOs were the second-most reported sentinel event category with 40 reports.

This topic was further discussed in a May 2022 Ambulatory Buzz (AmBuzz) blog post by Suzanne Gavigan, MSN, CNP, CPPS, acting director, office of quality and patient safety, The Joint Commission.*

*Gavigan S. Avoiding unintended retained foreign objects in ambulatory surgery care. Available at <https://www.jointcommission.org/resources/news-and-multimedia/blogs/ambulatory-buzz/2022/05/avoiding-unintended-retained-foreign-objects-in-ambulatory-surgery-care>. Accessed July 1, 2022.

“These events are still extremely rare, at 1 in 5,500 operations, but do cause varying degrees of physical and emotional harm,” Gavigan wrote.

The Joint Commission's Sentinel Event Database identifies three victims whenever an URFO incident occurs:

- The affected patient
- The care team responsible for the URFO
- The healthcare facility where the incident occurred

Gavigan wrote that root cause analysis shows that URFO cases are typically the result of:

- Failure in leadership
- Human factor errors
- Breakdowns in communication

The AmBuzz blog post lists several areas for improvement to prevent URFOs. The first area is institutional leadership, which is responsible for maintaining a culture of safety.

“When URFO cases do occur, many can be classified under

leadership mistakes relating to outdated policy that may be inconsistent with current evidence-based recommendations; equipment issues related to use, training, competency, or functioning; failure to determine counts as expected; failure to follow the established process when count is determined to be incorrect; [and] hierarchy/intimidation safety culture concerns,” Gavigan wrote. “The good news is there is a great deal of research on how leadership can support safety culture and potentially avoid URFOs.”

Gavigan listed those strategies as:

- Conducting a proactive risk assessment
- Responding to errors in a process improvement mindset
- Reporting events of specific equipment failures to the manufacturer
- Determining a process for counts during shift changes and breaks
- Limiting the number of people in the procedure room to prevent distraction

“When URFO cases do occur, many can be classified under leadership’s mistakes relating to outdated policy that may not be consistent with current evidence-based recommendations.... The good news is there is a great deal of research on how leadership can support safety culture and potentially avoid URFOs.”

–Suzanne Gavigan, MSN, CNP, CPPS

She also noted that human factor errors account for a sizable percentage of URFO events in ambulatory care organizations. Gavigan listed the following solutions:

- Providing team training
- Addressing disruptive behavior
- Minimizing distractions
- Adjusting lighting to enhance visibility
- Standardizing layout of procedural areas to help staff locate equipment and supplies in comparable areas if working in a new location

“Many of the human factors uncovered during a root cause analysis related to the actual counting process itself,” Gavigan wrote.

The third area that could be improved was communication, with many of these issues occurring during the count. Efforts to mitigate the errors include:

- Using a whiteboard to communicate insertion of devices

- Announcing when an instrument placed in the body cavity has not been immediately removed
- Verbally alerting the team when packing is placed and not immediately removed, as well as discussing the need for packing removal during handoff
- The physician voicing affirmation that the count is correct prior to completion of skin closure
- Discussing removal of objects during the debriefing at the conclusion of the case
- Verbally affirming that the patient meets criteria for an intraoperative x-ray to screen for URFOs
- Providing a description of the object when ordering an x-ray for ruling out URFOs
- Developing processes with radiology colleagues for ordering x-rays for URFOs and reporting results of such in a timely manner

The AmBuzz blog post also lists strategies to improve reliability during the count

and gives information on how URFO events can be reported to The Joint Commission. ♦

Disclaimer

The thoughts and opinions expressed in this column are solely those of Dr. Jacobs and do not necessarily reflect those of The Joint Commission or the American College of Surgeons.

DR. LENWORTH JACOBS is professor of surgery and professor of traumatology and emergency medicine, University of Connecticut, and director, Trauma Institute at Hartford Hospital, CT. He is Medical Director, ACS STOP THE BLEED® program.



DEI in Action: Minority Ophthalmology Mentoring Program Tackles Disparities in Eye Care

by Keith D. Carter, MD, FACS

Editor's note: The Minority Ophthalmology Mentoring program is a recipient of the 2021 American College of Surgeons Innovative Grant for Diversity, Equity, Inclusion, and Anti-Racism.

The American Academy of Ophthalmology (the Academy) and the Association of University Professors of Ophthalmology (AUPO) have collaborated since 2018 to offer the Minority Ophthalmology Mentoring (MOM) program. Their shared goal has been increasing diversity in ophthalmology by helping students who are underrepresented minorities in medicine (URiM) become competitive applicants to ophthalmology residency programs.

Scope of the Issue

Public health evidence reveals that access to care improves when the physician community reflects the population it serves. Although URiM comprise 30.7% of the US population, they only account for 6% of practicing ophthalmologists. This imbalance makes it increasingly important

to bring additional URiM physicians into ophthalmology.

Furthermore, statistics show that the prevalence of eye diseases like glaucoma, macular degeneration, and diabetic retinopathy disproportionately affect Black, Latino, and Native American people. This disparity has put minorities behind and fueled the efforts of the MOM program to bring URiM students into ophthalmology.

The MOM executive committee recognizes that our society is becoming more diverse, and to address this change we need to train a more diverse physician group to serve this patient population. Our subspecialty has not done as well as others in training a more diverse pool of physicians and future leaders. This concern led to the establishment of the MOM program.

To date, 206 students from across the country have benefited from participation in the MOM program. While still too early to have definitive results, 24 students have successfully matched into ophthalmology residencies, with an anticipated 20 ready to apply in the 2022–2023 match cycle. Every

year, more students apply, and the rate of satisfaction is seen not only from survey results, but also knowing that the greatest source of new applicants are referrals from the students who have previously participated in the program. In fact:

- 90% of students indicate high or very high interest in ophthalmology after at least 1 year of continual participation in the program
- 89% have shadowed an ophthalmologist, and 76% have participated or are participating in ophthalmic research projects
- 99% would recommend the program to a friend

A key to the success of the MOM program is the one-on-one relationships that the students build with ophthalmologists. The students also have access to resources, such as webinars, exam preparatory materials, interview coaching, and a student engagement weekend during the Academy's annual meeting that provides broad-based exposure to the many facets of ophthalmology, access

The MOM executive committee recognizes that our society is becoming more diverse and that to address this change, we need to train a more diverse physician group to serve this patient population.

to wet labs, and networking opportunities. Every year, additional resources are added to address the needs of the students. For example, this year, we added stipend support for research projects, financial backing for away rotations, and coaching for the match applicants.

The participating students credit the program heavily for the support they need to get past the hurdles they face. Most (80%) are the first members of their immediate families to attend medical school. Because of the significant impact the program has had in its first 5 years, these students are getting the chance to interact, be inspired, and get a good start on their journey to becoming practicing ophthalmologists in their communities.

Although not every medical student will choose a career in ophthalmology, the MOM program is giving them early exposure to a specialty that has an early match schedule and is not highlighted during medical school.

A Collective Effort

Programs like the Rabb-Venable (RV) Excellence in Ophthalmology Research Program also support medical

students, residents, and fellows in ophthalmology who are URiM.

The RV program, supported by the National Eye Institute, was established more than 20 years ago. Since 2008, 85% of the 79 RV medical students who have applied for ophthalmology residency have matched. Allies, such as the Academy, AUPO, and subspecialty societies are essential to building future leaders with the goal of achieving health equity for our patients, according to Eydie Miller-Ellis, MD, chief, glaucoma service, vice-chair for faculty affairs and diversity, and professor of clinical ophthalmology at Penn Medicine, Philadelphia, PA, and Mildred Olivier, MD, FACS, associate dean of the School of Medicine at Ponce Health Sciences University, St. Louis, MO.

Opportunities afforded by the RV program and others like it work hand-in-hand to achieve the same goal as the MOM program. Our collective commitment to improving health outcomes by helping to place minorities in the field of medicine will ultimately improve patient outcomes by creating a more diverse healthcare workforce.

The MOM program has received support not only from the Academy and the AUPO, but also from member ophthalmologists who serve as the program's leaders, mentors, champions at academic centers, and speakers. The program has been further supported financially by subspecialty societies and specialized interest groups, the ophthalmic industry, and individual ophthalmologists.

To take the MOM program into the next level, the Academy Foundation has launched a successful campaign to raise another \$5 million. This effort will help cultivate the next generation of ophthalmologists who will continue to tackle disparities in eye care. ♦

DR. KEITH D. CARTER is departmental executive officer, professor, and chair, department of ophthalmology, Carver College of Medicine, University of Iowa Hospital and Clinic, Iowa City.

Historic Firearm Safety Law Aligns with ACS Recommendations

On June 24, President Joseph Biden signed historic firearm safety legislation into law. The Bipartisan Safer Communities Act represents passage of the first major federal firearm safety legislation in nearly 3 decades, and many of its provisions adhere to recommendations developed by the American College of Surgeons (ACS) Committee on Trauma (COT) in recent years and reiterated in the wake of recent devastating mass shootings. The legislation includes several actionable measures for reducing death and disability caused by firearm-related violence, as well as \$250 million for community violence intervention programs.

Before the Senate passed its version of the bill, the ACS issued a statement of support, available at bit.ly/3IA7cOf.

“Surgeons are on the front lines treating these seriously injured patients every single day, and we see how this violence devastates families and communities. As a result, the surgical community remains unwilling to wait for another tragedy to befall another community when we know there’s a way to save lives today,” said ACS Executive Director Patricia L. Turner, MD, MBA, FACS. “We fully support the bill as a good first step to address this public health crisis. We believe that more can be done

to make our communities safer, and we will continue to advocate for bipartisan, common-sense solutions rooted in our recommendations.”

Earlier in June, the ACS held an Accelerating Our Response to America’s Firearm Public Health Crisis news conference, in which College leaders described the urgent need for bipartisan firearm safety reform. The College is gratified that the words of the organization and broader medical community were heeded, though work remains to be done to address the issue.

Legislation Overview

The law calls for implementing state-level red flag laws by temporarily removing firearms from individuals deemed an immediate threat for harming themselves or others, and permits authorities to check the juvenile and mental health records of intended purchasers younger than 21 years old for up to 10 business days. It also provides stronger protection for domestic violence victims, calls for federally licensing more firearm sellers, and ends straw purchases that circumvent the transfer of firearms to individuals who cannot make legal purchases. The legislation provides for \$15 billion in new federal funding to bolster

The Bipartisan Safer Communities Act represents passage of the first major federal firearm safety legislation in nearly 3 decades, and many of its provisions adhere to recommendations developed by the ACS COT in recent years and reiterated in the wake of recent devastating mass shootings.

SEE THE NEWS CONFERENCE

You can watch the news conference at <https://youtu.be/cRYSwylPgY8> or scan the QR code:





Dr. Turner (above, at podium) and Dr. Bailey (right, at podium) speaking at the ACS Accelerating Our Response to America's Firearm Public Health Crisis press conference



mental health programs and school security upgrades, which will have an impact on preventing further tragedy.

“These all are actionable items that can be put into place quickly to help us address the public health crisis of firearm violence,” Dr. Turner said.

Alignment with COT Recommendations

The COT has recommended implementing several provisions in the legislation through its Firearm Strategy Team (FAST), which released 13 recommendations to address firearm violence in 2018.

FAST recommendations are aligned or partially aligned with these issues:

- Red flag laws (mandatory reporting and risk mitigation)
- Obtaining ownership (robust background checks for private sales and transfers of firearms)

- Firearm registration (updates the definition of who is considered a dealer of firearms to clarify the law and put high-volume sellers on notice that they should obtain a federal license)

“While we think this legislation is a great start, there’s more important work that needs to be done,” said Eileen Bulger, MD, FACS, Medical Director of ACS Trauma Programs, and a coauthor of the FAST recommendations. “We encourage congressional leaders to consider the remaining FAST recommendations for future legislation.

“In addition, we want to be sure that as a nation, we empower the medical community across all healthcare settings to act in the best interests of their patients in a variety of palpable ways. These paths include counseling patients on safe firearm storage, screening patients at risk for firearm injury or death, and engaging the community

in addressing the social determinants of violence through hospitals and healthcare systems.”

The ACS is committed to continued advocacy for comprehensive solutions that will stem the tide of violence and prevent further tragedies.

“We also advocate for increased research funding, particularly at the federal level, that will address, among many things, the root causes of violence and identify social determinants of violence for firearm injury victims. While firearm violence is often linked to mental health issues, it is but one issue that must be addressed. Many factors contribute to the firearm violence we see increasing in our communities every day,” said Jeffrey Kerby, MD, FACS, Chair of the ACS COT. “Programs like ACS ISAVE [Improving Social Determinants to Attenuate Violence] make concrete recommendations to address underlying factors that contribute to escalating community violence.” ♦

ACS Verifies First 25 Quality Verification Program Hospitals



Representatives from the inaugural 25 hospitals verified by the ACS Quality Verification Program gathered with Dr. Ko (far right) at the 2022 ACS Quality and Safety Conference in Chicago, IL.

The American College of Surgeons Quality Verification Program (ACS QVP) recognized its inaugural 25 verified hospitals at this year's ACS Quality and Safety Conference, which took place July 15–18 in Chicago, IL. Launched in July 2021, ACS QVP provides a proven, standardized method for establishing, measuring, and improving a hospital's quality infrastructure across all surgical departments.

The inaugural QVP centers include 22 US hospitals and three international hospitals—two in Japan and one in Australia. The first group of hospitals includes a variety of hospital types and sizes, such as community, large and mid-size academic,

public safety net, military, and small/rural, among others. These hospitals were selected to help ensure that ACS QVP can adapt to unique hospital circumstances and provide customized, actionable feedback to a diverse group of hospitals.

“The ACS QVP is important and unique because it really is a holistic view of how surgery is delivered and how surgery can be improved in a hospital,” said Clifford Y. Ko, MD, MS, MSHS, FACS, FASCRS, Director, ACS Division of Research and Optimal Patient Care. “It brings together everyone involved in surgery and helps them develop their own specific improvement journeys to

improve patient care and the overall quality of a hospital.”

Dr. Ko added, “We are thrilled to recognize our first 25 verified hospitals and are excited about expanding QVP to more and more hospitals around the nation and around the world. Just as importantly, now that we have this first network of 25, they will be able to learn from each other and teach others how to embark on this quality journey.”

“I think QVP brings a sense of structure and vision to really drive engagement of the people doing the clinical work. It has been a great asset to our quality program, and I believe it has really changed the dynamic of how we care for patients at

“The ACS QVP is important and unique because it really is a holistic view of how surgery is delivered and how surgery can be improved in a hospital.”

—Clifford Y. Ko, MD, MS, MSHS, FACS, FASCRS

Inova,” said John J. Moynihan, MD, FACS, president, Inova Surgery Service Line.

ACS QVP is based on 12 program standards, outlined in the *Optimal Resources for Surgical Quality and Safety 2021 ACS QVP Standards* manual. The ACS QVP standards are adapted from core elements of the *Optimal Resources for Surgical Quality and Safety*, or the “Red Book.” The program builds on the College’s longstanding commitment to surgical quality by using principles gleaned from experience working with the roughly 3,000 hospitals that participate in ACS Quality Programs. The key principles of ACS QVP are driven by data surveillance and standardized

processes and systems to find, fix, and prevent problems to improve the quality and safety of surgical patient care.

“At New York-Presbyterian Hospital, QVP really helped us take a deep look at how care was delivered throughout the system,” said ACS Regent Fabrizio Michelassi, MD, FACS, Lewis Atterbury Stimson Professor of Surgery and chairman of surgery, Weill Cornell Medicine, and surgeon-in-chief, New York-Presbyterian/Weill Cornell Medical Center. “We wanted to make sure that care delivered in one site was exactly the same as care delivered in another site. We wanted to make sure that patients would receive the

same care no matter what site they were going to be cared for at, no matter what door they use to enter our system.”

ACS QVP hospitals receive an in-depth assessment at hospital and specialty levels. The assessment includes customized, actionable recommendations, such as leadership and safety culture. ACS QVP provides the tools for hospitals to develop a standardized approach to surgical care to help reduce complications, minimize waste, and increase the value of surgical care for their patients.

View the full list of inaugural ACS QVP hospitals on the ACS website at bit.ly/3yXwykW. ♦

JACS Impact Factor Reaches All-Time High

The impact factor for the *Journal of the American College of Surgeons (JACS)* is now at a record 6.532, up from 6.113 a year ago. *JACS* now is ranked 14th among the 211 journals in the surgery category.

The impact factor, an important metric indicating a journal’s influence, measures the frequency with which the average article has been cited in a particular year.

“I want to thank the authors who have published their research in *JACS*,” said Editor-in-Chief Timothy J. Eberlein, MD, FACS, an ACS Regent from St. Louis, MO. “Their work helps us continue the quest to improve the impact of our journal for ACS members and the patients they care for.”

A subscription to *JACS* is among the many benefits of ACS membership, as well as the opportunity to earn continuing medical education credits for engaging with the journal.

Read *JACS* online at journalacs.org and watch authors summarize their research. ♦



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COT Mentoring Day Builds Bonds to Support Early Career Surgeons



COT Mentoring Day mentors and mentees, including Drs. Kao (second row, third from left) and Kaups (second row, second from right). In addition, several ACS Trauma Programs leaders participated at the event, including Avery B. Nathens, MD, MPH, PhD, FACS, Director, ACS Trauma Quality Improvement Program (second row, far left); Eileen M. Bulger, MD, FACS, Director of ACS Trauma Programs (second row, second from left); and Jeffrey D. Kerby, MD, PhD, FACS, COT Director (back row, third from right).

In late June, 14 senior surgeons, six early career surgeons, and senior trauma staff partners gathered for Committee on Trauma (COT) Mentoring Day activities, led by Membership Chair Krista Kaups, MD, FACS.

The activities included an opening icebreaker that challenged teams to build the highest tower using only paper and tape as materials along with communication, innovation, leadership, and perseverance. The icebreaker was followed by a series of

lectures, roundtable discussions, a speed mentoring session, and—new this year—a reverse mentoring session where the senior surgeons and staff solicited advice from the early career surgeons on several different topics.

One of the roundtable activities was for each person to use a small baggie filled with six or seven random Lego pieces to build something that depicted their experience over the two half-day sessions. Senior surgeon Lillian Kao, MD, FACS,

described her structure, saying, “Building bridges elevates both sides of the equation,” recognizing that both the senior and early career surgeons benefit from mentoring relationships.

The evening culminated with a casual dinner served family-style, which was representative of the close bonds formed in the trauma community and the commitment of the COT surgeons and staff to support the early surgeon group as they begin their careers and their service within the COT family. ♦

AJCC and SNOMED CT Partner to Bring Cancer Staging Guidance to International Audience

The American College of Surgeons (ACS) and SNOMED International have entered into a licensing agreement to include American Joint Committee on Cancer (AJCC) references in SNOMED CT.

The focus of the agreement enables SNOMED International to include updated AJCC staging concepts critical to understanding cancer and treating patients, while eliminating outdated AJCC content no longer relevant to clinical care within SNOMED CT.

Evidence-based anatomic staging is critical to understanding cancer and treating patients, and new breakthroughs are opening up evermore promising possibilities for precisely defining a prognosis and recommending a treatment based on a patient's individual data. The AJCC has developed and compiled cancer staging references for quickly finding important information about different types of cancers. These references and tools are excellent resources for treating patients with cancer.

About SNOMED International

SNOMED International is a not-for-profit organization that develops and promotes the use of SNOMED CT, a comprehensive, multilingual healthcare terminology created

for healthcare professionals to capture the care of individuals in an electronic health record and facilitate sharing, decision support, and analytics for safe and effective health information exchange. The purpose of SNOMED International is to develop, maintain, promote, and enable the uptake and correct use of its terminology products in health systems, services, and products around the world. Up-to-date AJCC content contributes to the comprehensive and quality-assurance nature of SNOMED CT for its members, affiliates, and stakeholders in the US and globally.

Bringing Evidence-Based Guidance to a Wider Audience

“Evidence-based anatomic staging is the critical factor to understanding cancer and treating patients. New breakthroughs in oncologic, radiologic, pathologic, and molecular science are opening up that need to be considered for keeping cancer staging information current and relevant to patients. The AJCC endeavors to consider all of these factors in keeping its staging content current,” said Heidi Nelson, MD, FACS, Medical Director, ACS Cancer Programs. “Moreover, as we continue to find ourselves on

the other side of the COVID-19 pandemic and move toward trying to get more patients screened and staged for cancer, having the most current staging information available to more clinicians is essential. With this agreement, current AJCC cancer staging content will reach a much wider audience for these important purposes.”

As of April 2022, the ACS and AJCC have enabled the inclusion of the Categories and all Allowable Values (cT1, cN0, cM0, and so on) from the AJCC cancer staging system into the International Edition release of SNOMED CT.

Further, the agreement requires historical AJCC and related content, derived from the 5th and 6th editions of the staging manual, to be inactivated as updates occur. Within the scope of the agreement, both parties have committed to review and renew its content annually, where appropriate.

“Cancer's many challenges can't be solved without good collaboration. This agreement between the AJCC and SNOMED International will bring the latest evidence-based information on cancer staging to a wider clinical audience that can immediately apply it in their clinical practices. Ultimately, cancer patients beyond the US will benefit from it, too, and more lives

Evidence-based anatomic staging is the critical factor to understanding cancer and treating patients, and new breakthroughs are opening up evermore promising possibilities for precisely defining a prognosis and recommending a treatment based on a patient's individual data.

will be saved," said Patricia L. Turner, MD, MBA, FACS, ACS Executive Director.

SNOMED International CEO Don Sweete describes the recently signed licensing agreement with the ACS as representative of the spirit of partnership and commitment

to clinical quality growing globally. "The ability to produce comprehensive and clinically informed and assured standards across the breadth of healthcare domains is critical to the safe use of health information technology. The AJCC's evidence-based work

on anatomic staging is the critical factor to understanding cancer and treating patients and a significant addition to the SNOMED CT knowledge base."

Visit the AJCC web page at bit.ly/3RAGaKE and SNOMED International at snomed.org for more information. ♦

ACS Takes Position on Reproductive Health

In June, the American College of Surgeons (ACS) released a statement on governmental interference in the clinical practice of medicine and in the privileged physician-patient relationship. The ACS Board of Regents approved this statement in response to the June 24 US Supreme Court decision in *Dobbs v. Jackson Women's Health*. Following is the ACS statement:

The American College of Surgeons (ACS) has long opposed governmental interference in the clinical practice of medicine and in the privileged physician-patient relationship. The Supreme Court's decision in *Dobbs v. Jackson Women's Health* will allow states to eliminate access to reproductive services for women and will jeopardize the autonomy of this relationship. We are concerned that this decision will impact the availability of comprehensive and safe reproductive healthcare services.

Patients, along with their physicians, must be primarily in control of medical decisions unimpeded by government interference. All patients must be afforded the right to make individual, informed healthcare choices, including reproductive services.

Surgeons, and physicians of all specialties, must be free to practice medicine, informed by medical education, experience, and scientific evidence, without fear of the care being criminalized. Physicians must not be placed at risk of persecution or prosecution for providing patient-centered care.

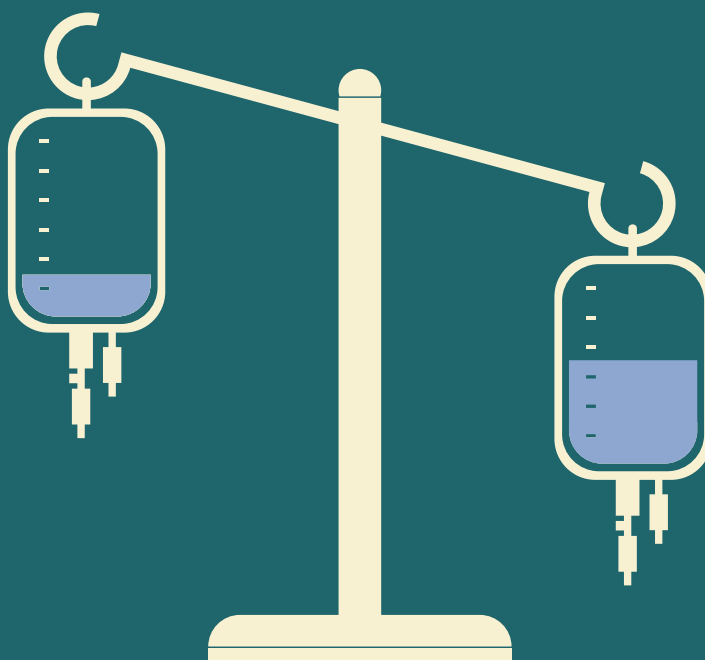
Access to healthcare is essential for optimal quality and safety. The American College of Surgeons recognizes that the health of patients suffers when access to care is restricted. Moreover, when healthcare access is restricted, the impact is greater on those who are already underserved. Accordingly, the ACS urges the passage of legislation that ensures full access to safe reproductive healthcare for all patients.

The American College of Surgeons will always advocate for the practice of evidence-based care, and oppose any interference by the government or any other entity in the patient-physician relationship. ♦

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In Memoriam: Dr. C. Thomas Thompson, Renowned Trauma Surgeon

C. Thomas “Tommy” Thompson, MD, FACS, Past-Chair of the American College of Surgeons Committee on Trauma (ACS COT) and recipient of the ACS Distinguished Service Award, passed away in his Tulsa, OK, home June 17, at age 97.

A renowned figure in the surgical community, Dr. Thompson transformed the provision of trauma care in the US while personally caring for tens of thousands of patients, saving countless lives, and training generations of young physicians.

Upbringing and Education

Tommy Thompson was born February 2, 1925, in Brookhaven, MS. His parents, C. Tatman and Margaret (Johnson) Thompson, both were educators, and he enjoyed a bucolic childhood in Estherwood, LA. He graduated from Estherwood High School in 1941 at age 16, then briefly attended Louisiana State Normal College, Natchitoches, on a baseball scholarship before enlisting in the US Navy and serving for 18 months as a hospital corpsman. Upon his return to civilian life, he attended the University of Mississippi, Oxford, then Harvard

Medical School, Boston, MA, from which he graduated at the top of the class in 1948.

After medical school, Dr. Thompson completed a surgery residency under Alton Ochsner, MD, FACS, at Charity Hospital, New Orleans, LA. During that time, he also served as a flight surgeon with the Second Bomb Wing of the US Air Force Strategic Air Command at various Royal Air Force bases in England. He then served in the Korean War as a surgeon with a US Marine Corps mobile combat hospital operating on wounded soldiers near the front lines, where he was a member of the 38th Parallel Medical Society of Korea.

Building a Name in Tulsa

In 1956, Dr. Thompson moved to Tulsa, OK, and began a busy private general surgery practice. When construction began on Saint Francis Hospital, its founder, W.K. Warren, MD, tasked him with identifying the medical programs that Tulsa needed and that would serve as the nucleus of a modern medical center, recruiting specialists from across the country and organizing various medical programs of excellence for that hospital.

In 1966, Dr. Thompson founded the Surgical Associates of Tulsa, which played a defining role in the enormous progress of Saint Francis Hospital. He served both as chair of the Saint Francis medical executive committee, overseeing the hospital’s medical staff, and on the board of directors’ executive committee for more than 25 years. After retiring from surgery in 1996, Dr. Thompson was appointed interim chief executive officer (CEO) of Saint Francis Hospital, a position he held for a number of years until a permanent CEO was installed. He then served as chief medical officer of the newly created Saint Francis Health System.

Leadership of the COT

Throughout his medical career, Dr. Thompson’s true passion was trauma care, a field in which he achieved national distinction. A Fellow of the ACS since 1958, he was appointed Chairman of the Oklahoma COT in 1966, and held the position until 1974. One of his many accomplishments in that role was to organize and implement the first burn treatment center in Oklahoma at Hillcrest Medical Center. He also



Dr. Thompson (right) receiving the 1983 ACS Distinguished Service Award from John M. Beal, MD, FACS, then ACS President



Dr. Thompson (right) receiving the 1982 National Safety Council (NSC) Surgeons' Award for Distinguished Service to Safety from Vincent Tofany of the NSC

spearheaded the organization and creation of Tulsa's first citywide ambulance service and a training program for first responders.

Dr. Thompson was chosen as one of two initial recipients of the Meritorious Achievement Award at the 50th Annual COT Meeting in 1972 for his work on the Regional COT Committees. He subsequently became Chair of the Subcommittee on Regional Committees in 1974, and Chair of the COT in 1978.

During his time as COT Chair, the Military COT Region was established in 1980 with Norman M. Rich, MD, FACS, COL, MC, USA(Ret), named as the initial Region Chief.

Dr. Thompson also presided over initial phases of the development of the Capital Program, established following the assassination attempt on President Reagan, to provide lists of available trauma providers to offer care for high-profile members of the government.

A watershed moment for the COT came when Dr. Thompson invited Paul E. "Skip" Collicott, MD, FACS, to the 1980 Annual COT Meeting in Houston, TX. At that meeting, Dr. Collicott presented the idea of an Advanced Trauma Life Support® (ATLS®) program. The courses were to be expanded nationally in 1980 and adopted as an ACS-sponsored project by the Board of Regents, with Region Chiefs comprising the initial national faculty. From this point forward, the number of ATLS courses grew exponentially and were organized across the country by state COT Chairs in the Regional Committees.

The first revision of the initial "Optimal Hospital Resources for Care of the Seriously Injured" *Bulletin* article published in 1976 was completed during Dr. Thompson's time as Chair. This revision changed the focus from "optimal resources" to "optimal care,"

thereby placing the emphasis on the trauma patient.

This change in focus necessitated a title change to *Hospital Resources for the Optimal Care of the Injured Patient*. Released in 1979, the updated publication was used to develop a verification program for hospitals with plans that included onsite visits to view the trauma programs.

Other Honors and Accomplishments

In presenting Dr. Thompson with the 1983 Distinguished Service Award—the College's highest honor presented annually—the ACS cited his "continuing, constructive participation in surgical organizations at the city, state, national, and international levels, where his achievement of high office reflects the esteem of his colleagues."

A clinical professor of surgery for the University of Oklahoma Tulsa Medical



Dr. Thompson, in 1982, with the gift of a framed gavel at the end of his COT chairmanship. Donald D. Trunkey, MD, FACS, is in the background.



1982 trauma banquet: Outgoing COT chair Dr. Thompson presenting incoming chair Dr. Trunkey with a tiny gavel



Dr. Thompson at the 2010 Clinical Congress trauma dinner

College, Dr. Thompson helped establish and served on the Board of Directors of the Tulsa Medical Education Foundation, which coordinates Tulsa's residency training programs. He also served as a visiting professor of surgery at the University of Tennessee School of Medicine in Knoxville.

Dr. Thompson delivered the Robert H. Kennedy Lecture in Emergency Medicine for the University Association for Emergency Medicine and the Scudder Oration on Trauma for the ACS at its Clinical Congress. He received the Surgeons' Award for Distinguished Service to Safety awarded jointly by the ACS, the American Association for the Surgery of Trauma (AAST), and the National Safety Council.

He also served as President of the Oklahoma Surgical Association, the Oklahoma Chapter of the ACS, the Oklahoma Trauma Research

Society, the Tulane Surgical Society, and the Alton Ochsner Surgical Society. He was a Fellow of the AAST and the Southern Surgical Association and a member of the American Trauma Society, the American Surgical Association, and the International Society of Surgery.

Compassionate, Convivial Surgeon

Dr. Thompson's commitment to trauma was deeply rooted in his appreciation of the vulnerability of its victims and the awesome responsibility of those who provide care to them, as was reflected in his maxim, "We speak for those who are unable to speak for themselves."

In his retirement, Dr. Thompson enjoyed spending time with family, traveling with friends, telling stories, and playing bridge.

He was preceded in death by his wife of 38 years, Anna

Rebecca Parsons, and his sisters Margaret Holmes and Geraldine Melancon. He is survived by his children, Christopher Thompson, MD (Lynne), Elizabeth Kennedy (Dr. Tom), John Thompson (Kathy Bogart), Jane Tillotson, and Steven Simcoe (Shannon); grandchildren Thomas Kennedy Jr. (Hayden), Joseph Kennedy, MD (Sarah), Joshua Speer (Nicole), Kyra Kennedy, Summer Thompson, and Nashua, Campbell, and Gage Tillotson; and great-grandchildren Graham, Brody, Julia, and Iris Kennedy.

In both his professional and personal life, Tommy Thompson always exhibited genuine kindness, down-to-earth congeniality, and gentle humor that left an enduring impression on everyone who knew him. His absence will be acutely felt by his profession, colleagues, friends, and family. ♦

FDA Announces Plan to Reduce Nicotine in Cigarettes



The US Food and Drug Administration (FDA) announced plans to develop a product standard that would set a maximum nicotine level in cigarettes and associated products to reduce their overall addictiveness and concomitant youth use. According to the release, “Such a product standard, if proposed and then finalized after a thorough process, would make those products minimally or non-addictive.”

“Making cigarettes and other combusted tobacco products minimally addictive or non-addictive would help save lives,” Robert Califf, MD, FDA Commissioner, said. “The US Surgeon General has reported that 87% of adult smokers start smoking before age 18, and about two-thirds of adult daily smokers began smoking daily by 18 years of age. Lowering nicotine levels to minimally addictive or non-addictive levels would decrease the likelihood that future generations of young people become addicted to cigarettes

and help more currently addicted smokers to quit.”

A 2018 FDA paper published in the *New England Journal of Medicine* projected that a maximum nicotine standard could result in more than 33 million people not becoming regular smokers, a smoking rate of only 1.4%, and more than 8 million fewer people dying from tobacco-related illnesses.

Read the full FDA press release at bit.ly/3aosIcl.

Surgery Connection: Smoking Cessation Can Improve Surgical Outcomes

Smoking is an independent risk factor for complications ranging from lung function to wound healing to cardiovascular events such as heart attack.

As part of its Strong for Surgery program, which helps prepare surgical patients to experience optimal postoperative outcomes by following evidence-based guidelines and checklists, the American College of Surgeons recommends that patients

quit smoking before surgery and during recovery. The reduction of nicotine levels in cigarettes would help patients who smoke quit with less difficulty and lead to fewer smokers overall—a net benefit for overall surgical outcomes.

FDA Decision to Ban JUUL Products in Flux

Also in June, the FDA issued marketing denial orders to JUUL Labs, Inc., for all of its products sold in the US, which effectively bars their commercial sale. In reviewing the company’s tobacco profile in product applications, the FDA determined that the business “lacked sufficient evidence regarding the toxicological profile of the products to demonstrate that marketing of the products would be appropriate for the protection of the public health.” Contemporary studies have suggested that use of JUUL and other e-cigarette devices, which are popular with the youth market, is associated with increased risk of smoking

“Making cigarettes and other combusted tobacco products minimally addictive or non-addictive would help save lives.”

—Robert Califf, MD, FDA Commissioner

cigarettes and have their own inherent health risks.

However, shortly thereafter, the US Court of Appeals for the DC Circuit entered a temporary administrative stay of the marketing denial order for JUUL Labs, Inc., noting the purpose of this administrative stay is to give the court sufficient opportunity to consider the petitioner’s forthcoming emergency motion for stay pending court review and should not be construed in any way as a ruling on the merits of that motion.

In response, the FDA stayed the marketing denial order in July, determining that there

are scientific issues unique to JUUL that warrant additional review. This administrative stay suspends the marketing denial order during the additional review but does not rescind it. However, according to the updated press release, “The stay and the agency’s review does not constitute authorization to market, sell, or ship JUUL products.”

Surgery Connection: E-cigarette Use May Be a Predictor of Future Smoking

The health effects of e-cigarettes such as JUUL are

still under investigation, and there is emerging evidence that rather than acting as an aid to quitting cigarette smoking, these products instead may transition young users to engaging with traditional cigarette smoking. Preventing use of JUUL and other potential products that predict future smoking may be an important addition to a surgical care team’s smoking cessation toolkit. ♦

Apply for George H. A. Clowes Jr., MD, FACS, Memorial Research Career Development Award

The American College of Surgeons (ACS) is accepting applications for the 2022 George H. A. Clowes Jr., MD, FACS, Memorial Research Career Development Award, made possible through the generosity of The Clowes Fund Inc., of Indianapolis, IN. This award provides support for the research of a promising young surgical investigator and consists of a stipend of \$45,000 for each of 5 years. The closing date for receipt of completed applications and all related documents is Monday, **August 15, 2022**.

The application process is open to young surgeon investigators who are Fellows and Associate Fellows of the College; have completed an accredited residency in general surgery, vascular integrated surgery, cardiothoracic integrated surgery, or plastic surgery within the last 7 years; and have a full-time faculty appointment up to the level of assistant professor at a medical school accredited by the Liaison Committee on Medical Education in the US or the Committee for Accreditation of Canadian Medical Schools in Canada.

Detailed eligibility requirements and the application are available on the ACS website at bit.ly/3IAa5P5. ♦

Surgical Readings from *SRGS*



New from *Selected Readings in General Surgery*

In the new *Surgical Readings* podcast, Frederick "Rick" L. Greene, MD, FACS, talks to the editors and experts featured in ACS' *Selected Readings in General Surgery* about key takeaways and insights, offering perspectives on how this information will affect care for the surgical patient.

Listen and subscribe on Apple Podcasts, Spotify, or wherever you get your podcasts. You also can listen on the ACS website at facs.org/srgspodcast or by scanning the QR code.



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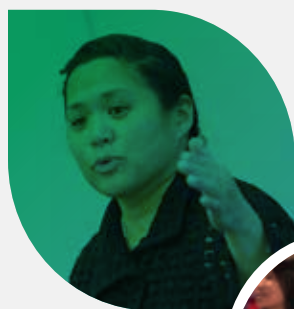
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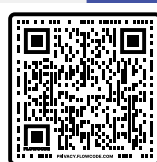
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