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Impact of CoVID-19 on resident and fellow education: Current guidance and future opportunities for urologic oncology training programs

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Abstract

Coronavirus Disease 2019 has impacted all aspects of urologic training. Didactics have shifted to a virtual platform and new approaches to surgical training have been undertaken. There has been a shift in research away from the laboratory space, with an increased focus on clinical outcomes and multi-institutional collaborations. Finally, there have been impacts on home life, questions about time away from work, case logs and case minimums, as well as how to manage resident and fellow reassignment. Herein, we review the current state of urologic education in the United States, focusing specifically on urologic oncology and highlight opportunities for the future. © 2020 Elsevier Inc. All rights reserved.

Keywords: CoVID-19; Residency; Fellowship; Urologic oncology; Remote learning; Education

1. Introduction

In December of 2019 a novel coronavirus, severe acute respiratory syndrome coronavirus 2 was identified in Wuhan, China [1]. This virus, which causes Coronavirus Disease 2019 (CoVID-19), spread rapidly and was officially declared a global pandemic by the World Health Organization on March 11, 2020 [2]. By March 26, the United States (US) became the most affected country in the world with 81,321 cases; as of August 25, nearly 6 million Americans have been diagnosed with CoVID-19 [3,4].

CoVID-19 transformed urologic education for residents and fellows and provided a rapid introduction to providing critical care to thousands of patients. In hard-hit areas of the Northeast, hospitals reassigned urology residents and fellows to care for CoVID-19 patients [5]. In other areas there was an abrupt cessation of elective clinical care with a concomitant rapid reduction in operative volume to

conserve personal protective equipment and prepare for a possible surge of CoVID-19 patients [6]. Although areas which were particularly hard hit early in the crisis have started to recover, locations with relatively few initial cases are now seeing a resurgence of CoVID-19. With this resurgence, elective surgery has again been prohibited in certain areas and trainees are being reassigned to CoVID-19 patient care duties. This oscillation between crisis and recovery phases will likely persist nationwide until a vaccine becomes available. In this perspective, we focus on the dramatic and far-reaching impacts that CoVID-19 has had on residency and fellow education, including clinical and operative experience, virtual education, research, and areas such as work-life balance, training requirements, and finances, with a specific focus on urologic oncology.

2. Impact on clinical experience

2.1. Personnel management and the inpatient clinical experience

All US urology residency programs are accredited by the Accreditation Council for Graduate Medical Education (ACGME) and follow both the Common Program

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Requirements (i.e., Professionalism, Wellbeing) and Specialty Program Requirements, while Canadian programs are accredited by the Royal College of Physicians and Surgeons of Canada. As of July 2020, 36 urologic oncology fellowships are accredited by Society of Urologic Oncology (SUO), all of which are associated with an ACGME-accredited urology program or a National Cancer Institute designated cancer center [7]. While urologic oncology fellowships are not under ACGME oversight, because of their affiliation with a sponsoring institution (SI), ACGME regulations typically apply. To meet increased workforce demands imposed by CoVID-19, the ACGME has given programs significant flexibility to reassign residents and fellows [8]. However they have issued 4 ongoing requirements by which all SIs must abide [8]. These are shown in **Table 1** and are primarily focused on adequate resources and training, adequate supervision, work hours, and fellows functioning in their core (primary) specialty [8].

To control viral spread and preserve personal protective equipment, urology residencies restructured clinical rotations. An estimated 90% of programs created rotating skeleton crews to ensure a healthy reserve of residents, while others organized distinct teams for operating and floor care [9–12]. To further limit patient-provider contact, some programs performed virtual sign-outs and discouraged team rounds, designating patient rounding assignments to individual team members [9]. Many urology residents were instructed to assess consults via telemedicine or recommend outpatient follow-up for routine inpatient urology consults [11, 13].

Since the beginning of the pandemic, urology residents have been reassigned to CoVID-19 teams in at least a quarter of residency programs nationwide; in hard hit regions, nearly 50% of urology residents report reassignment [13]. Approximately 83% of residents report involvement with CoVID-19 patients while on a urology service, which presents an ethical dilemma [10, 13]. Because of their relatively small size, many urology programs may not have the infrastructure to divide residents, fellows, and advanced practice providers into “clean” (non-CoVID-19) and

CoVID-19 positive teams. To our knowledge, there are no published protocols within urologic literature regarding how to manage these mixed teams in order to protect other team members as well as immunocompromised oncology patients. However, CoVID-19 patients with urologic concerns can often be successfully managed through telemedicine [14]. As future waves of the pandemic arise, it is critical to establish guidelines to best protect providers, patients with CoVID-19, and vulnerable oncology inpatients.

2.2. Operative experience

In March 2020, the American College of Surgeons recommended the cancellation of all elective surgical procedures due to increasing CoVID-19 cases [6]. While the definition of elective was left to clinician discretion, thousands of procedures were postponed or cancelled. Urology residency program leaders reported surgical volumes decreased between 83% and 100% across urologic subspecialties [10].

Global consensus among urologists was that oncology cases were not uniformly elective, and many were time sensitive [15]. A recent systematic review concluded that for certain diagnoses such as muscle invasive bladder cancer, high grade upper tract urothelial carcinoma, large renal masses, testicular, and penile cancer significant surgical delay may affect outcomes [16]. Several institutions published guidelines to assist with the triage of urologic oncology surgeries [17, 18]. These impacts were immediately noted. An analysis of practice patterns from more than 1,000 urologists during the spring of 2020 showed reductions of 20%, 29%, 35%, and 53% for testis, bladder, kidney, and prostate cancers, respectively [19].

While urologic oncology has been somewhat less affected than other urologic subspecialties, many centers mandated that these cases be performed by the most experienced surgeons to reduce time, resources, and complications [19, 20]. Complex oncologic procedures have steep learning curves, and inevitable subsequent spikes in CoVID-19 may further limit trainee time in the operating

Table 1
ACGME requirement priorities during CoVID-19[8]

Work hour requirement	<ul style="list-style-type: none"> • Work Hour Requirements remain unchanged.
Adequate resources and training	<ul style="list-style-type: none"> • Trainees caring for suspected or confirmed patients with CoVID-19 must be adequately trained in PPE and infection control measures
Adequate supervision	<ul style="list-style-type: none"> • Proper protocols to screen patients entering clinical learning environments must be in place. • Trainees caring for patients must have adequate supervision. • Faculty members should be trained in their institutional infection control and PPE protocol • Sponsoring Institutions and programs should continue to monitor the CDC website.
Fellows functioning in core specialty	<p>Fellows in ACGME-accredited programs can function within their core specialty (i.e., the specialty in which they completed their residency) if:</p> <ul style="list-style-type: none"> • They are American Board of Medical Specialties or American Osteopathic Association board-eligible or -certified in the core specialty • They are appointed to the medical staff at the Sponsoring Institution • Their time spent on their core specialty service is limited to 20 percent of their annual education time in any academic year.

room. Residencies and fellowships must develop innovative strategies using virtual education and simulation, to minimize the impact of reduced case volume on trainees and ensure excellent clinical training [20].

2.3. *The outpatient experience and integration of telemedicine*

In March of 2020, the Centers for Medicare and Medicaid Services (CMS) expanded coverage of telemedicine services, allowing urology clinics to be compensated for virtual patient care [11, 21]. Telehealth quickly emerged as a temporary (and hopefully continued) solution to keep residents and fellows actively engaged in patient care while social distancing. Though residency and fellowship programs vary in their clinic requirements, more than 50% of urology residencies report integrating tele-visits into their routines as a result of the pandemic [13].

Resident and fellow-run telemedicine clinics have been successfully implemented in other subspecialties, but mainly limited to prostate cancer prior to the pandemic [11, 22]. With the transition of care for other urologic cancers to tele-health platforms, it is unclear how the physician-patient relationship and medical education will be impacted [22, 23]. In contrast to the healing power of touch taught in medical school, trainees will have to learn how to counsel, console, and deliver bad news virtually [23]. A study by Rodler et al. [24] revealed that although the majority of oncology patients have supported tele-visits during the pandemic, over 60% would prefer to resume in person visits when appropriate despite benefits such as decreased travel time and cost. The benefit of in-office physical exam is unclear as treatment decision for early-stage malignancies largely centers on history, laboratory, and imaging results [25]. For example, in prostate cancer, the role of digital rectal exam has uncertain value, particularly when multiparametric MRI is utilized [25]. Similarly the in-office physical exam has little impact on the management of localized kidney or bladder cancer, although cystoscopy plays an important role in urothelial carcinoma treatment decisions and surveillance [25]. As telemedicine becomes normalized within urologic practice, programs may need to consider formal education on best practices for virtual clinics. For example, this may include education on proper billing and coding, developing efficient workflows, and guidance for professionalism during video consultations (screen positioning, eye contact, etc) [26, 27].

3. Impact on educational didactics

3.1. *Virtual didactics*

To comply with social distancing recommendations many urologic residencies and fellowships transitioned their weekly didactics, journal clubs, tumor boards, and grand rounds to virtual platforms [11]. The rapid adoption

of virtual education, publicized by social media outlets, propelled the development of several inter-institutional video-based lectures series and panels (Table 2). Initiatives from the New York Section of the AUA, University of California at San Francisco, University of Southern California, University of Albany, and many others featured experts in all urologic disciplines from across the country. These daily lectures, many of which were oncology-focused, incorporated didactics, discussions on cutting-edge research, and in-service review [11]. These didactics were also utilized by medical students interested in urology and have been incorporated into virtual sub-internships. The lectures have been collected online and are freely available for review and future use.

Likewise, The University of Texas, MD Anderson Cancer Center hosted a once weekly didactic session for SUO fellows focusing on high yield topics as well as areas that are often overlooked such as career development, mentorship, and nuances of clinical trial design and development. Given the positive reception from fellows, there are plans to trial a continuation of this lecture series in the fall of 2020 under the direction of the Young Urologic Oncologists group with support from the SUO.

The shift toward virtual education for trainees may have lasting positive impacts. First and foremost, these lectures may serve as a basis for a standardized curriculum for all urology residents; their accessibility allows all residents and fellows to receive information from expert educators, despite possible deficiencies in their own programs [28]. Ongoing lectures focusing on genitourinary oncology keep trainees up to date on the latest management and research at different institutions. Virtual education may provide an opportunity for more cross-disciplinary education such as ICU care, public health, global health, surgical ethics, hospital systems/management. Finally, because virtual lectures are relatively cheap and easy to facilitate, residency programs can sponsor a multitude of visiting professor lectures and even feature lectures from senior residents and fellows. Virtual and recorded lectures also provided improved access for trainees. Missing a virtual lesson/didactic or journal club is less common given no need for travel to a destination and in cases of recorded lectures an opportunity to learn on off hours. However, careful attention must be given to the integration of these new technologies into the curriculum so as not to overburden trainees. Programs will need to evaluate their current didactics and potentially consider modifying or removing some of the pre-CoVID instruments that provide less value.

3.2. *Virtual surgical learning*

The pause on elective urologic surgery allowed several institutions to highlight their surgical expertise virtually. Several urologic oncologists have held interactive virtual viewings of their robotic surgeries, narrating their techniques. As residents and fellows spend less time in the

Table 2
Summary of past and ongoing online lecture series with relevance to urologic oncology

Name	Organizing Institution	Description/Format	Ongoing	Archives Available
Collaborative Online Video Didactics (COViD) ^a	University of California – San Francisco	Hour long didactic lectures held daily	Yes Mondays, 5pm PDT starting 08/2020	Yes
Educational multi-institutional Program for instructing residents (EMPIRE) ^b	AUA New York Section	Hour long didactic lectures held daily	No	Yes
Urology teaching collaborative ^c	Albany Medical College, Queen's University, SUNY Upstate, University at Buffalo, University of Rochester	Hour long didactic lectures held daily	No	Yes
Urology 60 minutes ^d	University of Southern California	Hour long didactic lectures, once weekly	No	Yes
Friday lecture series for SUO fellows	MD Anderson Cancer Center	Two hour long didactic lectures held weekly(see Table 3)	May resume in the fall	No
TeleURO Africa 2020	Suzette Sutherland, MD Serigne Magueye Gueye, MD	Two hour long didactic lectures held daily for one week. All female panelists	No	No
Connect: Science ^e	Dana Farber/Harvard Cancer Center	Twice weekly lecture series on basic and translational science concepts	Yes Tues/Thurs noon EDT	Yes
Spotlight Science ^f	Memorial Sloan Kettering Cancer Center	Twice weekly lecture series on basic and translational science concepts	Yes Mon/Wed 4:30pm EDT	Yes

^a <https://urologycovid.ucsf.edu/>

^b <https://nyaua.com/empire/>

^c https://amc.edu/academic/gme/programs/UrologicalSurgery/WebEx_Collaborative/teaching-collaborative.cfm

^d https://www.youtube.com/channel/UCuOf9gTZLObAM7HXHdUSA_Q

^e <https://www.dfcc.harvard.edu/events/dfcc-connecting-the-scientific-community-seminar-series/>

^f <https://www.mskcc.org/research/ski/education-training/sciencespotlight>

operating room, these virtual opportunities serve as alternative methods to learn basic and nuanced surgical techniques as well as new methods of performing sound oncologic procedures [11, 20]. Less time in the operating room may also lead to more time in the simulation lab and perhaps more utilization of structured surgical simulation training. It also presents an opportunity to develop and evaluate the role for a standardized urologic surgery simulation curriculum, akin to the Fundamentals of Laparoscopic Surgery.

4. Impact on research

CoVID-19 has impacted all facets of oncologic research. Many institutions have restricted on-site research to activities deemed essential [29]. Changes include requiring all noncritical research be performed remotely and prohibiting initiation of new projects which require on-site personnel [29]. For those doing research involving animal models, institutions stopped new animal orders, surgeries, and new experiments, and restricted breeding to maintenance of rare genetic lines only [29]. While animal care personnel have been classified as essential, their focus has been on reducing animal numbers while preserving irreplaceable models, such as patient derived xenografts [29].

In a recent global survey of life scientists, 77% reported that their institute had been completely shut down, and only

4% stated their institute was fully operational [30]. For residents and fellows currently doing laboratory research, particularly those on a one-year rotation, this stoppage may impact their abilities to complete shorter-term projects. In addition, some institutions have prohibited intermixing between clinical and lab personnel. Even with laboratory spaces reopening, some fellows may be unable to complete projects because of limitations on laboratory access. Conversely, residents or fellows entering their research year may be unable to moonlight or participate in other clinical activities.

Likewise, there has been an impact on clinical research. Rather than focusing on finding new cancer treatments, research priorities shifted to reducing the risk of infection among oncology patients [31]. Many cancer centers halted the activation of new trials and stopped inpatient studies, while other institutional review boards are not approving any new projects that require an on-site presence [29, 31]. Pharmaceutical companies delayed the start of some new clinical trials, suspended enrollment in others, and/or postponed the activation of new sites [31]. Notably, a survey conducted by Clinical Research IO between March 19 and 23 across 73 research sites found that 24% of investigators reported they had stopped enrolling patients due to safety concerns and another 37% were considering halting enrollment [32].

The US Food and Drug Administration issued initial guidance regarding clinical research on March 18, 2020 [33]. They allowed for protocol changes “to minimize or eliminate immediate hazards or to protect the life and well-being of research participants (i.e., remote visit or virtual visit to limit exposure to CoVID-19)” without Institutional Review Board approval [33]. However, these changes are required to be documented, along with any changes in protocol-specified procedures that lead to missing data (e.g., missed visits, patient discontinuations) [33]. There are special considerations with trials that include a surgical component, including strict time constraints, potential to place undue strain on limited inpatient resources and personnel, potential increased risk to already immunocompromised patients, and additional time burden for collecting and processing patient specimens during the trial [34]. Management of patients already enrolled on surgical clinical trials is institution and location dependent, but we believe it is reasonable to maintain patients currently enrolled on clinical trials if safe and feasible.

With a reduction in clinical duties, many residents have indicated they have more time to devote to research. For example, on a recent survey of urology residents, 77% of respondents indicated that the recent changes in clinical obligations resulted in more time for research [10]. Likewise, 26% of program directors reported that dedicated resident research time increased, while overall work hours decreased in 82% of programs [13]. Increased research activities likely involve working on clinical projects such as chart review and manuscript completion. For example, while 49% of scientists reported that their research hours had been reduced, time on other activities increased—43% indicated more time spent on data analysis, 45% noted more time on manuscript writing, and 11% spent more time on grant development [30].

One important point is the disparate impact that a shift to work from home may have on women [35–38]. In a survey of scientists, women reported fewer productive hours than men, partially due to differences in job type, but also attributed to disproportionate share of childcare duties [30]. An analysis of pre-print servers has shown a rise in overall journal submissions which have disproportionately come from men—particularly papers authored by a single individual [39]. For example, on arXiv there was a 2.9% increase in absolute number of papers submitted by women compared to a 7% increase by men in March & April, 2020 [37, 39]. The same findings have been found across multiple preprint servers and similar findings are likewise being observed by journal editors [38, 39].

Finally, the CoVID-19 pandemic has presented opportunities for collaborative research. The Covid-19 and Cancer Consortium is a research initiative of more than 100 centers around the world pooling information related to CoVID-19 in cancer patients, while CovidSurg is a global collaborative effort to understand the impact of CoVID-19 on patients who undergo surgery [40, 41]. As we return to

more normal operations, the increased use of virtual technology may continue to facilitate multi-institutional collaborations.

5. Other impacts

5.1. Impact on work-life, resident safety, & family

CoVID-19 has had far reaching impacts beyond the hospital and clinic. In a survey of urology residents and program directors, 54% agreed with a statement endorsing home-life disruption, and 39% agreed with a statement endorsing increased financial concerns [10]. Notably, these concerns were more prevalent among faculty than residents, likely due to the fixed stipend residents and fellows receive [10].

Ensuring resident and fellow safety in the workplace is a primary concern. Trainee reassignment, which may be voluntary or mandatory, raises the issue of how to manage pregnant trainees or those with high risk pre-existing conditions. In a survey of program directors, as of April 1, 38% of programs had restricted residents with high risk comorbidities from all patient care [10]. 47% of programs restricted these residents from in-person interaction with CoVID-19 positive patients [10]. As the pandemic continues, new strategies to keep trainees with high risk conditions safe will have to be developed without compromising their ability to complete training.

The likelihood of exposure to CoVID-19 patients for urology trainees is high. In one survey, 52% of programs reported their residents had been exposed to CoVID-19 positive patients and 52% of programs reported residents had been tested [10]. 55% of programs reported residents under formal quarantine, but only 2 programs (3%) had CoVID-19 positive residents [10]. The impact of contracting CoVID-19 may be far reaching. Beyond the immediate impact on workforce, residents requiring extended leave may have challenges related to adequate sick leave, completion of training, and insurance coverage.

5.2. Sick leave, insurance coverage, and hazard pay

The American Medical Association (AMA) stated that residents who become ill as a result of their participation in the CoVID-19 response must not be required to use vacation and/or personal time off while ill and/or quarantined and must continue to receive their salary and benefits [42]. However, the American Board of Urology (ABU), which is responsible for determining if a candidate is eligible to sit for board certification, requires a total of 48 months of clinical urology training [43]. A resident is required to work at least 46 of 52 weeks each year during residency training [43]. The ABU has issued guidance stating, “. . .the ABU will make every effort not to punish a candidate who misses training in a circumstance that is out of their control,” however it remains to be seen if prolonged absence due to

CoVID-19 exposure or illness results in forced unpaid time off or extension of training [44].

Along with sick leave, CoVID-19 may impact disability and life insurance policies. Given that disability insurance is based on current income and not future earnings, a resident or fellow who becomes disabled during training may face significant financial hardship and for example be unable to pay back outstanding medical school loans. More recently, there have been reports of physicians having difficulty obtaining life insurance due to exposure to CoVID-19 [45]. On July 8, the British Medical Association issued a joint statement with the Association for British Insurers stating that a positive CoVID-19 test should not delay an application for life insurance provided the individual has recovered [45]. Fellowship programs should review the life and disability coverage offered to trainees by their institutions to ensure they are adequate.

Another controversial question which has arisen is whether and how trainees should be compensated for the additional risk in caring for CoVID-19 patients [46]. The AMA has called for... (1) residents to be considered for hazard pay in a way that is equitable to other health care workers, (2) fellows who assume attending physician roles in core disciplines in which they are licensed and certified to receive pay and benefits commensurate with these roles [42]. However as there has been no systematic mandate, pay has varied by institution. For example, in New York City, Mt. Sinai residents and fellows received an extra \$300/week from April 6 to May 16 [47]. Conversely, at other institutions resident requests for additional pay were denied [48]. While decisions regarding additional pay arise from the institutional level, we believe that program leadership should advocate for their trainees in accordance with AMA guidelines.

5.3. Impacts on training requirements

In addition to working a specified amount of time, graduating urology residents are also expected to meet minimum case requirements set by the Urology Residency Review Committee, part of the ACGME [49]. While these requirements are intended to be used for program accreditation and not to assess individual resident competency, 60% of program directors expressed concerns that residents will not meet case minimum [13, 50]. When surveyed, 79% of residents agreed the CoVID-19 changes had a negative impact on surgical training and 51% noted increased anxiety about competency upon graduation [10]. Overall, 9% stated they were more likely to pursue fellowship [10]. Moreover, 86% of programs reported limiting trainee presence in the operating room (no “second assisting”), a missed teaching opportunity for senior residents to gain surgical confidence [12].

This loss of operative time may disproportionately impact chief residents or fellows with a single year of surgical training as March—June accounts for nearly 25% of

their clinical program [51]. While the initial shut down was relatively short and near the end of the academic year, a longer halt on elective surgery could have significant impacts on operative experience, particularly those in a 1 year fellowship.

The ACGME has provided updated guidance regarding this issue. Initially, the ACGME developed a three stage operational system for all institutions which sponsor accredited training programs which included the option for declaring a Pandemic Emergency Status [50]. For any SI which declared the Pandemic Emergency Status, all program requirements were suspended except those pertaining to trainee work hours, supervision, and safety [50]. As of July 1, 2020 the ACGME has changed to a binary system for categorizing graduate medical education operations during the pandemic—nonemergency and emergency [52]. Emergency status may be requested for 30 days with an additional 30 days extension [52]. After 60 days, a second extension may be filed but requires an additional attestation that all residents/fellows have received written information regarding their programs’ plans to ensure their ability to satisfy requirements for program completion and to become eligible for board certification [52]. If the emergency declaration lasts beyond 90 days, the institution may invoke the Extraordinary Circumstances policy which includes potential for temporary or permanent transfer of residents/fellows to other institutions to complete their training [52].

Further guidance from certifying boards may be needed in order to determine if clinical disruptions due to CoVID-19 will impact fellowship completion or board certification. For example, would fellows with only 6 months of clinical time be allowed to successfully complete an oncology fellowship? Other considerations may include program and/or rotation restructuring, such as decreasing protected research time to increase clinical time and make up for decreased case volumes. Finally, the CoVID-19 pandemic may provide an impetus to change from time-based training to competency based training [53].

5.4. Impact on in-person interviews and meetings

Since the start of the pandemic, numerous meetings have been cancelled or transitioned to a virtual format. Virtual conferences have several advantages over the traditional in-person meetings such as a lower carbon footprint (less travel, less generated waste), greater accessibility, lower costs to organize and potentially attend, as well as less time away from home and family. However, the virtual formats currently do not replicate the spontaneous or informal discussions that often occur at meetings [54]. This limits networking opportunities for research collaborations, information exchange, community and academic job opportunities. In addition, institutions will have to adapt to having trainees and faculty on-site for conferences but not available for clinical duties. Weekend and night conferences

have the potential to cause a blurring of work-life boundaries as well. Lastly, many institutions still have travel bans in effect, including a prohibition on registration fees for virtual meetings at some, increasing costs for trainees.

The timing of CoVID-19 led to nearly every accredited SUO fellowship program rapidly switching to a virtual interview format. Subsequently the American Association of Medical Colleges recommended that all residency interviews be conducted virtually and discouraged in-person rotating internships [55]. Historically, medical students applying to urology did one to three sub-internships outside their home program. While there have been discussions about making changes to the Urology match process in the past, the prohibition on away rotations and use of virtual interviews may result in permanent alterations to the interview structure for SUO fellowships and the residency match.

Interestingly, when surveyed about virtual interviews, most medical students (81%) felt that faculty interviews could be replicated virtually and 34% preferred virtual interviews [56]. However, a majority (64%) felt that interactions with residents were the most important part of the interview day component and nearly all (81%) said it could not be reproduced virtually [56].

For residents and fellows about to enter the job market, the pandemic has caused great uncertainty. Not only are in-person interviews difficult if not impossible, the pandemic is likely to impact the availability of jobs and the start-up packages available for new recruits. More than 400 institutions have announced hiring pauses or freezes for academic jobs, although it is not clear how many of those are clinical positions [57, 58].

5.5. Conclusions –opportunities for the future

An attempt to reopen the US economy in May 2020 led to a resurgence of CoVID-19 cases and another halt on elective surgeries in certain locations. There is an opportunity to develop best practices for maximizing operative learning and integrating surgical simulation. In addition, integration of telemedicine into clinical practice may provide lasting benefits for patients and clinicians. Likewise, virtual didactics may be an opportunity for curriculum standardization, and collaborative learning and will also remain a necessity for the foreseeable future. Collaborative research will present opportunities for trainees and faculty as we eventually move into a post-CoVID world. Finally, the pandemic may spur the creation of new training paradigms or perhaps a shift toward competency-based education. The SUO, its leadership, and members must play a leading role in responding to CoVID-19 and adapting fellowship and residency programs to ensure that our trainees remain fully capable of providing outstanding, holistic cancer care for our patients now and in the future.

6. Disclosures

There are no other relevant disclosures.

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