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# Rescuing medical education in times of COVID-19

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**Abstract** The coronavirus disease 2019 (COVID-19) pandemic has caused widespread disruptions in various sectors of medicine, including medical education. Although the necessary focus has been on patient care and public safety and the long-lasting impact of COVID-19 remains to be determined, the impact on medical education warrants further attention and action. While it seems minuscule compared with the toll the global pandemic has caused worldwide, the impact on medical education, including graduate medical education, carries the potential to alter career progression and outcomes. We have assessed the effects of COVID-19 on dermatology clinics, residency education, and medical education, exploring recommendations and actions taken by governing bodies and offering additional suggestions of our own.

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## Introduction

The coronavirus disease 2019 (COVID-19) pandemic has radically changed the course of everyday life throughout the world. As hospitals worldwide grapple with this pandemic, the vital focus has been aimed at patient care and public health safety.<sup>1</sup> The rapid development of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has triggered considerable interruptions to residency programs and medical education. Medical faculty, physicians-in-training, and students alike face unprecedented changes that carry the potential to impact their career progression. This warrants attention and action from residency program leadership, medical educators, and governing bodies. This contribution assesses the effects of COVID-19 on dermatology clinics, residency education, and medical education while exploring recommendations and actions taken by governing bodies and offering additional suggestions of our own.

## The impact on clinical operations

COVID-19 has drastically affected patient care worldwide. Within the dermatology outpatient setting in the United States, early reports measured the magnitude of the impact from COVID-19 through responses from 970 dermatologists nationwide.<sup>2</sup> Analysis of the results from this study revealed a significant decline in patients examined between late February to early March, 2020, with a mean decline from 149.4 to 63.4 patients; days in clinic declined from a mean of 4.2 to 3.1 days, and biopsies carried out declined from a mean of 19.8 to 7.7.<sup>2</sup> Notably, at the time of the study, roughly 25,000 cases existed nationally, a number that has since then increased exponentially.

Within this time frame, health systems have adjusted to a new normal, with varying policies for in-person visits contingent on each institution's leadership, in an effort to contain the pandemic. Several papers have been published offering guidance on how to triage necessary in-person consultations, such as surgical procedures for invasive malignancies and emergent inpatients consultations, to mitigate the spread of COVID-19 within departments,<sup>3,4</sup> whereas others strongly

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recommend the use of telehealth/teledermatology to provide an infrastructure that allows clinicians to see their patients while upholding public health initiatives.<sup>5,6</sup>

## Resident education

### *Telemedicine as a substitute: The impact on resident education*

Teledermatology is a medical visit that uses telecommunication to conduct a virtual patient encounter.<sup>7</sup> This form of consultation has two separate variations: synchronous and asynchronous.<sup>7</sup> The former is carried out via a live interactive consultation—ordinarily a video call—whereby patient and dermatologist are able to interact in real time, whereas the latter consists of a “store-and-forward system” in which a patient’s medical information is initially stored and subsequently reviewed by the dermatologist.<sup>7</sup> Studies elsewhere report that this form of telemedicine affords a standard of care that is comparable to in-person feasibility and accuracy.<sup>8</sup> Currently, expanded telehealth coverage, such as the Section 1135 waiver through the Coronavirus Preparedness and Response Supplemental Appropriations Act enacted by the Centers for Medicare & Medicaid Services for Medicare beneficiaries, allows for telemedicine/teledermatology to be a viable response to the pandemic.<sup>9</sup>

Although telemedicine is appealing for the aforementioned reasons, the impact on resident physicians differs from that of the attending physician. It is unarguable that residents and fellows should be protected in the pandemic; however, it is not without consequence. As an organ-based specialty of the skin, hair, and nails, dermatology mirrors other organ-based specialties’ residencies, such as ophthalmology, otolaryngology, and obstetrics-gynecology, whereby all organ-specific medical and surgical instructions are imparted during postgraduate medical training.<sup>10</sup> Dermatology requires an extensive knowledge base and comprehension of cutaneous entities and associated pathophysiology and mastery of operative techniques to enable a full scope of practice. Unfortunately, the use of telemedicine may not equate to the caliber of in-person visits for dermatology residents, who are in a crucial period of knowledge acquisition. Beyond education barriers, additional challenges include differences in technology adaptation and usage, especially from the patient’s side. Undoubtedly, some patients may require extended guidance before virtual visits. In some cases, proper instruction may still result in lesions that are not displayed adequately by the patient or the screen, technological issues with system malfunctions, or internet bandwidth limitations that may result in inferior visits.<sup>11</sup>

Although technology-based issues may be more difficult to resolve by the department, deficits in educational attainment can be curtailed. A plausible avenue is increased attending-resident debriefing on teledermatology cases to reinforce the salient knowledge the resident should attain for each disease examined. Because patient volumes may also

be decreased for months to come, further emphasis on “interesting” cases in didactics may also help close the knowledge gaps. Lastly, the advent of teledermatology offers the prospect to increase access to care.<sup>12</sup> Increased access to care benefits underserved populations and residents alike. Through teledermatology, residents may be exposed to patients with advanced pathologic conditions, which serves as an additional teaching opportunity via exposure to diverse pathologic conditions in diverse populations.

### *Didactics*

Beyond clinical duties, the COVID-19 pandemic has led to significant changes in the education of dermatology residents and fellows. As social distancing laws were set in place, online or “distance” learning, too, became the norm. Within our institution, the educational/didactic component of residency training has been delivered on online platforms such as Zoom and Webex, and in-person conferences sessions like grand rounds and society meeting conferences with neighboring dermatology programs (collectively known as the “Illinois Medical District” lecture series) have been postponed and replaced with online platform systems. Similar educational strategies have been reported elsewhere.<sup>13</sup> The authors of the aforementioned study further report that coupled with distance learning comes an additional undertaking to create content for lectures that may place increased demands on attending physicians.<sup>13</sup> We posit that the preparation time and technology adjustment required for educational didactics may only slightly increase compared with before COVID-19, an increase that seems sensible given decreases in patient volume and time dedicated to travel to various meeting destinations.

A permanent paradigm shift in resident education has been proposed. These ideas involve the creation of a universal online learning platform where residents nationwide may learn from experts in the field on topics that may not be prominent within their patient populations, access to the latest innovations in medication regimens, and a stage to gain exposure to procedural and surgical techniques at the forefront of procedural dermatology.<sup>13</sup> Although this may not be laudable in the near future, the confluence of leadership nationwide may find this as an opportunity to pioneer this educational initiative.

### *Dermatopathology*

Dermatopathology is a key component to dermatology resident and fellow education. Through dermatopathology, residents and fellows develop an understating of cutaneous disease processes and establish the appropriate clinical management.<sup>14</sup> Previously, a study that surveyed members of the Association of Professors of Dermatology found that, among 52 dermatology residency programs, nearly 30% of the training curriculum was allotted to dermatopathology.<sup>15</sup> For dermatology residents, aptitude in dermatopathology spawns

improved diagnostic abilities, clinicopathologic correlation, and medical management abilities.<sup>14</sup>

Fortunately, technologic advances such as virtual microscopy serve as a useful educational medium via on-line platforms. The evolution of mobile technology also affords the use of phone- and tablet-based microscopy—coined “teledermatopathology”—through mobile and computer-based applications (eg, Clearpath, myDermPath, Derm-in-Review, etc), while simultaneously delivering an interactive medium for dermatopathology instruction.<sup>16</sup> Through the use of video conferencing tools and an end-to-end encrypted connection, dermatopathologists can lead educational sessions using their own patient slides while allowing distanced teaching on a local or even global level.<sup>17</sup> These tools have proved useful for the education of residents and should be considered as an alternative to in-person dermatopathology sessions.

### *Procedural curriculum*

Dermatology residents must traverse an expansive curriculum that includes a foundation of general dermatology and dermatology subspecialties, including procedural and surgical dermatology. Before the pandemic, balancing subspecialty didactics and training was challenging due to busy clinics and general didactic schedules.<sup>18,19</sup> This has changed dramatically over the past months as many departments have canceled all elective outpatient procedural or surgical visits, whereas others have used triaging systems to serve only those at greatest risks for adverse events.<sup>4</sup> Distanced learning may serve a temporary role in providing these clinical skills, albeit restricted. For example, researchers<sup>20</sup> piloted a surgical curriculum measuring the Objective Structured Assessment of Technical Skills score to assess residents pre- and postcurriculum. The total Objective Structured Assessment of Technical Skills score increased from a median of 27 pre-curriculum to 46 postcurriculum ( $P < .001$ ).<sup>20</sup> Self-reported confidence in surgical performance significantly improved, and residents reported satisfaction with the program.<sup>20</sup> The authors of this study concluded that video education and simulation are effective for improving dermatology residents’ procedural skills.<sup>20</sup> Similarly, the combined use of simulation-based education and online platforms appears to be beneficial at their institution.<sup>21</sup> Although these methods may not be available to each institution, these examples at the very least allow for innovative substitutes to further procedural and surgical dermatologic education amid the pandemic.

### *Dermatologic organization didactics: An attempt to bridge the gap*

While the pandemic has halted several processes, it has also fostered unity within our field. Within the dermatologic community, dermatologic societies and organizations have crafted online content for all levels of learning. For instance, the American Academy of Dermatology has released Dialogues in Dermatology podcasts centered on pandemic-

specific discussions.<sup>13</sup> The Women’s Dermatologic Society has curated the Resident Education Series Events through Zoom for residents and fellows.<sup>22</sup> These live educational sessions touch on a breadth of topics relevant to the field. Importantly, the society has waived membership fees for a 6-month period so that residents and fellows may take full advantage of these lectures.<sup>22</sup> The American Society for Dermatologic Surgery has hosted several webinars on topics specific to COVID-19, and they continue to host a monthly surgical journal club during the pandemic, with plans for educational expansion.<sup>13,23</sup> The American College of Mohs Surgery has asked fellows-in-training to curate educational presentations with narration for inclusion in an online database.<sup>13</sup> The American College of Mohs Surgery also hosts the MDLive Online Dermatology Programs in partnership with the University of California, Irvine, offering courses spanning from dermatologic surgery to lasers and aesthetics.<sup>13</sup> The *Journal of Drugs in Dermatology* has partnered with Next Steps in Derm, Orlando Dermatology Aesthetic and Clinical (ODAC), Derm-in-Review, and Skin of Color Update to launch webinars aimed at navigating through the COVID-19 pandemic.<sup>24</sup> This list is not exhaustive; rather, it serves to highlight how our dermatology community has bonded to fill educational gaps during this unprecedented time.

## Medical student education

### *Clinic*

In addition to effects on resident education, the COVID-19 pandemic has affected medical students as well. With the initial rise of COVID-19, students were allowed to continue their clinical duties, with the condition that no direct contact with patients who had suspected or confirmed cases of COVID-19 be allowed.<sup>25</sup> Many medical schools have since suspended clinical rotations; furthermore, the Association of American Medical Colleges recommends that clinical rotations should not resume until substantial COVID-19 community spread is no longer active or anticipated and when both personal protective equipment and COVID-19 testing are sufficiently available.<sup>26</sup>

Medical students and educators alike have been adaptable and innovative during this crisis while alternatives have been implemented to overcome the challenges. Though options are continually evolving, each institution has crafted educational options based on their state legislature. For example, at our institution in Chicago, Illinois, a COVID-19 hot spot, a temporary online dermatology elective that combines on-line platforms, such as LearnDerm by Visual Dx interactive lessons, American Academy of Dermatology modules, and virtual didactics has been curated in lieu of an in-person rotation while stay-at-home orders are in place. Another option is telehealth involvement if institutions have the capability.

Although online rotations are beneficial for the continuity of clinical learning during this time, salient issues exist. For example, in-person dermatology rotations are invaluable for students to gain exposure to dermatology with the potential to create meaningful bonds with educators.<sup>1</sup> These bonds ultimately may result in strong letters of recommendation, which are cited as instrumental in obtaining residency interviews.<sup>27</sup> Because legislation varies in different states and in-person rotations may be further delayed, barriers that candidates may face can be alleviated by decreasing the dermatology letter of recommendation requirement, while allowing nonspecialty letters of recommendation for those who are unable to complete dermatology rotations before the Electronic Residency Application Service deadline.<sup>28</sup>

### *The role of medical students in tele dermatology*

As previously mentioned, in an effort to limit the transmission of COVID-19, all nonurgent dermatology appointments were rescheduled and residents-in-training began using tele dermatology under supervision to continue their educational pursuits.<sup>29,30</sup> Despite previous studies supporting the effectiveness of store-and-forward tele dermatology as an educational tool for medical students,<sup>31</sup> little has been published about its role for medical students during the COVID-19 pandemic. We believe that tele dermatology is an excellent method to support the continuity of medical education during the pandemic.

For programs using store-and-forward tele dermatology, we propose the following workflow: Each student logs on and views all supporting documentation and images and formulates an assessment and plan, which they share with their assigned resident. The resident and attending then view the case and finalize the assessment and plan provided by the medical student. Feedback on the student's assessment and plan should be provided, and further discussion of the case can be facilitated later via online platforms. Likewise, live virtual tele dermatology visits are also useful for medical students. A recent publication recommended the following workflow: Attending and resident initiate the video call with the patient, and if permitted by the patient, the student joins the call.<sup>32</sup> The resident interviews the patient with the supervision of the attending; the student may assist with the interview if the attending physician permits.<sup>32</sup> The resident then explains his or her clinical findings with an assessment and plan, including additional suggestions from the attending if necessary.<sup>32</sup> After the patient logs off, the attending, resident and medical student can continue a further discussion of the case if more questions persist.<sup>32</sup>

Although both store-and-forward and live tele dermatology visits can be useful for medical student education during the COVID-19 pandemic, there are several limitations. Medical students are unable to acquire procedural dermatologic skills because they cannot palpate skin,<sup>32</sup> and with the store-and-forward method, students lose the ability to have real-time patient contact.<sup>31</sup> Though challenges with

tele dermatology exist, the COVID-19 pandemic has created a unique opportunity to incorporate medical education in the use of this technology. As the availability of tele dermatology to students continues to increase, its role in medical education will continue to grow and evolve.

### *Away rotations*

It is evident that obtaining a dermatology residency position as a medical student is an extremely competitive process.<sup>33</sup> In 2018 there were 651 applicants for 472 dermatology positions, with a final match rate of 81.6% for US allopathic seniors.<sup>34</sup> Due to the competitive nature of the dermatology match, away rotations have become increasingly popular among dermatology applicants. Visiting rotations allow students to distinguish themselves by displaying their passion for the field, clinical knowledge, and interpersonal skills for a prolonged time, demonstrating to program directors (PDs) that they are a good fit for their program.<sup>35</sup> This is of particular importance for students without a home program. In a nationwide survey of dermatology PDs, completing a rotation at their respective program was ranked the fifth most important criteria for residency applicant selection.<sup>36</sup> Due to the global prevalence of the COVID-19 pandemic, the Association of American Medical Colleges is discouraging away rotations for this application cycle.<sup>37</sup> Exceptions to this rule include students who do not have a home department or for those in which away rotations are a graduation requirement.<sup>37</sup> In this regard, students who fulfill the aforementioned criteria should limit the number of away rotations they complete and seek opportunities at nearby institutions.<sup>37</sup>

In lieu of away rotations, the Association of American Medical Colleges recommends that programs consider offering longitudinal online experiences such as journal clubs, virtual grand rounds, or case discussions that students can actively partake in, in addition to opportunities for dermatology mentorship.<sup>28</sup> Applicants are also encouraged to find unique ways to express interest in programs such as customizing their personal statement to express why they are interested in each respective program. Ultimately, although away rotations can be helpful, they are by no means necessary for matching into dermatology residency. During the COVID-19 pandemic, students and programs alike can uncover unique solutions to overcome this challenge.

### *Research*

Research is crucial for a successful match into dermatology residency. In 2018 the mean number of abstracts, presentations, and publications of matched and unmatched US allopathic seniors applying to dermatology residency were 14.7 and 8.6, respectively.<sup>34</sup> During the current application cycle, students may encounter barriers to obtaining robust research experiences because many research projects have been canceled or delayed secondary to the COVID-19 pandemic. Understandably, students may experience increased anxiety in



regard to the effect this may have on their chances of matching. In light of this, programs should take this into consideration during this application cycle, because it is essential to commend students for their previous research efforts while recognizing that the COVID-19 pandemic has resulted in substantial barriers for research opportunities.<sup>38</sup> In response to the pandemic, students may consider deferring their residency application this cycle and instead complete a research year. Although this option is advantageous for certain applicants, such as applicants with limited research,<sup>39</sup> it is not recommended to pursue this option due to the COVID-19 pandemic alone.<sup>38</sup> This advice, however, varies case by case. For example, students who were previously advised by a trusted dermatology mentor to pursue a research year to overcome academic weakness are encouraged to continue these plans.<sup>38</sup>

Although the COVID-19 pandemic has delayed many research projects, it has also created a new focus for potential dermatologic research. If students are interested and are not too burdened by personal or family illnesses related to the pandemic, financial struggles, or other stressors caused by the pandemic, students can consider contacting dermatology programs they are interested in to inquire about potential COVID-19–related projects they can collaborate on remotely. Though some students may have opportunities to participate in remote scholarly work during this time, many students do not have these prospects. Although holistic application review is always salient,<sup>1,40</sup> the COVID-19 pandemic demands an increased emphasis on these processes due to the potential psychological impact of the pandemic<sup>41</sup> and increased barriers to opportunities. Ultimately, if feasible, we encourage students to maintain their original application plans and understand that programs will strive to review applications holistically while considering the immense implications the pandemic has had on applicants' access to opportunities.

### *Residency interviews*

Residency interviews are a critical aspect of dermatology residency candidate selection.<sup>36</sup> Interview experiences greatly influence how both PDs<sup>42</sup> and applicants create their rank lists.<sup>43</sup>

Although in-person interviews are valuable, the COVID-19 pandemic necessitates changes to our regular interview process. For this application cycle, it is recommended that all dermatology residency interviews, including those of local applicants, are conducted virtually.<sup>37</sup>

The Association of American Medical Colleges recommends choosing between hosting live or asynchronous interviews.<sup>44</sup> There are benefits and disadvantages to each. Live interviews allow real-time interaction and participants can ask immediate follow-up questions, which most closely mimics in-person interviews. There is a risk that unforeseen internet issues can cause interruptions during the interview. Additionally, time zone differences between applicants and programs can present another difficulty, which can be

lessened by offering interviews in the morning, afternoon, or evening.<sup>45</sup> Conversely, with asynchronous interviews applicants record their responses to interview questions at their convenience and upload a video for their interviewer to assess. Although this would help mitigate scheduling, there is no direct interaction between the applicant and interviewer; moreover, the ability to ask immediate follow-up questions is absent, and a separate function should be created for this purpose.<sup>44</sup>

After selecting the interview format, it is essential to develop a protocol for interviews that is evidence based to select residents who are likely to succeed in each respective program.<sup>28</sup> For a well-rounded interview experience, in addition to the interviews, the following components are recommended to be included in the virtual interview day: A program director's welcome, resident presentations such as "a day in the life at our residency program," a virtual tour of the hospital, clinics and surrounding area, a virtual lunch with residents, and a real-time question and answer segment.<sup>28</sup> Asynchronous interview attendees should be given the opportunity to ask questions as well. Similarly to in-person interviews, applicants should be afforded multiple opportunities to interact directly with the current residents.<sup>28</sup>

Rightfully, both programs and applicants may have reservations about virtual interviews, but this option can potentially reduce financial and scheduling burdens to both stakeholders. It is estimated that the average cost of attending dermatology and preliminary interviews for US medical school seniors during the 2014 application cycle was \$7500 and \$5000 for matched and unmatched dermatology applicants, respectively.<sup>46</sup> A recent study suggests students' upfront costs for virtual interviews could be minimal.<sup>47</sup> In their study, virtual residency interviews led to an average savings of \$566 for applicants and a \$586 net savings per applicant for the residency program.<sup>47</sup> Additionally, scheduling conflicts are a common reason that students decline residency interviews.<sup>48</sup> Due to the flexibility and elimination of potential travel, virtual interviews could assist with alleviating many scheduling problems for programs as well as applicants.<sup>49</sup> Ultimately, virtual interviews are cost effective and can help minimize scheduling difficulties, and with proper preparation programs can create a robust virtual interview experience that both PDs and applicants can benefit from.

## **Solutions by governing bodies**

### *Accreditation Council for Graduate Medical Education*

In light of the COVID-19 pandemic and the pressures imposed on graduate medical education across the country, the Accreditation Council for Graduate Medical Education (ACGME) developed a new conceptual framework from which graduate medical education can operate during this pandemic. Institutions can function at one of three stages along a continuum:

- Stage 1: Business as usual.
- Stage 2: Increased but manageable clinical demand.
- Stage 3: The increase in volume and/or severity of illness creates an extraordinary circumstance where routine care education and delivery must be reconfigured to focus only on patient care.<sup>50</sup>

Sponsoring institutions and programs remain responsible for upholding ACGME requirements to ensure patient safety, as well as resident/fellow (RF) safety and well-being. Institutions in stage 1 will follow all relevant accreditation requirements. Those in stage 2 will follow the increased clinical demands guidelines.<sup>51</sup> At this stage some RFs may shift to patient care duties associated with the pandemic and/or some educational activities may be suspended.<sup>51</sup> Programs remain responsible to adhere to the following four requirements:

1. All RFs must be trained in and provided with appropriate infection protection for the clinical setting and situation.
2. Any RFs will provide care under appropriate supervision for the clinical circumstance and level of education and experience.
3. Work hour requirements remain unchanged because the safety of patients and RFs is ACGME's priority.
4. Fellows can function within their core specialty if their training is consistent with the policies of their sponsoring institution.<sup>51</sup>

Institutions in stage 3 can consider self-declaring Pandemic Emergency Status. In this stage, only the requirements outlined for stage 2 remain in effect.<sup>52</sup> All other common program requirements and specialty-specific requirements are suspended for ACGME-accredited programs in the institution.<sup>52</sup> These changes are part of efforts to allow sponsoring institutions and programs to increase the number of available physicians in clinical care settings.<sup>52</sup> The declaration of pandemic emergency status lasts 30 days, but it can be terminated early or extended beyond that time based on the judgment of the institutional review committee.<sup>52</sup> Regardless of the stage, the ACGME review committees emphasize programs' adherence to requirements addressing RF safety, supervision, and work hours.<sup>52</sup> Failure to comply with any of these expectations may result in ACGME intervention.

#### *ACGME and the American Board of Medical Specialties*

Because traditional time- and volume-based educational standards have been challenged to accommodate patient care and physician safety, the American Board of Medical Specialties and the ACGME released a statement endorsing the authority and judgment of Clinical Competency Committees and training PDs to determine residents' readiness for unsupervised practice and to inform specialty board decisions regarding their eligibility for initial board certification.<sup>53</sup> Although the types of competency assessments vary across specialties and from program to program, the American Board

of Medical Specialties and ACGME expect programs to use rigorous, valid, and reliable assessments. They are committed to ensuring that physicians practice medicine safely and efficaciously in this time of crisis.

## **American Board of Dermatology**

### *Certification eligibility*

The American Board of Dermatology (ABD) is continuously monitoring the impact of COVID-19 on residency training to make appropriate accommodations to their certification eligibility requirements. Their stance on this matter is that any time spent by residents in mandated COVID-19 quarantine would be counted as clinical education if residents completed independently structured academic activities agreed by their program during that time.<sup>54</sup> If structured academic activities are not possible, absences will be accounted for based on the existing ABD policy and certification eligibility requirements.<sup>55</sup> In exceptional circumstances, beyond time in quarantine, the ABD will rely on PDs' input in determining the adequacy of training.

### *Certification examination administration*

The COVID-19 pandemic has greatly affected the 2020 certification examination administration, and the ABD is continuing to assess the available options as this pandemic unfolds. The ABD planned to offer two administrations of the 2020 Initial Certification Examination at the American Board of Pathology's test center in Tampa, FL,<sup>56</sup> once during the weeks of July 13-17 and 20-23 and again during the weeks of December 7 and 14, 2020.<sup>56</sup> If necessary, the ABD would have considered administering the examination again in March 2021.<sup>56</sup> The ABD requested that residents submit their preferences and decided in June 2020, that in lieu of the July examination in Tampa, the ABD will have offered the examination only during October 15 to 24, 2020, excluding all previously considered dates.<sup>57</sup> Candidates are allowed to test at any US Prometric testing center or from their homes via secure online proctoring.<sup>57</sup>

### *Continuing certification requirements*

The ABD also modified the components of the continuing certification (maintenance of certification) program in response to the COVID-19 pandemic. Those taking the traditional maintenance of certification examination had an extra 6 months to complete it (until July 31, 2020), or they had the option to participate in CertLink instead.<sup>58</sup> The ABD reduced the CertLink question load from four to two segments of questions and extended the period of completion until December 31, 2020, with the option of designating one of these segments as a "time off" period.<sup>58</sup> Additionally, the ABD waived the 2020 continuing medical education requirement

and deferred the 2020 self-assessment and practice improvement requirements until the end of 2021.<sup>58</sup>

### Program chair reflections

The current pandemic, characterized as “a once in a century” event, has brought many challenges and triggered considerable creativity by all. The main characteristics of the current pandemic caused by COVID-19 include rapid transmission even from those who have been asymptomatic (something different than the case in severe acute respiratory syndrome and Middle East respiratory syndrome outbreaks in previous years) and the higher fatality rate comparing with previous pandemics.<sup>59</sup> The immediate response has been mostly defensive to control the spread of disease and mortality rates. Adaptability, creativity, and innovation are to play a major role in our operations as health care providers, educators, and researchers in the near future.

With the emerging pandemic, Dermatology services immediately diminished their operations as all our efforts and support systems were, of course, focused at the front lines. We have proved that we can remain adaptable and efficient while the world changed overnight by holding an educational meeting on an electronic platform without any need of traveling. Patient care services, procedures, teaching, and research were challenged and are now gradually recovering as time is evolving. We are adopting social distancing in all our clinic operations, practicing strict hygiene and use of personal protective equipment, while carefully screening our patients by history or testing as deemed necessary.<sup>60</sup> Educational institutions have remained in close contact with students offering classes online and have already developed several versions of reopening schedules for the upcoming academic year. Research facilities are gradually reinstating their activities following the established guidelines of social distancing, hygiene, and personal protective equipment use. As this pandemic continues in the near future, it will be everyone’s responsibility to remain adaptable to the developed evidence and strictly follow the guidelines, without underestimating the importance of measures, to ensure individual safety and for the benefit of the community.

### Conclusions

Despite the challenges caused by the COVID-19 pandemic, we remain optimistic about how we will move forward as a united front. The resourceful initiatives that have already been implemented in addition to those that remain to be implemented will undoubtedly allow us to turn the tide and lead to progress in medical education during these unprecedented times. The unity in the medical field has illuminated that even in the most trying times, solace will always emerge. We look forward to the unique strategies, fruitful collaborations, growth within our community, and growth within our specialty that will continue to emerge as medical education weathers the COVID-19 pandemic.

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