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result in fewer candidates who would be offered an on-site interview, at reduced expense for candidates and less travel time away from residency. We would also use virtual interviews for those invited, but unable to attend in-person, and as a preferable alternative to interviews at a national meeting where scheduling and time constraints are limiting.

CONCLUSIONS

The COVID-19 era has forced many new adaptations to ensure a more physically distanced society. In developing an alternative process to traditional in-person fellowship interviews, albeit for one fellowship type, we have shown that remote teleconferencing provides a feasible platform to conduct interviews that is rated favorably by applicants. Given that the implications of the COVID-19 pandemic on travel and group interactions may last for the next many months, this format will likely be used for residency and fellowship interviews nationally in the coming year(s). Our initial venture suggests that this approach is readily adopted and may provide an experience that is comparable in most respects to the traditional interview setting.

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Invited Commentary

Virtual Interviews for Fellowship and Residency Applications Are Effective Replacements for In-Person Interviews and Should Continue Post-COVID



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The novel coronavirus pandemic has wrought innumerable changes in the day-to-day activities of academic

medical centers and departments of surgery throughout the world. While much of the attention has rightfully been placed on clinical matters, the impacts on surgical education have also been profound, and they affect everything from conferences to rotation scheduling to operative volumes.¹ At the time of this writing, we are about to enter the residency application season, and programs are grappling with how to manage applications and interviews in a world in which visiting sub-internships have been cancelled and travel for in-person visits and interviews is not feasible. Fortunately, residency programs can learn from the recent experience of the many fellowship programs that have had to move to virtual interviews on the fly in the early days of the coronavirus pandemic.

In the US, the first known COVID-19 cases were being reported just at the beginning of the interview season for the Fellowship Council-administered non-ACGME fellowships in Advanced Gastrointestinal Surgery, Minimally Invasive Surgery, Flexible Endoscopy, Hepatobiliary Surgery, and Bariatrics (<https://fellowshipcouncil.org>). Within a matter of days, it became apparent that COVID-19 was spreading and that non-essential travel was not only inappropriate, but also was restricted by many medical schools. Fellowship programs had to rapidly transition from in-person to virtual interviews, often with only a few days' notice.

In the article, "Initial Experience with a Virtual Platform for Advanced GI Minimally Invasive Surgery Fellowship Interviews" Majumder and colleagues² describe their experience with this virtual interview process.² They used a commercially available teleconferencing system and essentially replicated a "normal" interview day with relatively minor adaptations. They did a group interactive informational session, set up a series of breakout rooms for individual interviews, and allowed for informal interactions with the current fellow and other applicants in the main meeting room.

Based on surveys of both applicants and interviewers, the ability to perform interviews online was very successful, with 94% applicant satisfaction. Although 89% felt that the inability to visit the city and institution was a drawback, an identical percentage believed that cost savings was an advantage, and 76% of applicants recommended continuing virtual interviews in the future. On the side of the interviewers, most were extremely satisfied with the online interviews, and 100% of the faculty recommended use of the virtual platform in the future.

Most of us in academic surgery are now well-accustomed to online teleconferencing, unlike during the early days of the pandemic. It is certainly valuable to know that virtual interviews are acceptable to both applicants and faculty, and that logistics are manageable. More important is the potential for online virtual interviews to transform the landscape of interviews into the future, even once the pandemic has ended. Each interview day costs our own program several thousand dollars, but the financial impact of travel to multiple institutions for applicants can be immense, costing tens of thousands of dollars for students or residents who may not have much in the way of financial reserves. This cost, as well as opportunity costs in terms of time away from school, work, or family, may further disadvantage those without familial resources and may help worsen disparities in residency and fellowship applications. The environmental costs of this much travel are also clear, and in an era of global climate change it is imperative for us, as educators and leaders, to consider this in our plans for the future.

It seems likely that the biggest impact of virtual interviews will not be in applicant selection, but in recruiting. This may be especially true for smaller or lesser-known programs or for programs in less desirable locations. Some residency programs are now attempting to ameliorate this by enhancing their use of social media and by holding "virtual open houses" or "virtual sub-internships" in the pre-interview season. Others are producing video walkthroughs of their institution and city or updating and revising their web-based informational materials.

Given that virtual interviews are of high quality and value, and given the potential for increased flexibility, reduced cost, and reduced environmental impact with virtual interviewing, it seems clear that we should continue to use these virtual interviews on into future application cycles. Because of recruiting pressures, it would be very difficult for programs to go it alone and continue virtual-only interviewing after the pandemic is over and while their competitors go back to in-person interviews. Further, if programs were to offer a mix of in-person and virtual interviews, this might create bias in favor of applicants who can afford to travel. For this reason, it is imperative for sponsoring organizations like the ACGME and the Fellowship Council to not only encourage, but to actually mandate, virtual-only interviewing in the years to follow this unprecedented time.

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