

Impact of Coronavirus Disease 2019 on Infectious Diseases Fellows in the United States: Perspectives From the First National Infectious Diseases Fellows Call

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The coronavirus disease 2019 (COVID-19) pandemic has affected many providers, but its impact on Infectious Diseases (ID) fellows in the United States is largely undescribed. In this study, we discuss key issues that emerged from the first national ID Fellows Call with respect to the ID fellow's role during the COVID-19 pandemic, teaching/learning, and research.

Keywords. COVID-19; ID fellowship training; pandemic; postgraduate medical education.

Although the coronavirus disease 2019 (COVID-19) pandemic brought the field of infectious diseases (ID) to the center of the world stage, it has simultaneously changed the course of fellowship training of ID physicians. Certainly, the pandemic has provided fellows with new roles in education, public health, research, and leadership experiences related to virology, emergency preparedness, infection control, global health, biosecurity, and social determinants of health. But despite these new and emerging opportunities, various aspects of fellow training have been negatively impacted by the pandemic. Although 1 paper examined the reflections of ID fellows experiencing the COVID-19 pandemic in Singapore, data specific to the

experiences of ID fellows in the United States are lacking [1]. Studies in other medical fields have shown that the pandemic has led to decreased patient volumes and reduced exposure to non-COVID-19 disease pathologies for trainees, thus directly impacting clinical and physical exam skills [2]. Another critical aspect of training—scheduled didactics and informal teaching sessions—were either canceled or scaled back due to faculty and fellows being deployed to other hospital services or required novel approaches due to the need for physical distancing [3]. The training of physician-scientists has also been adversely affected by COVID-19 research disruptions and national and international conference cancellations. Furthermore, this has all happened upon a background of general public anxiety and fear that has likely impacted fellows' well-being at work and at home.

To provide support, foster connections during these times of isolation, and understand the experiences of ID fellows in the United States during the earliest stage of the pandemic, the Infectious Diseases Society of America (IDSA) Fellows Subcommittee hosted the first national call for ID fellows. In this report, we describe the concepts and lessons that emerged from this call and suggest strategies on how to engage with this group to inform current and future ID fellows and educators.

METHODS

The IDSA Fellows Subcommittee, which consists of current and recently graduated fellows and an administrative IDSA liaison, aimed to reach as many ID fellows in the United States as possible by sending out an invitation to all ID fellows on the IDSA listserv to participate in a 1-hour video conference call to discuss the impact of the pandemic on their professional and personal lives. This call was also advertised in IDSA newsletters, on Twitter, and by word of mouth. When fellows registered for the call, they were asked to select 1 topic that they most wanted to discuss from a list created by the subcommittee that included the following: ID fellow role(s) during the COVID-19 outbreak, Research, Wellness, Rounding, Teaching/Learning, Graduation, and Recruitment/Job search. The call discussion centered around the top 3 topics as chosen by the registrants. The video conference call took place on June 10, 2020. The session started with a brief introduction from the IDSA Fellows Subcommittee Chair to ensure that only trainees joined the call without any participation from faculty or IDSA staff. Using the video conferencing breakout rooms feature, we divided the trainees into 8 smaller groups, each facilitated by a subcommittee member. After the call, we sent out a survey to participants soliciting feedback on the utility of the session and future discussion topics. Fellows Subcommittee members summarized topics discussed in the breakout rooms and combined them into a single

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document to create the key points in [Table 1](#). This call was a fellow-initiated, voluntary peer session and was not intended as generalizable research. This study does not include factors necessitating patient consent.

RESULTS

A total of 181 ID fellows registered for the call, and 65 participated in the session. The top 3 topics favored by registrants were ID fellow role (51% of registrants), teaching/learning (24%), and research (13%). These 3 topics were discussed in each breakout room. After the call, the IDSA Fellows Subcommittee debriefed as a group and then transcribed the key points highlighted in [Table 1](#).

Sixty-six percent (43 of 65) of participants responded to the postcall survey. Eighty-four percent of respondents agreed or strongly agreed that the call was useful. Ninety-one percent agreed or strongly agreed that they would participate in a future call. Participants wished to talk about job search (63%), professional development (47%), ID fellow role(s) during the outbreak (44%), and research (42%) during future calls.

DISCUSSION

In this study, we summarize key issues that emerged from the first national ID Fellows Call, which provided a safe environment for ID fellows to discuss the impact of the COVID-19 pandemic on their lives. The call led to a shared discussion of the participating fellows' current individual experiences, changes in their training structure, and ways to improve their experience during the pandemic. In addition, the call fostered connections and engagement not seen amongst ID fellows previously.

Regarding the ID fellows' role in the pandemic, there were varying experiences across ID fellowship programs, with some fellows reporting that early in the pandemic there was a substantial focus on COVID-19-related activities. Some fellows

were able to participate in these activities through leadership, clinical, administration, or research roles. Some fellows enjoyed having a separate COVID-19 clinical service and viewed that as a positive experience. Fellows in low-prevalence areas did not feel they had similar opportunities for participation in COVID-19 experiences. Participating fellows discussed that they were appreciative of these opportunities during this once-in-a-lifetime event, although they mentioned that a balance between COVID-19 and non-COVID-19 endeavors would be beneficial for their future efforts.

With respect to teaching/learning, participating fellows discussed the shift away from non-COVID-19 topics. Prepandemic, participating fellows enjoyed a balanced curriculum to teach them to be well rounded clinicians. However, recent studies have highlighted that one consequence of the focus on COVID-19 in high-prevalence communities has been that trainees reported making more diagnostic errors due to availability bias, anchoring, and premature closure [4]. Infectious Diseases fellows were very sympathetic to the challenges facing educators on how to make curricular material accessible to fellows, which has sparked an array of novel educational methods, notably, a pivot to online platforms. Educators across the country have been able to leverage the strengths of social media and virtual learning to ensure the continuity of curricula, with examples highlighting the use of infographics and large virtual interactive conferences [5–7]. Participating fellows suggested that we continue to build on these accomplishments by hosting Twitter chats, expanding open-access curated literature compendiums via secure online platforms and inviting experts to deliver lectures via ID fellow webinars. There have been examples of these types of initiatives already happening, such as the weekly CDC/IDSA COVID-19 Clinician Calls and fellows sharing virtual lecture invites or prerecorded lectures on social media [8, 9].

Participating fellows reported that their research projects were impacted by the pandemic. For some, research projects

Table 1. Summary of Key Points From the ID Fellows Call

Topic	Key Points
ID fellow role(s) during the COVID-19 outbreak	<ul style="list-style-type: none"> All experienced support from other colleagues and felt strong camaraderie At some programs, there was initially a large shift to COVID-19 responsibilities, ie, answering related pages, rounding on a designated COVID-19-consult service, conducting COVID-19-related research, and deployment to other services There were interprogram differences in clinical, research, and infection prevention experiences Large variability across institutions in terms of participation in outbreak response and management
Teaching/learning	<ul style="list-style-type: none"> At many programs, initially all lectures and teaching sessions were cancelled Teaching restarted via virtual platforms with a perceived increase in lecture attendance Staying current with COVID-19 literature has been challenging Teaching remained mostly COVID-19-related with less emphasis on non-COVID-19 topics Teaching on microbiology-related topics suffered given the inability to meet in person in the laboratory Significant variability in clinical service and rounding, ie, completing inpatient/outpatient visits from home using telemedicine, in-person visit with patients then virtual rounds with the team to maintain physical distancing, and some utilizing traditional pre-COVID-19 rounding
Research	<ul style="list-style-type: none"> Research projects were suspended, especially for those in the basic sciences Research fellows were transitioned to clinical services or COVID-19-related research. Concerns that fellows would not finish projects in time to apply for NIH career development awards (K08/K23) Some expressed a need for bridge funding given delays with their research projects

Abbreviations: COVID-19, coronavirus disease 2019; ID, infectious diseases; NIH, National Institutes of Health.

were suspended all together, especially those in the basic sciences. Due to the needs of the pandemic, research fellows were transitioned to clinical services or COVID-19-related research. Given this unique experience of serving as front-line clinicians in a pandemic, participating fellows appreciated the opportunity to partake in these activities; however, there were concerns that these fellows would not finish projects in time to apply for National Institutes of Health career development awards such as K08/K23 grants. Participating fellows expressed the need for bridge funding given the delays with their research projects, and they voiced gratitude to fellowship programs for providing such support.

Limitations to this report include lack of universal participation among all ID fellows during the call (65 of approximately 1300 eligible fellows participated) and in the postcall survey (43 of 65 participants). The comments are subjective and may not be generalizable for all fellows. The key points in [Table 1](#) were collected postcall after a debrief with IDSA Fellows Subcommittee members, which may have led to recall bias. Finally, we were not able to quantify the reach of advertisement through social media, forwarded e-mails, and word of mouth, and as such we cannot estimate the number of fellows who were actually aware of the call.

CONCLUSIONS

For the first time, this national ID Fellows Call provided a forum for participating ID fellows to engage with colleagues, share experiences, and build community. Participating ID fellows were able to meet other fellows and listen to perspectives and ideas they may not have heard in other venues. Concepts that emerged from the call provide key reflections on education, trainee roles during outbreak response, and clinical/research activities. As a result of this call, ID fellows wanted to continue direct communication with those they met, with a specific suggestion to create an ID Fellows WhatsApp/Slack chat channel. The second national ID Fellows Call occurred during IDWeek 2020, where we discussed virtual job recruitment and had a panel of 3 ID division chiefs and a recent graduate who participated in virtual

job interviews. The majority of participating ID fellows wanted to participate in more regular national ID fellows calls to stay connected and facilitate collaboration. We feel that continuation of these national calls may be a successful strategy to reach trainees and build connections within a professional network.

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