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**ORIGINAL CONTRIBUTION**

# “Faces on a screen”: A qualitative study of the virtual and in-person conference experience

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**Abstract**

**Introduction:** The strengths and weaknesses of virtual and in-person formats within continuing professional development (CPD) are incompletely understood. This study sought to explore attendees' perspectives across multiple specialties regarding benefits and limitations of conference formats and strategies for successful virtual and hybrid (i.e., in-person conferences with a virtual option) conferences.

**Methods:** From December 2020 to January 2021, semistructured interviews were conducted with participants who attended both virtual and in-person CPD conferences. Purposive sampling was utilized to ensure diverse representation of gender, years in practice, location, academic rank, specialty, and practice type. Multiple specialties were intentionally sought to better understand the broader experience among physicians in general, rather than among a specific specialty. Using modified grounded theory approach with a constructivist-interpretivist paradigm, two investigators independently analyzed all interview transcripts. Discrepancies were resolved by in-depth discussion and negotiated consensus.

**Results:** Twenty-six individuals across 16 different specialties were interviewed. We identified three overarching concepts: motivations to attend conferences, benefits and limitations of different conference formats, and strategies to optimize virtual and hybrid conferences. Specific motivators included both professional and personal factors. Benefits of in person included networking/community, immersion, and wellness, while the major limitation was integration with personal life. Benefits of virtual were flexibility, accessibility, and incorporation of technology, while limitations included technical challenges, distractions, limitations for tactile learning, and communication/connection. Benefits of hybrid included more options for access, while limitations included challenges with synchrony of formats and dilution of experiences. Strategies to improve virtual/hybrid conferences included optimizing technology/production, facilitating networking and engagement, and deliberate selection of content.

**Conclusions:** This study identified several benefits and limitations of each medium as well as strategies to optimize virtual and hybrid CPD conferences. This may help inform future CPD conference planning for both attendees and conference planners alike.

## INTRODUCTION

Continuing professional development (CPD) impacts millions of physicians worldwide and serves an important role for both enhancing professional growth and meeting continuing medical education requirements. While CPD conferences were traditionally conducted in person, virtual conferences rapidly rose to prominence during the COVID-19 pandemic in response to factors such as limitations on travel and social distancing guidelines.<sup>1,2</sup> This has led to inextricable changes in the field with virtual conferences remaining popular as a mechanism to reduce costs and increase access.

Despite this, there is limited understanding of the virtual conference medium. Although most early data from the graduate medical education (GME) sphere noted benefits in terms of flexibility and access, learners reported less engagement, fewer interpersonal interactions, and greater risk of distractions.<sup>3-6</sup> CPD conferences, however, are unique from GME conferences in that GME conferences most often involve small groups of attendees with an established relationship and narrow focus and have an attendance requirement. In contrast, CPD conferences have a much larger audience with a broader scope, tend to be longer in length, usually offer more choices in conference sessions, and often involve a travel component.<sup>7</sup> Given the differences in audience and function, not to mention the substantial number of physicians participating in CPD, understanding how these experiences differ for physicians is important.

As we are seeing a return to some in-person conferences, professional organizations and institutions must decide whether to maintain a virtual presence, transition back to in person, or adopt hybrid formats (i.e., in-person conferences with a virtual option). Additionally, conference attendees need to understand and weigh the pros and cons prior to deciding on attending a given conference format. Therefore, there is a need to better understand the experiences of attending conferences in different formats, weigh the benefits and limitations of different conference mediums, and identify what is needed to support conferences as a platform for dissemination moving forward. The objective of this study was to explore attendees' perspectives regarding benefits and limitations of conference formats and strategies for successful virtual and hybrid conferences to inform future education efforts.

## METHODS

### Study design

Between December 2021 and January 2022, we recruited and conducted semistructured interviews with participants who had previously attended both virtual and in-person conferences for CPD to understand the social and contextual experiences of attending in-person and virtual conferences. We did not require that participants previously attended a hybrid conference. We performed a qualitative analysis of those interviews using a modified grounded theory approach with a constructivist-interpretivist paradigm.<sup>8-10</sup> The

study was performed in accordance with best practice guidelines and adheres to the Standards for Reporting Qualitative Research.<sup>11</sup> The institutional review board at Rush University Medical Center approved this study.

### Study setting and participants

All attending physicians currently practicing medicine in the United States or Canada who had attended both virtual and in-person conferences for their CPD were eligible to participate. For the purposes of this study, we defined CPD as national or international conferences run by professional organizations that included a synchronous component.

We employed a purposive stratified sampling strategy to enhance diversity of representation.<sup>8</sup> Participants were recruited using a snowball sampling technique, based on querying the investigators' combined networks and by referral from enrolled participants. We sought to ensure diverse representation of gender, years in practice, practice location, academic rank, specialty, and type of practice (e.g., academic vs. private practice). As such, we recruited participants in a stepwise fashion, reassessing the distribution of gender, years in practice, location, academic rank, specialty, and type of practice after every five scheduled interviews and then specifically seeking out broader representation for any areas that were not well represented. We intentionally sought out a wide range of specialties to understand the broad range of experiences among physicians as opposed to specific nuances regarding virtual versus in-person conferences within a given specialty.

### Data collection

We conducted a literature review and were unable to identify an existing interview guide that aligned with the goals of this study. Therefore, we developed one specifically for this study, which was informed by existing literature to ensure content validity. The interview guide (Appendix S1) included basic demographics, perceptions, and experiences of virtual and in-person conferences; experiences with different components of each conference type (e.g., lectures, small-group sessions, workshop, networking); preferences; and recommendations for the future. The guide was read aloud and revised among the study investigators to ensure clarity of question phrasing, alignment with the intended focus and constructs, and refinement of prompts to gather additional information. We then piloted the guide among a small sample of representative subjects (i.e., practicing physicians who had attended virtual and in-person CPD conferences) who were not included in the study to optimize response process validity. We made minor revisions related to clarity and added one further concept (hybrid conferences) based on the pilot interviews. No further changes were made to the interview guide after that stage or during data collection.

We conducted semistructured interviews using a video conferencing platform (Zoom, Inc.). Interviews were primarily conducted by one study team member (MG) with advanced training

and experience in qualitative research. This team member trained a second investigator (MS) and performed proctored assessments prior to conducting a subset of the interviews. Each interview was approximately 30–70 min in length, with the mean ( $\pm$ SD) interview time being 41 ( $\pm$ 14) min. Throughout each interview, the interviewer engaged in real-time member checking by paraphrasing responses so that participants could confirm, clarify, or elaborate on a given response.<sup>12</sup> Upon completion of the interview, the interviewer summarized the written observations and key components to ensure that these aligned with the intended meanings of the participants. All interviews were recorded and transcribed verbatim. All transcripts were then reviewed alongside the video in real time, edited for accuracy, and deidentified prior to analysis. We uploaded all interview transcripts into Dedoose. Participants were not compensated.

## Data analysis

Two investigators experienced in qualitative methodology (MG and JJ) independently performed data analysis using a modified grounded theory approach.<sup>8,9,13</sup> The investigators performed both open and axial coding, examining the data line by line to identify recurring concepts and assign codes.<sup>8,9,13</sup> The two investigators later met to develop the final coding scheme. The coding scheme was then discussed among the broader group of investigators (SSS, AB, MS), who had also independently reviewed all of the transcripts. We recognized that the background, prior experiences, and assumptions of study investigators could influence the data set. Therefore, we intentionally sought out investigators with a broader set of experiences, which included practicing physicians, a medical student, and a PhD researcher with extensive qualitative expertise.

Two investigators (MG and JJ) independently recoded all of the transcripts using the established final coding scheme. Overall interrater agreement was 91% (6083 codes agreed upon/6697 codes applied). To enhance the trustworthiness of the data, we also used memos to record thoughts and reflections. The investigators resolved discrepancies through in-depth discussion and negotiated consensus. The investigators further refined the codes into themes using the constant comparative method.<sup>14</sup>

## RESULTS

We invited 26 participants for an interview and all of them accepted. We reached theoretical sufficiency after the 17th interview; however, we analyzed the remaining interviews to ensure diversity of representation and to confirm that no important themes were missed. Participant demographics are included in the Table 1. Participants attended a median of 29 (interquartile [IQR] 8–54) in-person conferences and a median of 4 (IQR 2–5) virtual conferences.

We identified three overarching concepts from our participant's interviews: (1) motivations and decision making to attend conferences, (2) benefits and drawbacks for different conference formats,

**TABLE 1** Participant demographics

Gender	
Female	14
Male	12
Years in practice, mean ( $\pm$ SD)	15 ( $\pm$ 9)
Location	
Midwest US	5
Northeast US	6
Southern US	5
Western US	4
Canada	6
Academic rank	
Instructor/no rank	3
Assistant professor	12
Associate professor	5
Professor	6
Specialty <sup>a</sup>	
Anesthesiology	1
Critical care	1
Emergency medicine	6
Gastroenterology	1
General surgery	2
Hematology/oncology	1
Internal medicine	5
Nephrology	1
Neurology	1
Obstetrics/gynecology	1
Palliative care	1
Pediatrics	6
Physical medicine and rehabilitation	1
Plastic surgery	1
Radiology	1
Rheumatology	1
Type of practice	
Academic	23
Private practice	3

<sup>a</sup>Some participants had multiple specialties.

and (3) strategies to optimize virtual and hybrid conferences. Overall, participants felt that virtual and hybrid conferences held distinct benefits but at this time could not fully replace the value of in-person conferences.

## Motivations and decision making to attend conferences

There were different drivers and motivators for attending conferences. These were difficult decisions and included professional and personal components.

## Professional motivators

Several participants highlighted the importance of keeping up with their field: “I think that there's a sense of professional obligation that you should try to stay up to date in your field and [conferences] are a way to engage with what's most up-and-coming in your area or in your specialty ... it's an important learning opportunity” (P11). Participants were also more likely to attend conferences where the content provided was “directly related to the work” (P4) they do or to their “interest and expertise” (P10). Others felt compelled to attend conferences because of professional commitments such as being a speaker, committee chair, or conference planner: “I was also presenting at the conference, so I felt obligated to attend” (P11).

## Personal considerations

Many participants mentioned the role of location on their decision to attend. Participants considered both the appeal of the destination and the proximity to home: “Let's say you go to Orlando, you bring the family, you go to Disneyworld ... you can change it into some sort of family vacation” (P22). Participants with families noted that these responsibilities also played a role in their decision-making and their potential toll on participants: “Leaving your family and your kids is hard ... and all the other life responsibilities” (P8).

Cost was another mitigating factor. Those with institutional funding were more apt to attend: “I am somebody who has CME money ... so I'm probably more likely to sign up for [a conference]” (P7). While others highlighted the conflict and need to be judicious with their spending: “Just thinking about conferences and trying to make sure that I can attend the parts that I want without having to spend exorbitant amounts of money” (P12).

## Benefits of in-person conferences

Participants generally regarded in-person conferences as beneficial and identified three major strengths of this format: networking and community, immersion, and wellness.

### Networking and community

All participants highlighted networking as an important benefit of in-person conferences. The benefit was seen both in developing networks, as well as developing future collaborations: “I've also gotten to meet a lot of people that have similar interests and, kind of, create not only a broader network, personally and professionally, but also ... come up with new projects and collaborate” (P4). The opportunities for networking and collaboration in a “more personal” (P18) and

“intimate” (P10) environment also led participants to experience a “sense of community” (P23), which they felt was difficult to replicate in the virtual environment. Participants specifically highlighted the interstitial space of in-person conferences such as hallway conversations, chats over coffee, and social events as being particularly helpful for networking and collaboration.

## Immersion

Participants also noted the ability to be present, focus their attention, and immerse themselves in the conference experience as another strength of the in-person format: “I appreciated the ability to really, truly dedicate that time to being present in my own learning” (P4). In-person conferences afforded participants protected time and an environment free from distractions and the usual demands of home and work life: “This is all I'm doing for this week. I can put an away message on my email, not have to deal with that for a little bit ... and get to focus on those conferences and interact with people” (P22).

## Wellness

Participants noted that they drew energy from in-person conferences, which positively contributed to their well-being:

[In-person conferences] are actually a way of refreshing professionally ... I think a lot of the focus on wellness, sort of how busy we clinical people are ... I think being able to take a break and go to a meeting and just feel like the effort to do that has been devoted to professional development and rest and all those things impact wellness (P25).

## Limitations of in-person conferences

The biggest limitation of in-person conferences was integration with personal life. Participants noted that in-person conferences require a certain amount of advanced planning: “There are some things about conferences that are a little bit problematic. They're disruptive to your life, they require time away from your home and your family” (P23). Another participant commented on the challenge of being away to attend an in-person conference and the emotional consequences:

Having to get childcare or your spouse is having to pick up the reins. And then, you know, your kids are gone all week from you, in daycare and after school and, so ... the guilt of having to do that ... and to be away and having to block the clinic and family obligations (P8).

## Benefits of virtual conferences

Participants felt that virtual conferences offered a valuable alternative to in-person conferences. Unique benefits included flexibility, accessibility, and useful incorporation of technology.

### Flexibility

Some participants commented on the ability to control the timing of sessions and content with less disruption in their day-to-day lives: "I could work my schedule around lectures that were interesting to me as opposed to just kind of seeing what was over there ... to me that was really valuable" (P22). When content was asynchronous, participants appreciated the ability to "back up, go forward, and skip stuff" (P24). Others appreciated the comfort and convenience that the flexible format afforded: "I can wear a T-shirt and be comfortable and be sipping a coffee without any worrying about my neighbors around me. And I can take a break when I want to and not tiptoe out of the room" (P20).

### Accessibility

Participants identified accessibility as a major strength of the virtual format. They noted that virtual conferences were more accessible "not only for attendees, but speakers" (P22). One participant stated:

[Virtual conferences] allow people to participate who wouldn't have normally been able to participate. And so, you can see more people from other countries participating in what would normally be just a national meeting. You get people who just wouldn't have had the time to take away from their home for another four- or five-day conference, but they can join for a couple of sessions. I think that's a nice advantage (P23).

This broader access was helpful for bringing together "different perspectives" (P23) in a more inclusive fashion: "[Virtual conferences] have a larger diversity in the attendees in a small group and the downstream benefits of having a greater depth and richness of conversation as a consequence of that" (P16). This accessibility extended to asking questions in the virtual format, as some felt it was less intimidating and allowed for: "... electronic disinhibition [that] leads people who would never ask a question in a face-to-face [setting], asking questions ... you're going to be much less intimidated typing [a question] into the chat or question and answer box of Zoom" (P24).

### Useful incorporation of technology

Participants appreciated the ease of accessing supplemental material in real time, as well as easy recording for future use: "It's enhancing to the educational experience if you can go back and review the

[conference materials]" (P25). However, some participants noted a mismatch between their intentions to review or access content at a later date and reality:

You can watch those sessions for free for the next six months ... but then reality happens also. You get full of all your other responsibilities, and patient care, and life, and so the likelihood that I'm going to watch those sessions ... the farther away from the conference, it starts to diminish (P2).

Others emphasized the benefits of screen captures and access to recorded materials to facilitate dissemination of content: "Now I can tweet the entire talk and every single slide and a tutorial" (P15).

## Limitations of virtual conferences

Limitations of virtual conferences included technical challenges, distractions, limited value for content requiring tactile learning, a communication and connection.

### Technological barriers

Participants reported frustration with clunky platforms, spotty internet connectivity, and inadequate technical support: "Audio and visual might be disconnected which is an issue in terms of viewing ... the platform just wasn't smooth; it would keep booting me back out to the main page...that was really frustrating" (P19).

### Distractions

Many participants reported challenges of decreased attention spans and distractions in their local environments (e.g., emails, pager alerts, family/work responsibilities): "It's definitely a negative experience when you're getting pulled in different directions. If you're answering pages and having to step off to return a call, it's defeating the educational purpose" (P26). Others noted that they were less likely to set aside dedicated time and focus on the sessions compared with in-person events: "The thing is that most of us—myself included—don't clear our schedule when we're home. Why would we when we know we're going to multi-task?" (P21).

### Tactile learning

Participants noted that the virtual format was not ideal for education requiring hands-on, tactile learning such as procedural training: "I think for the obvious aspect of directing a needle; you can describe it all you want, but to actually do it to a cadaver or an ultrasound mannequin model, it's very hard to duplicate that virtually" (P20).

## Communication and connection

Participants noted that communication was more constrained in the virtual environment:

One of the things that I've noticed with virtual meetings is that it's sometimes really hard for people to know when one person is done talking and when it's an appropriate time for somebody else to jump in. So, I think it makes some of that natural back and forth a little more difficult since people aren't in the same room (P13).

Participants also found it challenging to be authentic in the virtual environment: "It just doesn't feel natural, and it just makes me feel uncomfortable...we're not really connecting, we're just kind of faces on a screen and it's less of real people" (P4). Many participants highlighted the difficulty with networking in virtual conferences:

I think my experience networking at virtual conferences is very minimal. I can't think of a single person I met in a virtual conference that I've kept in contact with ... if I didn't know the person beforehand, I feel like I don't interact with them during either an actual session or a specifically designated networking event. I just don't feel like it happens naturally ... I still don't feel like it's as conducive to truly networking" (P4).

## The best (or worst) of both worlds: hybrid conferences?

Participants felt that hybrid conferences offered a valuable alternative, allowing more options for attendees to access content. However, they also noted unique limitations—beyond those ascribed to virtual or in-person conferences above—including challenge with synchrony of experience across different mediums and concern that hybrid dilutes the conference experience.

## More options for access

Participants noted that hybrid conferences provided the opportunity to choose virtual versus in-person based on individual preferences and needs: "I think giving people the choice to choose what method works for them is helpful ... because everybody's life is different and [hybrid conferences] can give them the option to figure out what works for them" (P13). Others appreciated the opportunity to take advantage of both formats: "I found myself starting with the in-person, bouncing back to the virtual, mostly because I just didn't want to go outside because it was cold and then when there was a particularly interesting topic, I would actually go [in-person]. So, I liked the flexibility" (P20).

## Challenge with synchrony of experience

Participants noted challenges associated with trying to synchronize a conference experience that utilizes multiple mediums:

I feel like it's sometimes hard with these hybrid conferences, things will be happening in-person and then things will be happening virtually and you kind of want to do both ... there's a lot of back and forth ... It's tough when some people are in-person and some are virtual ... I've been in a session [as a virtual attendee at a hybrid conference] where they're basically sharing the computer screen so I'm not seeing anything of what's happening in the conference. But then what happens is someone [in-person] will ask a question and if whoever's moderating doesn't repeat what the person had asked, I'm not sure what the person asked" (P9).

## Dilution of experience

Participants highlighted that hybrid can "be problematic because what you're going to do is end up diluting the experience [for both groups]" (P2). One participant described this as: "The worst of both worlds ... anyone who's been in a Zoom where half the people are in the room, or half the people are elsewhere, you feel that, right?" (P2). Others commented on the negative experience of being in-person when the speaker was virtual:

There were [conference] rooms where there were 100 people in the room, but the speaker was on a big screen, which was very strange. So, the speaker didn't fly in, but we all came ... so we all sat in a room, and we watched [the speakers] basically do a podcast on a big screen" (P6).

## Considerations for improving virtual and hybrid conferences

Participants identified three strategies for improving virtual and hybrid conferences: optimize technology and production, facilitate networking and engagement, and deliberately select content for the medium.

### Optimize technology and production

Multiple participants emphasized the importance of technology, including the conference platform, video and audio quality, and internet speed for the sessions.

Some conferences are beset with technological difficulties, and you try to sign on and there's one screen,

and the chat isn't working, or something else. And so, even if there are opportunities for engagement, if they are buggy you tend to not utilize them. And so, it very much becomes, sort of, passive watching a TV-screen-type experience (P7).

However, participants appreciated that this comes with a cost: "The amount of money the organization invests in the electronics is directly proportional to the quality" (P24). Production quality was also an important factor:

People who are in charge of the national conferences should definitely try to look towards the groups that are more successful in their video production, video-editing ... I think it would be beneficial for these groups to really identify who within their ranks is very, very skilled at this type of thing and try to get those folks involved in the conferences from a standpoint of how to produce them ... enlisting people who really can help the presentation or the presenters with their use of technology ... so that the presentation is more than just a Zoom video of someone talking and showing their PowerPoint slides ... in order to make a good virtual conference, you really do have to involve other specialists to help you bring it to a level that's appropriate rather than just videoing it (P11).

### Facilitate networking and engagement

Participants emphasized the need to improve networking and engagement as well as capitalizing on the broader audience and accessibility of virtual/hybrid conferences: "Knowing that more people can attend, finding a way to engage with more of those attendees ... making these events more interactive somehow, I think, would be the chief goal" (P25). Examples of specific strategies to increase engagement and networking offered by participants included small group discussions, moderated chat, games, annotation, and meet-and-greet rooms.

### Deliberate selection of content

Participants emphasized tailoring the content toward the medium. Content that is "natively digital" (P7) or utilizes a unidirectional flow of information is well suited to the virtual medium: "Optimize the particular topics or intention of a particular element of a conference to the media that works best ... and maximize the value of that information communication through whatever works best" (P16). Another common suggestion for hybrid conferences was blocking time for different mediums: "It'd be nice if there were blocks of time that you knew were virtual blocks of time or that you knew were in-person, just to allow people to schedule things better" (P9).

Overall, when given the option between in-person versus virtual, 18 preferred in person, four preferred virtual, and four liked both options without a distinct preference. Despite many of our participants still preferring in-person conferences to virtual or hybrid, several commented that virtual and hybrid conferences were still in their infancy and continuously evolving and that their perspectives of them may change.

## DISCUSSION

Virtual CPD conferences are an evolving medium unlikely to disappear after COVID-19. Despite this, our understanding of this conference model remains scant. This study aimed to better understand how the virtual format impacted the conference experience and identify ways to optimize the conference experience moving forward.

Attendees valued the networking and community experienced with in-person conferences, noting that the virtual conference experience did not feel as natural and lacked the ability to connect with others. Attendees yearned for greater connection but found that the current virtual format fell short. Similar challenges have been identified within the GME environment, with two recent mixed-methods studies reporting reduced interactions and engagement among attendees.<sup>3,4</sup> This is particularly interesting when viewed through the lens of connectivism, a learning theory focused on the virtual environment that emphasizes the role of active engagement between learners and creation of learning communities.<sup>15,16</sup> Virtual conferences could be well situated to expand these learning communities and provide for cocreation and amplification of knowledge among attendees.<sup>7</sup> In fact, many participants highlighted this a key area for improvement and innovation. Therefore, conference planners should consider strategies to increase connectivity between participants in future programs. Similarly, conference attendees may want to consider how best to establish and build connections with other attendees and speakers in the virtual medium.

Participants also commented on accessibility, with virtual conferences allowing greater access for those who could not attend due to cost, time, or other reasons (e.g., travel limitations, family obligations). Many international in-person conferences can be cost-prohibitive for attendees, reducing the international audience to those living in geographic proximity. This can reduce access to and sharing of ideas across countries, slowing advancement of specialties, particularly in locations where the specialty is less established. Virtual models could offer an ideal option for these participants. Moving forward, conference planners should capitalize on this unique benefit to seek out a wider range of attendees and speakers to enhance the diversity of viewpoints and experiences.

Interestingly, participants reported challenges with integration into personal and professional obligations regardless of format. While virtual conferences do not require the travel and dedicated time away that is associated with in-person, they do not seem to be



protected in the same way as in-person conferences; participants noted they are more prone to multitasking and distractions in the virtual setting. In contrast, in-person conferences offered the ability to immerse in the experience and “refresh professionally,” but often at the expense of increased “emotional consequences” from missed work or home obligations. Conference attendees and their institutions need to account for this, and it would be important to ensure adequate protected time to fully engage in the virtual conference.

Ultimately, this does not appear to be a one-size-fits-all model and there are likely roles for both formats. Virtual may offer opportunities for increased access, decreased costs, and a lessened environmental impact, while in-person can capitalize on the authentic connections and shared experience not currently available in the virtual sphere. Finally, hybrid may serve an important role to balance the differing needs and allow participants to choose the model that fits best for them. However, to optimize the hybrid model, conference planners must decide how best to approach the dyssynchrony of the experience. This may involve optimizing the technology and engagement techniques used versus simply separating the sessions in time and gearing each session for a specific medium. Future work will be needed to determine how best to improve the hybrid model.

## LIMITATIONS

It is important to consider several limitations. Although we had a broad sample of participants representing numerous clinical specialties, locations, and gender, we may have missed important perspectives from attendees who were not interviewed including nonphysicians. By including multiple specialties, we were not able to isolate the experiences of a single field, and it is unclear whether the findings may differ between specialties. Further, our interview guide may have inadvertently omitted important questions that could have impacted our findings, though our interviewers attempted to obtain rich answers using follow-up questions. Interview studies such as ours are limited by recall bias and several response biases, including acquiescence bias, courtesy bias, and social desirability bias. Finally, it is unclear how participants' experiences with conferences will continue to change over time—particularly as this was conducted during the first 2 years of the COVID-19 pandemic. Our rigorous methods, combined with specific inclusion criteria (e.g., attended both in-person and virtual conferences) allowed us to describe how participants are negotiating the role of conferences, both personally and professionally, at this point in time. Additional studies are needed to continue to examine the role of conferences to assess the transferability of our results and capture the stability, or lack thereof, of these perspectives moving forward.

## CONCLUSION

While the role of virtual conferences within continuing professional development is still evolving, there is a need to continue to study

this medium. This study provides insights into the values and experiences of attendees as well as areas for growth to inform future conference planning and innovations.

## AUTHOR CONTRIBUTIONS

In preparing this manuscript, all authors have adhered to the ICMJE standards for publication. Michael Gottlieb and Jaime Jordan conceptualized the study. Michael Gottlieb, Abigail Bawden, and Meeta Shah collected data. Michael Gottlieb, Stefanie S. Sebok-Syer, Abigail Bawden, Meeta Shah, and Jaime Jordan all helped to analyze and interpret the findings. All authors contributed to the drafting of the manuscript and subsequent editing and approval of final drafts for submission.

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## CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

## ETHICS STATEMENT

This study was deemed exempt by the institutional review board at Rush University Medical Center.

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#### SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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