



Effectiveness of Virtual Residency Interviews: Interviewer Perspectives

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BACKGROUND AND OBJECTIVES: Virtual residency interviews were widely utilized during the COVID-19 pandemic. Little is known about the effectiveness, advantages, barriers, and acceptability of virtual interviews, casting uncertainty about how interviews should be conducted after the pandemic. We conducted a survey of interviewers to inform future decisions.

METHODS: We developed and implemented an online postinterview survey of interviewers representing seven residency programs and two clinical psychology programs at one midsized academic medical center. We analyzed results using descriptive statistics.

RESULTS: Of 312 interviewers, 136 completed the survey (44% response rate). A majority rated virtual interviews as very or extremely effective in creating a comfortable setting (79%), answering interviewee questions (86%), establishing a sense of connection (59%), evaluating interviewee strengths (64%), and communicating program culture (51%). About half felt virtual interviews were not effective at all or only slightly effective for evaluating interviewee strengths via informal interactions (51%). A similar portion agreed or strongly agreed that virtual tours (44%) and social environment (50%) information were adequate. The most frequent advantages were time efficiency (81%), reduced carbon footprint (61%) and cost savings (56%). Frequent disadvantages included technological issues (21%) and caregiving duties (18%). Most interviewers (91%) thought some form of virtual interviews should be incorporated postpandemic.

CONCLUSIONS: Interviewers found virtual interviews to be effective in most aspects, and identified more advantages than barriers. The vast majority preferred incorporation of virtual interviews in the future. Virtual tours and social activities were areas for improvement.

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The COVID-19 pandemic led to widespread adoption of virtual residency program interviews. Little is known about the effectiveness, advantages, barriers, and acceptability of the virtual interview format. Studies of these factors are

needed to inform decisions about future interview formats.

A growing number of studies have assessed effectiveness, perceived advantages, disadvantages, and acceptability of virtual interviews.¹⁻³⁶ Most studies were limited to single programs or specialties. In our current

study, we analyzed the results of a multiprogram, single-institution survey of interviewers' perceptions of effectiveness, advantages, and barriers related to virtual residency interviews. We also assessed preferences for future interview seasons.

Methods

We sent an online survey to interviewers and applicants in anesthesiology, clinical psychology internship and PhD programs, emergency medicine, family medicine, general surgery, obstetrics and gynecology, pediatrics, and psychiatry programs following virtual interviews at one academic institution in the Pacific Northwest during the 2020-2021 match cycle. We previously reported survey development methods and applicant perspectives.³⁷ The current analysis assesses interviewer responses.

As previously described, a multidisciplinary group created a survey using expert opinion and literature review for content validity. We piloted the survey among a group of 10 people to ensure clarity. The instrument assesses effectiveness, advantages, barriers, and future preferences for interview format (Appendix Box 1: <https://journals.stfm.org/media/5153/appendix-box-1-survey.pdf>). Although this was not a detailed analysis of virtual interview

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equity, we included several equity-related items such as pregnancy, breastfeeding, dependent care, disability, and mental health conditions.

We generated descriptive statistics of survey data. All analyses were conducted using SAS 9.4 software (SAS Institute Inc, Cary, NC). This study was exempted by the Oregon Health & Sciences University Institutional Review Board.

Results

A total of 136 out of 312 interviewers completed the survey (response rate of 44%; Table 1). Interviewers identified predominately as female (58%) and White (73%). The majority (67%) were under age 45 years, with very few respondents over the age of 55 years (13%); 83% reported they were interviewing from an urban location.

Effectiveness

As shown in Table 2, the majority of interviewers rated virtual interviews as very or extremely effective in creating a comfortable setting (79%) and answering interviewee questions (86%). A smaller majority of interviewers rated virtual interviews as very or extremely effective for establishing a sense of connection (59%), evaluating interviewee strengths via the formal interview (64%), and communicating program culture (51%), although an additional 30% to 38% of interviewers felt virtual interviews were moderately effective in these areas. Over half of interviewers (51%) felt that virtual interviews were either not effective at all or only slightly effective for evaluating interviewee strengths via informal interactions. Similar portions of interviewers agreed or strongly agreed the virtual format was effective at providing adequate tours (44%) and providing adequate information about the institutional social environment (50%).

Advantages and Barriers

A large portion of participants identified more advantages than barriers of virtual interviews (Figure 1).

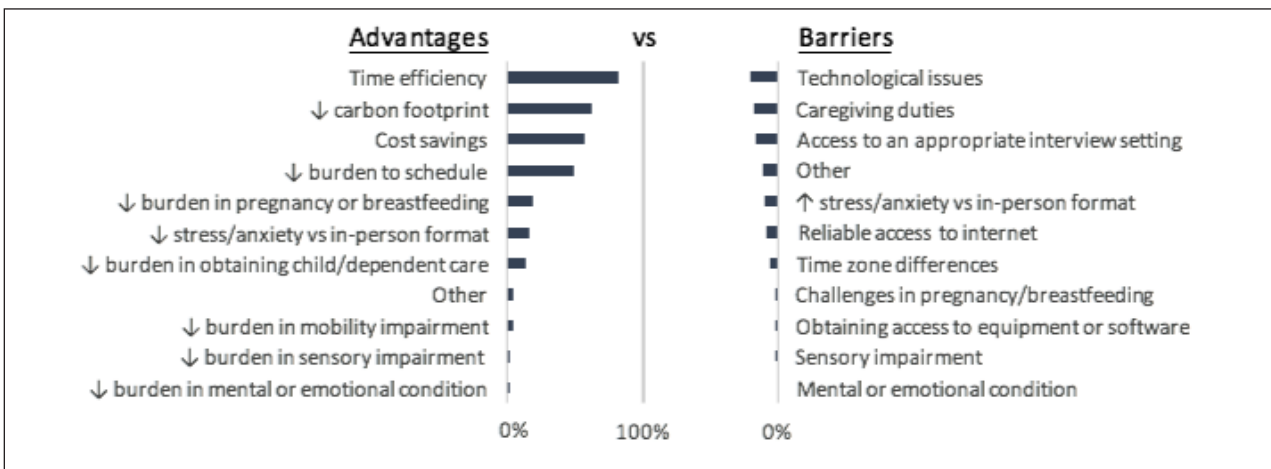
Table 1: Respondent Demographics

Demographic	Interviewers, n (%)
Gender	
Female	79 (58.1)
Male	47 (34.6)
Nonbinary	1 (0.7)
Trans	0 (0.0)
Prefer not to answer	3 (2.2)
Missing	6 (4.4)
Race	
White	99 (72.8)
Asian	17 (12.5)
LatinX	3 (2.2)
Native Hawaiian or Pacific Islander	1 (0.7)
Black	0 (0.0)
American Indian or Alaska Native	0 (0.0)
Asian and White	1 (0.7)
Latinx and White	4 (2.9)
Black and White	3 (2.2)
Other	3 (2.2)
Missing	5 (3.7)
Age (Years)	
18-24	0 (0.0)
25-34	29 (21.3)
35-44	62 (45.6)
45-54	22 (16.2)
55-64	13 (9.6)
65-74	3 (2.2)
75+	2 (1.5)
Missing	5 (3.7)
Location	
Rural	2 (1.5)
Suburban	15 (11.0)
Urban	113 (83.1)
Missing	6 (4.4)
Department	
Anesthesia	9 (6.6)
Clinical psychology internship	1 (0.7)
Clinical psychology PhD	11 (8.1)
Emergency medicine	13 (9.6)
Family medicine	15 (11.0)
General surgery	17 (12.5)
OB/GYN	20 (14.7)
Pediatrics	43 (31.6)
Psychiatry	7 (5.2)

Table 2: Effectiveness of (A) Virtual Interview Components and (B) Virtual Tours/Social Activities

A. Please rate your level of agreement with the statements below regarding the comfort and effectiveness of the virtual interviews in the following categories:					
	Not Effective at All n (%)	Slightly Effective n (%)	Moderately Effective n (%)	Very Effective n (%)	Extremely Effective n (%)
Establishing a safe and comfortable interview setting	0	2 (1.5)	26 (19.3)	79 (58.5)	28 (20.7)
Connecting with the candidate	3 (2.2)	12 (8.9)	40 (29.6)	65 (48.1)	15 (11.1)
Evaluating applicant traits via formal interview	1.5 (2)	6 (4.4)	41 (30.4)	69 (51.1)	17 (12.6)
Evaluating applicant traits via observation of informal interactions	21 (15.6)	48 (35.6)	38 (28.1)	22 (16.3)	6 (4.4)
Communicating program culture	3 (2.2)	12 (9.0)	51 (38.1)	54 (40.3)	14 (10.5)
Answering applicant questions	0	2 (1.5)	17 (12.6)	68 (50.4)	48 (35.6)
B. Rate your agreement with the following statements regarding virtual tours/ information about our social and physical environment:					
	Strongly Disagree n (%)	Disagree n (%)	Neither Agree nor Disagree n (%)	Agree n (%)	Strongly Agree n (%)
The virtual tour of the hospital and clinics gave the interviewee a fair representation of the work environment.	1 (2.6)	9 (23.1)	12 (30.8)	13 (33.3)	4 (10.3)
The virtual social activities and/or videos provided an adequate opportunity for applicants to meet a sample of our trainees and learn about the social environment of our program.	2 (3.7)	8 (14.8)	24 (31.5)	24 (44.4)	3 (5.6)

Figure 1: Perceived Advantages Versus Barriers of Virtual Residency Interviews



Top-perceived advantages were time efficiency (81%), reduced carbon footprint (61%), cost savings (56%), and less burdensome to schedule (49%). Interviewers selected technological issues (21%), caregiving duties (18%), access to an appropriate interview

setting (16%), and increased stress/anxiety (9.9%) as top barriers. Few selected advantages or barriers related to disabilities (full data available in Appendix Table 1 at <https://journals.stfm.org/media/5154/appendix-table-1-advantages-and-barriers.pdf>).

Acceptability

Most interviewers (91%) preferred to incorporate a virtual format in future interview cycles. The most common preference selected was “Two stages: Interviews are conducted virtually with programs having the

option of inviting a subset of applicants for subsequent face to face visits" (49%). Some preferred providing an option of virtual or in-person (29%) or remaining entirely virtual (13%). The least-preferred format was entirely face to face (9%).

Discussion

Our study demonstrated an overall positive perception of the virtual interview platform. Most interviewers rated virtual interviews as effective in most aspects, although the virtual format was relatively less effective for evaluating interviewee strengths via informal interactions, providing adequate tours of the facilities, and providing adequate information about the institutional social environment. Interviewers endorsed advantages more frequently than barriers, with positive perceived impacts on time efficiency, carbon footprint, cost, and scheduling burden. The majority supported virtual platforms for the future, with many endorsing a two-tiered approach (eg, virtual followed by in-person for a selected few).

Our study results are in line with a growing body of literature suggesting that a majority of interviewers find the virtual platform effective and acceptable.¹⁻³⁶ Concerns expressed in most studies related to providing information to applicants about the physical and social environment of a program, and an ability to assess applicants' interpersonal interactions. The majority of studies available for comparison were single program or single specialty, whereas our study included several specialties. Results were still consistently supportive of virtual platforms.

Few studies have identified specific advantages and barriers to the virtual interview format.^{7,8,14,16,20,21,34} Our findings identified cost savings and time efficiency as significant advantages, in line with other studies. Novel to our study, carbon footprint savings was the second-most selected advantage. This is an

important factor to consider during the current climate crisis, and in line with studies showing substantial carbon emissions related to interview travel.³⁸⁻⁴¹ We uniquely identified caregiving duties and access to appropriate interview setting as top barriers, warranting future, more detailed, exploration into these concerns.

Limitations include that this was a single institution survey and had a response rate of 44%. The majority of respondents were under age 45 years, and as such may have biases related to comfort with the use of technology. Our inclusion of equity-related items was limited, potentially missing important issues such as impacts of racial bias. We also did not directly compare virtual interviews to the alternatives of in-person or hybrid interviews.

Overall, interviewers perceived virtual interviews as acceptable, effective, and advantageous with a positive impact on time efficiency, cost and carbon footprint. The majority indicated that they preferred virtual interviews be part of future recruitment cycles. Further research may focus on methods to improve evaluation of applicants' informal interactions and tours/social activities from a virtual platform, and how to ensure equitable match results for applicants.

PRESENTATIONS: Partial data from this study were presented at the Society of Teachers of Family Medicine annual meeting (virtual) in May, 2021; at the Council on Resident Education in Obstetrics and Gynecology; and at the Association of Professors of Gynecology and Obstetrics Annual Meeting, March 2022.

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