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# Perceptions of a virtual interview process for pharmacy residents during the COVID-19 pandemic: A multisite survey of residency candidates, preceptors, and residency program directors



Supplementary material is available with the full text of this article at [AJHP](#) online.

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**Purpose:** To describe the perceptions of residency candidates, residency practitioners (current residents and preceptors), and residency program directors (RPDs) regarding a virtual interview process for pharmacy residency programs across multiple institutions.

**Methods:** In May 2021, an anonymous web-based questionnaire characterizing perceptions of the virtual interview process used during the coronavirus disease 2019 (COVID-19) pandemic was distributed to residency candidates, residency practitioners, and RPDs across 13 institutions. Quantitative responses measured on a 5-point Likert scale were summarized with descriptive statistics, and open-ended questions were analyzed using thematic qualitative methods.

**Results:** 236 residency candidates and 253 residency practitioners/RPDs completed the questionnaire, yielding response rates of 27.8% (236 of 848), and 38.1% (253 of 663), respectively. Overall, both groups perceived the virtual interview format positively. When asked whether virtual interviews should replace in-person interviews moving forward, 60.0% (18 of 30) of RPDs indicated they agreed or strongly agreed, whereas only 30.5% (61 of 200) of current preceptors/residents and 28.7% (66 of 230) of residency candidates agreed or strongly agreed. Thematic analysis of qualitative responses revealed that while virtual interviews were easier logistically, the lack of in-person interactions was a common concern for many stakeholders. Lastly, the majority (65.0%) of residency candidates reported greater than \$1,000 in savings with virtual interviews.

**Conclusion:** Virtual interviews offered logistical and financial benefits. The majority of RPDs were in favor of offering virtual interviews to replace in-person interviews, whereas the majority of residency candidates and practitioners preferred on-site interviews. As restrictions persist with the ongoing pandemic, our results provide insight into best practices for virtual pharmacy residency interviews.

**Keywords:** COVID-19, pharmacy education, pharmacy residency training, postgraduate training, virtual interviews

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The ongoing coronavirus disease 2019 (COVID-19) pandemic has led to catastrophic repercussions on delivery of healthcare worldwide.<sup>1,2</sup> The impact on the associated pandemic restrictions has resulted in a transition in how healthcare practitioners are recruited into postgraduate training programs. As

the American Society of Health-System Pharmacists (ASHP) continues to recommend that virtual interviews are offered to all candidates who are unable to interview in person, there is a critical need to study virtual recruitment practices in order to ensure the continued quality of the pharmacy residency match process.<sup>3</sup>

To address these concerns, we established a collaborative effort across 13 health systems to garner feedback on the virtual interview process from key pharmacy residency stakeholders. The primary objectives of this work are to (1) describe the perceptions of pharmacy residency candidates, current pharmacy residency practitioners, and residency program directors (RPDs) regarding a virtual interview process for pharmacy residency programs across 13 institutions and (2) provide recommendations for pharmacy residency programs for future recruitment cycles.

## Methods

**Design.** A cross-sectional electronic survey was used to collect perceptions of the virtual process from residency candidates, current residents, preceptors, and residency program directors from 13 institutions. These key stakeholders across programs at 13 institutions' programs completed a voluntary, anonymous, web-based questionnaire of their perceptions of the virtual interview process. Institutional review board exemption/approval was obtained at all 13 institutions.

**Sample.** 60 ASHP-accredited residency programs were identified based on size, affiliation with an academic medical center, and perceived interest in participating in a multisite survey. Thirteen institutions followed up with the requirements to participate, and these formed the collaborative research group for this study. Of these 13 institutions, the majority (84.6% [11 of 13]), were academic medical centers, with a median of 9 (range, 2-14) postgraduate year 1 (PGY1) pharmacy practice residents (eTable 1).

"Residency candidates" were defined as those who had applied for either PGY1 or postgraduate year 2 (PGY2) pharmacy residency programs in 2021, and "residency practitioners" were defined as those individuals who were PGY1 or PGY2 pharmacy residents, pharmacy residency preceptors, or RPDs who participated in recruitment during the 2021 year.

## KEY POINTS

- A multisite, cross-sectional survey of pharmacy residency candidates, pharmacy residents, preceptors, and residency program directors was conducted to characterize perceptions of the virtual interview process.
- Overall, virtual interviews were perceived well by stakeholders, with benefits such as improved logistics, efficiency, and cost savings.
- Despite positive perceptions, a majority of residency candidates and practitioners do not prefer a virtual interview format to replace in-person interviews, whereas the majority of RPDs were in favor of replacing in-person interviews with a virtual format.

**Measurements.** The questionnaire was developed at a single institution where it was reviewed and vetted by several clinical pharmacists and RPDs. Questionnaire items were developed to reflect various aspects of the virtual interview process and assumed the form of statements with an associated 5-point Likert-type agreement scale. Additionally, feedback was obtained from cohorts of current pharmacy residents as well as pharmacy residency candidates to ensure the questionnaire adequately addressed the research question. These same cohorts were used to test the viability of the questionnaire prior to deployment. After review at a single site, the questionnaire was further revised based on feedback from each participating site.

RPDs were asked several questions regarding the impact of virtual interviews on the number of candidates reviewed, the number interviewed, and last matched rank. Residency candidates were asked several questions pertaining to their estimated cost

savings. Additionally, both the residency candidates and residency practitioner stakeholder groups were asked 3 open-ended questions, as follows: What did you enjoy most about the virtual interview process? What did you enjoy least about the virtual interview process? What suggestions do you have for improving the virtual interview process? These were analyzed using thematic qualitative research methods.<sup>4,5</sup>

**Analysis.** Responses were provided using the following scaling: 1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, and 5 = strongly disagree. Participants could refrain from answering any questions they wished, and complete and incomplete responses were included in the final results. Data were analyzed using descriptive statistics and reported as counts and percentages unless otherwise specified.

**Implementation.** Questionnaires were distributed using either Qualtrics (Qualtrics, LLC, Provo, UT) or REDCap (Research Electronic Data Capture; Vanderbilt University, Nashville, TN) depending on participating location. These were distributed in May of 2021 via email from the RPDs of each program to the residency candidates, practitioners, and RPDs that participated in recruitment at each respective institution. All stakeholders were asked to complete the questionnaire a single time and not submit duplicate responses for multiple institutions or for any other reason.

## Results

**Residency candidates.** A total of 236 residency candidates completed the online questionnaire, yielding a response rate of 27.8% (236 of 848); however, only 27.1% (230 of 848) completed the Likert scale portion of the questionnaire. The distribution of questionnaire responses is shown in eTable 1. When asked about their current designation as a pharmacy residency applicant, 77.1% of respondents (182 of 236) indicated being a PharmD student applying for a PGY1 program, 21.2% (50 of 236) indicated being a current PGY1

resident applying for PGY2 program, and 1.7% (4 of 236) indicated "other." Only 6.8% (16 of 236) reported being international applicants.

Overall, 25.4% (60 of 236) reported they had previously (prior to 2021) participated in an in-person pharmacy residency interview, and 47.9% (113 of 236) reported having completed virtual interview training offered by their college of pharmacy and/or current residency program. Residency candidates reported applying to a mean of 12.2 (range, 1-42) residency

programs, and reported interviewing at a mean of 7.5 (range, 1-23) residency programs. When asked about their residency match status, 89.0% (210 of 236) of residency applicants reporting having matched in Phase I of the ASHP Resident Matching Program.

Table 1 presents the residency candidates' perceptions of the virtual interview process. Approximately half, or 49.6% (114 of 230), of residency candidates agreed that the virtual interview process allowed them to effectively evaluate their fit as a potential resident

with the program. Overall, residency candidates' perceptions of the virtual interview process were similar regardless of whether they were a PGY1 versus a PGY2 residency candidate, whether they had received prior virtual interview training, or whether they obtained a residency position during Phase I of the ASHP Match (eTables 2-4).

Additionally, the majority of residency candidates, 55.7% (128 of 230), agreed that the cost savings associated with the virtual interview process outweighed the benefits of in-person

**Table 1.** Perceptions of Virtual Interview Process Among Pharmacy Residency Candidates (n = 230)<sup>a</sup>

Survey item	Response option, No. (%)					Score, mean (SD) <sup>b</sup>
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	
Compared to in-person interviews, virtual interviews were less stressful.	47 (20.4)	77 (33.5)	62 (27.0)	38 (16.5)	6 (2.6)	2.5 (1.1)
I had sufficient time to respond to questions during the virtual interview process.	70 (30.4)	141 (61.3)	8 (3.5)	9 (3.9)	2 (0.9)	1.8 (0.7)
I had sufficient time to ask questions during the virtual interview process.	77 (33.5)	129 (56.1)	11 (4.8)	12 (5.2)	1 (0.4)	1.8 (0.8)
The virtual interview process allowed me to effectively evaluate my fit as a potential resident with the program.	22 (9.6)	92 (40.0)	52 (22.6)	53 (23.0)	11 (4.8)	2.7 (1.1)
The virtual interview process allowed me to adequately interact with the RPD in a meaningful way.	60 (26.1)	108 (47.0)	39 (17.0)	18 (7.8)	5 (2.2)	2.1 (0.96)
The virtual interview process allowed me to adequately interact with the current residents in a meaningful way.	52 (22.6)	105 (45.7)	31 (13.5)	38 (16.5)	4 (1.7)	2.3 (1.0)
The virtual interview process allowed me to adequately interact with the preceptors in a meaningful way.	42 (18.3)	104 (45.2)	36 (15.7)	43 (18.7)	5 (2.2)	2.4 (1.1)
The virtual interview process was an effective way to display my non-academic qualities for pharmacy residency (eg, leadership, teamwork, empathy).	37 (16.1)	105 (45.7)	44 (19.1)	36 (15.7)	8 (3.5)	2.4 (1.0)
Due to the virtual interview process, I applied to more residency programs.	79 (34.3)	52 (22.6)	27 (11.7)	54 (23.5)	18 (7.8)	2.5 (1.4)
Due to the virtual interview process, I accepted more residency interviews.	85 (37.0)	59 (25.7)	32 (13.9)	38 (16.5)	16 (7.0)	2.3 (1.3)
The cost-savings benefit for candidates outweighs the benefits of in-person interviews.	63 (27.4)	65 (28.3)	48 (21.0)	43 (18.7)	11 (4.8)	2.5 (1.2)

Abbreviation: RPD, residency program director.

<sup>a</sup>A total of 236 responses were received from the residency candidates; however only 230 completed the Likert scale portion of the survey.

<sup>b</sup>Mean and SD were calculated from responses provided using a 5-point Likert scale (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, and 5 = strongly disagree).

interviews (Table 1). When asked to estimate their cost-savings, 64.9% of residency candidates (137 of 211) reported greater than \$1,000 in savings, 22.2% (47 of 211) reported \$500 to \$1,000 in savings, 10.0% (21 of 211) reported \$100 to \$500 in savings, and 2.8% (6 of 211) reported less than \$100 in savings.

**Residency practitioners and RPDs.** From the 13 institutions surveyed, a total of 253 residency practitioners and RPDs completed the questionnaire, yielding a response rate of 38.2% (253 of 663); however, only 34.7% (230 of 663) completed the Likert scale portion of the questionnaire. Tables 2 and 3 presents the residency practitioners' perceptions of the virtual interview process. Approximately half agreed that the virtual interview process allowed them to adequately evaluate a residency candidate's communication skills (55.2% [127 of 230]), nonacademic qualities for residency (eg, leadership, teamwork, empathy) (50.4% [116 of 230]), and overall quality of residency candidates (54.8% [126

of 230]). RPDs rated the virtual interview process more favorably than other cohorts. Overall, 60% of RPDs (18 of 30) agreed the virtual interview process should be offered rather than on-site interviews, whereas less than 30% of responders of all other cohort responders agreed with this statement.

Only 16.7% of RPDs (5 of 30) reported an increase in the total number of resident positions in their program in 2021. For all programs surveyed in aggregate, the total number of pharmacy resident positions increased from 78 in 2020 to 85 in 2021 (a 9% increase). In regards to the number of positions available at the surveyed programs, there was a disproportionate increase in the overall number of residency candidates interviewed, which rose from 393 interviews in 2020 to 447 in 2021 (a 13.7% increase). An even greater disproportionate increase was seen in the total number of residency candidate applications received, which rose from 1,471 in 2020 to 1,711 in 2021 (a 16.3% increase). Additionally, 53.3% of RPDs

(16 of 30) indicated that they interviewed more candidates in 2021.

**Residency candidates and residency practitioners.** Both groups were asked to respond to the following statement: "Moving forward, residency programs should continue to offer virtual interviews rather than on-site interviews." The results are shown in Figure 1. Notably, RPDs were the only cohort with a majority indicating that they agreed or strongly agreed with this statement, with 60% of RPDs (18 of 30) agreeing with this statement, whereas only 30.5% of current preceptors or residents (61 of 200) and 28.7% of residency candidates (66 of 230) agreed with this statement.

**Qualitative analysis.** The qualitative analysis is summarized in Table 4. Notably, when asked what they enjoyed most about the virtual interview process, a majority of both residency candidates (54.5% [133 of 244]) and residency practitioners/RPDs (64.0% [123 of 192]) responded that the logistics/convenience were an improvement

**Table 2.** Perceptions of Virtual Interview Process Among Residency Practitioners (n = 230)<sup>a</sup>

Survey Item	Response Option, No. %					Score, mean (SD)
	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	
Compared to in-person interviews, virtual interviews were easier for me to participate.	66 (28.7)	90 (39.1)	50 (21.7)	22 (9.6)	2 (0.9)	2.1 (1.0)
I would be more likely to participate in residency candidate interviews if they are virtual.	42 (18.3)	47 (20.4)	90 (39.1)	42 (18.3)	9 (3.9)	2.7 (1.1)
The virtual interview process allowed me to adequately evaluate residency candidates' communication skills.	28 (12.2)	99 (43.0)	49 (21.3)	48 (20.9)	6 (2.6)	2.6 (1.0)
The virtual interview process is an effective way to evaluate a residency candidate's nonacademic qualities for pharmacy residency (eg, leadership, teamwork, empathy).	24 (10.4)	92 (40.0)	63 (27.4)	43 (18.7)	8 (3.5)	2.6 (1.0)
The virtual interview process is an effective way to evaluate a residency candidate's overall quality.	23 (10.0)	103 (44.8)	53 (23.0)	42 (18.3)	9 (3.9)	2.6 (1.0)
I prefer the virtual interview process over standard on-site interviews.	19 (8.3)	32 (13.9)	67 (29.1)	77 (33.5)	35 (15.2)	3.3 (1.1)

Abbreviation: RPD, residency program director.

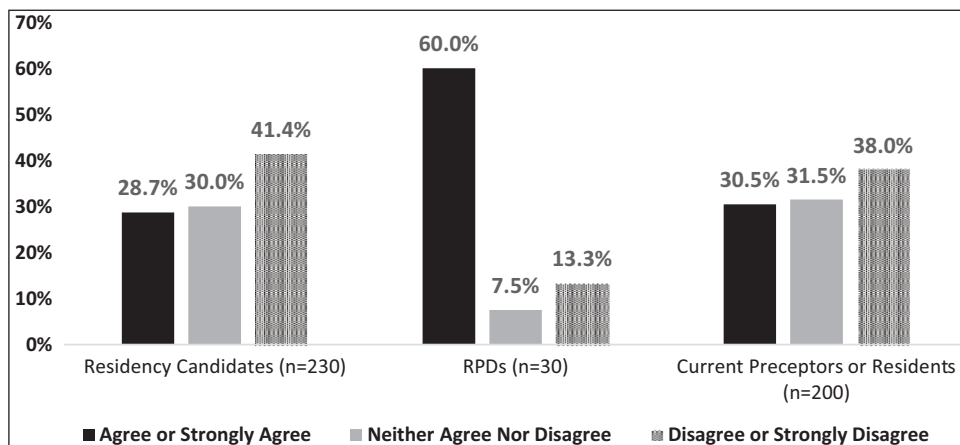
<sup>a</sup>A total of 253 responses were received from the residency practitioners; however, only 230 completed the Likert scale portion of the survey.

<sup>b</sup>Mean and SD were calculated from responses provided using a 5-point Likert scale (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, and 5 = strongly disagree).

**Table 3.** Perceptions of Virtual Interview Process by Cohort

Survey statement	Strongly agree or agree, %			
	RPDs (n = 30)	PGY1 or PGY2 residents (n = 45)	Preceptors <5 years into practice (n = 94)	Preceptors >5 years into practice (n = 61)
Compared to in-person interviews, virtual interviews were easier for me to participate.	80	58	71	64
I would be more likely to participate in residency candidate interviews if they are virtual.	37	36	45	33
The virtual interview process allowed me to adequately evaluate residency candidates' communication skills.	83	42	57	47
The virtual interview process is an effective way to evaluate a residency candidate's non-academic qualities for pharmacy residency (eg, leadership, teamwork, empathy).	77	35	53	44
The virtual interview process is an effective way to evaluate a residency candidate's overall quality.	73	35	61	51
I prefer the virtual interview process over standard on-site interviews.	40	7	28	15
Moving forward, residency programs should continue to offer virtual interviews rather than on-site interviews.	60	11	24	29

Abbreviations: RPD, residency program director; PGY1, postgraduate year 1; PGY2, postgraduate year 2.

**Figure 1.** Responses to the posed statement "Moving forward, residency programs should continue to offer virtual interviews rather than on-site interviews." RPD indicates residency program director.

over in-person interviews. Responses coded within this theme included less days missed from advanced pharmacy practice experiences and/or work, the ability to schedule/conduct more interviews than in-person, avoidance of stress and costs from traveling, and the flexibility of being able to participate remotely from home or at an off-site location. When asked what they

enjoyed least about virtual interviews, the most common response was the lack of personal interaction/connections with the virtual format, indicated by 39.1% of residency candidates (101 of 258) and 64.1% of residency practitioners/RPDs (118 of 184). Responses coded within this theme included the lack of casual interactions or small talk to evaluate fit, missing nonverbal cues

observed when interviewing in person, the challenge of real engagement when interviewing virtually, more frequent distractions, and the limited ability of candidates to interact with each other during interviews.

## Discussion

We performed a multisite survey of the perceptions of the virtual interview

**Table 4.** Thematic Analysis of Perceptions of Virtual Interview Process of Pharmacy Residency Candidates and Residency Practitioners

Themes identified <sup>a</sup>	Residency candidates (n = 244) <sup>b</sup>	Residency practitioners (n = 192) <sup>b</sup>
<i>What did you enjoy most about the virtual interview process?</i>		
Improved logistics/convenience (less travel/stress/APPE impact)	133 (54.5)	123 (64.1)
Costsavings	83 (34.0)	16 (8.3)
Quality of engagement	23 (9.4)	8 (4.2)
Improved efficiency	3 (1.2)	44 (22.9)
Virtual open houses	2 (0.8)	1 (0.5)
<i>What did you enjoy least about the virtual interview process?</i>		
Difficult to gauge fit with location, institution, and individuals	103 (39.9)	17 (9.2)
Lack of personal interactions/connections	101 (39.1)	118 (64.1)
Technology issues	36 (13.9)	36 (19.6)
Time allotment not ideal	18 (7.0)	13 (7.1)
<i>What suggestions do you have for improving the virtual interview process?</i>		
Virtual tour of facilities	31 (24.8)	8 (14.0)
Ensuring adequate breaks	28 (22.4)	6 (10.5)
Optimize length of virtual interview	27 (21.6)	4 (7.0)
Virtual meeting prior to interview or facilitate informal interactions	12 (9.6)	8 (14.0)
Utilize hybrid interviews (both virtual and in-person)	10 (8.0)	18 (31.6)
Standardize format across institutions	7 (5.6)	2 (3.5)
Improve training on technology and interview agenda	7 (5.6)	6 (10.5)
Facilitate interactions between candidates	3 (2.4)	5 (8.8)

Abbreviation: APPE, advanced pharmacy practice experience.

<sup>a</sup>Responses could be themed into multiple categories or excluded altogether if they could not be classified into a specific theme.

<sup>b</sup>All data are No. (%) of responses to each open-ended question regarding a respondent's collective experience across all pharmacy residency interviews.

process for pharmacy residency recruitment necessitated by the COVID-19 pandemic. To date, ours is the first and only published study to investigate the perceptions of the virtual interview process for pharmacy residency recruitment of which we are aware. Our survey results revealed that despite overall positive perceptions of virtual interviews for all cohorts surveyed, neither residency program practitioners nor candidates prefer the virtual interview process, whereas the majority of RPDs were in favor of offering virtual interviews to replace in-person interviews.

Despite this finding, we identified several key strengths of the virtual interview process. Most notably, in our survey both residency candidates

and residency practitioners identified cost reduction as a significant benefit of the virtual interview process. This is an important finding as creative strategies for cost reduction may help enhance efforts to improve the equity and diversity of residency recruitment of those candidates who are economically disadvantaged.

Another interesting finding was that 55.7% (128 of 230) of pharmacy residency candidates agreed with the statement "The cost-savings benefit for candidates outweighs the benefits of in-person interviews," whereas only 28.7% (66 of 230) agreed with the statement "Moving forward, residency programs should continue to offer virtual interviews rather than on-site

interviews." This seems to suggest that despite recognizing the benefits of virtual residency interviews, residency candidates are reluctant to make such a drastic change to the traditional standard of in-person interviews.

Our results are consistent with previous literature from medical residency recruitment, which has demonstrated that despite improvements in cost savings and time, in-person interviews are still preferred over virtual interviews.<sup>6-8</sup> Additionally, the results of our thematic analysis align with survey data collected by researchers at an internal medicine fellowship program, who noted similar issues with virtual interviews (eg, lack of breaks, videoconferencing fatigue for interviews lasting more than 6 hours,

technical difficulties, the inability to assess interpersonal skills), as well as similar suggestions for improvement (eg, offering a virtual tour of the facility/area).<sup>9</sup> Lastly, our findings that pharmacy residency candidates responded positively to low-stakes, informal, preinterview interactions align with previous research demonstrating these sessions likely enhance perceptions of postgraduate training programs.<sup>10,11</sup>

The reason virtual interviews have not been adapted commonly into postgraduate training recruitment is likely because traditional in-person interviews serve a variety of purposes, including but not limited to providing a comprehensive tour of the institution and/or hospital facility, having dinner or social events with prospective candidates, permitting candidates to lead presentations during interviews, facilitating candidates to interact with each other on-site, and an assessment of a candidate's interest in a program by their commitment to travel to an on-site interview.<sup>12-14</sup> The complex dynamic of the pandemic presents significant challenges for residency programs to utilize virtual platforms to accomplish these goals while at the same time presenting an accurate and complete portrayal of their program, site, and preceptors. It may seem reasonable to utilize a hybrid approach to either prescreen applicants with a virtual interview or, alternatively, offer residency candidates the option to choose a virtual-only interview process. This response came up frequently in our qualitative analysis, and a natural question is whether candidates choosing to interview virtually may be at a disadvantage. Importantly, we did identify a single published study in which the investigators reported that rates of admission to an anesthesiology residency program were not significantly different between candidates who chose to interview virtually and those who interviewed in person.<sup>15</sup>

Based on our collaborative research group's experience, our review of the relevant literature, and our survey analysis, below we have summarized several key strategies for both residency candidates and residency programs to

ensure successful execution of virtual interviews while COVID-19 restrictions remain in place:

Strategies for residency candidates include the following:

- Ensure adequate internet connection and contingency plan if internet fails.
- Become familiar with various platforms for virtual interviews (eg, Zoom [Zoom Video Communications, San Jose, CA], Teams [Microsoft Corporation, Redmond, WA], Webex [Cisco Systems, Inc., San Jose, CA])
- Seek out opportunities to receive training on virtual interviews.
- Identify an optimal physical space with ideal lighting, sound, professional background, and free from distractions.
- Perform practice virtual interviews with peers and mentors.

Tips for residency programs include the following:

- Create a video as a virtual tour of the institution and surrounding area.
- Design interviews to last 3 to 5 hours in total and never to exceed 6 hours in total.
- Always use video when interviewing, and avoid any form of multitasking.
- Schedule breaks throughout the day to permit bathroom breaks, lunch, and to accommodate technological issues.
- Schedule candidates for "debrief rooms" between interviews.
- Provide a guidance document in advance to better familiarize candidates and practitioners with the interview schedule, plan, and process.
- Identify opportunities for informal interactions; feedback suggests candidates responded well to informal preinterview sessions the night prior to the interview day.
- Ensure the interview schedule permits residency candidates to interact with one another.

Our study had several limitations. First, the overall response rate was only 31%. Additionally, this response rate

provides an estimate of the number of candidates and practitioners we believe received the survey, as the exact number of each group cannot be definitively known. A second limitation is that it is challenging to draw robust conclusions from this analysis due to the relatively small sample size in our survey (N = 236) compared to the entire pool of residency candidates that participated in the ASHP Match in 2021 (N = 7,231).<sup>16</sup> Furthermore, the residency programs included in our sample were mostly larger programs associated with major academic hospitals. A third limitation is that there was an unequal distribution of recipients across the medical centers surveyed. Therefore, it is possible that differences in execution of virtual interviews, or other differences between these medical centers, may be unequally weighed in our sample. However, we are unable to account for these differences because each site sent its survey responses separately, and collecting this information from candidates (eg, which sites they interviewed at) would compromise survey anonymity. Similarly, we did not collect demographic information such as race, sex, income, or family situation in order to preserve anonymity, and therefore we were unable to identify if virtual interviews are favored by certain cohorts based on these factors.

## Conclusion

The majority of pharmacy residency candidates and practitioner respondents preferred on-site interviews, whereas the majority of RPDs were in favor of replacing on-site interviews with a virtual format. Remote delivery of virtual interviews offers a viable alternative to in-person interviews, with benefits such as improved logistics, efficiency, and cost savings.

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### Disclosures

The authors have declared no potential conflicts of interest.

### Additional information

Dr. Beechinor conceived of the research question, and Dr. Beechinor, Dr. Parker, and Dr. Poole contributed towards its design. Dr. Beechinor analyzed the data and prepared the first draft of the article manuscript. All other authors provided critical feedback and contributed towards revisions of both the manuscript and the survey questions. All authors approved of the final version of the manuscript.

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