



2021 APPLICANT AND PROGRAM DIRECTOR SURVEY FINDINGS: IMPACT OF THE VIRTUAL EXPERIENCE ON THE TRANSITION TO RESIDENCY RESEARCH BRIEF

Historically the National Resident Matching program has administered its applicant survey in odd Match years to evaluate the characteristics applicants consider when selecting the programs to which to apply and rank in the Main Residency Match. In even Match years, the NRMP administers its program director survey to evaluate the characteristics programs rely on when considering which applicants to interview and rank. This year, however, the NRMP administered both surveys, redesigned to investigate the impact of COVID on the recruitment experiences of both participant groups.

This research brief presents general findings on survey questions exploring the virtual experience during the 2021 Main Residency Match for applicants and programs. Members of the NRMP Staff, the Data Release and Research Committee of the Board of Directors, and the NRMP Research Advisory Committee contributed to the development of COVID-related survey questions. Complete reports of the applicant and program director surveys will be published this summer.

2021 Applicant Survey

The revised applicant survey was sent to 42,545 applicants who certified a rank order list in the 2021 Main Residency Match. Of those who received the survey, 8,901 submitted responses for a 21 percent response rate. The survey included items asking respondents to rate their perceived stress, perceived readiness for and comfort with the virtual experience, and the impact of the virtual experience on the number of programs they applied to and ranked. **Table 1** presents data on those items. As shown in **Table 1**, respondents reported feeling somewhat-to-very prepared for the 2021 cycle and comfortable with the virtual environment (see yellow shaded cells). Stress levels were somewhat-to-very high for nearly all respondents (90%); however, this was the first time the applicant survey included a question about stress, making it unclear if stress levels were perceived to be higher than in previous years. Future administrations of the survey can help elucidate the extent to which applicant stress in 2021 may have been triggered or exacerbated by the virtual experience.

With respect to application and ranking behaviors, applicant respondents were somewhat split. **Table 1** shows that over half (52.2%) of respondents reported no impact of the virtual experience on the number of programs to which they applied (see peach shaded cells), although nearly 42 percent reported applying to more (see green shaded cells). Respondents were more evenly split on interviewing; a third (35.8%) reported that the virtual experience did not impact the number of programs with which they interviewed, and another third (36.3%) reported interviewing with more programs as a result of the virtual environment. Nearly three-fourths of respondents (72.4%) reported that the virtual experience did not affect the number of programs they ranked.

Table 1. 2021 Applicant Survey: Impact of Virtual Experience on Mental State, Programs Applied to, Interviewed, and Ranked

Survey Items	Not at all	Not Very	Somewhat	Very
How prepared respondent felt for residency application, interview, and matching processes	0.5	6.4	55.0	38.1
How comfortable respondent felt with virtual environment	0.8	6.1	51.6	41.5
How stressful respondent found residency application, interview, and matching processes	1.0	9.1	47.5	42.5
Survey Items	Did Not Affect Number	Fewer	More	Unsure
How virtual process affected number of programs to which respondent applied	52.2	1.6	41.6	4.6
How virtual process affected number of programs with which respondent interviewed	35.8	13.1	36.3	14.7
How virtual process affected number of programs respondent ranked	72.4	3.7	16.1	7.8
Survey Item	No Preference	Virtual	In-Person	Unsure
Respondent preference for type of interview experience	10.7	20.7	51.4	17.2

Those findings could be driven by perceived benefits a virtual environment provides. Some insights into this possibility may be obtained from survey items that asked applicants to rate the importance of a set of factors related to interview logistics in influencing the number of programs to which they applied or with which they interviewed. More than 50 percent (**Table 2**) rated reduced travel costs, improved flexibility of interview scheduling, and increased ability to attend more interviews afforded by the virtual environment as “very important” drivers of their application and interview behavior (see yellow shaded cells). In addition, over 40 percent identified efficiency of the virtual interviewing process as a very important influence.

Although the majority of respondents (51.4%) reported preferring in-person interviews (**Table 1**), more than one-fifth (20.7%) reported preference for virtual engagement, with another 17 percent unsure which format they preferred.

Table 2. 2021 Applicant Survey: Importance of Interview Factors Potentially Affected by Virtual Experience on Programs Applied to, Interviewed

Survey Items	Not at All Important	Slightly Important	Moderately Important	Very Important	Not Applicable
Reduction of financial constraints on travel	12.2	13.4	20.4	51.2	2.8
Flexibility for interview dates	8.8	12.1	25.7	50.8	2.6
Efficiency of interview process	10.2	15.6	29.2	42.5	2.6
Number of interviews respondent could attend	11.8	11.4	22.1	50.2	4.4

The survey also asked applicants to consider whether they found various aspects of virtual interviewing to pose challenges. As shown in **Table 3**, the majority of respondents reported that the virtual interview posed slight-to-moderate challenges to learning about program curriculum, engaging comfortably in group settings, and assessing programs’ commitment to diverse faculty and leadership (see yellow shaded cells). Respondents reported encountering moderate to substantial challenges when relying on web-based materials to determine program culture, assess fit with the program faculty and residents, and discern whether programs treat learners equitably (see green shaded cells). Obtaining exposure to preferred specialties when clerkships were unavailable at applicants’ home institution also posed challenges for one-quarter of respondents, particularly since the availability of away rotations was so limited. Respondents most frequently rated the “mechanics” of virtual interviewing (e.g., loss of connectivity) to be slightly challenging.

Table 3. 2021 Applicant Survey: Perceived Challenges of Virtual Interviewing

Survey Items	Not at All Challenging	Slightly Challenging	Moderately Challenging	Very Challenging	Not Applicable
Getting exposure to preferred specialties when clerkships not available at home institution	10.3	12.3	16.1	26.9	34.4
Obtaining letters of recommendation when in-person clerkships were not possible	13.5	18.2	19.5	23.0	25.7
Assembling other pieces of application package (e.g., test score reports, personal statement reviews by mentors, MSPEs)	48.6	26.1	14.5	5.6	5.1
Determining program curriculum/mission from web-based materials	22.1	31.1	31.5	14.0	1.3
Determining program culture from web-based materials	4.8	12.2	28.1	54.0	0.9
Determining “fit” with program faculty from web-based materials	4.3	12.8	31.3	50.6	0.9
Experiencing limited availability of away rotation experiences	5.9	10.9	17.1	41.8	24.3

Survey Items (cont'd)	Not at All Challenging	Slightly Challenging	Moderately Challenging	Very Challenging	Not Applicable
Experiencing technical issues (loss of connectivity, “freezing” of software, etc.) with recruitment videos, interviews, etc.	23.8	46.5	21.4	5.6	2.7
Engaging comfortably in conversation during virtual group interviews	20.5	30.8	29.5	16.4	2.8
Determining caliber of residents in program from web-based materials	8.2	23.4	37.7	29.6	1.0
Assessing “fit” with residents currently in program	6.3	18.0	35.2	39.4	1.0
Assessing commitment of program to diversity of faculty and leadership	17.5	31.0	31.4	17.2	2.9
Assessing whether program treats all learners equitably	11.5	23.2	30.5	30.9	3.8
Evaluating program inclusion of diverse learner groups	15.0	28.0	32.2	20.6	4.2

2021 Program Director (PD) Survey

The program director survey was sent to 4,429 program directors who certified a rank order list in 2021. Of those, 1,033 were returned for a 23 percent response rate. Historically, the survey has asked respondents to report the numbers and characteristics of applications received and vetted, interview invitations sent, and applicants interviewed and ranked. Those data were requested again this year to examine potential impacts of the virtual experience. As shown in **Table 4**, respondents most frequently reported little to no change compared to 2020 in their application-, interview-, and ranking-related activities (see yellow shaded cells). Approximately one-third of programs reported increases of 10 to 25 percent in numbers of applications received, invitations extended, and applicants interviewed and ranked (see green shaded cells). Nearly one-third of respondents reported a decline of 10 to 25 percent in the number of interviews cancelled by applicants (peach shaded cell), and more than one-quarter of program respondents reported an increase in the number of applications receiving holistic review (orange shaded cell), which was unexpected given the reported increase in the number of applications received and interviews conducted.

Table 4. 2021 PD Survey: Impact of Virtual Experience on Applications Received and Reviewed; Applicants Interviewed and Ranked

Survey Item	More than 25% fewer than in 2020	10-25% fewer than in 2020	About the same (+/- 10%) as in 2020	10-25% more than in 2020	More than 25% more than in 2020
Number of applications received	0.6	4.2	47.2	37.4	10.7
Applications rejected based on a standardized screening process	3.3	6.6	71.1	12.8	6.1
Applications receiving an holistic review	0.6	2.2	57.9	28.1	11.2
Interview invitations sent	0.9	7.2	49.0	33.3	9.6
Interview invitations cancelled by applicants	20.0	28.4	41.3	8.4	1.9
Applicants interviewed	0.5	5.1	45.5	36.7	12.2
Applicants ranked	0.4	3.8	45.6	37.8	12.4
Survey Item	25% or fewer	26-50%	51-75%	76-99%	100%
Percentage of interviews conducted virtually	0.0	0.2	0.1	3.7	96.0

As a way to gauge the impact of the virtual experience on applicant-program interaction, the survey included questions for programs to rate their reliance on a variety of applicant “engagement” strategies and whether reliance provided additional benefit. Results are presented in **Table 5**. More than half of respondents (52.7%) reported significant reliance on their program website and modest to moderate reliance (57.8%) on engagement vehicles like social media. Almost three-fourth of respondents (72.4%) reported no or modest reliance on databases like the American Medical Associations’ program database, FREIDA (see yellow shaded cells). Most did not host any virtual away rotations or other onboarding events (see peach shaded cells). With respect to perceived benefit, most respondents found engagement vehicles other than their program website to be of little-to-no benefit. However, approximately 60 percent reported that they intended to rely on virtual environment for at least some portion of the recruitment cycle in the future.

Table 5. 2021 PD Survey: Reliance on and Perceived Benefits of Applicant Engagement Strategies

Reliance on Virtual Engagement Strategy	None	Modest	Moderate	Significant
Program website	1.4	15.6	30.3	52.7
Social media	22.0	28.9	28.9	20.2
FREIDA or other online databases	28.2	44.2	19.7	7.9
Virtual “open houses” or residency fairs	26.9	24.8	29.6	18.8
Virtual away rotations	86.4	7.4	3.7	2.5
Other virtual events with applicants	42.1	25.0	22.6	10.4
Benefit of Virtual Engagement Strategy	Not Beneficial	Somewhat Beneficial	Moderately Beneficial	Significantly Beneficial
Program website	2.2	18.6	35.6	43.7
Social media	21.8	29.6	27.2	21.4
FREIDA or other online databases	35.8	39.4	19.4	5.4
Virtual “open houses” or residency fairs	28.9	24.2	24.8	22.0
Virtual away rotations	86.3	5.5	4.4	3.7
Other virtual events with applicants	43.2	20.6	22.2	14.0
First-Time Reliance on Strategy in 2021	Yes (First Time)			
Social media	59.9			
Virtual “open houses” or residency fairs	79.4			
Virtual away rotations	44.7			
Other virtual events with applicants	74.3			
Future Intentions of Virtual	Yes	No	Do Not Know	
Intend to conduct part/all of recruitment process virtually in the future	59.9	7.1	33.0	
If yes (n=609): Which aspects?				
First-look opportunities	40.2			
Interview itself	67.7			
Second visits	16.9			

Lastly, and similar to the applicant survey, program directors were asked to reflect on ways in which virtual recruitment posed advantages or disadvantages. As shown in **Table 6**, respondents most frequently reported that virtual recruitment neither advantaged nor disadvantaged their program (see yellow shaded cells). Slight disadvantages were reported in the time needed to train staff to use online meeting software, experiencing technical problems during interviews, and needing to engage in more outreach to capture interested applicants. Assessment of applicant interest, assessment of applicant interpersonal skills, and determination of whether their program was showcased adequately posed moderate to significant disadvantages for one-quarter of respondents (see green shaded cells). Moderate to significant advantages were noted in reduction of in-person interview-related costs, improvements in efficiency of interviews, and creation of new web-based resources for the program website.

Table 6: 2021 PD Survey: Perceived Advantages/Disadvantages of Virtual Recruitment

Virtual Recruitment Circumstance	Mod/Sig Disadv	Slight Disadv	Neither Adv Nor Disadv	Slight Adv	Mod/Sig Adv	N/A
Creating new web-based info materials about program	4.4	7.8	18.0	25.6	40.7	3.6
More applications to cull through	9.5	22.0	37.3	12.1	5.0	14.2
Fewer applications to cull through	0.7	2.9	35.0	2.0	0.5	58.9
Time/ability to research, select online mtg platform	4.7	27.1	46.2	8.7	4.2	9.1
Time to create virtual interview agenda/itinerary	6.6	28.8	41.5	14.7	6.2	2.2
Time to train staff to use online mtg software	9.1	36.9	35.0	11.4	5.1	2.5
Applicants cancelling interviews at last minute	6.3	16.9	41.1	9.6	6.3	19.8
Tech issues during interviews	3.9	40.5	39.3	1.9	1.2	13.3
Ensuring confidentiality of interviews	2.4	7.8	71.8	4.5	2.6	10.9
Assessment of applicant competency (lack of Step 2 CS, clerkship grades)	18.7	36.6	38.1	1.7	0.8	4.1
Assessment of applicant interest in and understanding of program	26.9	39.8	24.2	5.5	2.5	1.1
Assessment of applicant interpersonal skills, alignment with interview team	23.1	43.3	26.0	5.1	1.9	0.7
Assessment of whether program showcased adequately	23.2	45.4	21.4	6.4	2.7	0.9
Reduced applicant-related hosting expenses	4.4	5.0	13.7	25.7	46.4	4.7
Fewer cancelled interviews	2.2	5.7	37.8	24.3	16.2	13.7
More efficiency of interview process	1.5	4.6	23.0	38.4	29.7	2.8
More flexibility for interview dates	1.3	2.6	38.0	27.3	22.8	7.9
More difficulty of scheduling interviews for applicants outside U.S.	1.5	4.5	43.0	2.5	1.6	47.0
Less difficulty of scheduling interviews for applicants outside U.S.	0.5	2.3	35.5	12.4	8.5	40.7
More access to faculty and residents to participate in interview process	3.9	9.5	40.8	24.6	14.4	6.7
Need for more outreach to identify and capture interested applicants	8.9	29.1	41.2	6.2	2.8	11.7

SUMMARY

The 2020-2021 recruitment season for residency training was like no other in recent memory, generating substantial discussion about how “successful” the season would be. Changes to how interviews would be conducted, resulting from the COVID-19 pandemic, fostered concerns about applicants’ and programs’ ability to present themselves optimally in video conferencing formats, endure video fatigue, and discern the critical information needed to assess their collective alignment for a successful training experience. It was suggested that a virtual experience might result in a less successful Match; however, initial data reports released by the NRMP revealed the 2021 Main Residency Match to be highly successful and that the pivot to a virtual recruitment season did not constrain the abilities of applicants and programs to obtain more PGY-1 placements. Nevertheless, findings from the NRMP applicant and program surveys offer a more nuanced look at the recruitment season during a pandemic.

Data from both surveys reveal real impacts of virtual recruitment on both applicants and programs but also suggest more resilience on the part of both constituencies than initially anticipated. Although stress levels were reportedly high, so was most applicant respondents’ perceived preparedness for the season and comfort navigating a virtual environment. Not having to travel for interviews, a benefit reported by applicants, likely contributed to increased applications and interviews reported by some applicants; however, the majority of applicant respondents indicated that the virtual experience did not affect the number of programs ranked. Program respondents also reported higher numbers of applications received and vetted and interviews conducted but only at modestly higher levels, and some programs indicated an increase in the number of applications that received holistic review. Based on these findings, it is reasonable to conclude that the pivot to a virtual experience did not create extreme changes in application and interview behaviors amongst respondents.

Survey data also provide insight into the perceived risk-benefit ratios of the virtual experience for respondents. Applicants noted most difficulty in assessing the non-tangible aspects of the program (e.g., culture, alignment) through a computer, and programs reported the same, noting disadvantages of a virtual setting in vetting applicant interest in the program and determining strength/alignment of applicant interpersonal skills. However, applicants and programs found other aspects (e.g., group interviewing and assessing diversity of program leadership; efficiency of the interview process, recruitment of faculty and residents for interviews) to pose less challenge or disadvantage. Overall, challenges and disadvantages were not perceived to be extreme, and a sizeable number of respondents from both constituencies revealed meaningful degrees of satisfaction with virtual interaction. More than one-third of applicants reported preferring virtual interaction to in-person or being unsure which format they preferred. In addition, nearly two-thirds of program directors reportedly envision using virtual formats for some part of future recruitment seasons, perhaps even for the interview itself.

Feedback reported in this research brief should be interpreted with some caution since response rates were on the lower end of normal range; however, as we look at the transition to residency

for 2022 and beyond, with questions already forming around whether virtual formats should remain a part of the recruitment landscape, we should leverage the perspectives of those in the 2021 Match cycle to learn from and improve upon the process. Data provided to NRMP indicate the virtual experience reduced financial burdens for applicants and programs, helped streamline interview scheduling, and added efficiencies to the interview process. However, can virtual interaction provide for a better, more meaningful experience or result in desired outcomes? Applicants reported it somewhat challenging through virtual means to gain a full understanding of program curriculum or philosophy around diversity, equity, and inclusion. Such challenges could be addressed if programs created new learning opportunities and increased their online visibility beyond the modest to moderate levels reported. Enhanced outreach opportunities (e.g., online group “chats,” virtual “open houses,” Instagram live) could help applicants become more comfortable with online group settings and be more informed at the outset about program demographics and composition. That, coupled with more active online engagement by programs with platforms like social media could establish early rapport, provide applicants with a fresh “first look” at programs, and/or generate more effective messaging of program culture and philosophy. In turn, interviews, whether virtual or in-person, might be more informative and promote greater confidence in ranking decisions amongst applicants and programs.

COVID-19 will remain a real presence for months if not years to come. If programs intend, as reported, to rely on virtual interaction in some form or fashion in the future, using what has been learned this season to guide enhancements for applicants in future recruitment cycles that stand up to, and even thrive in, a pandemic world (and beyond) would be a fitting end to this unprecedented recruitment and matching season.