



## **VIRTUAL EXPERIENCE AND HOLISTIC REVIEW IN THE TRANSITION TO RESIDENCY: AN EXAMINATION OF THE 2021 AND 2022 MAIN RESIDENCY MATCHES RESEARCH BRIEF**

Historically, the National Resident Matching Program® (NRMP®) 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. Since 2021, however, the NRMP has administered both surveys with the intent of gaining an understanding of the evolving impact of COVID-19 on the recruitment experiences of both applicants and programs.

This research brief presents cumulative findings across the 2021 and 2022 Main Residency Match participant pools. Virtual recruitment experience questions were the same, or similar, for both survey years; however, the 2022 Program Director Survey was expanded to also include questions about engagement in holistic review. At the same time, questions about the characteristics considered by program directors in determining which applicants to interview and rank were eliminated to focus attention on the essential exploration of the virtual recruitment experience. Lastly, data reported in the 2021 version of this Brief were reanalyzed to include partial responses. No data reported herein from the Applicant Surveys changed by more than one percentage point and only three estimates changed more than half a percentage point. Results based on Program Director Survey data shifted somewhat more when partial responses were included, with nine estimates changing by one to 2.5 percentage points and an additional 29 changing by less than one but more than half a percentage point. Nevertheless, no patterns in any of the findings changed materially with the inclusion of partial responses.

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 holistic review-related survey questions. The Brief provides data to inform the community; it is not designed to provide analyses or solutions to the issues identified.

### **NRMP Applicant Survey**

The 2021 Applicant Survey was received by 42,546 applicants who certified a rank order list in the Main Residency Match. Of those, 12,112 submitted responses for a 28 percent response rate. For the 2022 Main Match, the Survey was received by 42,552 applicants who certified a rank order list of which 15,119 submitted responses for a 36 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 across Match years. As shown in **Table**

1, the majority of respondents reported feeling Somewhat-to-Very prepared for the Match cycle, with nominal changes in perceived readiness across Match years. Respondents' perceptions of comfort with the virtual environment and associated stress with the transition shifted, however, with more applicants in 2022 feeling Very comfortable with virtual interviews and Very (as opposed to Somewhat) stressed about the process compared to 2021.

**Table 1. Applicant Survey: Impact of Virtual Experience on Readiness, Programs Applied to, Interviewed, and Ranked**

Readiness	Not at All		Not Very		Somewhat		Very	
	'21	'22	'21	'22	'21	'22	'21	'22
How prepared respondent felt for residency application, interview, and matching processes	0.5	0.5	6.4	6.7	54.9	53.9	38.1	38.9
How comfortable respondent felt with virtual environment	0.8	0.8	6.4	4.5	51.5	43.9	41.3	50.8
How stressful respondent found residency application, interview, and matching processes	1.0	1.0	9.3	7.7	47.2	43.8	42.5	47.5
	Did Not Affect Number		Fewer		More		Unsure	
Interview and Ranking Behavior	'21	'22	'21	'22	'21	'22	'21	'22
How virtual process affected number of programs to which respondent applied	51.7	43.6	1.6	1.0	41.8	49.0	4.8	6.5
How virtual process affected number of programs with which respondent interviewed	35.8	32.9	13.7	10.4	36.0	41.9	14.5	14.8
How virtual process affected number of programs respondent ranked	72.3	71.1	3.8	3.0	15.9	16.6	8.0	9.3
	No Preference		Virtual		In-Person		Unsure	
Preferred Interview Format	'21	'22	'21	'22	'21	'22	'21	'22
Respondent preference for type of interview experience	11.0	13.1	20.6	30.3	51.2	38.7	17.1	17.9

Increase by 2/+ percentage points
  Decrease by 2/+ percentage points
  Static (w/in 1-2 percent)

**Table 1** also displays respondent application and ranking behaviors. Although one-third or more of respondents across Match years reported that the virtual environment did not affect the number of programs to which they applied or interviewed, there was a five-to-seven percentage point increase in the number of applicants reporting that the virtual environment drove them to apply to and interview with more programs. The impact of the virtual experience on ranking more programs, however, remained largely static.

Of note in **Table 1** is the shift from 2021 to 2022 in the number of applicants reporting a preference for virtual (10 percentage point increase) versus in-person (12.5 percentage point decrease) interviews. As the community continues to move toward a post-pandemic setting, and national organizations present interview format recommendations for the 2023 season, it will be worth evaluating whether these preferences persist and, if so, may be driven by applicants' perceived safety engaging in direct interaction

and/or by the perceived benefits a virtual environment provides. To that end, **Table 2** presents data from survey items that track the importance applicants attach to interview logistics-related factors impacted by a virtual environment. For all factors (e.g., reduced travel costs, flexibility of interview scheduling, efficiency of the interview process, ability to attend more interviews) data suggest consistently strong perceived benefit that a virtual environment affords, with applicants’ “Very Important” rating increasing four-to-eight percentage points across all domains from 2021 to 2022. The factor respondents most often rated as Very Important across Match years was financial savings on travel that virtual interviewing provides.

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

Interview Factors	Not at All Important		Slightly Important		Moderately Important		Very Important		Not Applicable	
	'21	'22	'21	'22	'21	'22	'21	'22	'21	'22
Reduction of financial constraints on travel	12.0	8.4	13.3	10.7	20.7	18.1	51.1	59.8	2.8	3.0
Flexibility for interview dates	8.9	6.1	12.0	11.0	25.7	24.3	50.9	56.6	2.5	2.1
Efficiency of interview process	10.1	8.1	15.5	14.3	29.1	27.8	42.7	47.3	2.6	2.3
Number of interviews respondent could attend	11.8	9.2	11.4	9.7	22.0	20.1	50.4	56.5	4.3	4.4

Increase by 2/+ percentage points
  Decrease by 2/+ percentage points
  Static (w/in 1-2 percent)

The Applicant Survey also asked applicants to consider whether they found various aspects of virtual interviewing to pose challenges. As shown in **Table 3**, response patterns broadly shifted from Moderately or Very Challenging toward Not at All or Slightly Challenging. Applicants reported modest decreases in perceived challenge across Match years in getting exposure to preferred specialties and obtaining letters of recommendation in the absence of in-person clerkships. Conversely, fewer applicants reported that assembling applications was Not at All Challenging, while more rated this task as Slightly Challenging, in 2022 compared to 2021. Percentages of respondents who rated gaining insight into program culture and fit with faculty from web-based materials in a virtual environment as Very Challenging declined from 2021 to 2022. Nevertheless, the fact that over 40 percent of respondents assigned this rating in each year indicates that these experiences continue to pose substantial challenges to applicants.

Applicants’ perceptions of challenges related to interpersonal assessment, such as determining programs’ commitment to diverse faculty and leadership, their “fit” with current residents, and programs’ equitable treatment of faculty and residents, also decreased year over year (see **Table 3**). In 2021, 49 to 75 percent of applicants rated these domains as Moderately or Very Challenging, whereas only 24 to 48 percent rated them as Slightly or Not at All Challenging. In 2022, while 43 to 66 percent still rated these same experiences as Moderately or Very Challenging, percentages rating them as Slightly or Not at All Challenging increased considerably, ranging from 33 to 56 percent. Over one-third of applicants in both Match cycles reported challenges engaging comfortably in online group settings, but the percentage rating this experience as Moderately or Very Challenging decreased (46 to 39 percent) year over year and half or more reported little to no challenge with online group settings in both years.

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

Aspect of Application Preparation and Interviewing	Not at All Challenging		Slightly Challenging		Moderately Challenging		Very Challenging		Not Applicable	
	'21	'22	'21	'22	'21	'22	'21	'22	'21	'22
Getting exposure to preferred specialties when clerkships not available at home institution	10.3	9.8	12.3	14.7	16.4	17.2	27.3	24.0	33.7	34.3
Obtaining letters of recommendation when in-person clerkships were not possible	13.4	11.8	18.3	13.2	19.5	15.0	23.5	21.0	25.3	39.1
Assembling other pieces of application package (e.g., test score reports, personal statement reviews by mentors, MSPEs)	48.0	43.4	26.4	28.5	14.7	16.0	5.8	6.4	5.1	5.7
Determining program curriculum/ mission from web-based materials	21.8	22.8	31.1	34.3	31.5	29.0	14.4	12.0	1.2	1.9
Determining program culture from web-based materials	4.7	6.4	12.2	16.2	28.0	30.8	54.1	45.7	0.9	1.0
Determining “fit” with program faculty from web-based materials	4.2	5.5	12.8	16.7	31.3	34.6	50.8	42.2	0.9	1.0
Experiencing limited availability of away rotation experiences	5.9	7.6	10.8	14.4	17.2	20.2	42.2	33.4	23.9	24.4
Experiencing technical issues (loss of connectivity, “freezing” of software, etc.) with recruitment videos, interviews, etc.	23.6	28.1	46.2	44.0	21.5	18.4	6.0	6.0	2.7	3.6
Engaging comfortably in conversation during virtual group interviews	20.4	25.0	30.8	33.3	29.5	26.2	16.5	12.9	2.8	2.7
Determining caliber of residents in program from web-based materials	8.1	10.7	23.2	27.5	37.7	35.3	30.0	25.1	1.1	1.4
Assessing “fit” with residents currently in program	6.2	9.1	18.1	24.2	35.1	35.7	39.7	30.0	1.0	1.0
Assessing commitment of program to diversity of faculty and leadership	17.4	21.5	30.6	32.0	31.5	28.5	17.5	14.8	2.9	3.3
Assessing whether program treats all learners equitably	11.4	13.8	23.0	25.9	30.5	29.6	31.3	26.8	3.9	3.9
Evaluating program inclusion of diverse learner groups	14.8	18.9	27.5	30.3	32.3	28.8	21.0	17.5	4.3	4.5

Increase by 2/+ percentage points
  Decrease by 2/+ percentage points
  Static (w/in 1-2 percent)

**Program Director (PD) Survey**

The 2021 Program Director Survey was received by 4,429 program directors who certified a rank order list. Of those, 1,390 were returned for a 31 percent response rate. In 2022, the survey was received by 4,556 directors of which 1,507 were returned for a 33 percent response rate.

The Survey included questions about recruitment and selection “traffic”, or the numbers of applications received and vetted, interview invitations sent, and applicants interviewed and ranked. **Table 4** shows program directors’ comparisons of their programs’ current-year with previous-year traffic. Programs most frequently reported that indices of year-over-year traffic were “About the Same” in both years, though the percentages choosing this response increased considerably from 2021 to 2022. The majority of respondents across Match years reported “About the Same” number of applications receiving holistic review, while those reporting 10-25 percent more applications receiving holistic review decreased six percentage points and those reporting 25 percent or more applications receiving holistic review remaining stable. Behaviors that could be deemed cautionary (inviting for interview, interviewing, and ranking more applicants to increase the chance of filling) declined considerably in 2022. Nearly all interviews were conducted virtually in both years.

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

Application “Traffic”	More Than 25% Fewer		10-25% Fewer		About the Same (+/- 10%)		10-25% More		More Than 25% More	
	‘21	‘22	‘21	‘22	‘21	‘22	‘21	‘22	‘21	‘22
Number of applications received	0.7	1.7	4.2	8.0	46.7	56.6	37.7	27.8	10.8	6.0
Applications rejected based on a standardized screening process	3.2	3.5	6.4	6.5	71.2	77.1	13.1	9.7	6.1	3.2
Applications receiving holistic review	0.7	0.7	2.3	2.8	59.5	65.4	26.8	20.7	10.7	10.5
Interview invitations sent	1.1	1.0	7.0	9.4	49.1	72.7	33.6	14.5	9.1	2.5
Interview invitations cancelled by applicants	19.8	6.6	28.5	19.3	41.4	64.9	8.4	8.3	1.9	0.8
Applicants interviewed	0.6	1.0	5.0	10.0	45.8	70.2	36.5	15.8	12.0	3.1
Applicants ranked	0.5	1.2	3.9	8.8	46.0	70.5	37.6	16.5	12.1	3.1
	<b>25% or Fewer</b>		<b>26-50%</b>		<b>51-75%</b>		<b>76-99%</b>		<b>100%</b>	
<b>Format for Interviews</b>	‘21	‘22	‘21	‘22	‘21	‘22	‘21	‘22	‘21	‘22
Percentage of interviews conducted virtually	0.1	1.1	0.2	0.7	0.1	0.3	3.8	3.7	95.8	94.2

Increase by 2/+ percentage points
  Decrease by 2/+ percentage points
  Static (w/in 1-2 percent)

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 for both Match cycles are presented in **Table 5**. Across Match years, the majority of programs reported Moderate to Significant reliance on program websites for applicant engagement. Moderate reliance on FREIDA (a residency and fellowship programs database sponsored by the American Medical Association) or other online databases increased in 2022, mirroring a decline in Modest reliance. Significant reliance on social media and virtual open houses declined in 2022 whereas Modest reliance increased. One-quarter reported no reliance on social media, FREIDA or other online databases, and virtual open houses, with much higher percentages reporting no reliance on virtual away rotations and other virtual events.

With respect to perceived benefit, percentages of respondents rating most engagement strategies as Significantly Beneficial decreased, and those rating most strategies as Somewhat or Moderately Beneficial increased, for most engagement strategies. Respondents’ perspectives seemed to coalesce around the future of virtual interviewing, with more programs in 2022 reporting intention to use virtual interviewing in the future, most notably for the interview itself, compared to 2021.

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

Reliance on Virtual Engagement Strategy	None		Modest		Moderate		Significant	
	'21	'22	'21	'22	'21	'22	'21	'22
Program website	1.4	1.9	16.0	16.2	31.2	36.7	51.4	45.2
Social media	22.1	22.6	29.4	34.6	28.7	28.8	19.7	14.1
FREIDA or other online databases	27.8	26.0	44.6	42.0	20.1	24.6	7.6	7.5
Virtual “open houses” or residency fairs	26.7	28.1	25.0	27.8	29.7	28.1	18.6	16.1
Virtual away rotations	86.5	84.3	7.4	9.6	3.8	3.8	2.3	2.3
Other virtual events with applicants	42.0	63.2	25.1	16.3	22.5	12.7	10.4	7.9
Benefit of Virtual Engagement Strategy	None		Modest		Moderate		Significant	
	'21	'22	'21	'22	'21	'22	'21	'22
Program website	1.3	2.1	19.4	22.2	35.7	38.9	43.6	36.8
Social media	4.6	5.6	35.3	34.4	33.1	38.8	27.0	21.2
FREIDA or other online databases	15.1	14.3	51.5	53.5	26.5	25.6	6.9	6.7
Virtual “open houses” or residency fairs	7.1	8.8	31.2	36.9	32.5	33.3	29.2	21.0
Virtual away rotations	19.9	22.0	30.5	36.1	27.2	21.5	22.5	20.4
Other virtual events with applicants	7.9	9.5	33.4	32.8	35.2	33.5	23.5	24.2
First Time Reliance on Strategy	Yes (First Time)							
	'21	'22						
Social media	66.3	17.7						
Virtual “open houses” or residency fairs	88.3	17.2						
Virtual away rotations	75.0	17.9						
Other virtual events with applicants	89.5	17.4						
Future Intentions of Virtual	Yes		No		Do Not Know			
	'21	'22	'21	'22	'21	'22		
Intend to conduct part/all of recruitment process virtually in the future	60.1	63.4	7.0	6.8	32.9	29.8		
If yes: Which aspects?								
First-look opportunities	40.1	48.1						
Interview itself	68.0	80.3						
Second visits	17.2	12.5						

■ Increase by 2/+ percentage points

■ Decrease by 2/+ percentage points

■ Static (w/in 1-2 percent)

Lastly, and similar to the Applicant Survey, program directors were asked to reflect on ways in which virtual recruitment may have posed advantages or disadvantages. As shown in **Table 6**, for many factors, the belief that virtual recruitment neither advantaged nor disadvantaged programs was held by a sizable percent of respondents across Match cycles, though the percentages of respondents endorsing this belief varied over time as well as by the specific circumstance under consideration. Disadvantages associated with determining applicant interest, competency, and alignment with the interview team declined over time. Perceived disadvantages related to creating online program materials, dealing with applicant interview cancellations, technical issues with online platforms, and ensuring confidentiality of interviews were more prevalent in 2022.

Modest increases in perceived advantage of the virtual environment were noted over time for flexibility of interview dates, scheduling interviews with non-US applicants, and access to faculty and residents to participate in the interview process.

**Table 6: 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	
	'21	'22	'21	'22	'21	'22	'21	'22	'21	'22	'21	'22
Creating new web-based info materials about program	4.4	7.5	7.9	18.4	18.4	28.7	25.6	18.1	40.3	19.7	3.4	7.6
More applications to cull through	9.1	9.7	22.1	15.5	37.1	34.0	12.2	16.8	5.4	10.2	14.1	13.8
Fewer applications to cull through	0.7	1.9	2.9	4.7	35.4	37.1	2.1	1.7	0.5	0.6	58.5	54.0
Time/ability to research, select online mtg platform	4.7	3.3	27.1	17.0	46.0	52.8	8.9	8.4	4.2	5.4	9.2	13.0
Interview invitations cancelled by applicants	19.8	6.6	28.5	19.3	41.4	64.9	8.4	8.3	1.9	0.8		
Time to create virtual interview agenda/itinerary	6.7	4.1	28.7	22.6	41.6	48.9	14.7	13.4	6.3	5.4	2.1	5.6
Time to create virtual interview agenda/itinerary	6.7	4.1	28.7	22.6	41.6	48.9	14.7	13.4	6.3	5.4	2.1	5.6
Time to train staff to use online mtg software	8.9	6.3	36.7	30.4	35.3	46.8	11.6	7.1	5.1	2.4	2.5	7.0
Applicants cancelling interviews at last minute	6.2	8.7	16.8	24.4	41.6	38.5	9.5	8.5	6.4	5.3	19.6	14.7
Tech issues during interviews	3.8	7.7	40.6	48.8	39.3	31.5	2.1	2.7	1.2	1.0	13.1	8.3
Ensuring confidentiality of interviews	2.3	4.3	7.8	15.6	72.0	60.5	4.7	2.4	2.5	1.3	10.7	15.9
Assessment of applicant competency (lack of Step 2 CS, clerkship grades)	18.3	14.9	36.4	24.2	38.4	49.9	1.9	2.6	0.9	1.2	4.1	7.2
Assessment of applicant interest in and understanding of program	26.6	20.2	39.1	38.5	25.1	30.6	5.6	5.6	2.6	3.2	1.1	2.0
Assessment of applicant interpersonal skills, alignment with interview team	23.0	17.8	42.9	42.0	26.5	28.8	5.1	6.2	1.8	3.2	0.7	2.0
Assessment of whether program showcased adequately	23.3	23.3	44.6	42.3	21.9	23.7	6.6	5.9	2.7	2.8	0.9	2.0
Reduced applicant-related hosting expenses	4.6	6.0	5.1	6.0	13.6	14.5	25.6	24.1	46.6	43.3	4.6	6.1

	Mod/Sig Disadv		Slight Disadv		Neither Adv Nor Disadv		Slight Advantage		Mod/Sig Adv		N/A	
	'21	'22	'21	'22	'21	'22	'21	'22	'21	'22	'21	'22
<b>Virtual Recruitment Circumstance (cont'd)</b>												
Fewer cancelled interviews	2.1	3.6	5.8	8.2	37.8	39.9	24.5	23.8	16.2	12.0	13.6	12.6
More efficiency of interview process	1.6	2.3	4.8	4.4	22.9	23.6	38.2	35.5	29.9	30.2	2.7	4.0
More flexibility for interview dates	1.3	1.5	2.6	2.4	38.3	37.0	27.0	26.8	22.9	25.8	8.0	6.5
More difficulty of scheduling interviews for applicants outside U.S.	1.5	2.0	4.5	6.0	43.2	48.4	2.6	3.8	1.6	2.5	46.6	37.4
More access to faculty and residents to participate in interview process	4.0	3.8	9.4	7.9	40.7	36.3	24.7	29.2	14.3	17.0	6.9	5.7
Need for more outreach to identify and capture interested applicants	9.0	9.1	28.7	25.3	41.3	45.9	6.6	6.6	2.8	2.7	11.6	10.3

Increase by 2/+ percentage points
  Decrease by 2/+ percentage points
  Static (w/in 1-2 percent)

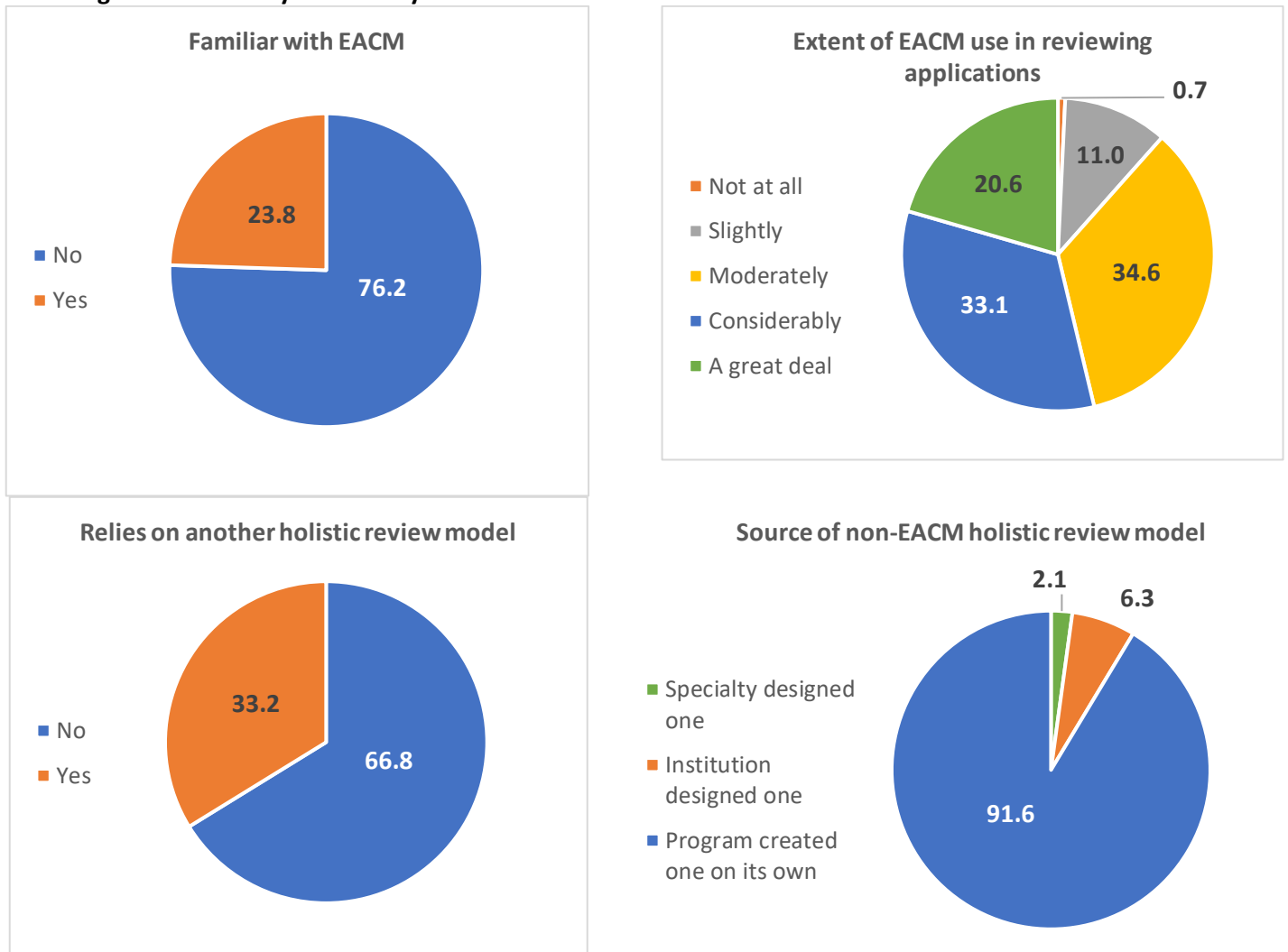
**NEW FOR 2022 – PROGRAM HOLISTIC REVIEW**

As noted at the beginning of this Brief, questions were added to the Program Director Survey in 2022 to illuminate program understanding of programs’ uses of holistic review. With high volumes of applications, changes in interview formats, and the transition in reporting of USMLE Step 1 licensure exam results to pass/fail, the extent to which programs examine multiple aspects of each application when determining applicant alignment with program mission, patient populations, and needs becomes increasingly important. Questions exploring holistic review were presented to all respondents who reported that any (>0) applications to their programs received holistic review.

The Association of American Medical Colleges (AAMC) has provided a framework for holistic review. Known as the “EACM” model, the framework focuses on applicant Experiences, Atttributes, Competencies and academic or scholarly Metrics to build a multi-dimensional understanding of an individual’s offerings and potential. The Survey included questions about the EACM model to gauge program awareness and utilization. As seen in **Figure 1**, three-quarters of respondents reported that they were not familiar with the AAMC EACM model. Of the one-quarter who were familiar with the model, 53.7 percent reported using it “Considerably” to “A Great Deal” in the review of applicants. Those unfamiliar with the EACM model were asked whether they relied on another model or framework other than EACM. Two-thirds of respondents reported that they did not. Of the one-third who reported reliance on another holistic review model, nearly all utilized a program-grown process.

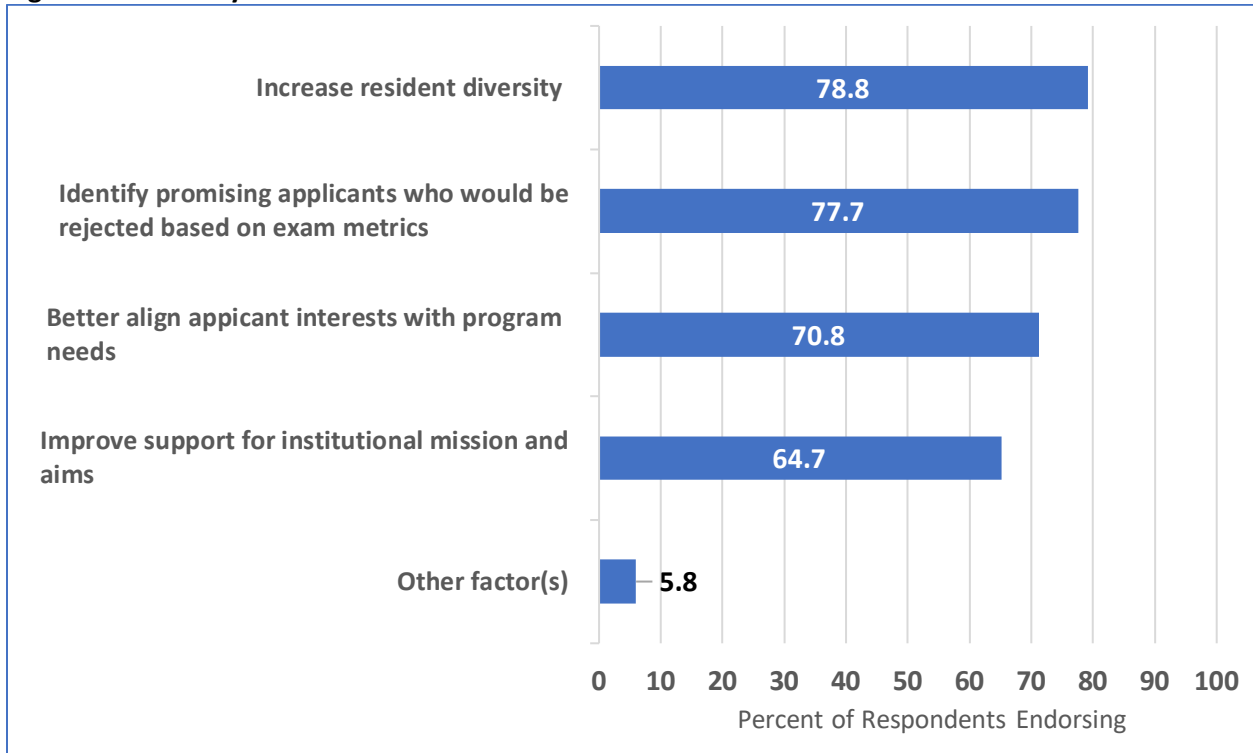


**Figure 1. PD Survey: Familiarity with and Use of EACM and Other Holistic Review Models**



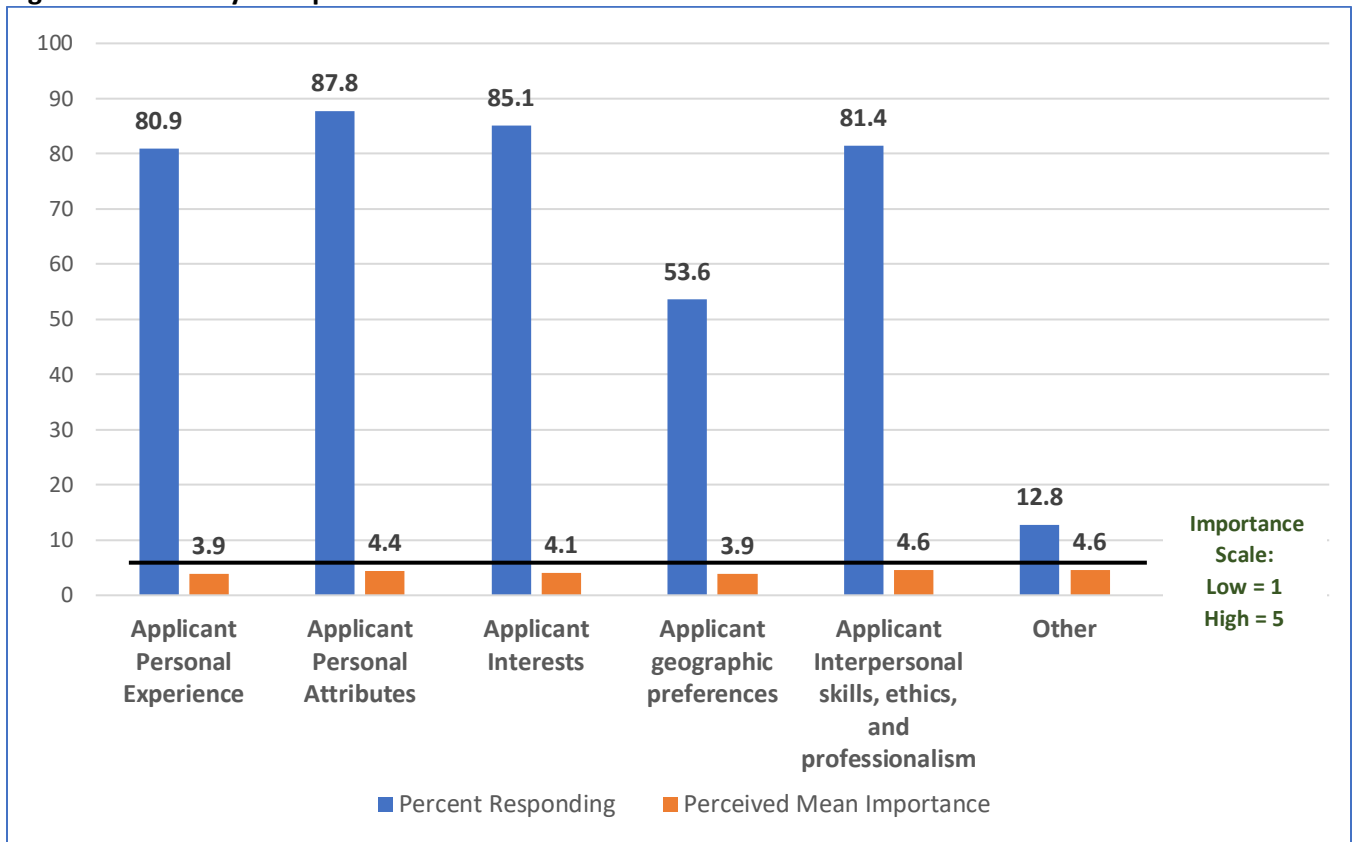
The Survey also asked programs to identify the primary reasons for engaging in holistic review. **Figure 2** reflects fairly widespread consensus, with more than three-quarters of programs reporting holistic review as a means of increasing resident diversity and finding applicants who might otherwise be overlooked. Improving alignment between applicant interests and program needs also was frequently cited. To a lesser degree, programs used holistic review to identify applicants that would better support institution mission and aims.

**Figure 2. PD Survey: Holistic Review Drivers**



There also was widespread consensus on the components primarily considered when engaging in holistic review of applicants, with more than 80 percent of respondents citing applicant personal attributes and interests as well as applicant ethics/professionalism and personal experiences (see **Figure 3**). Applicant geographic preferences were not as valued by respondents. When asked their perceptions of the importance of each component they considered, program directors assigned the highest ratings to applicant personal attributes and ethics/professionalism.

**Figure 3. PD Survey: Components Considered in Holistic Review**



**SUMMARY**

The undergraduate and graduate medical education (UME and GME) communities have now experienced two complete Match cycles in a COVID environment. Data reported in this Brief in 2021, along with Match outcomes detailed in other reports, revealed that the 2021 season was successful in spite of changes to the ways interviews were conducted and challenges to applicants and programs in presenting themselves optimally through video while discerning the information each constituency needed to assess their alignment for a meaningful training experience. In fact, exploration of the virtual experience found that it did not constrain the abilities of applicants and programs to obtain more PGY-1 placements in 2021 and perhaps exposed aspects of the traditional recruitment and selection processes in which there is room for improvement. This version of the Brief, based on two years rather than a single year of data, helps articulate those findings in a more robust fashion.

Data from the 2021 Applicant Survey revealed a level of fortitude that many in the GME community could not have anticipated. That fortitude was present, perhaps even stronger, in 2022. Applicant reports of readiness for the transition-related processes, already high in 2021, persisted in 2022, and more applicants reported feeling comfortable with a virtual environment in 2022. However, stress levels also remained high, suggesting that applicant readiness for the application, interview, and matching processes did not mitigate the stress they feel about the transition to residency as a whole. It is likely that stress helped drive the increase in applications submitted and interviews accepted over time, even when the numbers of positions applicants ranked remained unchanged. The landscape of the UME-GME transition

is tumultuous, beyond the realities of virtual recruitment, so increased stress and utilization of reactive strategies to mitigate that stress is not necessarily surprising.

Reactive behaviors (e.g., applying to and interviewing with more programs) are likely also a consequence of applicants' embrace of the key benefits afforded by a virtual environment. Virtual recruitment has exposed the burdens of the traditional, in-person interview format and brought relief to applicants in the forms of cost savings on travel and improved flexibility and efficiency of the interview process. Those benefits are real and align with data that show a decline over Match cycles in applicants preferring an in-person interview format and an increase in applicants preferring a virtual interview format.

Despite these clear benefits and their impacts on applicant preferences, the virtual recruitment process is not without challenges. Although data generally showed decreases over time in the severity of perceived challenges associated with virtual interviewing, applicants continued to rate aspects such as determining program curriculum and mission from web-based materials and reliance on web-based materials to understand the culture of and applicant fit with a program as Moderately to Very Challenging across Match years. Some of the challenges of these aspects could be due to static if not reduced reliance by programs across cycles on virtual engagement strategies other than program websites and perhaps FREIDA or other online databases. Whereas programs viewed their websites, social media platforms, and virtual "open houses" as Significantly Beneficial in 2021, those same strategies were seen as only Moderately or Somewhat Beneficial in 2022. Program ambivalence about ways to foster connections with applicants through non-human channels may increase burdens on applicants, though applicants reported less challenge over time in determining fit with current residents and whether programs were committed to diversity of faculty and equitable treatment of learners. It is possible that the 2022 Match cycle simply required less engagement on the part of programs than what was necessary to pivot to a virtual interface for the 2021 Match cycle. With online materials built, technology platforms selected, and faculty and staff trained for online interviewing in 2021, program directors, faculty, and staff may have perceived they could "hold steady" in 2022.

The energy and effort required of programs to make the pivot in 2021 could be a driver of more programs reporting in 2022 an intention to use virtual interviews in the future, particularly for the interview itself. As with the applicant data, intentions about virtual interviewing in future Match cycles should be monitored for change as it becomes easier and safer to engage in in-person communication and national organizations put forth recommendations about preferred approaches to resident recruitment. NRMP data align with program reports over time of fewer significant disadvantages associated with virtual recruitment. Programs most frequently rated time and effort to prepare for and execute online interviews as neither an advantage nor disadvantage across Match cycles; similarly, assessment of applicant competency. Even other critical aspects for program recruitment such as assessment of applicant interest in the program and interpersonal skills were rated most commonly as posing only Slight Disadvantage in 2022. Like applicants, programs appreciate the advantages that virtual interviewing affords in reduced hosting costs, scheduling interviews, and securing faculty to participate in the interview process.

We could conclude this report with a reflection on the stability of the data across Match cycles, and opine that applicants and programs are finding their way in the "new normal" of virtual environments and enjoying the benefits it affords, if it were not for the widely discussed but little understood process of holistic review. Approximately two-thirds of programs surveyed in 2021 and 2022 reported "About the Same" number of applications receiving holistic review versus the prior year's recruitment cycle,

suggesting fairly widespread, if not frequent, engagement in the process. However, this prevalence appears inconsistent with reports by the majority of program directors in 2022 that they were unfamiliar with the AAMC EACM model and that they did not rely on any other holistic review framework. Also noteworthy is that, of the one-third who did report using a framework, the overwhelming majority indicated that the framework was program designed. Programs reportedly were fairly uniform in what holistic review was intended to help achieve, namely diversity of the resident pool and identification and improvement of applicant-program alignment. In addition, programs collectively attached greatest importance to applicant interpersonal skills and personal attributes when considering the application holistically; applicant personal experiences, which seemingly would be valuable in determining the uniqueness of an application, constituted one of the least important considerations.

We must continue to evaluate the impact of changes to the recruitment process on applicant and program experience, but we must also gain a better understanding of how, if at all, those changes along with other key shifts in both UME and GME dynamics are impacting programs' holistic review of applications. It would appear from the 2022 data that some GME programs are utilizing holistic review to achieve common outcomes (e.g., resident diversity), but there is no common standard or framework. Without it, learners and their mentors have little understanding about how programs may be defining and implementing the process. Exploration of definitions and utilization of holistic review should be a top priority for medical education research so that it can be leveraged and programs held accountable for its implementation. This is true regardless of interview format if we are to chart a better, more equitable path forward in the transition to residency.