

An Analysis of the Selection Criteria for Postgraduate Physician Assistant Residency and Fellowship Programs in the United States

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Abstract

Background

This study aims to investigate the admission criteria used by PA postgraduate education programs in selecting licensed PA applicants for postgraduate training in the United States. To our knowledge, *there have been no previously published* reports on selection criteria and/or other factors influencing postgraduate PA admission decisions. This study both draws on and builds upon previous research conducted by Vasco Deon Kidd et. al in exploring the characteristics of PA postgraduate education programs in the United States.

Method

A non-experimental, descriptive research study was designed to obtain information from members of the Association of Postgraduate Physician Assistant Programs (APPAP).

Results

Twenty-three out of 73 postgraduate programs (35.1%) responded to the survey; the low response rate in our survey may have been attributed to the resurgence of COVID-19 fueled by the delta variant. Nevertheless, the study reported that applicant PAs and NPs are largely selected on the basis of several factors. The most heavily weighted factor is the interview itself; other selection criteria perceived to be *extremely/very important* included board certification/eligibility, letters of recommendation, advanced degree, and personal essay. Survey data suggest that publications, undergraduate transcripts, and class rankings are not considered to be of high importance in applicant selection. The total cost of training a PA resident or fellow in postgraduate programs is currently \$93,000 whereas the average cost of training a categorical physician resident is estimated at \$150,000 per year when considering both salary and benefits. The number of PA applicants applying to each postgraduate training program averages around 26 and total number of enrollees is 3.6 per program.

Conclusions

This is the first study to examine criteria and others factors used by postgraduate PA programs in selecting candidates for admission. Results can be used by postgraduate programs for quality improvement initiatives related to including additional or modifying current selection criteria to improve the quality of trainee selection. Further research is needed to examine correlations between applicant attributes, selection criteria, and trainee success in completing postgraduate training.

Background

The development of postgraduate programs for physician assistants (PAs) began over four decades ago (1,2). Currently, there are approximately 73 postgraduate programs affiliated with APPAP spread across a broad range of medical and surgical disciplines (1,2). While PA postgraduate training remains optional

for licensed PAs, there is no published data on which factors used by postgraduate programs most affect the admission decision. Therefore, the purpose of this study is to determine the selective admission criteria that are important to postgraduate programs in selecting applicants for medical or surgical specialty training.

Methods

A non-experimental, descriptive research study was designed to obtain information from members of the Association of Postgraduate Physician Assistant Programs (APPAP). The list of programs was drawn from an updated APPAP membership page (APPAP.org). After review of the literature and based on the substantive experience of the authors in postgraduate PA education, an online survey was developed. The survey was comprised of 22 items and after a successful pilot, the survey was finalized. The three respondents who took part in the pilot test did not participate in the overall survey to limit bias. Individual postgraduate programs were sent an email invitation and a link to a voluntary, anonymous online survey. The email introduction to the survey contained all the necessary elements of written consent, and submission of the survey indicated the respondents' consent to participate. The survey was reviewed with the University of California Irvine (UCI) IRB team and the study is exempt under the UCI Exempt Self-Determination Tool. As part of using the Exempt Self-Determination Tool, Lead Researchers and Faculty Sponsors (as applicable) provided their assurance that they followed relevant Human Research Protection Program (HRPP) policies and procedures, among other criteria. Five reminders were sent to postgraduate programs during the 30-day study period. Survey responses were aggregated and descriptive statistical analyses were utilized through a statistical package embedded within the survey software.

Results

Seventy-three postgraduate programs were invited to participate and 23 programs completed the entire survey. The overall response rate was 35.1%. Response rates varied by specialty: emergency medicine (34.7%), general surgery (13.0%), critical care medicine (8.69%), orthopaedic surgery (8.69%), neonatology (8.69%), cardiothoracic surgery (8.69%), psychiatry (4.34%), obstetrics and gynecology (4.34%), internal medicine (4.34%), and trauma and surgical critical care (4.34%). Of those that completed the survey, 87% were program directors, 9% associate program directors, and 4% were NPs affiliated with the program. Additionally, 34.78% of respondents enroll both PAs and NPs, whereas 65.22% only enroll PAs.

Selection criteria perceived as *extremely important* by postgraduate programs included personal interview (95.65%), board certification/eligibility (82.61%), letters of recommendation (60.87%), graduate degree (52.17%), and personal essay (43.48%). Perceived as *very important*: clinical rotation grades (43.48%), transcripts from PA or NP entry level program (43.48%), awards/achievements (43.48%), and overall GPA from PA or NP school (39.13%). Perceived as *important*: class ranking and community service (47.83%). Perceived as *somewhat/not important*: publications (78.26%), membership/position in a local PA or NP association (52.17%), and transcripts from undergraduate study (52.17%). **(Fig. 1)**. The majority of

respondents (19) reported that their selection criteria can be found on their website. Six programs include selection criteria on the website, job description, and brochure.

Admission Cycle and Screening Process

Programs were asked about their application cycle and reported a fixed deadline admission process (82.61%) or rolling admission process (17.39%). A majority of respondents do not charge an application fee (60.87%). Respondents reported that participants involved in the screening process include the program director (91.30%), associate program director (47.83%), medical director (26.09%), and human resources business partner (13.4%) **(Fig. 2)**.

Candidate Interviewing

The program personnel involved in interviewing applicants comprises a diverse interview panel and includes the program director (100%), medical director (69.57%), associate program director (52.17%), staff PAs/NPs (52.17%), physicians (34.78%), and to a lesser extent, resident physicians and human resource recruiters (17.39%). **(Fig. 3)** Moreover, postgraduate program interviews come in many different forms such as structured interview (60.87%), panel interview (39.13%), and multiple mini interview (34.78%). During the interview, most programs included a facility tour (95.65%) and introduction to program staff (73.91%), while almost half had candidates participate in a group activity (39.13%). Almost 20% (17.39%) evaluated candidates with a pre-admission assessment.

Candidate Selection

The data from our study suggests that postgraduate programs include multiple stakeholders in selecting candidates for admission. Respondents reported program personnel responsible for making the final admission decision included the program director (100%), medical director (73.91%), associate program director (43.48%), and staff PAs/NPs (21.74%) **(Fig. 4)**.

Discussion

Summarize key findings

The goal of this research study was to investigate admission criteria used by PA postgraduate programs in selecting licensed PA applicants for postgraduate training in the United States. Importantly, this study revealed the influence and weight of particular selection criteria as well as the stakeholders evaluating that criteria. Criteria driving the selection process include personal interview, board certification/eligibility, letters of recommendation, achievement of a graduate degree, and personal essay. Least important to key stakeholders, namely program directors, but also medical directors, associate program directors, and staff PAs/NPs was participation in research/publication, membership in local PA/NP associations, and undergraduate transcripts. To date, there is no published data detailing factors used by postgraduate programs to drive admission decisions, making this a landmark study.

Aside from board certification/eligibility and achievement of a graduate degree, the factors deemed most important of the selection criteria for admission to a postgraduate PA program are subjective in nature.

The weight placed on the personal interview, personal essay, and letters of recommendation supersedes that of graduate GPA, class rank, and clinical rotation grades, suggesting that applicant characteristics of personability, interpersonal skills, communication skills, emotional intelligence, and adaptability are as important to demonstrate as clinical acumen via board certification. This is not too dissimilar from how physician residency programs evaluate certain characteristics in the selection of candidates for postgraduate training (3). Moreover, these non-cognitive characteristics may serve as more reliable predictors of success in PA postgraduate training as it does in physician graduate medical education (4).

Some thoughts on research and advocacy: According to published research, 36% of physician residency programs cited “demonstrated involvement and interest in research” as a factor when granting applicants an interview (5); however, our study demonstrated a lower importance on research/publications of PA postgraduate education applicants, which serves to highlight the scant contribution of PAs to the field of medical research that has been previously observed. In fact, one study reported a precipitous drop in PA scholarship activity over the last decade, which may be related in part to recruitment practices (6). Moreover, many postgraduate applicants are new graduates, with little or no research experience, which may reflect a knowledge gap and lack of research mentorship.

Barriers to research contribution have previously been considered and include lack of experience with research, lack of time, lack of interest, lack of mentors and lack of funding (7); data from this study suggests that these barriers need to be addressed at both the graduate and postgraduate levels especially if the goal is to bring greater attention and awareness to increasing the number and caliber of PA research contributors (7-9). Also, of little importance was membership in a PA/NP association. Encouraging participation in local and national organizations should be a priority at both the graduate and postgraduate level to increase advocacy of the PA profession from career inception.

Additionally, this study identified the key players in the admission process, from screening applications to conducting interviews and making applicant selections, indicating that the program director primarily, along with associate program directors and medical directors had the greatest influence on the interview process and selection of candidates for admission. It should be noted that the graduate medical education (GME) office was not found to be involved in the screening, interviewing, or selection of candidates for postgraduate PA training. This distinction suggests that, while housed in the same institution, PA postgraduate education processes and GME education processes are two separate entities with different funding, goals, and resources.

Despite some furloughing of trainees, the vast majority of postgraduate PA programs remained operational, while many saw an increase in application volume. The uptick in applications may have been attributed to a perceived skills gap among recent PA and NP entry level graduates who experienced limited face-to-face clinical education (clinical clerkship/practicums) during their training or encountered difficulty in securing employment subsequent to graduation as a consequence of the COVID-19

pandemic. Additionally, a quarter of postgraduate programs experienced a decrease in program funding. This may be largely due to financial losses exacerbated by COVID-19 in which US hospitals now face a liquidity crisis; some institutions may have elected to cut back on funding for training programs that they deem a drain on already limited resources (10).

Limitations

Our study is not without limitations. First, we did not examine how selection criteria correlated with resident or fellow success in postgraduate training program. Second, we did not evaluate the impact of racial, geographical, or gender differences among applicants during program selection. Thirdly, this study includes a low response rate of (31.5%), which may have contributed to response bias.

Overrepresentation of emergency medicine programs may also have led to some bias. Lastly, when programs were asked to report on the total cost (salary/benefits) of training a PA resident or fellow, five programs reported only salary costs. Therefore, we multiplied the salary cost by the 32% benefit rate (Bureau of Labor Statistics) as a percentage of salary (2018) to determine total postgraduate cost of training an APP in those 5 programs (11). Despite some limitations, our study highlights differences in selection criteria by postgraduate PA programs in the initial screening of applicants and subsequent selection of candidates for specialty training.

Conclusion

This is the first study to present the admissions practices of PA postgraduate education programs in the US. The data suggest that PA postgraduate selection committees use a rigorous and highly competitive application process. The data from this study can help guide and improve selection practices across postgraduate education programs as well as inform future applicant and policy decisions.

Declarations

Areas of Future Research

Future research is needed to examine correlations between applicant attributes, selection criteria, and trainee success in completing postgraduate training. Another area of exploration is whether postgraduate education programs closely align with employment and/or academic institutional priorities. Future investigation of postgraduate training should also include evaluation of other fixed costs not highlighted in this study, such as program personnel and technology costs, faculty development expenses, and accreditation fees. Lastly, research is needed to explore the main factors (work/life balance, lifestyle, clinical interest, personality fit, income expectations, etc) influencing the choice of graduate PAs in pursuing a specialty postgraduate training program.

Ethics approval and consent to participate

The survey design was reviewed with the University of California Irvine (UCI) Office of Research Administration and the study survey is exempt. Additionally, the corresponding author discussed the use of the Self-Determination Tool with the UCI Office of Research Administration. This study is exempt under the self-determination tool. At UCI, researchers, including undergraduate students proposing exempt human subject research as part of the Undergraduate Research Opportunities Program (UROP) are permitted to self-determine their exempt research without confirmation from the IRB. This is a unique process to UCI. The letter to sponsor uploaded as a supplemental file is evidence of IRB review for a self-determination of exempt research.

All methods were carried out in accordance with declaration of Helsinki with relevant guidelines and regulations.

Consent for publication

No consent required

Availability of data and materials

Available from the corresponding author and APPAP Survey committee on reasonable request

Competing interests

None of the authors have any competing interest

Funding

None

Authors' contributions

V.D.K- Coordinated and supervised the project, V.D.K, S.V., and J.S. developed the survey, agreed to the research methodology, analyzed and interpreted the results, and developed the manuscript. All authors have read and approved the final manuscript", and ensure this is the case.

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Data availability statements

The datasets used and/or analyzed during the study is available from the corresponding author on reasonable request.

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Figures

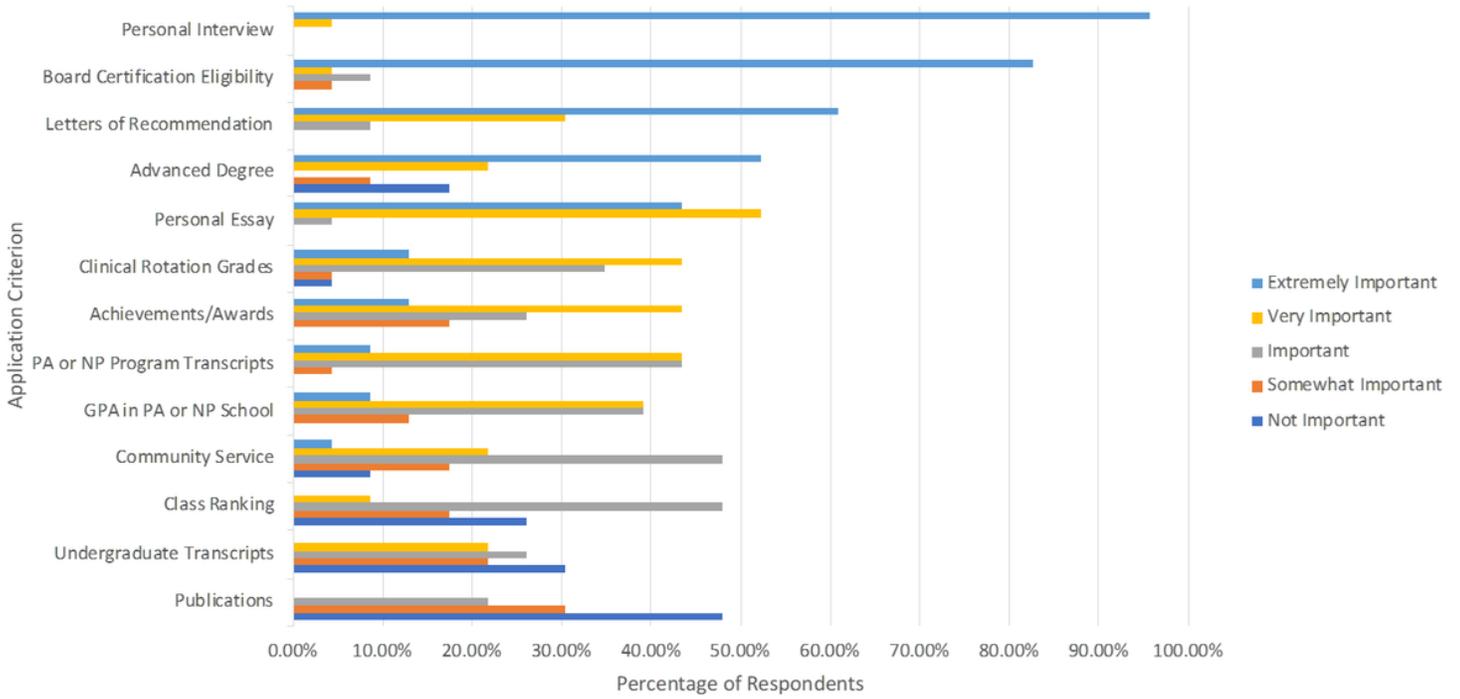
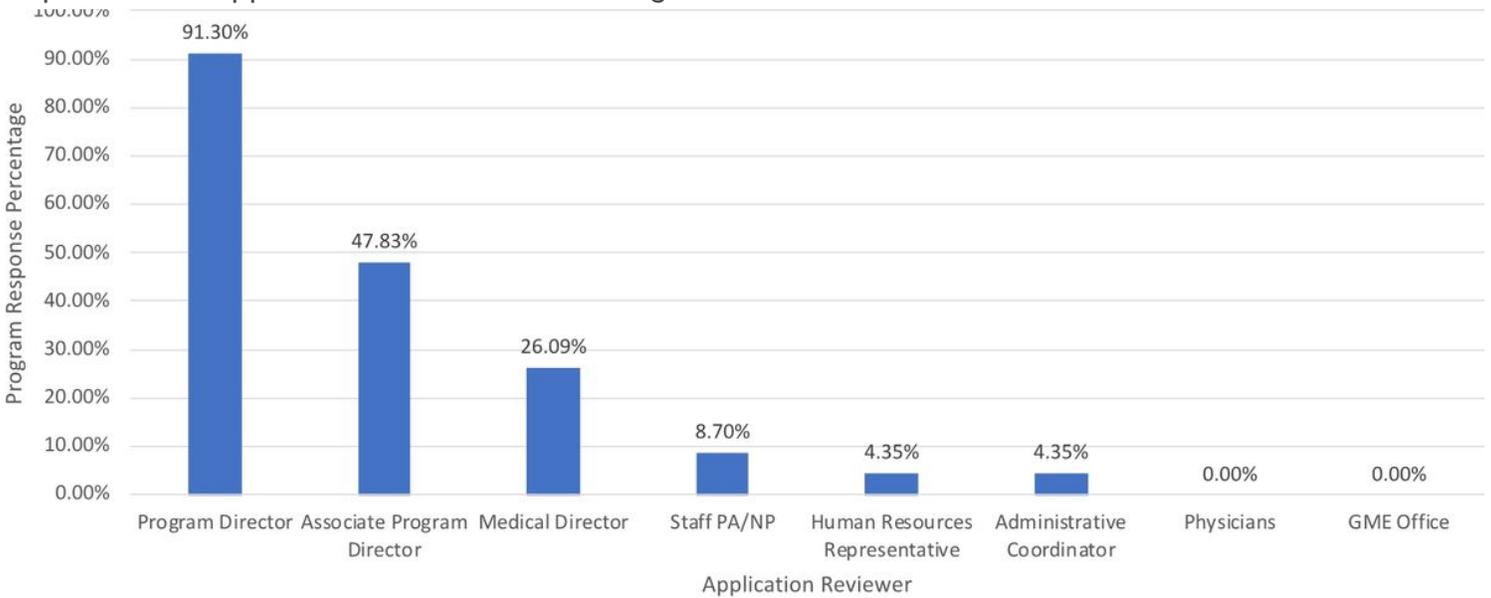


Figure 1

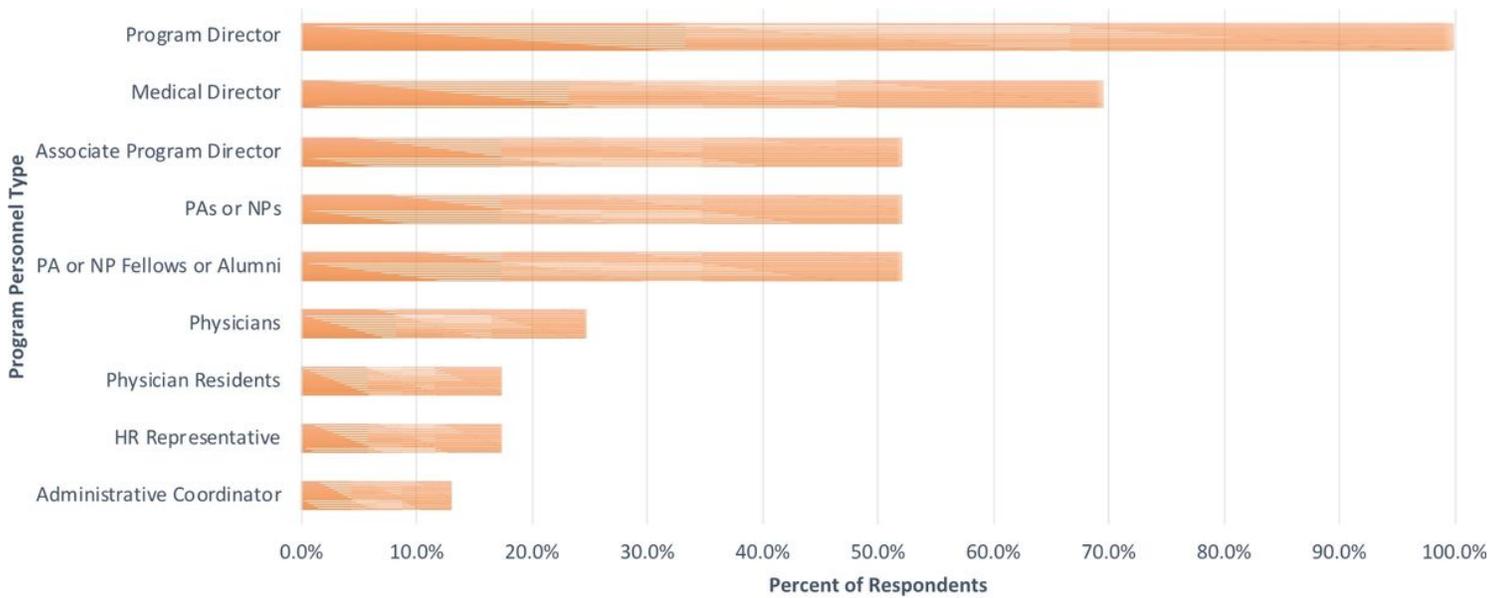
Importance of Application Criterion in Selecting Candidates



- Responses had a multi-select option
- Total program response was 23

Figure 2

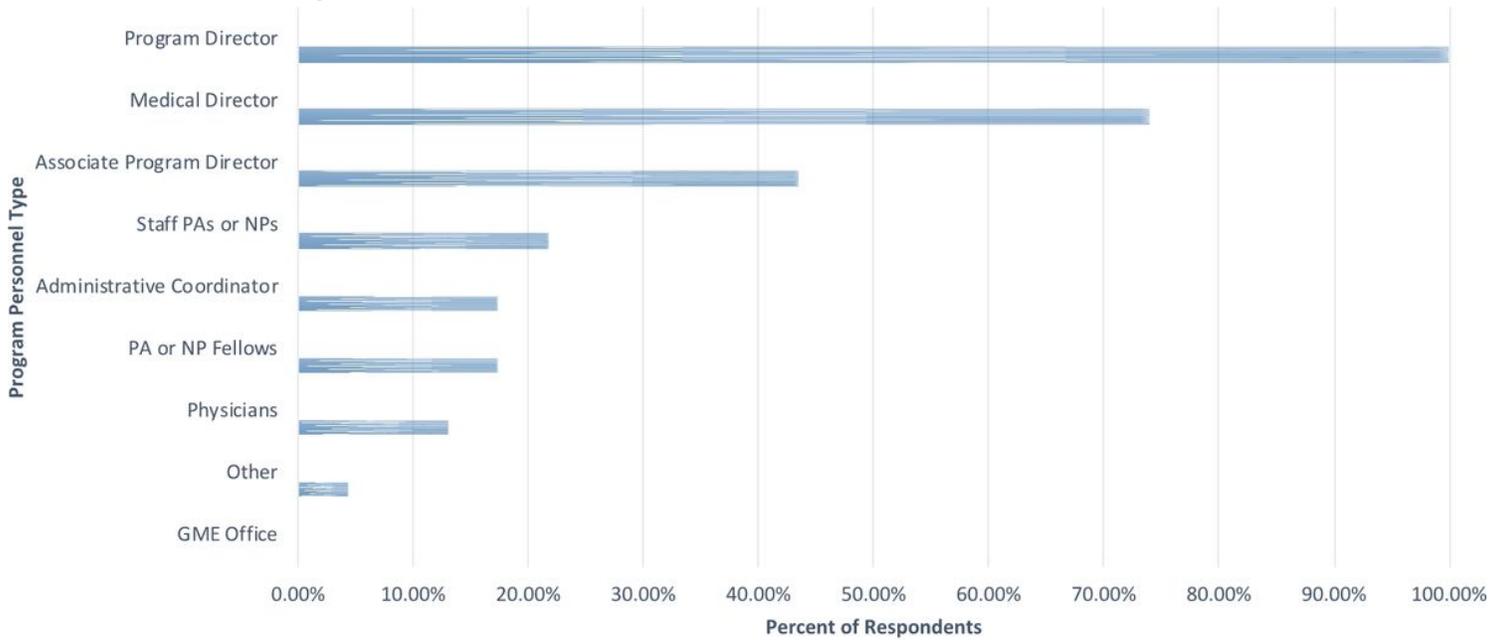
Program Eligibility Application Screening



- Responses had a multi-select option
- Total program response was 23

Figure 3

Candidate Interviewing Personnel



- Responses had a multi-select option
- Total program response was 23

Figure 4

Responsibility for Final Candidate Selection