

Factors important to anesthesiology residency applicants during recruitment

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Abstract

Background The United States residency application and interview process is expensive and time consuming. The purpose of this study is to better understand and improve the effectiveness and efficiency of the anesthesiology residency application and interview process.

Methods Applicants to the anesthesiology residency at Mayo Clinic in Rochester, MN were anonymously surveyed after the 2016 National Resident Matching Program (NRMP) match. Survey questions included medical school and program characteristics, factors important for applying to and interviewing at programs, and the frequency and impact of post interview communications.

Results Three hundred two of the 705 (42.8%) applicants who received the survey responded. Program websites (159/229, 69.4%), residents enrolled in the program (130/231, 56.3%) and visiting rotations (92/225, 40.9%) were the most important resources used to evaluate

programs. Most respondents (169/264, 64.0%) contacted at least one program about their NRMP rank order list and some (12/169, 7.1%) respondents informed more than one program they were ranked first. Many respondents (163/264, 61.7%) reported contact by at least one program about their rank order list. Forty-six of these 163 respondents (28.2%) moved the program higher based on this communication.

Conclusions Recruitment of the best residency applicants is a priority for residency programs. Our survey informs residency programs on factors to consider in developing effective recruitment strategies. Department websites were the most frequently used tool to research programs. In spite of efforts to curtail post-interview communication between applicants and programs, it continues to be a common occurrence and may influence rank lists.

Introduction

The United States (US) residency application process is expensive and time consuming for programs and applicants.¹⁻³ However, the importance of the process is undeniable. The choice of a training program has long-term professional and personal implications for the applicant and critical workforce and recruitment implications for the department and program.

A record 35,476 residency applicants participated in the National Residency Matching Program (NRMP) to fill 27,860 PGY-1 positions in 2016.⁴ Continued growth of the applicant pool for Post Graduate Year-1 (PGY-1) appointments will occur in response to the recent 30% increase in US medical school enrollment.⁵ This growth is disproportionate with the modest increase in PGY-1 residency positions which is the primary limiting factor in growth of the US physician workforce as shown in Figure 1.⁴ An effective and efficient

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application and interview process serves the interests of programs and applicants. Previous residency applicant surveys have provided insight into several valuable features of the residency application and interview process. These reports vary in methodology, medical specialty, administration before or after the match and in the survey questions of interest.⁶⁻¹¹

The purpose of this study is to determine factors related to the application and interview process that were important to applicants to the anesthesiology core residency program at Mayo Clinic School of Graduate Medical Education conducted in Rochester, Minnesota. Our data provides information to support a best-practice approach to recruitment that is of value to all US anesthesiology residency applicants and programs.

Methods

This study was deemed exempt by the Mayo Clinic Institutional Review Board. The authors created a survey instrument to be administered to all 2015-2016 applicants to the Mayo Clinic Anesthesiology residency program in Rochester, Minnesota after completion of the 2016 National Resident Matching Program (NRMP) match. The instrument included questions about medical school and program characteristics, the impact of medical school rotations, resources used for researching residency programs, interview preferences and the frequency and

impact of post interview communications. Following initial survey creation, all authors made edits to the instrument on two occasions resulting in the final survey instrument. Each applicant received an initial email request to participate via an anonymous web-based survey (SurveyMonkey®, Palo Alto, California, US) one week after the NRMP results were released to applicants. A reminder email was sent one week later and data collection ended the following week. In order to avoid any potential match violations, we chose to administer the survey after the NRMP match results were released. Chi square analysis was used for comparisons with p-values <0.05 considered statistically significant.

Results

Three hundred two of the 705 (42.8%) applicants who received the survey responded. Respondent demographic data are shown in Table 1. Compared to the total applicant pool, a significantly smaller proportion of international medical graduates (IMG) (p=0.002) and a significantly larger proportion of US allopathic students responded to the survey (p=0.015). Most applicants (244/301, 81.1%) interviewed at both categorical and advanced programs and few (6/301, 2.0%) interviewed at advanced programs alone. Most respondents (203/301, 67.4%) matched into a categorical anesthesiology position. A substantial majority (228/295, 77.3%) of applicants did not complete a rotation at the site where they matched (Table 2).

Only 28 of 208 (13.5%) ranked social media in the top two tools for researching residency programs. Program websites were the most common source utilized in this study with 159 of 229 (69.4%) respondents ranking websites among the top two categories. Information from residents currently enrolled in the program (130/231, 56.3%) ranked more highly than advice from medical school advisors (55/209, 26.3%). Ninety-two of 225 (40.9%) applicants used appointment as a visiting medical student to research a program. (Figure 2)

Feedback about the structure of the interview day is instructive (Figure 3). Nearly all applicants want to interview with the program director (241/248, 97.2%) and program faculty (227/247, 91.9%). Many prefer to interview with the department chair (166/247, 67.2%) and with one or more residents (161/247, 65.2%). A substantial majority (216/247, 87.4%) prefers 3-4 interviews and most (171/250, 68.4%) prefer interviews of 20-30 minute duration. Nearly all respondents (233/243, 95.9%) prefer to be interviewed one-on-one. Very few applicants (19/244, 7.8%) support inclusion of a skills challenge or an assessment of knowledge. Most respondents prefer inclusion of a social event (184/245, 75.1%) and an opportunity to tour program facilities (179/246, 72.8%). Most (144/245, 58.8%) expect to meet informally with 6-10 residents throughout the interview process.

Thank you letters were sent to at least one residency program at which the applicant interviewed by 240 of 263 (91.3%) respondents. E-mail was the most frequently used mechanism to send thank you notes (151/261, 61.7%). A surprising majority (169/264, 64.0%) of applicants reported contacting the program director to express their rank order list and some (12/169, 7.1%) told more than one program they had been ranked first. Similarly, 164 of 266 (61.7%) applicants reported initiation of contact by programs following the interview. Most respondents (97/163, 59.5%) did not change their rank order list when contacted by the program post-interview. However, sixty six of 163 (40.5%) applicants reported changing their rank order list following this communication, with 46 of 163 (28.2%) respondents moving the program to a more competitive rank order list position. Twenty of 163 (12.3%) respondents reported moving some programs up and others down based on post-interview contact (Table 3).

Discussion

The expensive, time-consuming application and interview process conducted in advance of the NRMP match is of critical importance to residency applicants and programs. This process accordingly warrants careful study and

consideration. Many residency programs conduct post-match surveys to better understand factors that influenced applicant decisions regarding their rank order list. We describe the results of a survey administered to all applicants to the Mayo Clinic Rochester anesthesiology residency program.

Although many of the results of our survey were expected, some were a surprise. The relatively modest impact of social media as a tool for applicant assessment of residencies is of interest given the ubiquitous presence of social media communications in society. Program web sites remain an important source of residency information for applicants which justifies ongoing resource expenditure to ensure they are accurate, up-to-date and engaging. We confirmed the traditional role of visiting medical student programs as an audition for the program and the applicant, although most matched candidates (228/295, 77.3%) did not complete a rotation at the program to which they matched.

The results do not support a preference for innovative interview techniques (such as evaluating applicant performance in a simulation center) described by others.^{12,13} Most applicants to our program reported a preference for a conventional interview experience with the program director, faculty, and one or more residents.

Post-interview communication is an area of intense interest in the graduate medical education community.¹⁴⁻¹⁶ Our results cast some light on this topic by documenting that post-interview communications about the rank order list still occur. Applicants contacted programs about the rank order list more frequently than programs contacted applicants. These results are consistent with a survey of orthopedic surgery applicants, who also reported a high rate of post-interview contact between programs and applicants.¹⁵ In our study however, more respondents (28.2%) reported moving the program higher on their rank list compared to orthopedic surgery applicants (20.7%) following post-interview contact by programs.¹⁵ Although the NRMP does not prohibit post-interview communication, there is the potential for dishonesty or misinterpretation of the intent of these communications between programs and applicants. Our data

confirms the presence of dishonesty in post interview communication, as 7.1% of respondents who contacted programs admitted to telling more than one program they had ranked them first. In spite of this, post interview communication between applicants and programs appears to sometimes be effective and will likely continue unless the NRMP implements a ban.

Our survey has several limitations. It is a single center, single specialty survey that may not be generalizable to other anesthesiology programs or other specialties. The survey was reviewed by those with content expertise but has no other evidence of validity. Because we administered the survey after the NRMP match, we cannot exclude response bias. In spite of the low response rate (42.8%), we feel those who did respond likely reflect the general applicant pool, as only a relatively small fraction of the total pool were offered interviews and even fewer matched into our program. Thus, many of the respondents who were not considered for our program responded to the survey. Applicants were not questioned about the use of the Residency Navigator®, which is a tool that has been used with increasing frequency

to research programs.¹⁷ There is intense debate about the validity of the Residency Navigator® and other national residency program ratings. Despite these limitations, the authors believe the results of the survey provide value to other residency programs as they plan and conduct their selection and recruitment process. Recruitment of the best residency applicants is a critical priority for residency programs. Our survey informs residency programs on factors to consider in developing effective recruitment strategies. Despite the ubiquitous use of social media, our data suggest efforts to maintain up-to-date, engaging, and informative department websites are warranted in support of the recruitment process. Despite efforts to discourage post-interview communication between applicants and programs, it continues to commonly occur. Our data suggest post-interview communication may influence rank order lists and is likely to continue as long as the NRMP does not prohibit it. The occurrence and impact of post-interview communication is worthy of further study across specialties and sponsoring institutions.

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Figure 1: Applicants and 1st Year Positions in the NRMP Match, 1952-2016. Used with permission from National Resident Matching Program, Results and Data: 2016 Main Residency Match®.

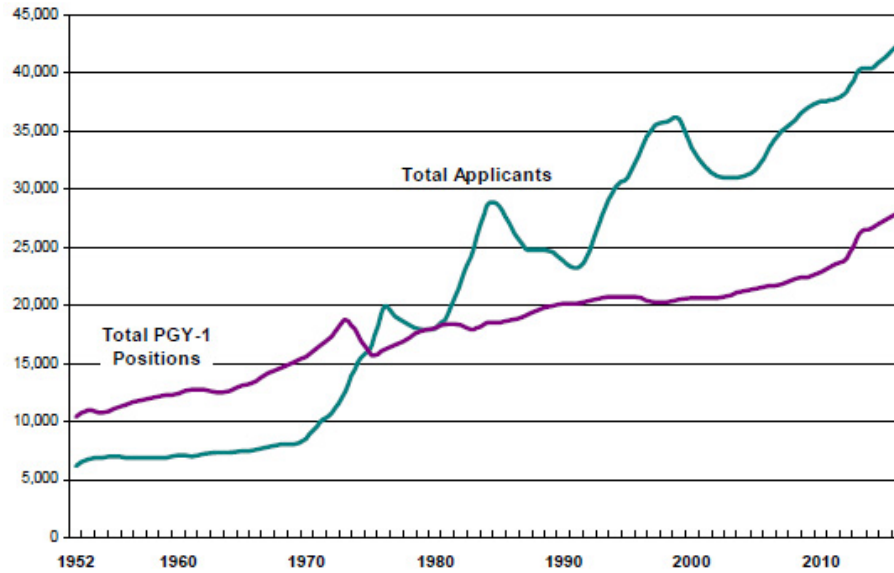


Figure 2: Resources most important to applicants in researching a program

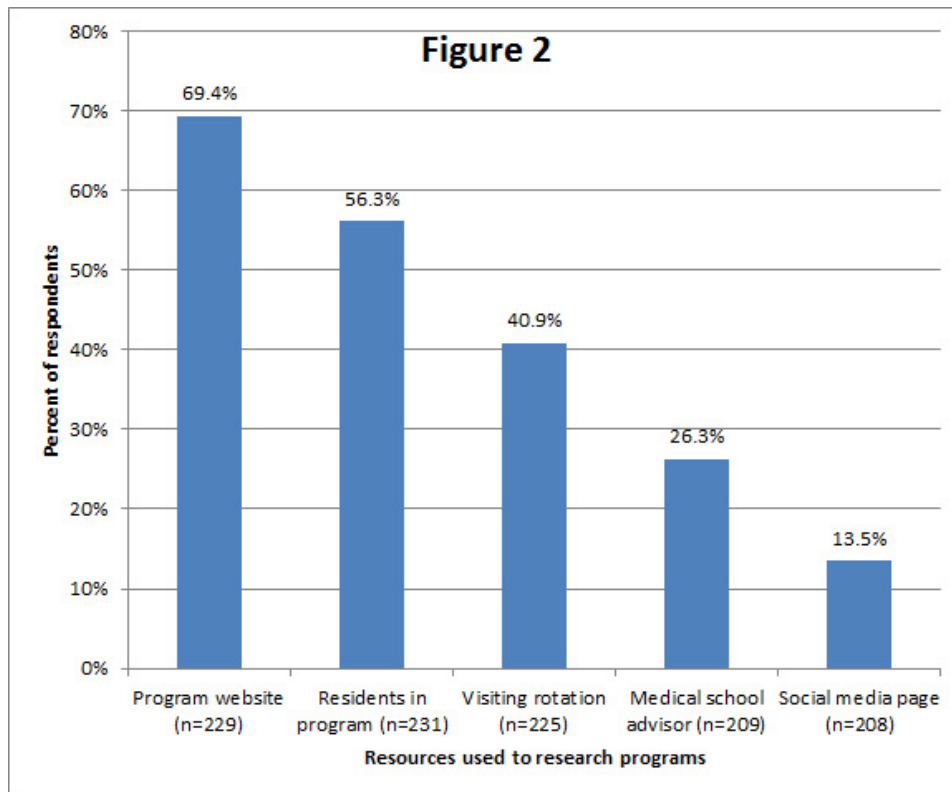


Figure 3: Preferences for the interview day (n=248)

