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The Applicant's Perspective on Urology Residency Interviews: A Qualitative Analysis

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OBJECTIVE	To better understand what urology applicants look for on interview day and what they care about in selecting a residency program through an analysis of anonymous online posts about the urology interview process.
METHODS	We collected 3 years (2016-2018) of comments and posts from the Interview Impressions tab of the Urology Match Google Sheet for 133 urology residencies. Qualitative data analysis was performed using grounded theory methodology.
RESULTS	We identified 6 categories of themes on (1) interview day structure, (2) diverse faculty, (3) program culture, (4) surgical training, (5) research, and (6) program benefits. These themes appeared in comments for 77%-86% of the residency programs except for research which was present for 44% of the programs. The efficiency and structure of interview day are very important. Applicants also care about young and diverse fellowship-trained faculty across a wide breadth of subspecialties. They believe they are able to discern the program culture and collegiality between residents and faculty. Applicants want a balance of surgical and clinical training with a focus on robotics and surgical autonomy. Not all applicants are interested in research but those that are appreciate a strong support system. Finally, additional program benefits and the positives and negatives of the program's location are frequently discussed.
CONCLUSION	Analysis of anonymous social media posts can help improve the interview process for applicants and programs alike. Programs can also identify areas of improvement for residency training. Our findings provide additional insight towards the ultimate goal of improving the match process. UROLOGY 142: 43−48, 2020. © 2020 Elsevier Inc.

Applying to urology residency continues to be expensive, stressful, and competitive. For the last six years, the match rate for medical students has ranged from 68% to 91%.[1] In the 2019 cycle, there were 434 registered applicants for 339 positions across 136 registered programs.[1] Each applicant applied to an average of 71 programs and went on an average of 13 interviews.[1]

The interviews are an integral aspect of the application process. Faculty and current residents are able to meet and interact with the applicants in person to determine who would fit well with the program's culture. Applicants are able to learn about each program's training curriculum and research opportunities and identify programs that would ultimately provide the best opportunities to pursue their career goals.

The interview days are one of the only ways applicants can learn objective and subjective information about each program during this whole process. Nevertheless, these interview days are increasingly expensive and often inefficient.[2] While others have described potential solutions to reduce the burden to applicants including using video interviews, coordinating regional interview dates, not requiring rotators to return for the formal interview, and restricting the total number of applications, there is little known about how applicants actually perceive the interviews and how the interview day itself can influence their perceptions on various training programs.[3-6]

In this study, we analyze an anonymous online forum of urology applicants to describe their experiences with the interview process at each residency program. Our objective is to identity characteristics of positive and negative interview experiences. We also aim to further understand what applicants find important in a residency program. By exploring how applicants perceive the interview experience, we hope to improve the application process for future medical students and programs.

METHODS

The Urology Match website (https://www.urologymatch.com/) was established in 2003 to help guide medical students interested in applying into urology.[7] In addition to educational articles and interviews, this website has also provided a discussion forum where applicants, trainees, and programs were able to disseminate information and answer questions. In the past several years, the majority of the discussion has migrated to a large Google Sheet that has been maintained and updated for each application cycle.[8] (https://docs.google.com/spreadsheets/d/1qV5r88PEZ-bUIdLf2haGI2zp_xX0lbQHWbipdap17M4/edit#gid=902107043).

This Urology Match Google Sheet contains multiple tabs with detailed qualitative and quantitative information about the programs and residents including the match results, applicant statistics, away rotation experiences, and program logistics including the call schedule and rotation sites. Another tab titled "Interview Impressions" specifically allows for applicants to describe their experiences at each program's interview day. Applicants are encouraged to report their impression of each program including the positives, negatives, and any other general comments. Applicants can input free text directly onto the Google Sheet. All the free text for each program is compiled in one of several cells, often without any formatting. Thus, their comments can range from single words to long paragraphs. In addition to comments about the programs, authors can have discussions and conversations with one another through the forum as well. All responses are anonymous and can be updated, deleted, or edited at any time. The forum's format did not allow for the analysis of discrete responses or comments. Multiple words, phrases, sentences from different writers were present for each program. Phrases from different authors were lumped into one long run-on phrase without any organization so it was impossible to differentiate amongst discrete responses. To avoid arbitrarily and likely inaccurately separating ideas, we chose not to attempt to quantify the individual comments themselves but instead we quantified how frequently the thematic categories appeared for the descriptions of each programs.

We abstracted and reviewed all comments from the Interview Impression tabs for 3 application cycles from 2016 to 2018. Comments for all three years were compiled together for each program as the document was already organized by programs. Grounded theory methodology as described by Kathy Charmaz was used for analysis.[9] In this form of qualitative analysis, implicit concepts and theories are generated from review of the data through inductive reasoning. By definition, grounded theory is hypothesis-generating through an analytical process of coding data, integrating theoretical categories, and writing analytic narratives. This technique is most appropriate for free-text narrative comments. Our analysis included several stages. First, 2 physicians (H.Z. and C.S.) independently hand-coded the comments line by line to identify concepts. They each generated and categorized preliminary themes based on groupings of similar codes and merged these preliminary themes. These themes were finally grouped into categories or emergent concepts.

RESULTS

We identified comments related to the interview day for a total of 133 urology residencies over 3 years. While the actual number of distinct phrases were difficult to parse out, there were a total of 33,351 words reviewed. No data on the demographics of the commenters or the number of commenters could be obtained due to the anonymous nature of the forum.

Preliminary themes were separated into 6 different categories: (1) efficiency and structure of interview day, (2) diverse fellowship trained faculty, (3) program culture and collegiality, (4) surgical and clinical training, (5) research, and (6) program benefits and location. Of the 133 urology programs in the analysis, there were comments about efficiency and structure of interview day for 114 (86%) programs, diverse, fellowship trained faculty for 105 (79%) programs, culture and collegiality for 116 (87%) programs, surgical and clinical training for 102 (77%) programs, research for 58 (44%) programs, and location and benefits for 102 (79%) programs. Table 1 shows examples of phrases that were coded and felt to be representative comments for each thematic category.

Category 1 Themes: Efficiency and Structure of Interview Day

Applicants commented on the structure, length, and quantity of the interviews. They preferred well organized and efficient interview days with minimal downtime in between each interview. Applicants also appreciated getting time to speak to the residents alone, either at the preinterview social event or during interview day, and it was important that the majority of the residents were available during this process. In general, applicants preferred personable interviews where the faculty were well prepared and had read the applications beforehand. Likewise, applicants also wanted to know which faculty they were interviewing with ahead of time so they could be prepared. Other comments were also related to the quality of the food and drinks that were provided throughout the day.

Category 2 Themes: Diverse, Fellowship Trained Faculty

Applicants were interested in programs had fellowship trained faculty across all urologic subspecialties. Any deficits or weaknesses were commonly highlighted. Comments were made about new faculty hires and how programs were expanding. Applicants appeared to prefer younger faculty who were energic and motivated although they also praised programs where the faculty were well established and "big names" in their respective fields. Gender and racial diversity amongst faculty was another important topic and the presence or lack of female faculty was discussed.

Category 3 Themes: Program Culture and Collegiality

The perceived culture of each program was based on how the applicants viewed the relationships amongst the residents and the relationships between the residents and faculty. There was a clear divide between 2 major types of program culture. "Traditional" programs had a noticeable hierarchy and formal training environment. In these settings, the applicants expressed that opinions of the residents were neglected, and they felt that some of these programs were malignant. Other programs displayed more collegiality between the faculty and residents and applicants described these programs as a "family" with a flat organization or structure.

Category 4 Themes: Surgical and Clinical Training

Surgical and clinical training are very important for applicants. Applicants expressed a desire to be proficient in both robotic and open cases. Surgical volume and autonomy were discussed although these descriptions were often subjective in nature.

Table 1. Representative quotes for each thematic category

Efficiency and Structure of Interview Day
- "Horrendous interview and I was dreading each room coming up next. Didn't get to know us at all on a personal level. . ."
- "It was clear the faculty had read my application and asked specific questions from it."
- "Terribly organized interview day where you sit in the room and they just pick you randomly. Will be waiting for hours on end to be called for your next interview. Lasts from 8 AM to 4 PM"
- "6 interviews with faculty/most double up, done by 1 PM. Preinterview drinks and apps."
- "Interviews well organized. fancy dinner night before and lots of great lunch and snacks out the whole day."
- "Post interview social, only a few residents showed up. Attendings came too, it was very awkward."

Diverse, Fellowship Trained Faculty
- "Every specialty well represented."
- "New faculty joining every year, all subspecialities now covered."
- "Not a lot of fpmrs or infertility."
- "Young and accomplished attendings who are eager to teach residents and start projects.
- "Expanding faculty — new recon, just hired a new once."
- "Chair has brought in many young faculty who are very easy to work with and love to operate and teach. Almost all faculty are fellowship trained.''

Program Culture and Collegiality
- "There is a palpable political divide between attendings and even though the residents are great to get along with, many of them are unhappy."
- "Residents are close knit and hang out a lot outside work.
- "One resident called the program 'Traditional and hierarchical.'"
- "The residents barely speak up or ask questions."
- "Program feels like a family."

Surgical and Clinical Training
- "Most of the faculty are pretty hands off to the point where chiefs do most of the robotic cases."
- "Not a ton of clinical experience (they just operate non-stop which is a plus or minus."
- "Very low robotic volume."
- "PGY2s spend A LOT of time in clinic."
- "Very early resident involvement on robotics, especially at VA which has high robotic volume."
- "Fellows do not poach cases."

Research
- "Research block can be more operative heavy if research not your thing."
- "Seems to be extremely weak on research. I brought up research and academics during my interview and the attendings did not seem interested at all."
- "Tons of research support (statisticians generate methods section and stats)"
- "Some residents have >10 first author pubs by the time they graduate"
- "Research very available but not forced upon you."

Program Benefits and Location
- A lot of driving as they cover 4-5 different hospitals."
- ". . .is a beautiful town with a low cost of living. . . many fun places within driving distance, great school districts, difficult town to be single in."
- "Currently have a PA to bedside in robotic cases, and hiring another PA for the floors."
- "Very expensive parking as resident,i
- "No loupes"

While operative independence was desired, too much autonomy could be seen as a negative as applicants preferred programs that offered a well-structured training curriculum and mentorship. Applicants were also wary of fellows that would detract from the educational experience of residents. Applicants seem to acknowledge that learning in clinic was important but also felt that some programs spent too much time in clinic and that it may be a reflection of low operative volume.

Category 5 Themes: Research
There were mixed reviews of the role of research in residency. On one hand, research experience in residency is not a priority for all applicants and an extra year for research was could be viewed as a negative. On the other hand, programs without any support or interest in research were also questioned. In general, applicants appreciated the availability of research opportunities but they did not want to feel forced into academic productivity. Programs with strong institutional support including full-time statisticians and readily accessible databases were highlighted.

Category 6 Themes: Program Benefits and Location
Applicants also shared the additional benefits that each program offered beyond just the training experience. Most of these benefits were financial in nature and included whether or not the applicants received reimbursements for board exams, loupes, hospital parking, medical licensing, and conference travel. Benefits also extended to the residents' quality of life in and out of the hospital. For example, hospital efficiency, call schedule, and the presence of mid-level support were recognized. Applicants also

discussed the positives and negatives of the surrounding geographic area of each program.

DISCUSSION

In this study, we identify 6 different categories of themes related to the interview process for urology applicants. These categories not only encompassed the logistical aspects of the actual interview day and social event but also how applicants perceived the surgical training, culture, research availability, and benefits of each program. These themes consistently appeared for the majority of the programs as 5 of the 6 categories were present for over 75% of the programs listed.

There has been limited qualitative and quantitative data on this subject for urology residencies. Jacobs et al surveyed 221 urology applicants on their preferred interview format and found that the vast majority would prefer to meet just half or three quarters of the program's faculty in 5-7 interviews.[10] Their ideal interview day length would only last half or three quarters of the day and applicants thought that spending time with the residents was the most important aspect of the day itself. This was consistent with our analysis. Comments on the forum expressed frustration at the excessive length of the interview day. At these programs, applicants spent most of this time sitting around and waiting for their next faculty interview. In their minds, this downtime and disorganization reflected poorly on the programs. In our experience, a shorter interview day also gives the applicants more flexibility with their travel plans as many of them head straight to the airport right after the interviews.

Jacobs et al also surveyed the applicants on what they valued when determining the rank list. The 5 most important criteria in order were resident satisfaction, operative experience, strength of faculty, location, and interview day experience whereas rotations at a VA or children's hospital, reputation, residency duration, and dedicated research time were the five least important criteria.[10] Similarly, in another survey of 346 urology applicants, Lebastchi et al also found that applicants viewed operative experience, interactions with current residents, and relationships between faculty and residents as the three most important criteria whereas prestige, graduate placement, faculty reputation, and research opportunities were the least important criteria.[11] These priorities were also well reflected in the forum we analyzed: operative volume and program culture mattered to applicants and were frequently discussed whereas program prestige was rarely mentioned. In addition, these surveys also confirm our qualitative findings that research opportunities are not highly prioritized for all applicants.

Interviews are a critical aspect of the urology match. According to self-reported data on the Google sheet forum from the 2018 urology match, 53% of applicants matched at an institution where they rotated as a subintern.[8] Thus, the remaining half will match at programs where they interview. It is remarkable that applicants will have to decide where they want to train over the next 5 or 6 years after spending just a day or even half day at some programs. Yet, based on the sheer amount of information on this forum, it seems they are able to get a strong grasp or at least form strong opinions of the culture and quality of training provided. It is also important for many programs to recognize that applicants appear to use the organization and quality of the interview day as a surrogate to the amount of effort they believe programs will put into their residents.

As a whole, there are obviously significant areas for improvement for the application process. The reported average cost of attending each interview has increased from $330 in 2006 to $500 in 2014.[2,12] As applicants continue to apply to more programs all across the country, these costs will likely continue to rise. In addition, due to the large number of programs and small window of interview dates available, scheduling these interviews can be very challenging and applicants frequently have to decide between 2 programs that share interview dates. Lastly, the activity and volume of this forum are a testament to the notion that programs need to be more transparent to potential applicants.[13] As many of the comments on the forum about operative volume and research productivity are subjective, there is a clear need for programs to provide objective, quantified data about the training that residents receive.

Strengths of this study include the anonymous nature of this forum. Applicants are able to speak their mind without any fear of repercussions. In addition, this forum is available to the entire applicant pool, not just those who only apply to a single institution. Our analysis was comprehensive and included 3 years worth of comments. The limitations of this study include an unclear sample size of applicants that constitute the forum and an unclear total number of discrete comments. Like all qualitative studies, coding the comments was subjective but the thematic categories that arose were agreed upon between 2 separate coders. In addition, because of the anonymity, comments in the forum can also be made by anyone with access including current residents and faculty so the true demographics of the users are unknown. There is also an inherent selection bias to the forum as people who comment may just represent a vocal minority of applicants. Finally, in this forum, comments can be edited or deleted at any time so the data we analyzed may have been altered at some point.

CONCLUSION

Analysis of anonymous social media posts can help improve the interview process for applicants and programs alike. To our knowledge, this is the first qualitative study to investigate how applicants perceive the interview day and interview social event. We find that applicants value interview day structure and efficiency, diverse fellowship trained faculty, program culture, surgical training, research availability, and program benefits. Programs can use this valuable feedback to improve their curriculum and training. Our findings provide additional insight towards the

ultimate goal of improving the urology match process and resident training.

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EDITORIAL COMMENT

This study by Zhao et al provides an analysis of comments made in an anonymous online Google forum over a 3-year period. The authors utilized qualitative analytic methods in an attempt to ascertain what aspects of the interview process were most valued by applicants. This is certainly an intriguing question and I applaud the authors for researching this question.

The authors used a qualitative approach using grounded theory methodology. This is a well-known qualitative research method whereby the researchers analyze information to see what ideas emerge as pertinent.[1] The text being studied is analyzed line by line and coded identifying key ideas or phrases. These codes are then grouped into concepts and then into categories which are used to generate a theory about the data. Six categories were identified from their analysis: (1) efficiency and structure of interview day, (2) diverse fellowship trained faculty, (3) program culture and collegiality, (4) surgical and clinical training, (5) research, and (6) program benefits and location.

The paper concludes that the efficiency and structure of the interview day (particularly time with residents), culture and collegiality of the program, surgical and clinical training, location and benefits were all important factors to applicants. Interestingly, comments on research opportunities were less frequent and little to nothing was mentioned concerning the overall prestige of programs.

While the concept in this paper is interesting, the article has a number of limitations which need to be considered. The data set comes from an anonymous, open online forum, (https://www.urologymatch.com/). Therefore, the authors could not verify who the commenters were and could not know the number of unique respondents. It is entirely possible that some of the comments were not even from applicants and may have come from residents (current or former) or even faculty from the institutions being studied. Furthermore, because of the way the forum is formatted, the authors were not able to tell where 1 person's comment ended and another one started. The comments were independently analyzed by 2 of the authors. However, we are not provided with any details on how they came to agreement on coding and organizing the information. Lastly, the data can only tell us how often a particular category was commented on. Yet, we do not know how much these aspects truly mattered to the applicant and to what degree, if any, it influenced their decisions on how to rank programs.

Other papers have sent out surveys to applicants which allows for more direct conclusions about the preferences of applicants. However, surveys mostly allow for answers to predetermined questions.[2,3] Grounded theory research allows for researchers to look for what categories might be pertinent to further study.

Overall, this study provides a unique analysis of social media comments to gain insight into the most frequently discussed categories on urologymatch.com regarding urology residency programs and interview experiences. These identified categories can hopefully be used to guide further research on what matters to applicants on both the interview day and throughout the application process.

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AUTHOR REPLY

We greatly appreciate the reviewer's thorough editorial. Because of how the Urology Match Google Sheet was formatted, there were challenges in quantifying certain aspects of the data and the analyses.

The forum was independently read by both reviewers and a list of codes was generated and updated throughout the process. Coding is a method in which the researcher takes notes about what is said and searches for themes in the process. Themes were then identified through similar groupings of codes. For example, comments like "this program had 15-minute interviews" or "30-minute interviews" were coded as Interview Length. Similar codes including Interview Number and Interview Day Duration could belong together in a theme of "Structure of Interview Day." Thematic categories were discussed and combined between the two coders and found be similar. The fact that both coders independently generated the same 6 thematic categories through this process speaks to the strengths of the themes within the data.

These results of our study are certainly timely. As away rotations have been affected at many institutions due to the COVID-19 pandemic, the interviews will hold more weight for applicants and programs alike. We hope that these results can help residency programs optimize their interview day to provide an educational and positive experience for the applicants.

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