

# Perceptions of the Stressful Job Search for Pediatric Hematology/Oncology Fellows

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## Abstract

The PHO workforce landscape has been evolving over the past decades, with concern for waning interest in the subspecialty. In this study, we aimed to evaluate perceptions of the PHO workforce (both fellows and faculty), the experience of seeking an initial faculty position, and its impact on fellow stress and anxiety. An anonymous survey consisting of demographics, job search experiences including barriers and helpful tools, and emotional health impacts such as stress and anxiety was developed and distributed to all PHO fellowship programs. Seventy-nine fellows and 83 faculty responded. Faculty were less likely than fellows to perceive that fellows are struggling to find jobs ( $P=0.0198$ ). However, faculty were more likely than fellows to perceive that fellows are either “extremely stressed” or “stressed” due to job search ( $P=0.0003$ ). By June 2021, 30 of 44 (68%) candidates had been offered a position, and 80% of those had accepted. There were no significant associations between fellow stress level and job offering, proximity to their ideal goals, or change in career type. Common barriers to the job search included geographic constraints and partner employment. Respondents identified centralized job listings, formal training on career development strategies, introduction to various career paths, and more transparency about the job search as needed interventions. The perception of difficulty and stress regarding the job search is endorsed by most, identifying a need for more interventions to improve the job search experience. These data also highlight unmet mentorship and educational needs among PHO fellows in preparing for the job search.

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Pediatric hematology and oncology	PHO
American Society of Pediatric Hematology/Oncology	ASPHO
National Resident Matching Program®	NRMP®
Curriculum vitae	CV

**Abstract:**

The PHO workforce landscape has been evolving over the past decades, with concern for waning interest in the subspecialty. In this study, we aimed to evaluate perceptions of the PHO workforce (both fellows and faculty), the experience of seeking an initial faculty position, and its impact on fellow stress and anxiety. An anonymous survey consisting of demographics, job search experiences including barriers and helpful tools, and emotional health impacts such as stress and anxiety was developed and distributed to all PHO fellowship programs. Seventy-nine fellows and 83 faculty responded. Faculty were less likely than fellows to perceive that fellows are struggling to find jobs ( $P= 0.0198$ ). However, faculty were more likely than fellows to perceive that fellows are either “extremely stressed” or “stressed” due to job search ( $P= 0.0003$ ). By June 2021, 30 of 44 (68%) candidates had been offered a position, and 80% of those had accepted. There were no significant associations between fellow stress level and job offering, proximity to their ideal goals, or change in career type. Common barriers to the job search included geographic constraints and partner employment. Respondents identified centralized job listings, formal training on career development strategies, introduction to various career paths, and more transparency about the job search as needed interventions. The perception of difficulty and stress regarding the job search is endorsed by most, identifying a need for more interventions to improve the job search experience. These data also highlight unmet mentorship and educational needs among PHO fellows in preparing for the job search.

**Introduction**

Towards the end of the three-year training program, pediatric hematology and oncology (PHO) fellows begin a search for what is often their first professional job. This process has become increasingly difficult for fellows as the field has become more saturated and therefore those pursuing further subspecialization or non-faculty positions such as hospitalist or instructor have grown in number. Recent workforce assessments by the American Society of Pediatric Hematology/Oncology (ASPHO) indicate a clear discrepancy between the growing number of PHO trainees and the decreasing percentage of those in faculty positions immediately after graduation. Simultaneously, the scope of practice for PHO has expanded to include evolving fields such as cancer genomics, immunotherapies, and precision medicine. As the field becomes increasingly niched, it

is speculated that graduates are needing to compromise on certain aspects of their positions, potentially increasing the risk of burnout and overall job dissatisfaction.

Some have speculated that the competitive nature of PHO positions for graduating fellows has led to a declining interest in the specialty itself. Macy et al. examined trends in first year fellows across all American Board of Pediatrics-certified medical subspecialties from 2001 through 2018 and found that within PHO, the number of fellows had nearly doubled from 87 to 161, with an average of 4.63 fellows per year. However, more recently, National Resident Matching Program® (NRMP®) data suggests that despite the overall number of PHO programs remaining consistent over the past five years (currently 72 accredited programs), the number of applicants has steadily declined (188 in 2017 to 135 in 2021), and the number of programs that are unfilled each year has rapidly increased (3 in 2017 to 32 in 2021). To our knowledge, there is no objective data on what might be contributing to this declining interest. The adult hematology workforce shares the concern that an increasing demand for hematologists will soon exceed the supply; focus group data by Sharma et al. suggests that lower income potential, research funding, job availability, and job security are concerns that fellows share in regards to hematology in particular. In this study, our aim was to explore the current perceptions of the PHO workforce from both a fellow and faculty perspective, and to investigate the experience of seeking a post-fellowship position and its impact on fellow stress and anxiety.

## Methods

This study was deemed exempt by the Rutgers University Institutional Review Board. An anonymous electronic survey created by Marshall et al. was adapted by two PHO faculty and subsequently piloted by additional faculty and fellows. The survey (Supplement A) consisted of questions on demographics, career goals at various timepoints during training, job search experiences including barriers and helpful tools, and consequences for mental health such as stress and anxiety. In June 2021, all PHO division chiefs and program directors within the United States were invited to complete the electronic Qualtrics survey and were asked to disseminate the link to their fellows. Most responses were based on a Likert scale. Free-text responses were coded based on content theme analysis by three independent providers, and any discrepancies were discussed. Descriptive statistics and two-tailed *P*- values using Fisher's exact tests were computed for statistical analysis.

## Results

We invited program leaders from all 74 PHO fellowship programs, and at least one representative from 49 programs (66%) responded. A total of 162 completed surveys (79 fellows and 83 faculty) were submitted. Table 1 illustrates the distribution of respondents regarding the U.S. region of the program, size of the fellowship program, and the respondent's role.

The overall perception of fellow stress was endorsed by the vast majority of respondents, both by faculty and fellows. When asked to rate fellow stress level, faculty were more likely than fellows to perceive that fellows are either "extremely stressed" or "stressed" due to the job search (95% of faculty versus 75% of fellows,  $P= 0.0003$ ). The struggle to find post-fellowship jobs was perceived more by fellows than by faculty (72% of faculty versus 87% of fellows,  $P= 0.0198$ ). The majority of fellows (89%) reported feeling anxious thinking about the job search on "several days", "more than half the days", or "nearly everyday".

Overall, the distribution of desired career types by fellows was similar at all time points during their training with 'academic clinician-educator' and 'academic clinician with focus on clinical, outcomes, or population sciences research' being the most common. Expectedly, the number of 'unsure' fellows was higher at the beginning of fellowship compared to later timepoints. When asked about the ideal position for immediately after fellowship, the number who responded as planning to pursue further 'sub-specialty fellowship' declined from the beginning of fellowship (21.5%) to the time of survey completion (12.6%). In contrast, the number of fellows who responded as planning to pursue a 'faculty position' increased from the beginning of fellowship (58%) to at the time of survey completion (72%).

Fig. 1 illustrates the various reported barriers to the job search, as recognized by both faculty (n=83)

and fellows who had initiated the job search ( $n=44$ ). About half of faculty responded that fewer jobs were available (63%), and fewer positions were being posted (49%). Other commonly noted barriers to the search included geographic constraints, clinical focus constraints, partner employment opportunities, practice format constraints, visa limitations, and family situations. Notably, income constraint was only noted as a barrier in 6% in faculty, and in 5% of fellows.

By June 2021, 30 out of 44 (68%) graduating fellows who had participated in the job search had been offered a position. Of those thirty, 24 (80%) had accepted a position. Most fellows (75%) had started the job search process during late second year or early in the third year of fellowship. In the setting of the COVID-19 pandemic, the majority of fellows (82%) thought that the multitude of consequences of the pandemic impacted the job search. Fellows noted that COVID-19 had affected the search in that fewer positions were posted (73%), fewer jobs were available (71%), they were unable to interview in person (55%), and job offers had been changed or rescinded (7%). Among the 30 who had been offered a position, about half (47%) of fellows felt that the position was “extremely close” or “very close” to their ideal job goals, and 44 of 83 (53%) faculty believed that fellows were having difficulty finding jobs that aligned with their career goals. Fig. 2 demonstrates that regardless of whether a job had been offered, stress levels were still quite high among fellow respondents. There was no significant relationship between stress level and whether a job had been offered ( $P= 0.345$ ), the degree to which the job offer aligned with ideal career goals ( $P= 1.00$ ), nor whether or not fellows had a change in career goals ( $P= 0.112$ ).

Fellows reported online job centers/ mailing lists (82%), fellowship program leadership (80%), word of mouth (75%), and prior connections to other institutions (48%) as resources used to identify available positions. However, when asked which resource was most helpful, the majority responded online job centers/ mailing lists (20 of 44, 45%). Of the 10 respondents who had not utilized ‘word of mouth’, 50% of them were from smaller fellowship programs with 0 – 6 fellows. Only 6 of the 44 (14%) fellows who had been offered a job felt that their program leadership was the most helpful resource. Fellows noted that their clinical mentor (61%), program director (55%), research mentor (52%), near peers (30%), and division chief (25%) were helpful in their job pursuits. These mentors were marked as helpful in a variety of ways, including sharing information about potential jobs (61%), writing letters of recommendation for a job at another institution (50%), sharing information about past fellows’ employment and contact (41%), advocating for a position at the home institution (41%), and advocating for a position at another institution (39%). In contrast, twelve of the 44 fellows (27%) also reported that they did not receive any assistance from their home institution.

Several fellowship programs offer educational resources for fellows in various aspects of career development including CV preparation (40%), lessons on negotiation (23%), giving job talks (20%), and practice interviews (17%). Fellows identified CV preparation (22%) and giving job talks (12%) as the two most helpful resources. Other available resources included panel discussions with program graduates and individualized job application advising through program leadership. Notably, however, almost half of the fellows (48%) reported that there is no current formal education available at their institution.

All respondents identified a need for more readily available resources for fellows to help alleviate some of this stress and anxiety. Sample responses to an open-ended question regarding tools that might be helpful are shown in Table 2 and 3, by faculty and fellow, respectively. The distribution of perceived needs, however, differed slightly for faculty and fellows. The top three responses for both respondent types were formalized training on career development tools (33% of faculty, 59% of fellows), a centralized, up-to-date job listing (36% of faculty, 20% of fellows), and an overview of all career types within PHO (23% of faculty, 18% of fellows). Comments from both respondent types regarding open positions not being listed online and having to rely on ‘word of mouth’ were categorized as part of the ‘centralized, up-to-date job listing’ theme. Specifically, 15 of 79 (19%) of fellows mentioned the need for guidance on negotiation. Networking needs were mentioned by 8% of faculty and 11% of fellows. Emphasis on early mentorship was suggested by 12% of faculty and 11% of fellows. About 7% of faculty also noted ‘increased flexibility and managing expectations of a first job’, while 14% of fellows commented that ‘increased transparency on the job search process’ would have been helpful.

Despite the high degree of stress, fellows who had undergone the job search experienced benefits like networking (32%), learning how to market oneself (16%), learning about available positions (14%), clarifying one’s career interests (7%), and mentorship (2%). When asked about what aspects of the process were most challenging in an open-ended context, fellows most commonly reported the lack of job opportunities (57%) and lack of transparency (34%).

## Discussion

This study is the first to demonstrate the degree of stress and anxiety experienced by PHO fellows in search of their post-fellowship position. The overwhelming majority of the PHO program leadership and fellows perceive the difficulty in this transition from fellowship and accompanying this challenge are substantive mental health consequences. While the proportion of stress levels were different in fellows compared to faculty, it is clear that both groups recognize the difficulty of the job search. This emphasizes the crucial need for change on all fronts; if left unaddressed, we may face worse challenges in recruiting and retaining early career physicians in our field. Fellows who had been offered positions that were only “slightly” or “not close to the ideal” career goal reported high levels of stress. The amount of anxiety felt by fellows when thinking about the job search process is undoubtedly concerning and speaks to how this stress about post-fellowship job search permeates day-to-day trainee life. It is imperative that we continue to develop ways to incorporate fellow wellness and support mental wellbeing to prevent these stressors from contributing to future provider burnout. Investing in such interventions for fellows may benefit these physicians throughout their careers when additional job searches ensue.

Despite the high degree of stress related to the job search, fellows did not seem to change their desired career types throughout their training. In contrast to what we had hypothesized, the number of fellows interested in pursuing a subspecialty fellowship had decreased from the beginning of fellowship to the time of survey completion. A closer look into those interested in a subspecialty fellowship and the reasons for or against applying for these programs is warranted.

Only about two-thirds of the fellows who had initiated the job search process had been offered a position by June 2021. Prior to the COVID-19 pandemic, this percentage might have been higher at this timepoint in the academic year, so close to graduation. Several trainees and medical educators have commented on the specific difficulties of the job search due to the pandemic similarly to our respondents, including the virtual interview format and hiring freezes. Outside of the pandemic, both fellows and faculty perceive a variety of barriers to the job search, with many respondents listing multiple, if not all of the possible response choices. Most strikingly, about half of the faculty themselves reported that few positions were being posted; the same comment is noted by medical oncologists Ghobrial et al., “one must remember that just because a position is not advertised does not mean it does not exist”. This speaks to the fellows’ comments about the lack of transparency from institutional leadership and calls for more open communication between applicant and potential employer. Other barriers such as geographic constraints, partner employment opportunities, clinical focus constraints, and visa limitations also address the limited number of PHO positions available throughout the country.

Our data highlight opportunities to improve the resources made available to fellows engaged in a job search. We call attention to leaders at both the individual fellowship program and national organization levels (i.e., ASPHO) to work towards these unmet needs. First, strong program mentorship from the trainee’s institution is key, and establishing this relationship early is crucial. Like in any other industry, support from experienced leaders is often needed in taking the first steps. Individualized attention to our trainees’ career development should without a doubt take priority within all fellowship programs. If appropriate mentorship cannot be found within the institution, program leadership should take the initiative to help the trainee look for mentors at other programs. Programs in the Northeast have collaborated to form a multi-institutional regional network to promote “cross-talk” among mentors and encourage collaborative efforts. Next, the need for more formal education on the timeline and various steps of the job process is clear – with half of respondents commenting that no current curriculum existed at their institution. The responses for what content would be useful were heterogeneous, suggesting that perhaps a workshop focusing

on a diverse skillset (i.e., CV building, sample letters of interest, mock interviews, negotiation strategies) might be helpful. Respondents also make it clear that an overview of all types of PHO career opportunities including those outside of academic medicine is needed. The ASPHO Training Committee and the regional v-SYMPHONY group have started to take on these responsibilities by hosting a virtual career development session in the 2021-2022 academic year. Lastly, a more up-to-date, organized list of job postings was in clear demand by both fellows and faculty. Although it is unclear whose responsibility it might be to organize and maintain this type of database, it is imaginable that pediatric subspecialties could collaborate in a joint effort to benefit fellowship graduates. Many commented on the frustrations of relying on word of mouth, perhaps giving those at smaller institutions a disadvantage.

There were limitations to this study. The response rate overall was low, however, we had about two thirds of all U.S. programs represented. Because we asked program leadership to disseminate the survey link to their own fellows, it is possible that our data is skewed by having multiple respondents from some programs but none from others. Regardless, Table 1 shows a diverse representation of programs and institutions represented based on geography and size, thereby emphasizing the generalizability of our results to all PHO fellowship programs. Additionally, some fellows may have been reluctant to respond honestly, if at all, to a survey coming from their leadership. The timeframe of the survey also could have led to some biased responses, with majority of third year fellows having already accepted positions and may therefore have underestimated the stress and struggles during this job search process and overestimated the stress or anxiety of negotiation and starting a new job. However, surveying graduating fellows earlier in the fall/winter may have led to differing responses about stress levels, and perhaps less focus on topics such as negotiation. Lastly, generalizability of the issues within the PHO job search to other specialties may be limited. However, studies in other fields have demonstrated similarly difficult transitions from training to practice – including low availability of desirable positions, need for contract negotiation skills, difficulty with visa needs, and need for formal guidance from mentors.

The results from our study reveal a role for not only institution-level changes that can be established locally, but also for larger specialty societies such as the Children’s Oncology Group, American Society of Hematology, American Society of Clinical Oncology, or The American Society of Pediatric Hematology/Oncology to provide more standardized resources and opportunities for more guidance and expertise on the job search process for pediatric hematology/oncology trainees. Based on our fellows’ responses, creating roadmaps and establishing a curricula for all phases of career development (i.e., even beyond the job offer with negotiation strategies) would prove extraordinarily beneficial. Our study emphasizes how crucial it is to continue to strive towards improving the experiences of the PHO workforce, particularly those at the beginning of their careers as we help set the stone for their professional development ahead.

### **Conflict of Interest Statement**

The authors have no conflicts of interest to disclose.

### **Acknowledgements**

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### **References**

#### **Legend**

Table 1. Respondent Demographics (n=162)

Table 2. Needs Assessment on Career Development Tools for the Job Search, per Faculty

Table 3. Needs Assessment on Career Development Tools for the Job Search, per Fellows

Figure 1. Barriers to the Job Search

Figure 2. Fellow Stress Level Based on Job Offer

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Figure 1. Barriers to the Job Search.docx available at <https://authorea.com/users/504643/articles/583917-perceptions-of-the-stressful-job-search-for-pediatric-hematology-oncology-fellows>

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