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Recruitment Challenges and Opportunities for Radiation Oncology Residency
Programs during the 2020-2021 Virtual Residency Match.
 --Manuscript Draft--

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Abstract:	<p>Purpose:</p> <p>COVID-19 presents significant difficulties to the 2020-2021 residency Match and recruitment process for radiation oncology (RO) residency programs. Substantial limitations have been imposed on traditional recruitment strategies such as away rotations and in-person residency interviews. These challenges are further compounded by the recent trend of unfilled RO residency allocations during the main residency Match, which have added uncertainty into the upcoming Match process. We assessed the recruitment preparedness of RO residency programs, focusing on the establishment of online infrastructure tailored for the upcoming Match season.</p> <p>Methods and Materials:</p> <p>A survey was submitted to residency programs for the purpose of eliciting information about plans to utilize virtual away-rotations (VARs). Additionally, we examined current levels of activity and dissemination of information via social media platforms, such as Facebook, Instagram, Twitter, and YouTube by RO residencies. Finally, we reviewed the websites of RO residency programs to assess the quality of digital information intended to guide residency candidates.</p> <p>Results:</p> <p>We identified 91 RO residency programs. Our survey on VARs yielded a response rate of 71% (65/91). Of the 65 responding programs, 21 (32%) planned VARs, 10 (15%) were exploring the possibility, and 34 (53%) were not considering VARs. Of all 91 programs, 27 (30%) had a Twitter account, 7 (8%) had an Instagram account, 4 (4%) had a Facebook account, and 2 (2%) had residency recruitment videos. Websites featured information about departmental resources (82%), research opportunities (67%), curriculum (87%), resident profiles (76%), why residents chose the residency program (20%), accolades of residents (35%), and employment location of alumni (38%).</p> <p>Conclusion:</p> <p>At the present time, RO residency programs are underutilizing virtual recruitment opportunities such as social media platforms, VARs, and online content. We call on RO</p>

residency programs to embrace these strategies to increase their reach and chances of success in the upcoming Match.

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Over the last few years, multiple radiation oncology (RO) residency programs have been unsuccessful in filling all spots during the main National Resident Match Program (NRMP) process¹⁻³. For example in 2019, the unmatched rate was 14.5%, which was substantially higher than the average rate of 2.5% over the last 8 years². This recent development in RO has been partially attributed to concerns about an oversupply of graduating RO residents⁴. The 2020-2021 RO NRMP presents an added challenge to the Match as the COVID-19 pandemic has placed unprecedented limitations on the usual instruments of recruitment, such as away-rotations and in-person residency interviews. In the current climate, a successful recruitment strategy requires an effective online presence for informing and engaging future applicants.

In this study we assessed the online presence of RO residency programs participating in the 2020-2021 residency Match. Between June 9 and July 6, 2020, we searched for Twitter, Instagram, Facebook and YouTube accounts of RO residency programs or RO departments. We also sent a survey to residency programs regarding plans for creating a virtual away rotation (VAR) experience this year. Finally, RO residency websites were evaluated for the presence of key features pertinent to perspective residents.

We identified 91 RO residency programs. Our survey on VARs yielded a response rate of 71% (65/91). Of the 65 responding programs, 21 (32%) planned VARs, 10 (15%) were exploring the possibility, and 34 (53%) were not considering VARs. A minority of programs had active social media accounts highlighting resident activities, ongoing research, or initiatives in the department. Although the majority had departmental websites highlighting facilities, research and curriculum, few included key information including why residents chose a particular residency program, accolades of current residents, or the employment locations of alumni (**Table 1**). In summary,

utilization of and engagement on social media platforms are low, websites are missing key details germane to prospective residents, and a minority of programs are planning VARs for the upcoming academic year.

It is important to note that while the current concerns of workforce disequilibrium in RO are valid, ongoing recruitment efforts of strong candidates remain essential to maintain the vitality of the RO specialty, while still formulating a sustainable solution for the challenges of the current labor market. Consequently, for RO program directors, the goal of the 2020-2021 Match continues to be to successfully recruit the most highly qualified, passionate, and motivated candidates.

In prior years, RO away-rotations have accounted for 28% of residency matches, with home rotations facilitating another 24% of matches⁷. During the upcoming cycle, the COVID-19 pandemic has thrown these traditional recruitment practices into disarray, which underscores the importance of cultivating an effective online presence to highlight the strengths of a residency program. This may be particularly important for small to medium-sized residency programs without “brand-recognition.” Additionally, VARs may prove to be essential to maintain a talented and diverse pool of candidates for the field, particularly those from groups historically underrepresented in medicine or from schools without a home RO program. Barriers to creating a successful VAR are many, but the Radiation Oncology Virtual Education Rotation (ROVER) initiative, a virtual RO rotation by Stanford Radiation Oncology may provide a blueprint to guide other residency programs exploring ways to implement virtual initiatives⁸.

While this year’s residency match process presents several challenges, opportunities nevertheless abound for innovative and novel recruitment strategies. Engaging applicants and disseminating critical information to candidates via social media platforms and other online platforms can

provide RO residency programs with the means to present themselves effectively. We call on RO residency programs to explore these strategies to increase their reach and chances of success in the upcoming Match process and to ensure the vitality and diversity of the pipeline of talent in our field.

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Table 1- Online Presence of Radiation Oncology Residency Programs

Active* Social Media Accounts	Number (%) of Programs with Accounts	Social Media Account Activity
Twitter	27 (30%)	Median followers 402 [Range 0-1280] Median tweets 112 [Range 0-1181]
Instagram	7 (8%)	Median posts 21 [Range 3-316]
Facebook	4 (4%)	Median multimedia posts 463 [Range 159-706]
YouTube	2 (2%)	Median videos 1 [Range 1-1]
Departmental Website Features	Number (%) of Programs with Key Features	
Departmental Facilities and Resources	75 (82%)	
Research Initiatives and Opportunities	61 (67%)	
Residency Curriculum and Features	79 (87%)	
Profiles of Current Residents	69 (76%)	
Why Residents Chose the Residency Program	18 (20%)	
Accolades of Residents/Residency	32 (35%)	
Employment location of Alumni	35 (38%)	

* "Active" was defined as accounts that provided meaningful content, which was defined as information that highlighted resident activities, ongoing research, or initiatives in the department.