

## Editorial

# Unfilled Positions in the 2020 Radiation Oncology Residency Match: No Longer an Isolated Event



## Introduction

Approximately 1 year ago, we reported the 2019 match results in the context of several trends: (1) an increasing number of radiation oncology residency positions, (2) a decreasing number of US senior radiation oncology applicants, and (3) an increased number of unmatched residency positions.<sup>1</sup> Despite these factors, and after the Supplemental Offer and Acceptance Program (SOAP), the number of incoming residents continued to climb.<sup>2</sup> This single data point was significant enough that several residency program directors have volunteered to not participate in the SOAP if their positions go unmatched.<sup>3</sup> We asked last year if this data represented unexpected variation or indicated an important change. The purpose of this report is to add another year of data to the discussion.

## The Data

The NRMP has published data on residency program positions and applicants since 1984.<sup>4</sup> We report data from 2005 for the number of unmatched spots; data involving the number of US senior applicants is presented from 2008 on, as that is the first year that it was available. **Figure 1a** and **b** plots unmatched positions in US radiation oncology residency programs expressed as a percentage of positions offered and as absolute numbers, respectively. All data excludes SOAP. **Figure 2** shows the number of radiation oncology positions in the match and the number of US senior applicants to the second post-graduate year radiation oncology programs. **Figure 3** plots the percentage of all US seniors who applied to radiation oncology.

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## Discussion

We make 2 primary observations from the addition of 2020 data on the resident match:

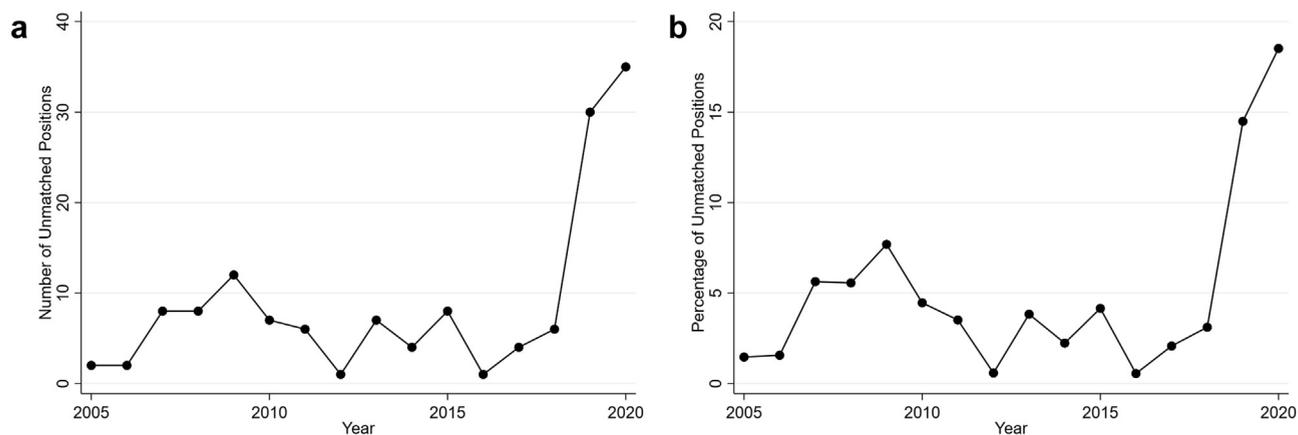
First, the proportion of unmatched positions continues to increase. In 2019, there was an unprecedented increase of unmatched spots: 14% in 2019 compared with approximately 4% every year from 2010 to 2018. The value in 2020 was 19%, a slight continued increase. This was driven similarly by a reduction in the number of positions available—from 207 in 2019 to 189 in 2020, a 9% reduction—and a rise in the number of unmatched positions—from 30 in 2019 to 35 in 2020, a 10% increase. Data regarding what proportion of unmatched positions filled in the SOAP are currently unavailable.

Second, interest in radiation oncology continues to decline: The absolute number of US senior medical students applying to radiation oncology fell to 128, which is 35 (21%) lower than in 2019. This number is 61 US senior applicants fewer than the number of residency spots in the match and represents 0.40% of all graduating US senior medical students, the lowest proportion in the documented period (down from 0.52% in 2019 and 0.62% in 2018).

## Conclusions

The large increase in unmatched residency positions in 2019 raised concern, but it was unclear whether this represented a 1-year aberration or a harbinger of longer lasting change. The data from this year strongly suggest the latter. Although there was a slight decline in the number of available positions this year, the number of US senior medical students applying to the field has undergone a large and persistent downturn since 2017 in the context of a large increase in the number of residency positions during the past decade. The reason for these changes is multifactorial and further discussion of potential causative factors is beyond the scope of our brief report.

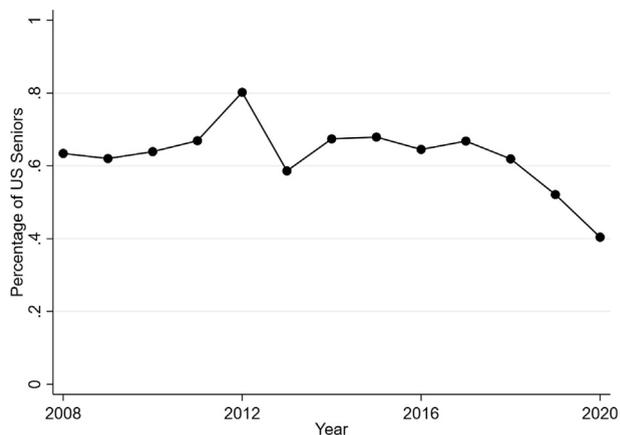
The immediate effect of the current variance between offered positions and qualified applicants is a continuation of a large number of unfilled residency positions. The



**Figure 1** Plot of unmatched positions in US Radiation Oncology residency programs since 2005 expressed as (a) a percentage of positions offered and (b) absolute numbers.



**Figure 2** Plot of the number of radiation oncology positions in the match and the number of US senior applicants to the second postgraduate year radiation oncology programs since 2008.



**Figure 3** Plot of the percentage of all US seniors who applied to radiation oncology since 2008.

long-term implications of decreasing interest in radiation oncology is a problem for the future of our field and potentially the nature of cancer care in our country. We strongly recommend that all stakeholders take urgent action to attempt to reverse these negative trends.

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