Radiate and Educate: Empowering Future Physicians Through an International Radiation Oncology Student Newsletter

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Abstract

Background: The field of radiation oncology (RO) is frequently overlooked by medical students due to limited exposure during traditional medical school curricula. Initiatives aimed at increasing exposure while creating opportunities for medical student engagement are vital. Here, we present the inception, 1.5-year progress, and future goals of a student-led RO newsletter, *RadOnc Student Scan*, published by *Applied Radiation Oncology (ARO),* a quarterly journal for radiation oncologists and clinical specialists who treat cancer patients.

Newsletter Impact on Medical Student Education: The *RadOnc Student Scan* newsletter, crafted by medical student editors, is published quarterly on the *ARO* website, posted on social media (X, LinkedIn, Facebook, Instagram), and emailed to subscribers. The newsletter's educational impact was measured by social media and email interactions, and participation in publishing and networking opportunities. As of August 28, 2024, a team of 13 medical students from 7 medical schools across 3 countries published 7 issues of the *RadOnc Student Scan* newsletter. Issues included RO key concept reviews, interviews with faculty (7) and residents (3), summaries of recent articles (33), educational resources, and career development opportunities. Since the establishment of the newsletter, 33 unique publishing opportunities were created for student editors. As of February 2024, 3 issues of the newsletter garnered an average viewership of 1296 on X and 591 on Facebook, and 1 issue garnered 145 views on Instagram. For each journal publication emailed to subscribers, there was an average of 6 clicks on the newsletter link.

Discussion: The *RadOnc Student Scan* newsletter is a novel method of potentially increasing medical student exposure to RO. In addition to providing content for readers, the newsletter allowed editors to learn about RO while gaining valuable publishing and networking opportunities. Plans include further medical student recruitment as well as content development and readership analysis using an embedded QR code.

Keywords: radiation oncology, medical education, newsletter, professional development, scholarly activity

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Background

Exposure to radiation oncology (RO) during medical school is limited.[1,2] In many US medical schools, the preclinical curriculum does not include any substantial exposure to RO.[2] A decline in applications to RO residency and concurrent record high numbers of unmatched positions compared with historical trends have motivated many in the field to advocate for increased exposure to RO during medical school.[3] Educational interventions aimed at supplementing the medical school curriculum have shown promising results.[4] However, the lack of existing RO departments and faculty at many institutions makes these activities difficult to host.

Stepping outside of institutional limitations, new, successful methods of exposing medical students to RO have been developed. These include educational podcasts, blogs, asynchronous lectures, and small group discussions.[5,6] While interventions may educate students as an audience, students are also capable of creating educational opportunities of their own.

Inspired by the creativity and positive results of these novel educational resources, we aimed to create the *RadOnc Student Scan* newsletter to engage medical students with RO (**Figure 1**). Unlike previous interventions created for this purpose, the newsletter is crafted by only medical students, and each student learns about RO while creating RO-related content. We used social media and email interaction metrics to assess the educational impact on readers of the newsletter. Publishing and networking opportunities were used to quantify student editor engagement with RO through editing the newsletter. By contributing content for the newsletter, each student editor would engage with RO throughout the editorial process. Student editors networked with faculty and residents by inviting them to participate in the Question and Answer (Q&A) section of the newsletter. We discuss future plans for editor recruitment, content development, and readership analysis using a newly added QR code to the newsletter.

Newsletter Impact on Medical Student Education

Inception, Dissemination, and Impact Assessment

The *RadOnc Student Scan* newsletter, published by the *Applied Radiation Oncology* (*ARO*) journal, was created by 3 medical students (notably, all without a home RO program), to increase awareness and education about RO among medical students across the country. The founding medical student editors created the outline for the newsletter and a rotating section assignment schedule that provided medical student editors with nearly equal numbers of publishing and networking opportunities per year. Published issues included RO key concept reviews, interviews with RO faculty (7) and residents (3), summaries of recent articles (33), educational resources such as podcasts and blogs, and advertisements for networking opportunities like away rotations, conferences, and society memberships (**Figure 1**). The editors, with approval by *ARO*, decided on a quarterly publication schedule to maximize publishing opportunities for students and newsletter publicity. After review by the editorial board of *ARO*, each issue was electronically published on the *ARO* website, emailed to *ARO* subscribers, and linked in posts on X (formerly Twitter), Facebook, LinkedIn, and Instagram. The educational impact of the newsletter was assessed by collecting data on social media viewership and engagement (likes, shares, comments), email interactions (opens, clicks), and the publishing and networking opportunities (including Q&A features) created for editors throughout all issues.

Publication and Networking Data

As of August 28, 2024, the *RadOnc Student Scan* newsletter has 7 published issues written by a total of 13 student editors representing 7 schools and 3 countries. In 2023, 4 issues were published, each containing 3 sections that students could edit, yielding a total of 12 publishing opportunities for the year. In 2024, 21 additional publishing opportunities were created for a growing student editor team and expanding newsletter. Since the establishment of the newsletter, there have been 7 interviews with RO faculty and 3 interviews with RO residents. Publishing and networking opportunities were used to assess student engagement with RO. By providing content for the newsletter, each student editor became actively involved in RO through the editorial process. They also connected with faculty and residents by inviting them to contribute to the newsletter's Q&A section.

Newsletter Email Data

ARO, published quarterly, is announced by email to a list of approximately 4400 subscribers. On average, half of those emails are opened, with a

Figure 1. Overview of the *RadOnc Student Scan* newsletter (sixth issue).

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October-December 2024

RadOnc Student Scan

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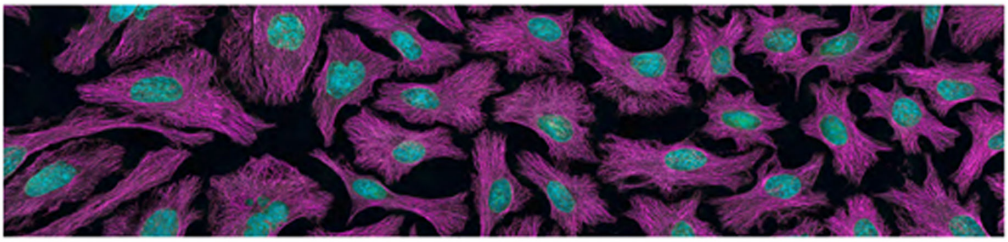

IN THIS ISSUE

Like what you see?

- Scan the QR code or use the link below to tell us your thoughts! Your confidential responses will be used for future research and content development.
- https://forms.gle/DWGwaGTEi87V7SZD8

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click-through rate of 168 on all content and an average of 6 clicks on the *RadOnc Student Scan* newsletter. It is not known whether the viewers of the newsletter are medical students.

Social Media Engagement Data

The engagement data are presented in **Table 1**. For X, the average number of views/impressions per post was 1296 ($n = 3$), and the average number of engagements (likes/shares/comments) per post was 24 ($n = 1$, 4.22% engagement rate). For Facebook, the average number of reach/impressions per post was 591, and the average number of engagements per post was 6 ($n = 3$, 1.81% engagement rate). For Instagram, the number of impressions for 1 post was 145, and the number of engagements was 5 (3.4% engagement rate). Social media data lacked information about whether a user was a medical student or whether they successfully accessed the newsletter via social media.

Discussion

Here, we present the inception, dissemination, and impact of the *RadOnc Student Scan* newsletter. To our knowledge, the *RadOnc Student Scan* newsletter is the world's first international, student-led RO newsletter. The newsletter was written with the primary goal of exposing medical students globally to the field of RO and the secondary goal of fostering a community of student editors engaging with academic RO opportunities early in their career. The student-led nature of this initiative allows authors to break down the complexity of RO to an audience unfamiliar with it, with the intent of increasing student engagement and interest in the field. We observed successful dissemination of the newsletter via email, social media, and publication on the *ARO* website with student editors engaging with RO content throughout the editing process.

Prior efforts have been made to address the gap in RO education during US medical education. Interventions at the institutional level such as RO-specific lectures have supplemented the standard curriculum.[6] One study evaluated the feasibility of a 1-day "micro-clerkship" in RO during related clerkships such as medical oncology, palliative care, and radiology.[4] Of those 97 students across 2 years, 98% found the experience valuable, and nearly half expressed increased interest in pursuing a longer rotation in RO. Similarly, one study reported that 86% of students became interested in RO after having a single 1-hour introductory lecture by a radiation oncologist.[7] However, these strategies may be limited by institutional factors, including curricular time restrictions, the availability of a radiation oncologist or department, and the presence of a student interest group.

Innovative educational initiatives in RO that are available to students outside of the traditional medical school curricula are critical. Providing virtual opportunities for medical students to access RO education could help overcome socioeconomic obstacles, including the cost of attending away rotations, or geographic constraints such as proximity to an RO residency program. Podcasts have proven to be a valuable educational tool in medical education, with RO-specific podcasts demonstrating significant engagement and growth.[5] Within 30 days of initiation, the first educational RO podcast showed a 585% increase in listenership across 53 countries and an 81.4% engagement rate, highlighting a clear demand for supplemental learning resources. Additionally, small group discussions have successfully piqued interest in the field, with one study suggesting that such sessions could triple interest in RO by increasing knowledge of patient care and the critical roles radiation oncologists play in oncology care.[6] These studies illustrate how unconventional educational resources could boost exposure to RO among medical students. Building on this momentum, we constructed a student-led newsletter to engage students with RO as both readers and content creators, and form a community of aspiring radiation oncologists.

The *RadOnc Student Scan* newsletter generated an abundance of publishing and networking opportunities for the student editors, benefitting both US and international medical students with and without a home RO program. The Q&A section of the newsletter provided opportunities for student editors to meet RO faculty and residents from around the world. We anticipate that this type of networking opportunity could potentially enhance future residency application success for the students through these facilitated introductions with leaders in the RO field.

Planned improvements for the newsletter include expanded readership data collection, content development, and creative editor recruitment strategies. We are gathering readership data and suggestions for content development using a newly added QR code on the front page of our newsletter

Table 1. Social Media Interactions Stratified by Platform

INTERACTIONS BY SOCIAL MEDIA PLATFORM	FACEBOOK (I = 3)	X (I = 3)	INSTAGRAM (I = 1)
Average reach/views (n)	591	1296	145
Average engagements (n)	5.7	14.7	5.0
Average engagement rate (%)	1.8	2.6	3.4

Abbreviation: i, number of issues posted on the source.

(**Figure 1**). A challenge we faced was being unable to identify if medical student readers were accessing our newsletter via social media, which limited our ability to report the newsletter's impact on medical student education. With the QR code, we are now able to collect data about the readers' educational background and impression of the newsletter based on their understanding of RO. Importantly, we ask readers about the influence of the newsletter on their decision to pursue a career in RO, something we are excited to report in subsequent studies. Data from the QR code will also guide decisions about future newsletter content with the goal of maximizing reader engagement. In addition to previously used online platforms for editor recruitment and readership expansion, we are seeking to increase the publicity of the newsletter at in-person events such as the American Society for Radiation Oncology (ASTRO) conference and Radiation Oncology Education Collaborative Student Group (ROECSG) symposium. We also encourage editors to share the newsletter with their school's student interest groups, research labs, and student affairs offices. To sustain the newsletter moving forward, an editorial board for the newsletter consisting of a copy editor, content coordinator, editor coordinator, and research coordinator was formed to share the responsibilities of drafting each issue. A potential barrier to increasing exposure to RO through the newsletter would be insufficient editors, but so far there are increasing numbers of editors with ties to student interest groups at their schools drawing more attention to RO.

Conclusion

The *RadOnc Student Scan* newsletter, published quarterly since January 2023, has proven to be a novel strategy for engaging medical students from across the world with RO. This opportunity for medical student editors to learn about RO while gaining valuable publishing and networking opportunities has resulted in an appealing and productive educational intervention. To propel the forward momentum of the newsletter, recruitment of editors, analysis of readership, and creative dissemination methods will continue to be pursued. The newsletter's success can serve as a model for other underrepresented specialties looking to broaden exposure to medical students.

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