

Brief Communication

Developing a virtual neuro-oncology journal club series during the COVID-19 pandemic to promote interprofessional education and collaborative research

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Interprofessional education ensures that trainees learn with, about, and from one another, enabling effective collaboration and optimizing patient outcomes. However, the COVID-19 pandemic introduced heightened precautions, which limited opportunities for in-person training and discussions. As this public health crisis persists, it has become increasingly clear that the landscape of interprofessional education and research in neuro-oncology will remain fundamentally altered.^{1,2} Here, we describe our experience of successfully developing a virtual neuro-oncology journal club series during the pandemic, with transdisciplinary colleagues and invited discussants from across the United States. Additionally, we share lessons learned and exciting preliminary outcomes regarding educating and networking remotely.

The educational benefits of journal clubs, including aiding critical appraisal skills and promoting practice change, have been documented.³ Published guidance on organizing online journal clubs also exists.^{4–6} However, these publications were released before the pandemic and neither focused on neuro-oncology nor leveraged an interprofessional approach. As intramural members of the NCI Neuro-Oncology Branch, an active clinical care and research program with numerous trainees, our institutional mission is to train the next generation of a diverse and inclusive biomedical workforce. During the pandemic, we identified that a virtual journal club may provide an impactful space for remote learning and collaborative research discussions.

Between July 2021 and May 2022, we hosted 19 virtual presentations through “Neuro-Oncology Branch Outcomes Research AND education forUM” (NOB CRANIUM). Trainees nominated impactful publications related to areas of interest and work within our branch, specifically those focused on improving care/patient outcomes. Attendees were transdisciplinary professionals, including basic scientists,

nurse-researchers, research nurses, physician-investigators, communications experts, genetic counselors, and biostatisticians, among others, and were predominantly NCI NOB members, with select invited internal/external colleagues. Additionally, presenters and attendees ranged in career position from early-career trainees (e.g., undergraduates) to seasoned investigators (e.g., R01 recipients).

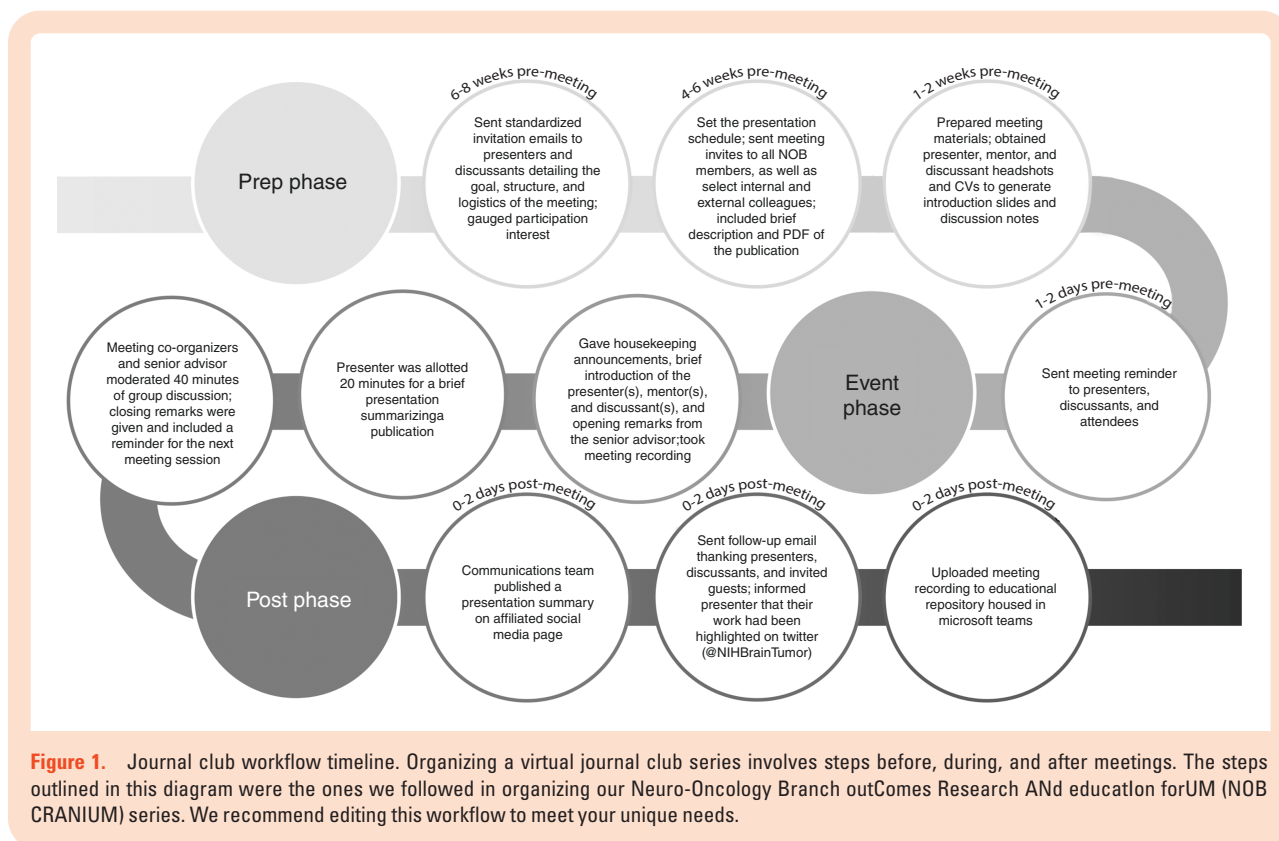
Virtual Journal Club Workflow

The co-meeting organizers (J.L.R., K.N.R.), with guidance from the senior advisor (T.S.A.), set the presentation calendar (Figure 1). Whenever possible, the authors of selected publications were invited to join the discussion, a unique opportunity during the pandemic to participate without traveling. Microsoft Teams journal club meetings occurred for 1 h, several times per month (range: 0–4), and were typically attended by 30–40 individuals. For several sessions, brief (30–60 minutes) small group meetings followed the main session and included a select group of ≤15 individuals with relevant interests/expertise, enabling brainstorming of potential collaborations.

Lessons Learned From Developing a Virtual Journal Club

Lesson #1—Break Down Research Siloes and Provide Interprofessional Education

In academic medicine, including neuro-oncology, there is often disconnect between basic, translational, and clinical



researchers. The resultant “research siloes” inhibit the advancement of high-quality science. Our virtual journal club was an exemplary forum for breaking down research siloes and supporting interprofessional education, a burgeoning area of interest in academic medicine.⁷ By inviting transdisciplinary colleagues, attendees gained exposure to diverse perspectives. Importantly, trainees should read widely, connect across research domains, and gain inspiration for novel research by looking outside their immediate niche.

Lesson #2—Be Open to Respectful Discussion/Critique of Your Research

We invited authors of the publications being discussed to join meetings. By engaging in respectful conversations dissecting research methodologies and findings, these individuals exemplified the importance of (1) receiving criticism humbly, (2) remaining transparent about research limitations, and (3) being open to learning from mistakes.

Lesson #3—Provide Trainees with Career Pearls/Networking Opportunities

Similarly, the journal club discussion portion enabled trainees to learn from and interact with accomplished investigators. We consistently encouraged invited author discussants to share their “story behind the story,” or the work that led up to the publication. Storytelling is a powerful means of communicating ideas that influence, teach, and inspire trainees.⁸ Authors shared their difficulties and

lessons learned, providing trainees with insightful career pearls. Additionally, discussions with external colleagues enabled networking and highlighted relevant funding and presentation opportunities available.

Lesson #4—Leverage Social Media to Share Research Publications

During journal club sessions, our communications team (B.B.C., A.H.H.) published Tweets highlighting the presentation. The 19 Tweets had, in total, 35,681 impressions, or times the Tweet was seen (average = 1,878; range: 675–4,112), 122 likes (average = 6; range: 3–11), 69 retweets (average = 4; range: 1–6), and an average engagement rate (e.g., engagements, including retweets/clicks/likes/etc., divided by impressions) of 2.84% (range: 1.0%–5.5%), an “average-to-high” rate according to marketing industry standards. Therefore, social media should be leveraged to disseminate and discuss academic research.⁹ Investigators interested in joining journal club sessions often contacted us via social media. Ultimately, through our robust social media presence, we shared recent publications and forged connections—impactful forms of academic self-advocacy and a welcome alternative to traditional scientific and research power structures.⁹

Lesson #5—Leverage Conversations Into Collaborations

Another unique facet of our journal club is that the discourse within meetings encouraged research

collaborations. Small groups were particularly useful for engaging invited colleagues in targeted conversations about collaborative projects, data sharing opportunities, and joint manuscript submissions and grant applications. Indeed, our virtual journal club has already increased our group's productivity, as evidenced by a recently published systematic review.¹⁰

Lesson #6—Foster Professional Development

Lastly, we noted that strong mentorship and interest in academic neuro-oncology are more important than experience when organizing a virtual journal club. Our co-meeting organizers are postbaccalaureate fellows; thus, one does not need to be an expert in operating educational forums to initiate one. Navigating the complexities of organizing a virtual journal club affords early-career trainees with transformative leadership experience and professional connections.

Tips for Starting a Virtual Journal Club and Next Steps

As highlighted by our lessons learned, we directly observed that organizing a virtual journal club provides immense educational and research benefits. For academics seeking to develop their own virtual neuro-oncology journal club series, we advise to (1) choose your meeting platform/frequency wisely, (2) develop standardized practices for meeting organizers/presenters, (3) carefully curate your audience, and (4) establish a respectful institutional culture.

Here, we highlight our group's experience developing a virtual transdisciplinary journal club series during the pandemic, which enabled our group to remain engaged in education and research. Given that virtual journal clubs facilitate wide inclusivity, including removal of intra- and interinstitutional barriers and silos, continuation and consideration of even wider inclusivity and collaboration via virtual means should be promoted, even as individuals return to the physical workspace.

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