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Ten Steps for Setting Up an Online Journal Club

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Journal clubs have an extensive history that dates back to the time of Sir William Osler. They provide a venue to discuss the latest medical literature among groups of peers and are an innovative method for translating knowledge into practice within individual institutions. With advances in social media, journal clubs are poised to take an evolutionary step by harnessing digital connectivity. Online journal clubs are uniting hundreds of medical practitioners from around the world under the banner of one cause: enhancing knowledge translation of the medical literature without the limitations of geography. This article describes 10 steps for creating online journal clubs based on the experiences of a multidisciplinary team of clinicians and medical educators.

Key Words: collaboration, community of practice/knowledge networks, innovative educational interventions, knowledge translation, social media

Background

Journal clubs play an active role in medical education and are a staple in academic centers and residency programs. Discussing the latest literature with colleagues is a time-honored tradition in medicine that dates back to Sir William

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Osler. When he formed his journal club at McGill University in 1875,^{1,2} we doubt that he imagined a day when medical practitioners from across the globe could discuss the latest, practice-changing medical literature simultaneously.

Historically, journal clubs have thrived as local, in-person meetings organized around a single medical specialty. In Lave and Wenger's terms, they can be considered an example of situated learning in the workplace whereby colleagues learn together via their social networks to grow as a "community of practice."³ However, in-person journal clubs make it difficult for trainees and practitioners working in remote locales, who are unable to form a local "community of practice."³ Online technologies, particularly social media tools, provide a way for such trainees and practitioners to connect with their colleagues around the world and develop online communities of practice for the purpose of disseminating the latest medical literature and translating it into clinical practice.⁴

Evolution of the Online Journal Club

Online journal clubs have had some success using closed communities and e-mail listservs.⁵ However, the advent of social media creates new opportunities to connect with the global community. Originating with the first Twitter journal club (hashtag #twitjc, @TwitJournalClub), there has been an eruption of Twitter journal clubs connecting physicians and learners from across the globe for this common purpose.⁶⁻¹² These online interfaces are changing the way health practitioners engage with each other in opportunities for lifelong learning.

TABLE 1. A List of the Various Online Journal Clubs Affiliated with the Authors of This Article

Online journal club	Digital presence	Names of affiliated authors (in alphabetical order)
Global Emergency Medicine Journal Club A collaboration between <i>Annals of Emergency Medicine and Academic Life in Emergency Medicine</i> (ALiEM)	Account: @AnnalsofEM, @ALiEMteam Hashtag: #ALiEMJC Web site: http://www.aliem.com/aliem-annals-global-em-journal-club/	Teresa Chan Michelle Lin Ryan Radecki Brent Thoma
International General Surgery Journal Club	Account: @igsjc Hashtag: #igsjc Web site: http://igsjc.wordpress.com/	Amalia Cochran Lillian Kao
International Urology Journal Club	Account: @iurojc Hashtag: #UroJC Web site: http://www.bjuinternational.com/tag/urojc/	Henry Woo
Nephrology Journal Club	Account: @nephjc Hashtag: #NephJC Web site: http://www.nephjc.com	Hiremath Swapnil Joel Topf
Medical Education Tweet Chat (periodically reviewing journal articles)	Hashtag: #meded Time: Thursday 9 pm, Eastern Time	Many of the authors are avid participants in this tweet chat.

In this article, we outline several steps and considerations for the modern online journal club. Via our shared and repeated experiences, we have developed and deployed a number of innovative and effective strategies for enticing and engaging participants. TABLE 1 shows the online journal clubs with which the authors are affiliated. We also discuss online journal clubs' reach and impact via various analytics. Examples from existing journal clubs illustrate how educators might operationalize the online journal club format to create a continuing professional development opportunity.

Step 1: Create an Online Home Page That Serves as a Launching Pad for Your Journal Club Discussions

Having a home page to “host” journal club information can be useful to coordinate participants and archive discussion summaries. The online Nephrology Journal Club has a dedicated Web site (<http://www.NephJC.com>) for this purpose while the *Academic Life in Emergency Medicine* (ALiEM) blog has a journal club section (<http://www.academiclifeinem.com/aliem-annals-global-em-journal-club/>). Having a launching pad or “home base” to host this content allows participants to have longer and more nuanced discussions than they can on social media channels.

As an alternative to having a unique Web site, it is worth exploring if any of the journals are willing to host journal club summaries and reflective discussion on their Web sites. The *British Journal of Urology International* (BJUI) performs this function for the #urojc (<http://www.bjuinternational.com/bjui-blog/>).

Step 2: Develop and Register a Hashtag on Twitter

As tweets are limited to 140 characters, every letter used for a hashtag limits the space available to formulate a substantive statement. For example, the hashtag #urojc for the International Urology Journal Club uses only 6 characters. A longer hashtag such as #urologyjournalclub would unnecessarily require an additional 14 characters. The shorter the hashtag is, the greater the flexibility participants have to share their insights. The ideal hashtag should be brief but retain meaning for potential participants.

A journal club's hashtag can be registered via the Symplur Healthcare Hashtag Project registry (<http://embed.simplur.com/twitter/new-hashtag/anonymous-user>). Registration of a journal club tweet chat hashtag with the Symplur project makes pertinent Twitter interactions more accessible to potential participants. When hashtags are registered, they

#IGSJC healthcare social media hashtag

Search for topics or SEARCH

Home / Healthcare Hashtags / #IGSJC

HEALTHCARE HASHTAGS REGULAR TWEET CHATS CONFERENCES DISEASES ONTOLOGIES

#IGSJC tweet chat

The International General Surgery Journal Club is a monthly twitter-based discussion of a new and relevant article of interest to General Surgeons. The article will be announced in advance using the @igsjc twitter account. The discussion will take place the 1st Mon-Wed of every month using the #igsjc hashtag.

Update description or schedule?
Time Zone: America/Los_Angeles -- change

What is #IGSJC?

Healthcare Topics Related Hashtags

- General Surgery > #HBAWis
- International General Surgery Journal Club > #INRC2014
- Journal club > #DeathLiteracy
- research > #ASCO15
- > #ANZUP14
- > #2014ada
- > #AACRres14
- > #AACRPanCa14

Tweet 9 Like 1 Share 1

The influencers of #IGSJC

Top 10 by Mentions Top 10 by Tweets

- @igsjc 18
- @jamasurgery 16
- @srgfin 9
- @chadellmoottil 9
- @mzenilman 8
- @mzenilman 6
- @jdmick1 4
- @igsjc 4
- @sarahb_md 2
- @srgfin 2
- @lillankao1 2
- @jonessurgery 1
- @nirajgusani 1
- @iurojc 1
- @ihnicholas 1

#IGSJC Tweet Statistics

Daily Tweets on #IGSJC

Activity Comparison

Related Hashtags Compared to #IGSJC

Latest Tweets

- @ihnicholas RT @igsjc: #IGSJC Our next Journal Club July 7-8 Rise of discretionary surgery in MA with insurance expansion #ACA http://t.co/3Y2Y92YdoR
- @lillankao1 RT @igsjc: #IGSJC Our next Journal Club July 7-8 Rise of discretionary surgery in Massachusetts with insurance expansion #ACA http://t.co/k...
- @lillankao1 RT @igsjc: #IGSJC @JAMASurgery: Next Journal Club http://t.co/kWiBZVvrb Download article for free! Join discussion of Surgery & insurance...
- @iurojc RT @igsjc: #IGSJC Our next Journal Club July 7-8 Rise of discretionary surgery in Massachusetts with insurance expansion #ACA http://t.co/k...
- @jdmick1 RT @igsjc: #IGSJC @JAMASurgery Next Journal Club http://t.co/kWiBZVvrb @srgfin guest moderator @chadellmoottil guest author July 7-8 Art...
- @jdmick1 RT @igsjc: #IGSJC Our next Journal Club July 7-8 Rise of discretionary surgery in Massachusetts with insurance expansion #ACA http://t.co/k...
- @jdmick1 RT @igsjc: #IGSJC @JAMASurgery: Next Journal Club http://t.co/kWiBZVvrb Download article for free! Join discussion of Surgery & insurance...
- @igsjc #IGSJC @JAMASurgery: Next Journal Club http://t.co/kWiBZVvrb Download article for free! Join discussion of Surgery & insurance expansion
- @igsjc #IGSJC Our next Journal Club July 7-8 Rise of discretionary surgery in Massachusetts with insurance expansion #ACA http://t.co/kWiBZVvrb
- @igsjc #IGSJC @JAMASurgery Next Journal Club http://t.co/kWiBZVvrb @srgfin guest moderator @chadellmoottil guest author July 7-8 Article FREE
- @mzenilman RT @JAMASurgery: #ACA to result in more discretionary #surgeries based on use change after reform in #MA http://t.co/kzI2qTEB #igsjc

#IGSJC content from Twitter

FIGURE 1. An example of a hashtag’s home page (#IGSJC) on the Symplur Hashtag Project site demonstrating tweet participants, latest tweets, tweet statistics, and activity comparisons. Screen capture of the #IGSJC Symplur website <http://www.symplur.com/healthcare-hashtags/igsjc/> from 2014. Used with permission from Symplur LLC.

become searchable and can provide interested individuals with information about the journal club activity, including when discussions occur (see FIGURE 1). Promoting the journal club using related hashtags (eg, using #MedEd or #FOAMed general hashtags to tag your online journal club's promo tweets) can widen interest via individuals who are likely to be interested in the journal club, allowing online journal club administrators to reach out to a potentially broad-based interest group.

From the perspective of journal club administrators, the added benefit of Symplur registration is the variety of available analytics.¹³ An example of the sort of analytics available can be seen at the #ALiEMJC hashtag page (<http://www.simplur.com/healthcare-hashtags/aliemjc/>).

The site provides daily tweet statistics, activity comparison between related hashtags, and hashtag usage over specific time frames. A transcript of hashtag activity is also available by Symplur, which is useful as a durable archive of journal club activity.

Step 3: Incorporate Not Only Twitter but Other Collaborative Platforms as Part of Your Online Journal Club

Social media platforms are excellent for discussing and promoting online journal clubs. Twitter, in particular, is the primary platform used by a variety of online journal clubs because it allows rapid, instantaneous discussions and gives access to a wide population of contributors. However, it can be challenging to present in-depth background information. Because of its prominent use by many online journal clubs, much of this article focuses on optimizing discussions on Twitter; however, it would be remiss not to note the rapidity with which available technologies for collaboration change. Additionally, due to the 140-character limit, it can be hard for discussants to fully express themselves, and as such we have highlighted (Step 1, Step 9) alternative mechanisms to augment discussion via other social networks or platforms (such as a blog that may act as a home base for longer submissions). To engage the widest possible audience, we recommend incorporating multiple delivery platforms simultaneously.

For example, in addition to Twitter, the *Annals of Emergency Medicine* online journal club utilizes a blog-based discussion platform, Disqus (Disqus Inc., San Francisco, CA) on the ALiEM blog and the Google+ (Google Inc, Mountain View, CA) social media platform.⁷⁻⁹ There are many other online communities that have risen and fallen in popularity and demographics—at varying times, for instance, different social media platforms seem to cluster around different age groups. Inclusion of a range of appropriate online communities based on the interests and demographics of the participants will increase the yield of a journal club discussion.

Other strategies for promoting an online journal club include collaborating with existing blogs and podcasts,⁷⁻⁹ starting a Facebook page and Google+ group, and promoting the journal club within the institutions of its founding members. Since tweets about the journal club will reach only those who are active on Twitter, multiple modalities can help bring new readers in on the discussion and allow them to benefit from reading the journal club proceedings.

As a caveat, some discussions may identify performance gaps in the participants' health care systems. For this reason, it may be useful for local implementers of online journal clubs to consider closed discussion platforms as opposed to the open ones discussed in this article.

Step 4: Ensure That the Time of the Journal Club Is Convenient for Your Target Audience

When designing any educational activity, it is important to keep your target audience in mind. For example, some journal clubs set specific times for the journal club discussion (eg, the #NephJC meets every other Tuesday between 9 pm and 10 pm Eastern Time [GMT-5] on Twitter). An advantage of this strategy is that it facilitates rapid-fire discussions within a brief period, and participants can plan to attend. A disadvantage is that it may exclude certain groups due to time zone differences or preexisting commitments.

If the intent is to link with individuals from a wider audience, it may be better to facilitate an asynchronous discussion over a longer period of time. The advantage of this strategy is that it is more flexible for participants. The downside is that the momentum seen with a time-limited online journal club may be lost. To combat this, some groups recruit facilitators who are active on social networks to reply and encourage further discussion throughout a longer period of time. For example, the *ALiEM-Annals* journal club is conducted over 7 days and relies on the facilitators to engage participants by actively hosting the dialogue.

Step 5: Help Prepare Participants by Aggregating Other Online Resources Relevant to the Article

The number of online medical resources has been increasing at a rapid pace over the past decade.¹⁴ It is likely that many practice-changing articles in a field have already been written about elsewhere. A search prior to a recent ALiEM journal club returned 18 blog posts and 7 podcasts having previously discussed the article.^{9,15} The information these resources provide can be helpful in 2 ways. First, they provide helpful critical appraisals of the article. These appraisals can serve as background reading to prepare for the journal club and identify issues of controversy that may lead to vigorous discussion. Second, this search can identify a group of active, online clinicians who are familiar with the article and may be

willing to participate, promote, or assist with facilitation of the journal club.

Step 6: Consider Inviting the Authors of the Featured Article or Other Experts in the Field

Whereas the article authors and topic experts are unlikely to attend a local journal club, they may be able to participate in an online journal club. There are both advantages and disadvantages to their inclusion.

In addition to increasing the profile of the journal club, the major advantage is that participants can have questions addressed by the authors. Contact information for corresponding authors is generally easy to access from the journal Web site or within the paper itself. The #IGSJC, #ALiEMJC, and #urojc journal clubs have been successful in recruiting authors to participate. While some may be interested in participating in a Twitter chat, others were more comfortable responding to blog comments, and a few were interested in participating in a live, semiscripted video interview.^{8,9}

A disadvantage of involving the authors is that it may stifle the discussion, since participants may not want to insult or negatively critique the authors' work in their presence. Some groups (#NephJC and #ALiEMJC) have invited authors to discuss their work at the end of the discussion period or during follow-up to mitigate this concern.^{8,9}

Step 7: Suggest Journal Club Participants Consider Using Specific Twitter Management Applications During the Tweet Chat

One notable difference between Twitter and other social media platforms is that it can be accessed by third-party applications (eg, Tweetbot, TweetDeck, Hootsuite, TweetChat, TChat). These third-party offerings provide enhanced management functionality that optimizes the Twitter social network for a tweet chat or journal club discussion.

Instead of viewing just one's own Twitter personal timeline, a custom thread can be created to follow only tweets with a designated hashtag, regardless of whether someone follows all of the journal club participants. This dedicated thread avoids updates from those who are not participating in the chat and transforms Twitter into a more intuitive chat-room format for the discussion.

Step 8: Engage the Participants to Cultivate and Incentivize More Discussion

An online journal club, like any journal club, relies on active participation and engagement by the participants. A 2014 study of over 2 million tweets found that 5 types of tweets get better engagement, as measured indirectly by the number of retweets: photo URLs, video URLs, quotes, numbers

or statistics, and hashtags increase retweets by 35%, 28%, 19%, 17%, and 16%, respectively.¹⁶ Journal club hosts and facilitators should maximize use of these techniques by including PubMed links and other value-added features (eg, related links to read).

In addition to optimizing a tweet composition, incentivizing or recognizing top contributors may encourage them to return and participate again. Simply being cordial and thanking participants on your journal club home page may be enough. Other strategies to increase engagement may include awarding a prize for the best contributions. It is best to avoid sourcing prizes from pharmaceutical or medical device companies to avoid conflicts of interest,¹⁷ especially since this may threaten the accreditation of these learning activities in some jurisdictions. In the experience of the #urojc, journals and professional organizations have been particularly supportive of this strategy, providing the journal club with journal subscriptions, waived publication fees, conference registrations, and educational videos.¹⁸

Recent literature has coined the phrase "evidence-based tweeting," which may be a highly applicable stance for online journal club organizers to promote.¹⁹

Step 9: Connect to the Online Community by Following and Engaging With Other Relevant Social Media Accounts

Staying connected with your potential audience is key for increasing participation in your journal club. Consider starting social media accounts on Twitter, Facebook, Google+, LinkedIn, and other networks to moderate and/or promote the journal club discussion. These accounts can also engage with and follow specialists in the relevant field. Providers and other interested users will likely follow the account back, and this account can be used effectively for promotion. Alternatively, different members of the online community can step up to help facilitate your journal club, while maintaining their individual identities.

Regardless of what type of account is used, periodic promotional messages should be sent to engage with potential participants. On Twitter, targeted tweets can be used to engage specific stakeholders who are likely to add to the conversation (eg, specific experts or researchers).²⁰

Remember, joining a new community of practice (whether online or not) can be challenging. It is important for online journal club organizers to consider the needs of new participants. They may need encouragement or friendly reminders that outline the rules of engagement. On Twitter this might include retweets of their tweets and reminders to include the journal club hashtag in their replies. Providing a link to a reference or primer for novices may help to encourage new journal club followers and participants.²¹

Another strategy is to engage journals to promote the online journal club. Journals are likely to be interested because they have a vested interest in increasing traffic to their Web sites and downloads of their articles.²² They can promote the journal club through a link on their home page, e-mails to their listservs, and by using their own social media accounts. Getting promotional assistance from a journal is most effective when there is a link between a particular journal or a member of the journal's editorial staff and the Twitter journal club. At the time of this publication, the *Annals of Emergency Medicine* journal is collaborating on a journal club with the *Academic Life in Emergency Medicine* (ALiEM) blog by providing expertise and promoting it on their Web site.

Step 10: Link Back to the Original Paper by Inserting a Comment on PubMed Commons

In October 2013, PubMed began allowing comments to be posted on individual PubMed records to foster discussion and facilitate post-publication peer review.²³ These comments appear instantaneously and become part of the permanent record on the PubMed site. A summary of the journal club discussion, if posted as a comment on the actual citation in PubMed, becomes a useful resource for future readers of that article and provides feedback to the authors. Consider also providing links to the curated content of the journal club at the journal club's "home base" (see Step 1) and any other utilized journal club modalities (see Steps 2 and 6).²⁴ A key consideration to utilizing the PubMed Commons²⁵ is that the commenter must be a PubMed author and have a National Centre for Biotechnology Information (NCBI) or Google account to comment. Pseudonymous or anonymous comments are not allowed.²⁶

Conclusions

Social media technologies are opening new doors to connect learners, clinicians, and medical educators, regardless of geographic location. Though they do not replace face-to-face discussions, these new modalities may help geographically dispersed clinicians to discuss differences in clinical practice and form online communities of practice. Online journal clubs may serve to connect clinicians and learners, especially benefitting those practitioners that have few local peers. We believe that connecting with clinicians globally via online journal clubs is a natural evolution in today's world of medical education, one that will accelerate knowledge translation and become an increasingly important tool in continuing medical education.

Lessons for Practice

- From our experience, online journal clubs can be technically more difficult, but well worth the time. While it can be difficult to engage larger audiences, the reach of these journal clubs can be substantially higher than a local journal club event.
- Advantages to utilizing an online platform is the involvement of more colleagues with more diverse practice patterns, allow participants to engage with a broader online community of practice.
- Solid preparation, consistency and use of multiple media (eg, blog, social media platforms like Twitter) are key to promoting the journal club.

Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web site:

Appendix S1: Glossary of Commonly Used Terms

As a service to our authors and readers, this journal provides supporting information supplied by the authors. Such materials are peer reviewed and may be reorganized for online delivery, but are not copy edited or typeset. Technical support issues arising from supporting information (other than missing files) should be addressed to the authors.

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