

The Art and Science of Journal Selection

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Introduction

A frequent aim of scientific exchange is to disseminate research data to as much of the scientific community as possible, which should result in improved patient outcomes. Due to the pandemic, digital scientific exchange has rapidly become a necessary innovation. Today, incorporation of digital media in biopharma scientific exchange continues to progress.

Medical Affairs, and more specifically, medical communications, is an area that is dramatically expanding its digital acuity. During the pandemic, medical communicators have grown their understanding and integration of dynamic engagement and amplification models to improve the impact of their medical communications.

Key to amplifying your scientific exchange is a clear understanding of the various factors that can help accomplish your publication objectives. This paper looks at one of those factors — journal selection — and addresses the complexities of prioritizing contemporary journal offerings to accomplish article objectives and overall publication planning goals.

Background

“Medical’s impact, when supported by a robust digital and innovation strategy, becomes exponential, especially as our customer base changes.”¹

Robert Stevens,
Head of Digital Strategy and Medical Innovation, US Clinical Development and Medical Affairs, Novartis

In August of 2020, the Authors published an article in ***Elevate*** titled, “Audience Amplification and Digital Scientific Exchange.”² The article addressed opportunities to optimize publication access and impact needs. It provides a process-oriented approach to actively pursue scientific publication amplification through digital activities broadly categorized as Publication Search Optimization, Active Engagement, and Metrics Analysis.

Peer-reviewed medical journals have long utilized digital publishing for its speed, reach, cost, and interactive capabilities. The digital transformation of medical publishing has opened opportunities to employ more productive tools to better communicate clinical concepts and research results to the target audience. Advanced publication content formats such as infographics, podcasts, video abstracts, summaries, and data visualizations are now commonly available to journal manuscript authors. However, medical journals are not uniform in the volume, type, and quality of content formats they offer. This lack of uniformity has implications in selecting the best journal in which to communicate your data.

Publication Planning

Traditional

As stated previously, a common aim of scientific exchange is to disseminate research data to as much of the scientific community as possible. Traditionally, when planning a manuscript, Medical Affairs looks to journals that offer the highest citation rates or those that are aligned with a professional or medical association. To minimize rejection risk, traditional publication planning normally focuses on journal content and journal preferences for submissions. It draws on journal-level metrics to select the target for submission of abstracts and papers. These journal-level metrics include the audiences the journal

reaches, its Journal Impact Factor and Eigenfactor score (a scoring system designed to capture the value of the publication output instead of the quality of the journal),³ its rejection rates, and publication lead times.⁴

When determining journal selection options, traditional publication planning architects have had limited information and essentially no article-level data on which to base decisions. Common factors considered in publication selection include the journal's recognition in the target community and some form of citation count (e.g., Journal Impact Factor). Both data points are highly interrelated and only give a journal-centric approach to accomplishing the publication planning objectives. Today's publication planners require more data than they had before to make better journal selections in the future.

Contemporary

Fortunately, the digital transformation of medical journals has expanded the ability to focus on each individual article as compared to the journal. Today, online access dwarfs print subscription in almost every peer-reviewed medical journal offering both options. Medical journal data and Health Care Provider surveys consistently show that a majority of readers "click from", or find the article with, public search engines such as Google, Bing, and Yahoo.⁵

"People do not read journals. People read articles."

Rabesandratana T, 2013⁶

This power shift away from the journal to the article has driven medical journals to offer publishing authors new tools and metrics to enhance the reach and impact of their articles. These tools provide authors

the ability to make journal submission decisions based on what is best for the article — to maximize its accessibility and impact, and to enable

more effective presentation of the science through enhanced multimedia content options.

Digital publishing practices have advanced to the point of providing opportunities to improve access and gain greater productivity in biopharma medical publication planning. While many traditional publication criteria are still useful tools, the accomplishment of scientific exchange objectives can be positively impacted by the inclusion of new article-centric digital criteria for selecting the optimal medical and scientific publication channels.

“Digital publishing and search engines are disrupting the power of journals as attention is shifting from journal onto article and effective outcome presentation with help of augmented and dynamic content opportunities.”

Rahela Penovski,
Executive Director,
Cognedt Ltd

Journal Ranking

To target journals based on their ability to reach individual article objectives and improve the potential scientific exchange, it is critical to identify how best to rank peer-reviewed journals in each therapeutic category and disease state. While some traditional approaches still have value, the need for a digital publication to create “a web of access” (i.e., access from multiple points on the internet, which allows quick and enduring access to the article) has heightened the need for a re-evaluation of these criteria.

Key criteria for contemporary publication planning include:

- Article-Level Metrics — Citation count is commonly viewed as the key metric. Whether captured in the Journal Impact Factor or the Eigenfactor score, the number of citations a journal produces annually has been a defining feature of traditional publication planning. The Journal Impact Factor’s greatest drawback is that it is based on the journal, not the individual article. However, in the digital age, there are myriad opportunities to gain real-time measurements of

individual articles in the target journals and the articles' resonance within the community, which eliminates the need to wait years to observe citation results for a specific article.

- Open Access (OA) — OA is a publishing model that in its purest “Gold” form offers online distribution of content at no cost to users and without copyright restrictions). OA is quickly becoming a serious consideration for biopharma publication plan architects. OA is about increasing the number of people that can view the article, but it is also important to consider its implications to article access for non-OA journals. Along with the drive to increase the free and unobstructed availability of scientific discussion, the OA movement is also restricting the availability of non-OA publications at some institutions. Academic institutions, a main resource for scientific research and citation identification, are beginning to follow the lead of the University of California system and many publication sponsors by requiring OA data publication while limiting access to traditional subscription-based journals in their libraries.⁷ It is important to understand the benefits of the various levels of access in OA in achieving the article objective(s) and how they will advance the publication plan access and outcomes.
- Enhanced Publication Content Offerings — This criterion is quickly evolving and is only limited by the technological sophistication of the journal. Enhanced publication content formats that include infographics, podcasts, video abstracts, data visualizations, plain language summaries, and others are tools offered to medical journal authors that enable them to build a web of access to their article. These short-form communication tools are normally contained within the journal environment but are sometimes also allowed to be used outside the journal's website in more public domain

settings such as social media (e.g., Facebook, YouTube, Twitter), institutional websites, etc.

- Journal Audience — Official journals of specialty societies are typically viewed as ensuring a high number of readers that have an interest in your data. However, these journals may be less inclined to offer a broad range of enhanced content opportunities or metrics on which to judge the effectiveness of the publication effort and support the targeted high readership assumption.
- Speed of Publication – There is frequently a need to get new data into the public domain as quickly as possible for innovative products or new diagnostic/treatment paradigms. Comparing acceptance times and times to publication for various targeted journals provides insights on vehicles to prioritize.
- Metrics Availability — Metrics are key to a good plan, and they give the publication planning team ways to gauge the effectiveness of their work. Big data and Web 2.0 techniques offer novel opportunities to assess the impact of the individual article, well beyond simple citations.⁸ Views, downloads, time on screen, and identification of actual viewers and their demographics all give the publication planning team a much better understanding of the resonance of the communication point in the target community. Once again, your article objective(s) will impact the scope and depth of the metrics you may require. Yet, journals offering article-level metrics should be of high interest, as they offer the ability to analyze the success of the communication in real-time and move publication planning science toward more predictable results.

- Copyright Policy — This is potentially a very important criteria for consideration in journal selection. In traditional journals, once a manuscript has been accepted the copyright is owned by the journal. This can hamper further scientific exchange efforts because the peer-reviewed publication is often constructed with the best graphics, charts, and other

“Advancing scientific exchange through the reuse of content and data visualizations accessed through modern medical communications is critically important to Medical Affairs organizations.”

Jennifer L. Riggins,
Sr. Advisor, Global Medical Affairs,
Eli Lilly & Co.

content. If copyright is assigned to the journal upon publication, these valuable components cannot be used in future publications without permission. As digital publishing has grown, peer-reviewed journals are allowing authors to select alternative copyright structures, which can be helpful for further scientific exchange after the original publication.

When all these criteria are reviewed for a contemporary publication plan, we can develop a grid of information with which to priority rank the preferred journals for the article. Below is a grid analysis of oncology journals for a communication point focused on broader community awareness with a large patient component. In this instance, the Impact Factor became a secondary metric versus the opportunities to enhance the communication point afforded to authors by the journals.

Journal	Type	Enhanced Publication Content	Plain Language Summaries	2019 Impact Factor	Open Access Available
CA - A Cancer Journal for Clinicians	Subscription	Yes	Yes	292.3	Yes
Journal of Clinical Oncology	Subscription	Yes	Yes	32.9	Yes
Nature Reviews Cancer	Subscription	Yes	No	53.0	Yes
The Lancet Oncology	Subscription	Yes	No	33.8	Yes
Cancer Cell	Subscription	Yes	No	26.6	Yes

JAMA Oncology	Subscription	Yes	No	22.4	Yes
Annals of Oncology	Subscription	Yes	No	18.3	Yes
Journal of Thoracic Oncology	Subscription	Yes	No	13.4	Yes
Journal of the National Cancer Institute	Subscription	Yes	No	11.6	Yes
Nature Reviews Clinical Oncology	Subscription	No	No	53.3	Yes
Cancer Discovery	Subscription	No	No	29.5	Yes
Molecular Cancer	Open Access	No	No	16.9	Yes

When journal selection is based on objective data and priority ranked, collaborative (i.e., between author and sponsor) journal selection easily becomes a key element in publication planning. As suggested previously, each journal selection decision can be made on specific objective(s) identified for each publication. Utilizing the contemporary approach for journal selection mitigates personal preferences by any single individual, including the publication planning architect and the lead author. Thus, a collaborative journal decision making approach can become a valuable foundation for future author and team interactions.

How do you put this concept into practice? We use an “algorithmic approach” to journal selection. The goal of this approach is to make the journal selection process less arbitrary, more data driven, and more collaborative for both internal and external stakeholders. Our algorithmic approach “de-subjectivizes” the process as much as possible and focuses on the manuscript objectives instead of journal criteria. The algorithmic approach may not always provide a definitive target, but it allows the identification of options based on a more objective and collaborative process.

Conclusion

The ability to align the article objectives with the proper journal becomes more complex as the recognition of OA, metrics, enhanced publication content, plain language summaries, and copyright

opportunities grow as critical journal selection criteria. However, these challenges are overcome by the benefits of a contemporary, data-driven approach to publication planning.

In the future, the digital transformation of medical journal publishing will continue to evolve with additional innovations in digital content formats and types. We believe that traditional, subjective publication planning should be supported with a contemporary, objective approach using article-centric data to rank and select the best journal to target for the dissemination of the communication point while minimizing rejection risk.

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