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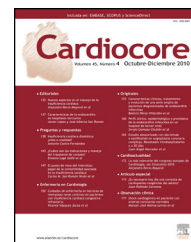
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## Questions and answers

# The value and scope of subspecialty biomedical journals: Perspectives from either side of the Atlantic

## El valor y el alcance de las revistas biomédicas de subespecialidades: la perspectiva desde un lado del Atlántico

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This brief review is intended to be a discussion and reflection on the relevance of subspecialty biomedical journals in the overall academic mission of physicians and biomedical scientists. As members of several journal editorial boards, we provide some reflections on the ever increasing body of medical literature, and the roles of journals as vehicles for the dissemination of new research and knowledge. The opinions expressed herein belong solely to the authors, and do not represent the official views of any of the journal that these authors have been associated with.

### Why so many journals?

The proliferation of biomedical journals, particularly over the past 20 years, inevitably leads one to question the need for, or even the relevance of subspecialty journals that focus on a select audience within the biomedical community. What can a focused subspecialty journal contribute to its readers? New journals often arise following the presumed recognition of specific unmet needs by researchers or members of a scientific

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group or society, who partner with publishers in the development of a new journal. The relevance, value, and long-term success of a new journal will depend on certain key fundamental concepts. First and foremost, there must be a real area of unmet need that other existing journals do not currently fulfill. A second critical component in the early life of a new journal is the quality of its editorial board which must be highly motivated to produce a quality product for both the publisher and the intended readers of the journal. Finally, the new journal must develop mechanisms and processes by which to attract quality submissions from both established and younger less-established authors/investigators, and adhere to rigorous ethical standards that provide assurances to both contributors and readers of the journal.

The continuing expansion and evolution of the vast body of scientific knowledge in medicine has created and fueled the need for considerable expansion in opportunities to share new knowledge. This expansion and proliferation of medical literature is, at least in part, a testament to the progress made in basic, translational and clinical research over the past four decades, particularly in the areas of molecular and cell biology, physiology, immunology, genetics, and other “fundamental” scientific disciplines. The availability of well administered and high quality biomedical journals in both broad, as well as more focused areas relevant to the science of medicine, are therefore nothing to decry. Ultimately, the fundamental goal of every journal is to provide a rigorous pathway by which to disseminate accurate novel scientific information and knowledge to the academic and practicing healthcare communities and public at large that is easily retrievable through reliable resources. As the body of information in medicine and its related scientific disciplines continues to grow at unprecedented levels, a corresponding expansion in the number of journals is only to be expected.

Some journals have very limited or focused objectives. Examples include journals designed to publish study methodology that support later publications of the results of large trials, or journals that allow presentation of seldom reported details of study implementation or case report journals that are designed to allow young investigators to experience peer review in a more comfortable and supportive manner than is feasible in journals striving to improve their impact factors.

### What do Editors really want?

This is a key question that every prospective author should investigate prior to submitting an article to a given journal. In all instances, authors are well advised to think very carefully about the mission, editorial approach and subject areas of interest of a given journal, even before starting to write the paper. Regardless of the specific journal, a number of common features are highly desired by editors and editorial boards. The International Committee of Medical Journal Editors (ICMJE) produced multiple editions of the uniform requirements for manuscripts submitted to biomedical journals.<sup>1</sup> The Uniform Requirements state the ethical principles in the conduct and reporting of research and provide useful recommendations relating to specific elements of editing and writing in a “evidence-based” manner.

Editors are always eager to receive submissions that are novel, important, timely, methodologically rigorous in study design, and are well written. Another key determinant that many authors fail to consider prior to submission relates to how relevant the article being submitted is to the journal's mission and the journal's intended audience. For example, a very high quality study may be rejected from a high profile journal simply because the article's content is not felt to be relevant to the primary readers of the journal, even though the quality of the study and the findings may be outstanding. Even when studies demonstrate very strong methodological approaches in study design, rejection may result from failure to demonstrate sufficient novelty, or perceived limited importance of stated findings or conclusions of the study. A critical issue that all authors must consider prior to submission is with the quality of the writing. It is truly surprising to see so many manuscripts submitted with poor writing and grammar. This is very unfortunate, as some of these manuscripts may contain very compelling and high quality findings. It is a real shame to reject a manuscript simply because the overall message is muddled by poor writing. In this case, assistance from a scientific writer should be sought, and may make the difference between acceptance and rejection.

### What makes a “good journal”?

This is a complicated, but nonetheless important question. While “good” may mean different things for different individuals or stakeholders, there are a number of highly desirable attributes that a “good journal” should strive to accomplish, namely the establishment of open, transparent and ethical editorial practices, blinded peer review, and wide circulation accessible in searches of trusted databases and use of social media to disseminate content. A “good” journal should have a reasonable turnaround for review and rejection of manuscripts (ideally within 15–21 days), and subsequent publication of accepted manuscripts. Other highly desirable attributes are the inclusion in prominent journal databases and indexes, and reasonable publication charges.

The open access movement has added new dimensions and arguments regarding the importance of dissemination of journal contents beyond subscribers. From a societal perspective, is an open access journal “better” or more desirable than subscription based journals? This too is a complicated question. While in principle it is highly desirable that any journal content be made available to all readers in an unrestricted manner (open access approach), this approach can also be problematic, especially when substantial publication charges result in a financial incentive that promotes acceptance of articles simply for the sake of generating revenue (predatory publishing). Indeed, the explosion in numbers of open access journals over the past decade has led to many reported instances of questionable and shady behaviors by publishers on simply securing author fees.<sup>2</sup>

A discussion about what makes a “good journal” would be remiss if it failed to include consideration of the impact factor. The impact factor is a calculated metric derived by dividing the number of times an article is cited in the prior two years by the number of articles that are published by a given journal

during the same period of time.<sup>3</sup> The principle behind this is quite simple: since the “best” papers will be cited the most, the journal with the best papers will have the highest impact factors. The importance of the impact factor as a measure of quality in scientific publishing has probably been overstated, and promoted an obsession in the academic community as a sort of “gold-standard” measure defining the quality of an individual’s published research. The use of the impact factor as the primary metric by which to measure the quality of one’s research is a potentially flawed approach. While the impact factor is an important and useful quality measure for journals, it is not as useful as a marker of the quality of an individual’s scientific contributions. It is well recognized that the citation rate for individual papers does not correlate well with the impact factor of the journal in which it was published. The reason for this is because of the skewed distribution of citation rates, meaning that high-impact journals get most of their citations from a few articles.<sup>4</sup> Thus, while the impact factor is important, it is time to move on and consider additional metrics and measures by which to assess quality of published material and biomedical journals.

### **Looking beyond impact factor: how can editorial boards meet the needs of the audience served by the journal?**

The last point mentioned above leads us into a discussion of how journals can strive to add value and quality to their product without solely focusing on the impact factor. This is important for many reasons. As stated, the impact factor has a number of limitations. Importantly, for some subspecialty journals with relatively limited circulation, a high impact factor is essentially impossible to attain, as most papers in such journals are not likely to be cited as frequently due to the relatively limited audience of scientists and researchers in the respective field. Thus it is possible for a truly outstanding paper published in a focused subspecialty journal to be cited substantially less than a paper of inferior quality published in a more widely circulated and less focused journal with higher impact. This highlights the importance of recognizing the impact factor as only one important metric of quality, rather than being the only metric or standard for quality of published material.

How else can editorial boards improve on the quality of a journal, besides trying to boost the impact factor? This is a question worth asking by every editorial board as it addresses the very reason for having the journal in the first place. This question will also have potentially different answers depending on the specific type of journal. The obvious and central mission of every journal is to provide a platform for the dissemination of medical and scientific knowledge. While the journal cannot control the quality and type of content it receives (to a certain extent; for example some journals proactively recruit submissions from high profile authors), it is

the responsibility of the editorial board and publishers to ensure timely and expedited review of submitted content, ensure fair and unbiased review, and rapid publication and dissemination of any accepted content. The advent of social media provides new opportunities for journals to advertise content and disseminate information together with medial clips, author interviews and other sources of information that greatly enhance the visibility and ease of use of the journal and its contents.

Journals can also develop creative ways to provide continuing education credit that may be linked with specific journal content, thereby fulfilling some of the continuing education needs of its readers. Journals can also develop specific editorial resources to support manuscripts submitted by physicians in training and young faculty. For example, the journal may provide an enhanced internal editorial review with respect to scientific writing and manuscript structure, specifically aimed at mentoring young physicians in the early stages of their independent careers. Such a service may prove to be highly attractive to young faculty with limited experience in publishing, and would provide an opportunity for editorial boards to provide mentoring for future generations of physicians and scientists.

Current innovative biomedical research is becoming more and more multidisciplinary and multicultural with the investigators of most scientific studies coming from different fields of expertise and backgrounds. Nevertheless, readers of biomedical journals who may have substantial expertise in their specific field of interest can also lack understanding in other disciplines or translational aspects of research. Thus, a strong educational commitment to create bridges among different research disciplines and fields of knowledge should be considered as a metric of quality for a biomedical journal today.

Figuring what the intended audience wants and needs is another key metric of quality for biomedical journals. This requires methods and portals for communication between the editorial board (and publishers) and readers of given journal. Surveys, use of social media sites, and the provision of direct communication links between readers and editorial boards all help in facilitating a two way communication between the “makers” of the journal and the consumers. The advent of social medial certainly provides new opportunities to facilitate this interaction.

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