



EDITOR'S NOTE

Avoiding the High Cost of Peer Review Failures

I am a firm believer in the positive value of the peer review system. Not because it is perfect, but because of its potential to ensure the high value of published literature—a critical legacy of the scientific community. The conceptual merits of peer review are clear. It is a system serving both as gatekeeper to keep out inadequate content and a method of materially improving the quality of any work that is published. It is maintained through the shared effort of qualified experts with a vested interest in the authority of the official record. It is able to reach beyond local and interpersonal politics to deliver impartial evaluations of professional work. In its best form, it is objective, focusing on the product of academic labors without bias. Properly administered and supported by the research community, it can be a great example of the proverb “many hands make light work.”

Although the benefits of robust peer review are clear, its effective execution can be undermined by all 4 groups critical to scientific publishing: authors, peer reviewers, editors, and publishers. Although many authors appreciate that peer review can confirm, and often strengthen, their professional efforts, some chafe at the obligation. They may believe that their work is beyond contestation or that the additional input and double-checks are not worth the aggravation.

Many peer reviewers understand that their diligent efforts will improve the literature and may enhance the ability of authors to contribute to it in the future. They accept, and may even welcome, the obligation to lead through an indirect form of mentorship. They know that the closer the work is to their own area of specialization, the greater their responsibility to deliver thorough, thoughtful, and critical evaluations. Some, however, are not sufficiently motivated to fully engage. Deficient reviews may reflect inadequate training or time pressure, but they can also reflect disregard or disinterest. Although it would be most appropriate for invitees to pass on review invitations that they are not willing and able to discharge with a high level of performance, reviewer credit can be claimed regardless of the effort delivered, creating a potential conflict for those wanting solely to document “productivity.”

The role of the publisher has evolved over time. Historically, journals were developed by learned

societies to disseminate the intellectual product of their membership. They served as the centerpiece of discipline-specific scientific endeavor and repositories of knowledge. Authors published their work to be debated in letters and rebuttals in the same journals and at scientific meetings. Parent societies provided oversight and served as publishers, with printers simply tasked with the physical creation of documents. Over time, however, the independent business of publishing has grown, with expanding services offered to remove the burden from often largely volunteer societies, or in some cases to replace the societies completely. Editors may now work for learned societies or publishers, with priorities potentially blurred.

Modern publishers are happy to publish high-value content that will be widely read and respected, but the business model thrives on volume to keep the presses turning. Although some societies maintain absolute control over published content, others have sold off their journals to independent publishers. An increasing number of new publications have also been developed with no learned society oversight. The push for open-access literature has had unexpected consequences, with “pay-to-play” (predatory) models becoming increasingly attractive for their profitability. Charging to publish work without the complicated multi-step processes and time required for high-quality peer review and revision can be appealing to those more interested in the financial benefits than in the literature record. It is important to recognize that many journals have maintained or have been developed with strong peer-review processes to ensure high-value scientific content, but others much less so. Publishers may also demonstrate different levels of commitment to peer-review rigor for different publications in their portfolio. Ultimately, the dedication to meaningful peer review can no longer be assumed, and both the authors submitting to journals and the readers of published work must be much more mindful of potential compromise.

The challenges to peer review are not new, but the surprising thing is how poorly we address these realities in training our students and even in interacting with our colleagues. It is this failure, whether intentional or unintentional, that allows the problem to grow.

It is possible that journals employing predatory practices outnumber those that do not. The legitimacy of journals cannot be confirmed by name or impact factor scores, and often not by promises made regarding peer-review standards or editorial board membership lists. Many predatory journals have credible and even inspiring names. They can also manufacture or manipulate impact factor scores and blatantly mislead regarding peer-review practices. Manuscripts that are submitted in sound form make deficient practices less obvious. Similarly, although some "editorial boards" are wholly fabricated, others may include individuals who have agreed to serve with the best intentions, with no awareness of shortcomings. Finally, some reviewers may be invited to conduct reviews without knowing that they are window dressing that will not alter editorial decisions. Collectively, these things can lend an air of respectability, or at least raise reasonable doubt that allows the fraud to continue.

Mindfulness, and more than a small degree of cynicism, is necessary to critically evaluate the legitimacy of any journal. Most importantly, this mindfulness must be passed on to students, and to colleagues where warranted, to avoid the compromise of peer review. Careful scrutiny is required because deficiencies that suggest predatory practices may not immediately be recognized. It is possible, for example, for an author to have had what is perceived to be a positive previous experience with a given journal. Publication fees can be confused with immediate access fees, and getting through "peer review" with no more than trivial editorial comments may seem reasonable for the person or team thinking that their words are gold. Being invited to review may also confer an aura of legitimacy. Such events could result in additional manuscripts being submitted to the same journal. Hard questions need to be asked within research teams early in manuscript development to ensure a shared valuation of peer review and of any target journals.

The inherently independent nature of researchers can lead to avoidance of conversations regarding research publication. Although the journal fit is obvious for some articles, odd choices might be attributed to journal shopping to get weaker manuscripts through, which may discourage discussion. This tacit acceptance through silence must be fought, however, to avoid supporting disreputable publications. Administrative units within institutions, working with library services, might be best positioned to raise awareness. Concerns over

questionable peer-review practices should be discussed and guidelines established to ensure a low likelihood of being trapped by predatory journals.

There is a very practical reason for concern regarding journal selection. Institutions grappling with issues of predatory journal practices can raise questions that will be uncomfortable for authors. For example, did a person or team publish in such a journal inadvertently or to get around research weaknesses? Should full (or any) credit be given for publications in journals found to be predatory? Should job candidates with a history of publication in predatory journals be considered? Should articles published in journals employing predatory practices count in tenure packages? What scrutiny of the effort of flagged authors is warranted? Ultimately, the best way to avoid publication remorse is to ensure that the provenance of published work cannot be questioned.

Predatory publications will exist as long as the financial incentives remain enticing. Practice guidelines to protect institutional credibility are likely to develop in response to this reality. To reduce the risk of compromise, students and rising professionals must be sufficiently informed of the realities and hazards in publishing to ensure smart decision-making. All should learn not only to identify questionable publications, but also to carefully evaluate published work and to ensure the highest standard for their own efforts.

Reputable journals should welcome uninvited letters to the editor for open debate on perceived deficiencies in the work published. Maintaining an open forum is one of the best ways to hold authors and journals accountable. The most credible and responsible peer-reviewed journals should be supported through submissions, high-value review efforts, and promotion among colleagues and trainees. In the same way that poor literature should not be cited, journals that do not provide rigorous peer review and open debate should be shunned. The goal is to make their deficiencies more evident and to make them more easily avoided.

Wilderness & Environmental Medicine maintains a high standard for peer review and will continue to do so to benefit authors, readers, and the research record. Letters to the editor are welcome to promote open scientific discourse.

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