

Discussing the future of open peer-review: a survey of journals in the JCR Public, Environmental and Occupational Health category

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Abstract

The journals listed in the JCR Public, Environmental and Occupational Health category are examined by the authors in order to check how many of them practice some kind of Open Peer-Review (OPR). An overview of the different OPR methods identified is given: a variety of practices considered as OPR even though the number of journals using them is very small. Furthermore, the possible future evolution of OPR is examined.

Key words: *Peer-review; open peer-review; publications; open science.*

Introduction

Open Peer-Review (OPR) is an “umbrella” term for a number of innovations in the peer-review process that aim to make traditional peer-review more transparent, inclusive, accountable and reliable.

Although for almost 30 years there has been a lot of discussion in the academic community about the need of some form of openness in the peer-review procedure (1), OPR has started to expand more recently, generally encouraged by the Open Science movement that promotes increasing transparency and participation in scientific practices (2).

OPR aims to open up a system traditionally closed in many ways: the identities of both author and reviewer can be revealed to each other; the manuscripts can be made immediately available online, before any official peer-review procedure; the reviewer reports can be published together with the articles; experts and the general public can be allowed to comment and contribute to the review process; the reviewers may be algorithmically determined and requests sent out automatically and so on (3).

Many journals already run some form of OPR, though this is implemented differently and in different stages of the peer-review process. OPR can be pre- or post- publication, in fact, both pre-prints and

published papers can be commented on; it can be “de-coupled”, when reviews are performed by different peer-review services, such as [Peerage of Science](#), on request by authors before submission (4) and it can be “portable”, when peer-review comments about papers are passed from one journal to another, in journals of the same publisher (5).

The debate on OPR application is growing faster, boosted by new technologies, open access models and new circumstances, like the COVID-19 pandemic. Today the reception of OPR is changing as the concepts of open interaction, open discussion and participation are perceived positively by a new generation of authors, editors and reviewers (6). And yet the attitudes in its regard can vary widely: despite the need for a change, the paper findings suggest that the debate on the future of peer-review is still ongoing.

In this article the authors, who are members of the Editorial team of the *Annali dell'Istituto Superiore di Sanità* (the official Journal of the Italian National Institute of Health, Rome, Italy), analyse the different forms of OPR practiced by scholarly journals included in the JCR Public, Environmental and Occupational Health category. This is followed by a discussion of the implications of our findings for the future of OPR.

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Methods

The study examines the 193 journals listed in the Public, Environmental and Occupational Health category in the 2019 edition of the Journal Citation Reports (JCR, published by Clarivate Analytics) in order to check how many of them practice some kind of OPR and of what type. This category was chosen because it is the category in which the journal *Annali dell'Istituto Superiore di Sanità* is listed.

In order to obtain information on journals' peer-review processes, the sections Information for authors and About of each journal website were checked. The analysis was carried out with the version of these pages as accessed on September 9, 2020. The authors would like to underline that journal policies and practices may have changed in the meantime. These sections were examined to find any statements related to peer-review, more precisely any with a specific open or non-traditional peer-review practice. Given the small number of cases involved a systematic categorization was not adopted.

Results

Most of the journals listed in the JCR Public, Environmental and Occupational Health category still use tra-

ditional peer-review. As of September 9, 2020, it was found that, out of 193 journals in that category, only 9 journals (4.8%) practice some kind of OPR.

None of the publishers of these journals have implemented OPR in the same manner. *Table 1* offers a list of the journals that declare themselves to implement different OPR practices, and the exact terminology used for the description of the adopted OPR method is reported in the last column.

The majority (six) of the journals listed in *Table 1* are Open Access titles published by a born open access publisher (MDPI, BMC, Frontiers).

However, the remaining three journals are not Open Access titles from a diverse group of publishers, suggesting that experiments with peer-review models are in large part independent of the Open Access model.

Every publisher explains its OPR policy with a detailed statement, reflecting the diversity of practices and the consequent lack of a widely shared terminology. This is well illustrated by comparing the introductory statements of the various policies:

- “*Environmental Health* operates an open peer-review system, where the reviewers' names are included on the peer-review reports for authors. In addition, if the

TITLE	PUBLISHER	DESCRIPTION
<i>Environmental Health</i>	BioMed Central (BMC)	Open peer-review
<i>BMC Public Health</i>	BioMed Central (BMC)	Open peer-review
<i>Reproductive Health</i>	BioMed Central (BMC)	Open peer-review
<i>Archives of Public Health</i>	BioMed Central (BMC)	Open peer-review
<i>European Journal of Public Health</i>	Oxford University Press (OUP)	Open peer-review
<i>Diving and Hyperbaric Medicine</i>	South Pacific Underwater Medicine Society (SPUMS), European Underwater and Baromedical Society (EUBS)	Open peer-review
<i>Indoor Air</i>	Wiley	Transparent peer-review
<i>International Journal of Environmental Research and Public Health</i>	MDPI	Optional open peer-review
<i>Frontiers in Public Health</i>	Frontiers	Collaborative review process

Table 1. List of journals with some form of open peer-review, listed in the JCR Public, Environmental and Occupational Health category, 2019 edition. The column on the right shows the type of OPR as reported by the publisher of the journal.

article is published, the named reviewer reports are published online alongside the article under a Creative Commons Attribution License 4.0." (BMC. [Peer-review policy](#));

- "The *European Journal of Public Health* is working towards a system of open peer-review. Manuscripts are not blinded to reviewers. Reviewers are encouraged to sign their reviews." (European Journal of Public Health, Oxford University Press. [Instructions to authors](#));
- "DHM believes that a transparent review process is indicated in such a small specialty; reviewers are often able to identify the origin of manuscripts and, in the interests of fairness, the authors are, therefore, generally provided the names of their reviewers" (Diving and Hyperbaric Medicine. [Instructions for authors](#));
- "Transparent peer-review: This journal is participating in a pilot on Peer-review Transparency. By submitting to this journal, authors agree that the reviewer reports, their responses, and the editor's decision letter will be linked from the published article to where they appear on Publons in the case that the article is accepted. Authors have the opportunity to opt out during submission, and reviewers may remain anonymous unless they would like to sign their report." (Indoor Air, Wiley. [Author Guidelines](#));
- "MDPI journals operate an open peer-review option, meaning that the authors have the option to publish the review reports and author responses with the published paper (often referred to as open reports). In addition, reviewers may choose to sign their reports if the review is published, in which case the reviewer name appears on the review report (referred to as open identity)." ([The MDPI Editorial Process](#));
- "Collaborative Review: Our Collaborative Review Forum unites authors, reviewers and the handling Editor (called the Associate Editor for editorial board members, or Topic Editor for Research Topics) – and if need be the Specialty Chief Editor – in a direct online dialogue, enabling quick iterations and facilitating consensus. Editors and reviewers work with the authors to improve their manuscript". ([Frontiers Collaborative Peer-review](#)).

The most common type of OPR, defined simply as Open Peer-review, usually, but not always, means that both the reviewer and the author are known to each other during the peer-review process. Nevertheless,

some publishers use this term to refer to the practice of publishing reviewers' names on the article page, or peer-review reports (signed or anonymous) alongside the article or on [Publons](#), a specific platform born as a place to help researchers get recognition for their often-hidden peer-review contributions (7).

Discussion

OPR was first mentioned as a possible alternative method to classic peer-reviewing at the end of the 80s. Nowadays, about thirty years later, it has become an increasingly emerging practice in scholarly publishing. Many are the factors leading to these changes, among them: the general tendency towards a greater openness in all fields including science, the many faults and bias of traditional peer-review which has been under scrutiny in the last decades, and certainly the availability of new technologically advanced platforms for science journals. Even the International Committee of Medical Journal Editors (8) is timidly supporting some new forms of post-publication OPR. In the *Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals (Updated December 2019)* we read "Some people believe that true scientific peer-review begins only on the date a paper is published. In that spirit, medical journals should have a mechanism for readers to submit comments, questions, or criticisms about published articles, and authors have a responsibility to respond appropriately and cooperate with any requests from the journal for data or additional information should questions about the paper arise after publication".

Different forms of OPR implementation co-exist at present (9), but OPR in any form is still adopted by a minority of scholarly journals, as shown by the results of this study which are in line with those by Kwee et al. (10) who investigated the peer-review practices of journals included in another category of the 2018 JCR Radiology, nuclear medicine and medical imaging, where only two (1.7%) out 119 journals used an OPR process. Further investigation is needed on the implementation of OPR procedures in other JCR categories, and in open access vs non open access journals, but the lack of clear definitions makes these investigations more difficult to conduct and to evaluate.

The question arising spontaneously is why so few publications are experimenting with OPR. Several reasons might help explaining it: among them, the permanence

of a cultural reluctance and concern by reviewers in exposing themselves and in being identified while possibly criticizing the work of more experienced and qualified authors (4). Another reason might be more practical: the setting up of a new peer-review system can be money and time consuming, and therefore it is, at the moment, attempted mainly by big publishers.

Moreover, finding qualified and dedicated reviewers becomes harder and it is likely that the fear of an impact of policy changes on an editor's ability to recruit them could contribute to the low implementation of OPR policies (11).

Conclusion

In conclusion, it is foreseeable that OPR will continue to expand its reach in the coming years. However, in order for scholarly journals to fully adopt new forms of OPR, its pros and cons should be further addressed and studied, taking into consideration issues like: trust in the peer-review system, transparency vs accuracy of the comments, conflicts of interest, acknowledgment of reviewers, reviewer's motivation and feelings. To ensure a sound OPR, a consensus should be reached on:

- a clear and accurate definition of the different OPR methods;
- guidelines agreed at international level;
- standardised assessment criteria;
- ethical issues and best practice recommendations.

In the meantime, whichever OPR practice is approved by the Editors, this should be clearly reported in the peer-review process description page of each journal, as recommended by the ICMJE.

The dissemination of scientific knowledge should be accelerated, as the COVID-19 pandemic has clearly shown, but trust and fairness need to be guaranteed in the whole publication process. Perhaps, in the future of scholarly publications, open peer-review will find the way to become a better peer-review.

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REFERENCES

1. Smith R. Editorial. Opening up BMJ peer review. A beginning that should lead to complete transparency. *BMJ*. 1999;318:4. doi: <https://doi.org/10.1136/bmj.318.7175.4>
2. Ross-Hellauer T, Görögh E. Guidelines for open peer review implementation. *Res Integr Peer Rev*. 2019;4:4. doi: <https://doi.org/10.1186/s41073-019-0063-9>
3. Ross-Hellauer T. What is open peer review? A systematic review. *F1000Res*. 2017;6:588. Last updated: 17 May 2019.
4. Johnson R, Watkinson A, Mabe M. The STM Report. An overview of scientific and scholarly publishing. 1968-2018. Celebrating the 50th Anniversary of STM. The Netherlands: STM; 2018. Available from: https://www.stm-assoc.org/2018_10_04_STM_Report_2018.pdf
5. Besançon L, Peiffer-Smadja N, Segalas C, Jiang H, Masuzzo P, Smout C, Billy E, Deforet M, Leyrat C. Open Science Saves Lives. Lessons from the COVID-19 pandemic. *bioRxiv preprint*. doi: <https://doi.org/10.1101/2020.08.13.249847>
6. Ross-Hellauer T, Deppe A, Schmidt B. Survey on open peer review: Attitudes and experience amongst editors, authors and reviewers. *PLOS ONE*. 2017;12(12):e0189311. doi: <https://doi.org/10.1371/journal.pone.0189311>
7. Park JY. Is open peer review, a growing trend in scholarly publishing, a double-edged sword? *J Korean Assoc Oral Maxillofac Surg*. 2020;46:299-300. doi: <https://doi.org/10.5125/jkaoms.2020.46.5.299>
8. Recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals [Internet]. International Committee of Medical Journal Editors; 2019:1-19. Available from: www.icmje.org/recommendations/
9. Ford E. Open peer review at four STEM journals: an observational overview. *F1000Res*. 2015;4:6. Last updated: 9 September 2015
10. Kwee TC, Adams HJA, Kwee RM. Peer review practices by medical imaging journals. *Insights Imaging*. 2020;11:125. doi: <https://doi.org/10.1186/s13244-020-00921-3>
11. Hamilton DG, Fraser H, Hoekstra R, Fidler F. Journal policies and editors' opinions on peer review. *eLife*. 2020;9:e62529. doi: <https://doi.org/10.7554/eLife.62529>

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