

Open Research – What is it, and how can *Equine Veterinary Journal's* authors engage with Open Research initiatives?

Mandy J Peffers, Equine Veterinary Journal Omics Subeditor

Leah C Webster, Senior Journals Publishing Manager, Wiley

'Open Research' (used interchangeably with 'Open Science') represents an approach to research communication in which research is made more transparent, accessible, open, and reproducible. It has shifted the primary focus of researchers to not only publish their findings but also share their underlying knowledge. Wiley has outlined five key themes in Open Research – Open Access, Open Data, Open Practices, Open Collaboration and Open Recognition and Reward¹. One of the ways in which we can maximise the value of Open Research is through Open Data.

Many publishers have introduced data sharing policies to encourage authors to share their research data². *Equine Veterinary Journal* follows Wiley's 'Expects Data Sharing' policy i.e., we mandate the inclusion of a Data Availability Statement in every published article to confirm whether data has been shared and if so, how³. If data have been shared, authors must provide a link to the repository where their data have been made available along with a citation. This encourages authors to use registered and certified data repositories relevant to their subject area and protects against broken links. To help identify an appropriate data repository to use, Wiley recommends authors visit websites such as the Registry of Research Data Repositories or FAIRsharing^{4,5}. Authors can also use Wiley's Author Compliance Tool to check *Equine Veterinary Journal's* (or any other journal's) data sharing policy before submitting⁶. Importantly, this includes whether the author's funder encourages use of a specific data repository.

Open Data accelerates the research process by enabling the re-use and enrichment of datasets, while concomitantly making the most of investment in the production of research data, thus enabling more efficient use of time and money⁷. Additionally, opening up data enables the detection of false claims and inaccuracies and allows for replicability tests and metanalysis⁸. This is important because controlled or closed access limits the ability of scientists to reproduce findings to specific groups, potentially skewing the efficiency and objectivity of scientific methods. It therefore enables further use of the same investment and therefore increased scope for discovery. Finally, it provides credit to data creators enhancing their citation rate and thus research impact⁹.

Sharing data is impeded by a dearth of official recognition as data citations are not yet standard practices in all journals. Furthermore, there is resistance from some researchers who think that open data will threaten their individual publishing trajectory and impact. The 2019 Wiley Open Research Survey found that some of the key reasons why researchers may be hesitant to share their data are due to concerns around intellectual property and confidentiality, ethical concerns, concerns that their data might be misrepresented or misused, and fear of their research being scooped¹⁰.

Researchers may believe that open data reduces the uniqueness of the resources available them, potentially influencing the originator's perceived productivity and ultimately their competitiveness for jobs, promotions, or grants. However, for most researchers, especially those using public funds, sharing is no longer optional but is an obligation to research, the funding agency, and ultimately society at large. Another barrier to sharing data may be that the researcher is unaware of either journal requirements or how/where to share their data. *Equine Veterinary Journal's* data sharing policy is available on the journal's author guidelines¹¹. *Equine Veterinary Journal's* authors are required to provide a Data Availability Statement to indicate the presence or absence of shared data. This is particularly relevant with increasing publications containing omics data for example transcriptomics, proteomics, metabolomics, and GWAS data, which may be undertaken by an omics facility. Data should be submitted to discipline-specific, community-recognized repository if available. When a suitable discipline-specific resource does not exist, data can be submitted to a generalist repository. Websites such as the Registry of Research Data Repositories can be used to help identify an appropriate repository based on subject area, content type, and country⁴. However, open data alone is not inherently useful if data is incomplete, lacking in quality or missing crucial metadata, it is not beneficial. At times the researcher may not understand the file requirements for these

repositories, but omics facilities are knowledgeable about data repositories related to their fields and can often assist the researcher in data deposition. For these omics data repositories an accession number is given which is then included in the research article.

For the application of open data to be realised, data must be high quality, sufficiently standardised, annotated, and FAIR (Findable, Accessible, Interoperable and Reproducible)¹². Reporting standards are designed to ensure that the minimum information required to understand and interpret the results of analysis are stated. These standards are specific to the omics platform. *Equine Veterinary Journal's* author guidelines include guidance on how sequence data, mass spectrometry proteomics data, and metabolomics data should be deposited and provides links to relevant repositories (Section 5.2.i Sequence Data)¹¹. It is worth noting that each repository gives the researcher the ability to define the date of release of their data and will not be released to the public without confirmation, nearer the release date, that the date is still appropriate.

Open Data is just one facet of Open Research which encompasses Open Access, Open Practices, Open Collaboration and Open Recognition and Reward. By publishing open access, articles are made freely available to read, download, and share. *Equine Veterinary Journal* offers authors the option to publish their article open access through Wiley's hybrid open access programme. In 2020, 22% of articles published in *Equine Veterinary Journal* were open access. With hybrid open access, the author, the author's institution, or author's funder pays an Article Publication Charge (APC) for open access publication. Authors publishing in *Equine Veterinary Journal* may be eligible to have their APCs covered by one of Wiley's Transitional Agreements. Transitional Agreements combine read access – which provides eligible researchers with full access to Wiley's entire portfolio of journals – as well as the opportunity to publish open access in one of Wiley's hybrid journals (such as *Equine Veterinary Journal*), at no individual cost to the author (the costs are covered by the agreement). For more details on Wiley's current Transitional Agreements, and whether your APCs for open access publishing in *Equine Veterinary Journal* might be covered, please visit the relevant pages on Wiley Author Services¹³.

Open Practices focus on transparency in the publishing process. For *Equine Veterinary Journal*, one of the key areas of the publishing process where we have increased transparency in is the peer review process through the journal's participation in Wiley's Transparent Peer Review programme. The Transparent Peer Review programme aims to increase transparency and accountability of the editorial decision-making process. Upon publication of an article, if the author has opted for Transparent Peer Review, the peer review history for the article, including reviewer comments, authors' responses, and editor's decisions, are made publicly available on Publons. The peer review history on Publons is accessible via a link from the published article's 'Open Research' section. Each element of the article's peer review history on Publons is assigned an individual digital object identifier (DOI), which allows readers to cite peer review content. Authors can decline the option to participate in Transparent Peer Review upon submission. Reviewers who review manuscripts where the authors have opted for Transparent Peer Review are given the option to either sign their peer review reports (make their identities known) or remain anonymous. As of September 2021, Wiley has 75 journals in the Transparent Peer Review programme. Transparent Peer Review offers many benefits for the *Equine Veterinary Journal* community, including a better understanding of the peer review/editor decision making process, and credit and recognition for reviewers¹⁴.

The Transparent Peer Review team at Wiley published a preprint in September 2020 which reported on data from 27 journals that had been involved with the programme for a minimum of 6 months, compared with a group of control journals that did not offer Transparent Peer Review¹⁵. They found that around 86% of authors opted to participate in Transparent Peer Review, and whilst some reviewers chose to disclose their identities by signing their reports (15%), most reviewers preferred to remain anonymous. One of the key findings of the analysis was that the use of Transparent Peer Review did not negatively affect journals' turnaround times, or the numbers of revisions authors were required to make. However, it was found that editors had to invite more reviewers at the initial invitation stage to secure at least two peer reviewers for each manuscript.

Equine Veterinary Journal has been part of the Transparent Peer Review programme since September 2019. To see the effects that Transparent Peer Review has had for *Equine Veterinary*

Journal, we conducted an analysis on reviewer activity pre-Transparent Peer Review (TPR) (January – August 2019), and two separate post-TPR periods (January – August 2020 and January – August 2021). We used the same time periods each year for comparison. In 2020, 87% of *Equine Veterinary Journal's* authors opted for Transparent Peer Review and this increased to 90% in 2021, which would suggest that *Equine Veterinary Journal's* authors value the opportunity to make their peer review histories publicly available (Table 1). This is higher than the average opt in rate for Wiley journals based on data from September 2020 (86%)¹⁵. In the two post-TPR periods, more reviewers were invited on average than in the pre-TPR period to secure a sufficient number of reviewers per manuscript (Table 1). However, as the two post-TPR periods coincided with the COVID-19 pandemic, we are unable to determine whether this is as a result of TPR or, more likely, due to the effects of COVID-19. To date, there have been 161 *Equine Veterinary Journal* articles published with Transparent Peer Review. There have been 665 reviews published on Publons for articles published in *Equine Veterinary Journal*, of which 207 (31%) have been signed. Peer review histories for these *Equine Veterinary Journal* articles have been viewed over 4,400 times.

Table 1 Reviewer activity for *Equine Veterinary Journal* in one pre-TPR period and two post-TPR periods

	January-August 2019	January-August 2020	January-August 2021
Number of manuscripts reported on	195	253	167
Total number of reviewers invited	665	1071	701
Average reviewers invited per paper	3.41	4.23	4.20
Total number of reviewers agreed	362	531	308
Average reviewers agreed per paper	1.86	2.10	1.84
Total number of reviewers declined (not including auto-decline)	202	389	278
Average reviewers declined per paper	1.04	1.54	1.66
Total number of reviews returned	326	458	260
Average number of reviews returned per paper	1.67	1.81	1.56
Average time from invitation to review returned (days)	20.53	20.84	19.93
Average time from agreement to review returned (days)	18.64	19.20	17.55
Number of manuscripts where authors opted for TPR as % of total	0%	87%	90%

Through Open Recognition and Reward, we can ensure that researchers receive credit for their work. *Equine Veterinary Journal* requires submitting authors to use an ORCID iD, which is a unique author identifier, to help distinguish an author's work from that of other researchers and connect them to their research activities¹⁶. *Equine Veterinary Journal's* reviewers can also receive credit for their peer reviews through Wiley's collaboration with Publons¹⁷. *Equine Veterinary Journal* encourages reviewers to register with Publons to create a verified record of their contribution to the peer review process and track, verify, and showcase their review work and expertise. This can be useful for individuals career development through evidencing their contribution to reviewing. From 1st January 2021 to 15th November 2021, 174 *Equine Veterinary Journal* reviewers added reviews to their Publons profile, 465 *Equine Veterinary Journal* reviews were added, and 52% of *Equine Veterinary Journal's* reviewers claimed credit for their peer review via Publons. This compares to 48% of *Equine Veterinary Journal's* reviewers claiming credit for their peer reviews in the same period in 2020.

Equine Veterinary Journal is proud to support Open Research through our participation in Wiley's hybrid open access programme, our adoption of the 'Expects Data Sharing' policy, our participation in the Transparent Peer Review programme, requiring submitting authors to provide ORCID iDs, and

our integration with Publons to enable reviewers to receive credit for their reviews. We are encouraged by the uptake we have seen of these initiatives – in particular, the proportion of *Equine Veterinary Journal*'s authors who have opted for Transparent Peer Review (90% in 2021). We recognise that Open Research is not just the future, but the here and now and we have a role to play at *Equine Veterinary Journal* in encouraging Open Research and more open publishing practices. We welcome your continued feedback and engagement with these important initiatives and will keep you updated on other Open Research initiatives we will be exploring in the future.

References

1. Wiley. Open research isn't just the future of research communications; it's the here and now. Wiley Author Services. Accessed November 18, 2021. <https://authorservices.wiley.com/open-research/index.html>
2. CHORUS. Publisher Data Availability Policies Index. Chorus Access. Updated October 8, 2021. Accessed November 18, 2021. <https://www.chorusaccess.org/resources/chorus-for-publishers/publisher-data-availability-policies-index/>
3. Graf C. How and Why We're Making Research Data More Open. The Wiley Network. November 7, 2018. Accessed November 22, 2021. <https://www.wiley.com/network/researchers/licensing-and-open-access/how-and-why-we-re-making-research-data-more-open>
4. Registry of Research Data Repositories. [re3data.org](https://www.re3data.org/). Accessed November 18, 2021. <https://www.re3data.org/>
5. FAIRsharing. fairsharing.org. Updated July 14, 2021. Accessed November 18, 2021. <https://fairsharing.org/>
6. Wiley. Author Compliance Tool. Wiley Author Services. Accessed November 18, 2021. <https://authorservices.wiley.com/author-resources/Journal-Authors/open-access/author-compliance-tool.html>
7. Piwowar HA, Vision TJ, Whitlock MC. Data archiving is a good investment. *Nature*. 2011;473(7347):285.
8. Evans JA, Foster JG. Metaknowledge. *Science*. 2011;331(6018):721-5.
9. Piwowar HA, Day RS, Fridsma DB. Sharing detailed research data is associated with increased citation rate. *PLoS One*. 2007;2(3):e308.
10. Graf C. What Do Researchers Think About Open Data?. The Wiley Network. November 4, 2019. Accessed November 18, 2021. <https://www.wiley.com/network/researchers/licensing-and-open-access/what-do-researchers-think-about-open-data>
11. Wiley. Equine Veterinary Journal Author Guidelines. Wiley Online Library. Updated May 27, 2021. Accessed November 18, 2021. <https://beva.onlinelibrary.wiley.com/hub/journal/20423306/homepage/forauthors.html>
12. Wilkinson MD, Dumontier M, Aalbersberg IJ, Appleton G, Axton M, Baak A, et al. The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data*. 2016;3:160018.
13. Wiley. Affiliation policy and payments. Wiley Author Services. Accessed November 18, 2021. <https://authorservices.wiley.com/author-resources/Journal-Authors/open-access/affiliation-policies-payments/index.html>
14. Eassom, H. What's Transparent Peer Review and How Can it Benefit You? The Wiley Network. September 17, 2021. Accessed November 22, 2021. <https://www.wiley.com/network/researchers/researcher/whats-transparent-peer-review-and-how-can-it-benefit-you>.
15. Moylan M, Junge K, Oman C, Morris E, Graf C. Transparent Peer Review at Wiley: Two years on what have we learnt? *Authorea*. 2020(September 16).
16. Wiley. Distinguish yourself with ORCID. Wiley Author Services. Accessed November 18, 2021. <https://authorservices.wiley.com/author-resources/Journal-Authors/submission-peer-review/orcid.html>.
17. Wiley. Publons. Wiley Author Services. Accessed November 18, 2021. <https://authorservices.wiley.com/Reviewers/journal-reviewers/recognition-for-reviewers/publons.html>