Improving preprint withdrawals: A template-based approach

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Abstract

A review of recent published and grey literature revealed that practices in the preprint landscape are currently very varied, particularly regarding the “permanence” of preprints. The rapid increase of preprints during the COVID-19 pandemic has heightened concerns that the lack of transparency and clear communication about the status of preprints fuels misinformation and misunderstanding, puts public health at risk and might erode society’s trust in science. Through the current proposal, we seek to ameliorate one challenging aspect of using preprints - namely, their withdrawals - through introducing a transferrable, informative, interoperable, and transparent preprint withdrawal template. This template is currently being piloted on the Cambridge Open Engage platform.

Introduction

The increased popularity of preprints - especially during the Covid-19 Pandemic - has confronted the research community with a range of new opportunities and challenges. While preprints’ popularity in disciplines such as Physics or Mathematics attracted moderate attention in the scholarly publication debate, their recent popularity among medical researchers has heightened scrutiny of preprint practices in both the scholarly and public arenas. Between January 2020 and June 2020, the total number of published medical preprints has doubled (Polka & Penfold, 2020). Furthermore, preprints’ recent popularity has encouraged the development/extension of new/existing digital repositories (e.g., Eyexiv, NIH Preprint Pilot). Among other implications, this rapid uptake of preprints has necessitated discussing recommendations on how to report preprint results in traditional/social media (O’Grady, 2021; Fleerackers; 2021), signalling preprints’ non-peer reviewed status to readers (Wingen *et al.*, 2021), and providing guidance on the citation of preprints (e.g. ASAPBio, 2020; APA, 2020). What has been lacking, however, is establishment of best practice for the withdrawal or removal of flawed preprints. The proposed template aims to address this issue through recommending a new approach to preprint withdrawals.

We argue that since preprints are non-peer-reviewed interim research products, withdrawing them should be more straightforward than retracting a peer-reviewed article. Many of the criticisms levied at existing preprint withdrawal practices stress that they lack transparency, with preprints sometimes simply “disappearing” without explanation (Teixeira da Silva; 2020). We present an approach that seeks to balance transparency and efficiency through using a template, allowing preprint authors to withdraw in an efficient and self-directed manner. We describe the evolution of the template and its application on Cambridge University Press’ early research content platform, Cambridge Open Engage (COE), and present a new version designed for use and experimentation by research and scholarly communications communities.

Preprint withdrawals: opportunities and challenges using Cambridge Open Engage as a case study

Cambridge Open Engage (COE) is the home for open and early research content from Cambridge University Press. COE was created to provide a multidisciplinary home for diverse research outputs, including preprints, with a view to providing hosting services for partners (e.g. learned societies) and researchers with a broad and interconnected ecosystem to share findings and receive feedback from their peers.

Challenges of preprint withdrawals at COE

The idea for this template arose through experiences with the moderation and withdrawal procedures on COE. Publication ethics and research integrity efforts at Cambridge University Press involve the development and implementation of ethics and moderation policies for COE. As part of these efforts, it became apparent that:

- 1) There was a tension between permanence (assigning a DOI, transparency of versions, becoming citable research outputs) and the interim nature of preprints. COE received several requests to “remove” preprints for a variety of reasons, several of which were *unrelated* to the validity, legality, or integrity of the content.
- 2) Not all authors were aware of what preprints’ exact function is, particularly in cases where posting of content as preprints was encouraged as part of a separate process (e.g. a conference or event).
- 3) Withdrawal/retraction requests were taking too long to review and process (months, not days), often involving input from multiple stakeholders depending on the nature of the request.
- 4) Where requests were related to the validity of the content, authors were sometimes reluctant to use the versioning capabilities of COE to correct issues. Even though versioning provided the opportunity to describe changes between versions and assign unique DOIs to each version, “removal” of the previous version(s) was preferable.
- 5) Content moderation on COE focuses on adherence to COE’s policies and does not assess the scholarly validity of submissions. Furthermore, [removal is only permitted for a narrow range of reasons](#) and authors are encouraged to submit updated versions rather than removing work. For withdrawals (termed “retractions” on COE), authors are asked to explain the rationale for withdrawal, but the processing of these requests are more complex and time-consuming than moderating new content.
- 6) From a platform perspective, it was common to receive different or even conflicting advice from legal and publication ethics experts on whether “removal” was appropriate.
- 7) In the absence of an editor role, and compounded by preprints currently commanding less academic “credit” than articles published in scholarly journals, the incentive structures for both author and preprint platform are different to those of authors and scholarly journals. Consequently, if a reader or whistleblower reports a concern about a preprint, the platform may have very limited options for rectifying it.
- 8) These issues were further complicated by experiences authors may have had on other platforms where terminology and practices differ.

These challenges are amplified by other, wider, identified issues with preprints and publishing practices in general:

- Concerns that lack of public understanding about preprints introduces risks to public health and science communication (Sheldon, 2018; Fraser *et al.*, 2021; Teixeira da Silva, 2021).

- Lack of transparency, consistency and guidance (Frampton *et al.*, 2021) around preprint withdrawals leading to a lack of accountability and inability to rely on preprints as a legitimate form of research output.
- There is considerable stigma attached to retraction of peer-reviewed manuscripts, with views remaining divided as to whether the “punitive” function of retractions is helpful, a hindrance, or a mix of both depending on circumstance (e.g. see discussions in Barbour *et al.*, 2017; Fanelli, 2016; Hosseini *et al.* 2018). Given the lack of a clear awareness about preprints’ exact function, these stigmas are also imposed on preprint withdrawals.
- Retractions of peer-reviewed manuscripts are reported to take a notoriously long time (Stern, 2017; Loadsman, 2019). Preprints are meant to be faster and more iterative, so it is inappropriate for their withdrawals to take months to be reviewed and acted upon.
- Retraction notices are often linguistically obscure and vague, making it difficult for readers to ascertain the true nature of the issue leading to the retraction (Barbour *et al.*, 2017). In the absence of a structured and consistent approach for preprint withdrawals, the scholarly community is missing a big chance to drive change and adjust sub-optimal publication practices.

In response to these challenges, a straightforward template was developed to be completed by the author requesting the withdrawal. The aims of developing this template were threefold:

- 1) To improve communication, consistency and transparency of preprint withdrawals whilst allowing for more flexibility in usage (e.g., allowing authors to “withdraw” a previous version to indicate unreliability, but subsequently upload a new version and provide readers with clarity on the rationale and impact of the withdrawn content)
- 2) To educate communities less familiar with preprints and foster engagement with preprints in an honest and open manner where errors can be rectified and acknowledged as part of the research process.
- 3) To keep the withdrawal process as lightweight as possible and provide an agile, responsive service to authors and readers without the need for an editorial role in arbitration.

Due to the low number of withdrawal requests COE received during the pilot period (July-October 2021), the template was used in three instances. For context, COE currently contains 998 unique content items (excluding content imported from the recent incorporation of ChemRxiv). In two of the three cases, the authors did not pursue withdrawal after being asked to complete the template. In the remaining one case, the template ultimately led to the conclusion that the request was for a removal (not withdrawal) for legal reasons and the preprint was “tombstoned” with a notice explaining the removal.

Opportunities

Whilst the sample size is too small to draw any conclusions about whether the template achieved its aims, it led to the identification of opportunities to expand and improve the used approach, namely:

- 1) Adopting a template approach increases standardization, leading to the possibility of future machine readability and interoperability of information about the nature of withdrawals, and improves compatibility with recommended metadata best practices (Beck *et al.*, 2020).
- 2) Although “retract and replace” practices have been explored in peer-reviewed journals (Cagney *et al.*, 2016; Christiansen and Flanagin, 2017), an altered version of this practice might make more sense in preprint publishing where versioning is the default *modus operandi*.

- 3) While employing a “tick box” approach may be more machine-readable, and more inclusive and accessible than adopting a narrative approach, retaining an option to describe the need for the withdrawal allows authors to provide additional explanation.
- 4) One major reason for delays in retractions of peer-reviewed manuscripts is the time required for investigative activities, or, the required editorial process to explore the impact of the error on the original editorial decision. With preprints, since there is no “original editorial decision” to accept a preprint, there is also no editorial decision to overturn (to “retract”). The template is designed to put the onus on authors to explain their research process and if needed, “self-correct” (withdraw) their work without stigma, in the spirit in which preprints were intended.

Withdrawal Template

The template is presented in Appendix 1, with the questions informed by the COPE Retraction Guidelines (COPE Council, 2019).

Recommended use

On COE, each successive version is assigned a unique DOI as part of a connected series of DOIs. Following best practice regarding retractions (that they should be citable in their own right), we propose that the template is completed and submitted by the author as a version in the succession. To accommodate author submission of a completed withdrawal template, the platform actions would be to

- 1) Establish and apply moderation processes for reviewing submitted withdrawal template as a new version
- 2) Apply withdrawal actions in accordance with platform standards (e.g., watermarking of previous pdfs, signposting on the landing page)

Finally, the template could be used by preprint or other research output platforms in a manner equivalent to journal “expressions of concern” – i.e., to notify readers that significant concerns have been reported about the content, but it has not been possible for the platform to get the author to complete the form themselves. Platforms should develop policies governing (for example) reasonable timeframes for expecting responses from authors before such an action is taken, and ensure authors agree to these terms at the time of submission.

Conclusions and future directions

Our vision is for this template to be trialled and improved. The data captured through the template could be integrated into the scholarly information ecosystem via content metadata, answering calls for preprint withdrawal/removal status to be communicated in a machine-readable format (Levchenko; 2021). Assuming preprint servers adopting the template also apply open metadata standards, this approach would allow for metaresearch and other systematic analyses of preprints across platforms.

We originally envisaged this template for use in two scenarios:

- 1) Withdraw – the “end of the road” option, where the author has no plans to rectify.
- 2) Withdraw and replace – a significant error is present in the preprint, but the author can and will rectify this. This is different to traditional preprint “versioning” in that it actively signals to readers that the preceding versions *should not* be relied upon.

We plan to develop the template to accommodate and encourage the replacement option. If platforms choose to offer the “withdraw and replace” option, which would effectively mean the withdrawal would apply only to previous *versions* and not the content landing page entirely, technical development may be necessary to enable such content display.

We encourage other early research platforms to experiment with this template, and would welcome collaboration with others interested in improving the consistency and transparency of communicating errors in research.

Declarations

Competing Interests

Wright is employed by Cambridge University Press and involved in the development of Cambridge Open Engage. Hosseini declares none.

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Research ethics

No research ethics approval was required for this work.

Data availability

The only data referred to in this work are publicly available (current content items on Cambridge Open Engage) or obtained through the experience of running of Cambridge Open Engage (number of withdrawal requests during template pilot period).

Correspondence

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Appendix 1: Withdrawal template

Withdraw [[DOIs of version(s) affected] [Withdrawal Time stamp]]

How would you describe the reason for the withdrawal?

Lack of appropriate research ethics safeguards (e.g. lack of adherence to relevant guidelines)	☐	Undeclared or inadequately disclosed competing interest	☐
Fraud (fabrication, falsification, plagiarism)	☐	Legal issue (e.g. breach of copyright, libel)	☐
Unauthorised publication (e.g. without permission of named author(s), research groups or other involved organisations)	☐	Risk posed to individuals or groups (e.g. privacy issues, confidentiality, unintended consequences)	☐
Unreliable findings due to an honest mistake	☐	Lack of necessary consent (to participate in research or to publish)	☐
Unauthorised use of data or material	☐	Other (please state below)	☐

Other _____

What is the impact of the error on presented conclusions?

Irredeemable: The error is so fundamental that this content should not be used or referred to at all in the future other than discussing the error itself.	☐
Significant but redeemable: The error is fundamental, and conclusions are no longer valid, but it can be rectified by re-analysis or re-writing.	☐
Partially significant but irredeemable: Some conclusions are valid, but it is impossible to rectify those which are not valid.	☐
Partially significant and redeemable: Some conclusions are not valid, and it is possible to rectify these.	☐
Insignificant but irredeemable: The reason for withdrawal is unrelated to presented conclusions, which are still wholly valid.	☐
Insignificant and redeemable: The reason for withdrawal is unrelated to/does not impact the presented conclusions, and the issue can be rectified by replacing the content.	☐

Did the study involve human subjects?

☐ Yes

☐ No

How would you characterize the cause of the error? (Tick all boxes that apply)

Honest mistake	☐	Research misconduct	☐
Negligence	☐	Inadequate communication	☐
Failure to adhere to standards or policies	☐	Lack/inadequate awareness of relevant policies, norms and guidelines	☐
Difference of opinion	☐	Other (please state below)	☐

Other _____

Who requested this withdrawal and who agrees to it?

Requested		Agrees	
Author(s)	☐	All authors	☐
Subset of authors	☐	Subset of authors	☐
Reader/whistle-blower	☐	Platform/Moderator	☒
Platform	☐		
An institution, funder, or other organisation	☐		

Are any institutions associated with this research (e.g. university, funding agency, professional association/committees) investigating the error or the research process that led to the publication of this preprint?

☐ Yes

☐ No

If Yes, at what stage is the investigation?

☐ Concluded, no action taken

☐ Concluded, action taken

☐ Inconclusive, no action taken

☐ Inconclusive, action taken

☐ Still ongoing

Does this withdrawal affect any other published content (e.g. manuscript, published dataset, preprint)?

☐ Yes

☐ No

If Yes, please enter DOIs:

Please add any information about the withdrawal not captured by the above questions