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Using SPI-Hub™ to Promote the Key Role of Prepublishing in Healthcare

Taneya Y. Koonce[a], Mallory N. Blasingame[a], Annette M. Williams[a], Jerry Zhao[a], Jing Su[a], Marcia I. Epelbaum[a], John D. Clark[a], Helen M. Naylor[a], Sheila V. Kusnoor[a], Spencer J. DesAutels[a], Nunzia Bettinsoli Giuse[a,b]

[a] Center for Knowledge Management, Strategy & Innovation, Vanderbilt University Medical Center, Nashville, Tennessee, United States, [b] Department of Biomedical Informatics, Vanderbilt University, Nashville, Tennessee, United States

Abstract

With the need to quickly advance knowledge dissemination in rapid-paced fields, and more recently in response to the urgency of the COVID-19 pandemic, prepublishing has been brought to the forefront. SPI-Hub™, a publicly available journal selection decision support tool, is being strategically enhanced to address prospective authors' critical needs in navigating and selecting the most appropriate preprint or traditional publication venue.

Keywords:

Preprints, Publishing, Information Storage and Retrieval

Introduction

In the rapidly paced field of healthcare, there is a critical need for quickly accelerating research communications and enabling the timely, close collaborations required for knowledge advancement. The global challenges experienced in the last year with the pandemic have brought the need to revisit the scientific communication paradigm. The world has witnessed a flourishing of rapid information sharing, both via prepublication and through the speeding up of traditional publishing processes [1]. In the 1980s HIV/AIDS epidemic, analyses indicate an interim of several years between the first reported cases and the availability of a high volume of published studies impactful for clinical care [2]. During the COVID-19 pandemic, there has been an understandable rush to publish new discoveries, but it has been noted that in the rush, peer review standards may have been lowered in some cases, thereby affecting research rigor and reproducibility [3]. Beyond the setting of an epidemic or pandemic, fast-moving fields such as bioinformatics and genomics demand swift dissemination of research findings. With the need for fast publication outputs brought to the forefront more than ever before, establishing platforms to aid authors in maneuvering the preprint landscape as an accepted and established step in the formal publication pathway can meet this need while maintaining the quality hallmarks associated with the peer review process.

Commensurate with their proliferation, preprints are becoming increasingly acknowledged, encouraged, and accessible through initiatives such as the National Library of Medicine's pilot project to include selected preprints in PubMed Central and through the National Institutes of Health acceptance policy as grant-funded interim research products [4]. Although accelerating dissemination of new knowledge is beneficial, the preprint model also poses challenges, as posting a preprint may limit authors' ability to submit their work for future peer review and formal publication. As such, there is a need for clear, accessible information on preprint policies, from both traditional journal publishers and the preprint servers themselves to inform authors' publication decisions [4-5]. Currently-available resources, such as Sherpa Romeo and Transpose [6-7], provide information on whether specific journals accept submissions of manuscripts previously made available as preprints. However, these resources have limitations: Coverage of journals publishing in the health sciences and intersecting fields of study is incomplete, and authors may still need to consult multiple sources to clarify and compare other journal-specific policies to make fully informed decisions about where to submit their work.

In Spring 2020, the Center for Knowledge Management (CKM) publicly launched the Scholarly Publishing Information Hub (SPI-Hub™), a decision support tool which aids prospective authors in journal identification and evaluation of journal transparency and rigor [8]. SPI-Hub™ provides indicators of journal policies and scholarship expressed through objective metadata across 25 fields. With more than 26,000 journals included, it is the largest, publicly-available journal selection tool, at its level of comprehensiveness, available to the academic community.

To address journal policy knowledge gaps regarding allowance of non peer-reviewed manuscripts previously posted online as preprints and normalize their inclusion into the journal selection process, CKM has expanded SPI-Hub™ metadata to account for preprint policy details. This expansion is part of a multi-faceted, semi-automated strategy to equip prospective authors with relevant and timely information on preprint policies and preprint server characteristics, as preprints become increasingly important to the scientific communication pipeline. SPI-Hub™, as a knowledge management platform that captures multiple points of information about the publishing industry, is uniquely positioned as a framework to be leveraged for seamlessly integrating and interconnecting processes and policies for both preprints and more traditional routes of publication.

Methods

The core infrastructure of SPI-Hub™ is based on a Knowledge Management Journal Record™, a metadata schema consisting of 25 fields of objective data points aimed at supporting authors' informed decision-making for journal selection [8]. In Spring 2021, we added a new metadata field to capture information on journal preprint policies.

The team employed a multi-tiered, semi-automated strategy to incorporate preprint policies for the journals already represented in SPI-Hub™. Our initial experience gathering

information for SPI-Hub™ demonstrated that publisher policies could be leveraged to efficiently populate metadata across a large number of journals, thus making the process more scalable. Applying these lessons learned, we identified all publishers with 20 or more journals in SPI-Hub™ and conducted a manual review of their preprint policies.

Subsequently, we documented policy findings for each publisher and organized the results into categories to characterize preprint policies within the new metadata field. Sherpa Romeo's application programming interface (API) allowed us to consult the policies around open access and self-archiving of each of the journals included in their database [6]. Based on the Sherpa Romeo data, we created journal-specific messages to display in SPI-Hub™ when a matching journal record was located in Sherpa Romeo that did not have a policy message established through our manual review process.

To account for journals not represented by publisher-level review and also not included in the Sherpa Romeo database, we created a temporary preprint policy message for display in SPI-Hub™ . The message informs users that, while our CKM team has not yet verified the journal's preprint policy, the journal website provided can be checked for the information and if needed, prospective authors can send an email to the editor using a CKM-provided template.

Results

The policy settings established by the team for the new preprint policy SPI-Hub™ metadata field span 11 categories (Table 1).

Table 1– SPI-Hub™ Preprint Policy Settings

Preprint Policy Settings
Manuscripts previously shared online as preprints are ***generally allowed*** for submission by this publisher; see the individual journal website for more details.
Manuscripts previously shared online as preprints are ***generally not allowed*** for submission by this publisher; see the individual journal website for more details.
This ***publisher's preprint policies are unclear***; see the individual journal website for contact information.
This ***publisher's preprint policies vary widely***; see the individual journal website for more information.
Manuscripts previously shared online as preprints ***are allowed for submission by this journal***; see the journal website for more details.
Manuscripts previously shared online as preprints ***are not allowed for submission by this journal***; see the journal website for more details.
Per the Sherpa Romeo site, manuscripts previously shared online as preprints are allowed for submission; see journal website to verify.
Per the Sherpa Romeo site, this journal does not allow submission of manuscripts previously shared online as preprints; please verify on the journal website for any possible updates.
This journal's preprint policies are unclear; *see the journal website for contact information.*
Not stated. *Please contact the journal for details about their preprint policy; see SPI-Hub's™ downloadable email template examples.*
Preprint policy not yet verified by CKM; prospective authors can self-verify by checking the journal website.

From the review of the 81 publishers with 20 or more journals in SPI-Hub™ we were able to establish policy settings for more than 13,900 journals. We set policies for approximately 2,700 more titles using Sherpa Romeo metadata. The remaining 9,400 journals are undergoing preprint policy review.

Conclusions

The documentation of publisher and journal preprint policies establishes the baseline foundation for the CKM strategy to enhance SPI-Hub™ in meeting the prepublication process needs of the academic publishing community. As a next strategic step, we are building a SPI-Hub™ feature to guide prospective authors in selection of the preprint server platform best matching their prepublication requirements. To accomplish the interconnection of preprints with the knowledge of traditional publishing practices residing in SPI-Hub™, the team is currently working on leveraging the infrastructure developed to knowledge manage the journal selection process and exploring the extension of SPI-Hub™'s current search features to enable retrieval of preprints across institutions, content areas, and prepublication platforms.

The plan is to position SPI-Hub™ as one of the first critically needed publishing decision support tools capable of addressing prospective authors' need to select the most appropriate publishing venues of communication.

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Address for correspondence

Taneya Y. Koonce, taneya.koonce@vumc.org