

Preprints in medicine - safeguarding the need for speed

Claire Rawlinson, 20 June 2019, #OAI11.

Preprint (n):

a research manuscript yet to be certified by peer review and accepted for publication by a journal

Preprint server (n):

an online platform dedicated to the distribution of preprints

The case for preprints

- **Speed up science:** faster dissemination within the research community
- Allow pre-publication peer review and feedback, making 'better' articles
- Give authors precedence
- Surface data that may not survive peer review
- Freely available

"By removing the lag time to publication, after 10 years, there could be a five-fold acceleration in scientific discovery." [Dr Steve Quake](#), CZI Biohub

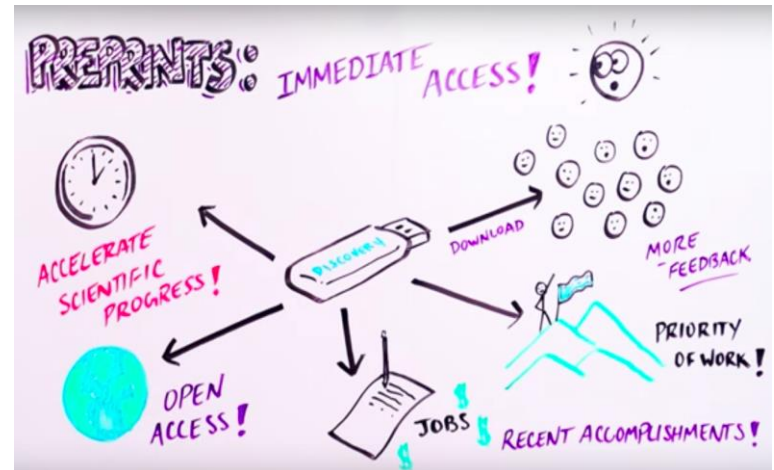


Mike Feigin
@mikefeigin

This is a great paper on GPCRs and cancer. I saw the preprint 6+ months ago and we started a collaboration. Tomorrow, tumors will be collected. All that time would have been wasted without [@biorxivpreprint](#)

Chris Natale @Natale_CA

I'm very excited to share our latest [@eLife](#) paper on [#GPER](#) and [#melanoma](#). I hope this work can help rekindle a conversation about differentiation-based cancer therapies in the era of [#Immunotherapy!](#)
elifesciences.org/articles/31770



<https://www.ibiology.org/biomedical-workforce/preprints/>

**Risk of surfacing incorrect
data or assumptions that
could be harmful to health...**

Editorials

Electronic preprints: what should the *BMJ* do?

BMJ 1998 ; 316 doi: <https://doi.org/10.1136/bmj.316.7134.794> (Published 14

Cite this as: *BMJ* 1998;316:794

Article

Related content

Metrics

Responses

Clear labelling might be the answer

Tony Delamothe, Deputy editor

Clinical Medicine & Health Research

Warning



Articles posted on this site have not yet been accepted for publication by a peer reviewed journal. They are presented here mainly for the benefit of fellow researchers. Casual readers should not act on their findings, and journalists should be wary of reporting them.

I Accept



Cold
Spring
Harbor
Laboratory

medRxiv

BMJ

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Yale

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Screening considerations - before posting

Publication ethics

- Pseudoscience
- Promotional
- Plagiarism
- Defamation
- Patient identity

Clinical concerns - **'do no harm'**

- Dual-use research
- Vaccine safety
- Infectious disease transmission
- Toxicity/carcinogenicity

Risk mitigation

Is it nonsense?

Is it non-science?

Is it a paper?

Is it research?

Is it a health threat?

Is there a benefit to sharing now vs. after peer review?

1

Author undertakings

2

Automated check

3

CSHL Check

4

medRxiv Affiliate check

5

Escalation 1- experienced Clinician-editor (*pro tem*)

6

Escalation 2 - medRxiv leadership

7

Posting and public discussion

Harmful to health?

What do clusters of similar HIV genetic sequences tell us about HIV risks in Africa?

“...most sex partners are in or close to home, genetic diversity showed little or no geographic structure in the three studies that looked at the issue. Evidence from these studies does not support the common view that sex accounts for most HIV infections in Africa. Studies did not do what they...”

Rejected from bioRxiv.



bioRxiv

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Report of Partial findings from the National Toxicology Program Carcinogenesis Studies of Cell Phone Radiofrequency Radiation in Hsd: Sprague Dawley® SD rats (Whole Body Exposure)

Michael Wyde, Mark Cesta, Chad Blystone, Susan Elmore, Paul Foster, Michelle Hooth, Grace Kissling, David Malarkey, Robert Sills, Matthew Stout,  Nigel Walker, Kristine Witt, Mary Wolfe, John Bucher

doi: <https://doi.org/10.1101/055699>

This article is a preprint and has not been peer-reviewed [what does this mean?].

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Abstract

Subject Area

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Preprints are preliminary reports of work that have not been peer reviewed. They should not be used to guide clinical practice, health-related behavior or health policy. They should not be reported in the media as established information.

Subject Areas

All Articles

Addiction Medicine

Allergy and Immunology

Hematology

HIV/AIDS

Pain Medicine

Palliative Medicine



Increasing the Mobility of EEG Data Collection Using a Latte Panda Computer

Linda Sussman, Kevin-John Black

doi: <https://doi.org/10.1101/01000448>

This article is a preprint and has not been peer-reviewed [what does this mean?]. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.

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What is an unrefereed preprint?

Before formal publication in a scholarly journal, scientific and medical articles are traditionally “peer reviewed.” In this process, the journal’s editors take advice from various experts—called “referees”—who have assessed the paper and may identify weaknesses in its assumptions, methods, and conclusions. Typically a journal will only publish an article once the editors are satisfied that the authors have addressed referees’ concerns and that the data presented support the conclusions drawn in the paper.

Because this process can be lengthy, authors use the medRxiv service to make other scientists to see, discuss, and comment on the findings immediately. Readers should therefore be aware that articles on medRxiv have not been finalized by authors, might contain errors, and report information that has not yet been accepted or endorsed in any way by the scientific or medical community.

We also urge journalists and other individuals who report on medical research to the general public to consider this when discussing work that appears on medRxiv preprints and emphasize it has yet to be evaluated by the medical community and the information presented may be erroneous.

What happens once a preprint is live

- Prominent warnings
- Comments (moderated)
- Authors may submit a revised version
- Manuscripts receive a DOI, and are citable
- Bidirectional linking between preprints and later published versions
- Linked to retracted articles
- Very rare take-downs (and no guarantee of expunging the record)

Preprint research

Breaking Down Pros and Cons of Preprints in Biomedicine

Posted May 1, 2016 by Hilda Bastian in Science Communication

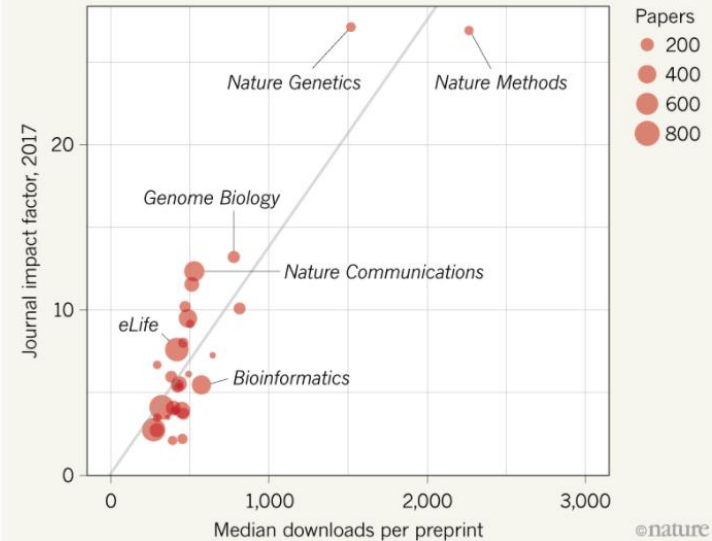
Like 0 Tweet Save Share 26



<https://blogs.plos.org/absolutely-maybe/2016/05/01/breaking-down-pros-and-cons-of-preprints-in-biomedicine/>

THE IMPACT FACTOR

There is a positive correlation between the number of downloads a preprint gets and the impact factor of the journal it ends up being published in.



Source: R. J. Abdill & R. Blehman Preprint at bioRxiv <https://doi.org/10.1101/515643> (2019).

<https://www.nature.com/articles/d41586-019-00199-6> and
<https://elifesciences.org/articles/45133>

Thank you!

medRxiv

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New preprint server for medical research
<https://www.bmj.com/content/365/bmj.l2301>

Web: medrxiv.org
Email: crawlinson@bmj.com
Twitter: [@clairerawlinson](https://twitter.com/clairerawlinson)