Preprints in the time of COVID-19

Meagan Phelan, Science Press Package Executive Director

#SciWriLive @MeaganPhelan
What you’ll learn today

- What Science is seeing in terms of COVID submissions by authors
- How the Science Press Package is working to support contextualized communications of COVID content (all on “immediate release” / no embargo)
  - Wellcome Trust rapid data-sharing agreement
- What authors are saying about visibility at the preprint versus journal stage
- What reporters covering this fast-moving content are saying about challenges/limitations of covering non-embargoed studies
- NOTE: We still need to do more data gathering from PIOs
AAAS Mission:
Advance science, engineering, and innovation throughout the world for the benefit of all people.

AAAS Goal:
Enhance communication among scientists, engineers, and the public.
"When I was in Congress, Congressmen told me they read news pieces on new research, not the research itself."

- Former AAAS CEO Rush Holt, Former Congressman
First pandemic with preprints used at such scale
How should journalists cover coronavirus preprint studies?

May 21, 2020 | By Eric Hamilton | For news media

Stop Getting So Excited About ‘Preliminary’ Findings

No, seriously, when it comes to Covid-19—or any problem worse than no data at all.

How You Should Read Coronavirus Studies, or Any Science Paper

Published scientific research, like any piece of writing, is a peculiar literary genre.

Editorial: How coronavirus is revealing the problems with ‘fast science’
Problems with Preprints: Covering Rough-Draft Manuscripts Responsibly

June 1, 2020
Roxanne Khurmi

bioRxiv
THE PREPRINT SERVICE FOR BIOLOGY

COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv
# What are we seeing at the Science journals?

<table>
<thead>
<tr>
<th>Journal</th>
<th>Submissions</th>
<th>Accepts</th>
<th>Accept Rate</th>
<th>% w/ preprints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>777</td>
<td>28</td>
<td>4%</td>
<td>42%</td>
</tr>
<tr>
<td>Science Advances</td>
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<td>18%</td>
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<td>Science Immunology</td>
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<tr>
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<tr>
<td>Science Signaling</td>
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<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Science Translational Medicine</td>
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<td>3</td>
<td>2%</td>
<td>9%</td>
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<tr>
<td>Total</td>
<td>1356</td>
<td>37</td>
<td>3%</td>
<td>42%</td>
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How is Science operating in COVID times?

- Faster review
- Expert editor-guided peer review, including for statistical rigor
- Edits that
  - remove claims;
  - firm up conclusions by asking for more data;
  - improve reproducibility by asking for more methods
- Focus on communicating context and limitations
- Focus on broad, accurate dissemination

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Communicating COVID-19 at Science Press Package

- Issue lay summaries to press under embargo
  - Convey advances and limitations
- Hold teleconferences (the same day)
- Hold Facebook Lives
- Highlight new research on social media
- Share lay summaries w/ policymakers

#SSKvirtual2020 @MeaganPhelan
Coronavirus immunity remains big question mark for a country eager to reopen
Author feedback: preprint v journal visibility

“We had an **associated preprint** and received some press interest from that, but the **visibility expanded massively** with publication in Science.”

“Publishing in Science helped our article gain visibility **within the field** and gave it a **stamp of approval** that increased its profile substantially over the preprint. Publishing in Science also helped our work **enter into policy and mainstream conversation** almost immediately.”
More author feedback from a COVID-19 author:

“Since publication of my Policy Forum in Science, I have been contacted by and met with representatives of Gates Foundation, Pew Charitable Trusts, and WHO to discuss various aspects of the paper.”

“Pick-up among policy people seems to be much stronger than I had even hoped.”
Latest data from our reporter embargo survey

We ask reporters: How do you value embargoes?

- Very: 248 (45.8%)
- Moderately: 221 (40.8%)
- Not Very: 25 (4.6%)
- No answer: 48 (8.9%)

N = 540+ reporters
What do reporters say?

- We don’t have the time to do the author + outside expert interviews that we do when we have studies under embargo. – Helen Branswell, STAT

- We have less time, so we may not be able to contact as many outside sources (they are also very busy) – Carl Zimmer, New York Times

- It’s harder than ever to get timely outside comment given that the infectious disease experts are all swamped. – Lauran Neergaard, AP

- ...we inevitably rely on fewer sources to evaluate them because of time pressure, with simpler sanity checks of the material rather than deeper parsing of methods (which is not good, to be clear, especially with some of the terrible preprints out there). – Dan Vergano, BuzzFeed News
“Where I’ve seen reporters go wrong on this is when they sort of grab these [preprints] because they want to be first,” Aschwanden says. “We do have pressure to be first and to break news, and I think preprints seem to offer this shiny opportunity to do that.”

“If a study is so weak that it warrants only critical coverage, then it might be a good decision not to give it more attention with a story,“

- The Open Notebook

Christie Aschwanden
(journalist, author, editor)
How do we help authors with preprint counterparts who are contacted by press?

- Encourage author to engage
- Author should convey to reporter, “my paper is under peer review but I’d like to take your questions now, to begin to answer them in-depth, so I can have answers ready when the peer-reviewed version is available”
- Author should return in-depth responses to reporter Sunday before publication, w/ peer-reviewed version as it rolls out in SciPak
"I use preprints to reduce the pressure on my work as it goes into journal peer review." – Yaniv Erlich
Question for reporters to consider:

What fraction of preprints on COVID-19 are not being published in journals?
Uncanny similarity of unique inserts in the 2019-nCoV spike protein to HIV-1 gp120 and Gag

New Results

Abstract

Spike mutation pipeline reveals the emergence of a more transmissible form of SARS-CoV-2

COVID-19 Antibody Seroprevalence in Santa Clara County, California

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