Preprints in the time of COVID-19

Meagan Phelan, Science Press Package Executive Director

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



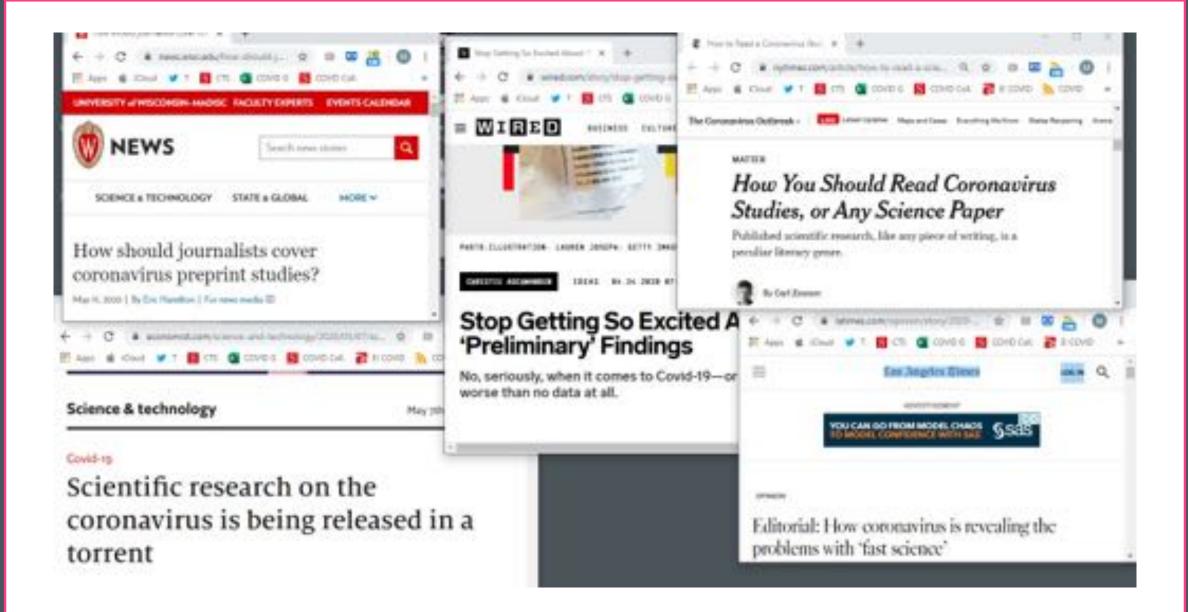
What's at stake?

"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



Brobleme with	Droprinto: Covorin	a Dough Droft	
Manuscripts F	Preprints: Coverin Responsibly	g Rough-Drait	
June 1, 2020 Hosanne Khamis			
0E	bioRχiv		
	THE PERFENT LEAVER FOR BIOLOCY		
HINE EVENUE FILM	mail also e anni l'afani si l'Oanaeri		

What are we seeing at the Science journals?

Journal	Submissions	Accepts	Accept Rate	% w/ preprints
Science	777	28	4%	42%
Science Advances	343	5	1%	18%
Science Immunology	69	1	1%	4%
Science Robotics	3	0	0%	0%
Science Signaling	8	0	0%	1%
Science Translational				
Medicine	156	3	2%	9%
	1356	37	3%	42%

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

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

Coronavirus immunity remains big question mark for a country eager to reopen



man's blood is oblicited for leading of community, artitioping at a sinue through site or Long Island. (Selfs Wang 47)

By Joel Achenbach, Carolys Y. Johnson and Palge Winfield Canningham

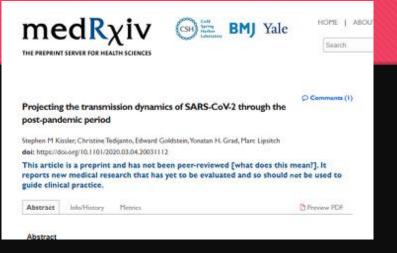
Altmetric 19942

Picked up by 548 news outlets Blogged by 47 Referenced in 1 policy sources Tweeted by 27711 On 23 Facebook pages Referenced in 1 Wikipedia pages Reddited by 27 Highlighted by 1 platforms

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." the example, from the long-standeres of the arXiv e-print republicity debts of physics, mathematics, and tar science, finded by a combination etc. in block support, and institumentiorchips.

erruggie for control over information towindge invotes intege, When Revenues reated Ger World Wide Web, his lotten has be readily seenan-flaves to chante their Net only have our research scenario on tools and practices then for failers of the docostrulization that the Web possible, but the evolution of the hard also reminde as that eading that ats of balked data readily accossible to parties can trigger a sumber of unipd consequences. The dominance of a d number of notid astronesis, shopervices, and asarch engines shown us bee alsh on board terrolitaly torrate are not total toward assumptive is wards information space, contracts ing constituted setablishing do factoand creativities for hear data and their s are being provided. Learned sarietbeing woord. Research assessment serv being programs. Building blocks bilahing duripline portais are being ed. The time for the analysesic comto are in constitution is now. It

OWN MADE IN FTOD

main Diget XLII Adja, Igrael onligconverge synaptically press measure

SCIENCE AND DECISION-MARINO, COVID-05

Harnessing multiple models for outbreak management

Expert elicitation methods and a structured decision-mak framework will help account for risk and uncertainty

TABLE LAND THAT THAT TO AND THE PARTY AND A TO AND THE

2: Katriona Sheet, Wichael C. Runger, David Passed?, William J. W. Probert', Shear G. LF, Wichael Tobeshey', Matthew Ferrary'

1008 (COVID-III) pandronic has triggered. office's by multiple modeling prospeto Ronchet -Barlani Ingiochies, Sonata intermedienc, and improve understanding of the pathogen. Each modoh can offen differ unbelandingly in their projenious and recommendations, reflecting debient policy assumptions and idjurtient, as well as scientific, logistical, and other oncertainty about biologics2 and management processes (2). Obspacetor productions sharing are outbreak can bindor teter-relative planusing and response by palicy makers (2. 3). what many kantenal shanner to only not alogic triated sources of advise, or so constants where it appears. Thus, valuable ineghts and indormalize from other models may

itto that arise is group unstables. as agreeing with faid."Inders" (down) effects), locating an suggestions raised in the process to the detributed of other istarting-point bias, group bink, ancho the dominating efforts of "Load mines, everly rapid adoption of early tilear tright, on now cambil evolutions, connect (4, 12, In these formal methods presentations and then evaluation are the airly separated, allowing a Julley our passabilities to be explored and a wide of apprivialities to be mersoid. As or angle, in the IDEA proceed for experilation 10, once experts are clear also quantinial, they individually privide it box octaints and ranges, repetive hoson how their estimates compare with o discuss the reads, and then provide a infinidual untreate. Sonic protocols, in ing 100A, ury designed to work remoan exceeding recondensated in the perLatest data from our reporter embargo survey We ask reporters: How do you value embargoes?

- **O** Very: 248 (45.8%)
- O Moderately: 221 (40.8%)
- O Not Very: 25 (4.6%)
- O 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**



Christie Aschwanden

(journalist, author, editor)

"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

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/ peerreviewed version as it rolls out in SciPak

O"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?

bioRχiv sector and the	ΘΞ. bioRχiv	i i
HONK EVERCEAL FROM A POLICE VERSION AND FORMATION	HOME EVENTLE PRIMAL INVALUENCE EVENTLE INTERCOMMUTE	
(hearth	Samb Q	= 2
bioRean is receiving many new papers on consumus SARS-Cold 2. A resolution these are pretininery rep page reviewed. They should not be regerized as constants, gate clinical practical-hastly related behavior or media as autobiologic enformation.	Suffick is receiving many new papers on commanys SANS-CaV1. A remainder, these are preliminary reports that have net	e a S A
Non-Results This article has been withdrawn. C	New Results	J Yale
Uncarny similarity of unique inserts in the 2019-nCoV spike protein to HIV-1 gp120 and Gag	Spike mutation pipeline reveals the emergence of a more transmissible form of SARS-CoV-2	
Frashare Pradhan, Advanceb Kumar Pandey, Advilenti Pintes, Parul Gapta, Fransen Kamar Trgatta, Plano, Balakrolman Pienon, Jattes Gomes, Perumat/Ovekasandan, Boltwajit Kandu	B Konteel, WHT Fricher: S Granakaran, HT Tron, C Theiler: W Addateric: S foley, EE Gorgs, T Mattacharys, PD Parler: DG Partyrige, CH Evans, T Mattacharys, PD Parler: DG Parlyrige, CH Evans, T Mattacharys, Parler: DG Parlyrige, CH Evans, T Mattacharys, Parler: DG Parlyrige, D Parlyrige, D Parler: DG Parlyrige, D Parler: DG Parlyrige, D Parler: DG Parlyrige, D Parlyrige, D Parler: DG Parlyrige, D Parlyrige, D Parler: DG Parlyrige, D Parler: DG Parlyrige, D Parlyrige, D Parler: DG Parlyrige, D Parlyrige,	+
dek tesperidek.org/10.1181/3000.01.30.927878 The article is a ground and has not been crystilled by your modes (what dats this mean)).		Advanta
Alastracia Full'Social Induktionary Piece Offerrow PDF	COVID-19 Antibody Scroprevalence in Santa Clara Co Eran Bendevid, Bianca Plutanez, Nietraj, Scod, Sciell Shah, Emila Ling, Rober Zoe Wikasberg, Rodrigo Samedro-Walker, James Tedrow, Does Tierrity, An Ribbar Gepts, John Insendro, Jay Bhatticharys	ca Bruminy-Duillann, Carla Lai.
Abstract	dol: https://doi.org/10.1101/2020.04.14.20062463	