

**Follow-up Questions from Dr. Harlan Krumholz' Presentation
medRxiv: What is it – and Why Should I Care?
University of Colorado DOM Grand Rounds 9/8/2021**

1) *What percentage of the preprints on Medrxiv have made it into print to date?*

Dr. Krumholz: This is a common question. To be sure, percentage of preprints published is not a key performance indicator for us. There are many reasons people preprint a manuscript outside of a prelude to publication. It may be that it is very preliminary data that is being used in a grant – but the ultimate paper will be quite different. It could be that it is something that ultimately will lead to a larger study and citing the preprint is sufficient. It could be that the preprint attracts comments that leads the author in a different direction.

From my colleague Richard Sever: My stock answer for this is that bioRxiv and arxiv studies consistently show >70% of papers are published in journals if you wait ~2 years to account for all the papers still in review. Equivalent numbers for medrxiv are not meaningful at this point as a) the server is only 2 years old; b) any calculation will be distorted by COVID-19 papers, which are the majority on medrxiv and there is good reason to believe the % published will be different given the extraordinary circumstances and the likelihood many are point-in-time reports likely to have a lower journal submission rate.

2) *Do you feel like Cureus fills a needed journal gap in that it is a peer-reviewed journal but utilizes open source crowdsourcing in the peer review process and removes barriers of entry (i.e. fees) for authors hoping to publish?*

Dr. Krumholz: I like innovations in publishing. There are many new models. Some of my favorite changes that should occur are... common standards and flexibility on the format of the submission; ability to bring reviews to the next journal; more transparency in decision-making.

I am not familiar with Cureus – will try to learn about it.

3) *Presumably, editors and journals were designed to serve as a helpful gateway to govern information in a positive way. Obviously, that can go too far and lead to slow publication times, denial of some information altogether, high fees, etc. How do we balance credibility (offered by journals, at the costs you mention) with ease of access to publishing (where each reader needs to have the discernment and ability of an editor)?*

Dr. Krumholz: This is where preprints can complement the peer review process, as it does in other fields. The peer-review should be thorough, deliberate and produce a publication of record. Maybe that would improve the peer-review products. Meanwhile preprints ensure that science can be shared for public comment almost immediately.

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- 4) *You gave an example of poor ability of professionals to interpret data with the skin-tone/red card data set. How does the improved sharing of data affect the variable analysis of that data and could more data in the public sphere actually have a negative effect?*

Dr. Krumholz: Right now, studies that validate prior findings can be hard to publish. It is useful to see different perspectives on the same question. Publication bias is a terrible blight on the peer reviewed literature – the idea is that preprinting makes it easy to share results even if the question has already been addressed by others. And the sharing of data can ensure that others can see what they can learn from the same data set and fill out different perspectives. We need recognize that any single study might not hold the single answer that everyone would get with the same data. I don't think it is a negative effect to have conflicting studies – sometimes that ultimately brings insight.

- 5) *You mention the idea of "bias toward action". But there is also the old ICU truism, "don't just do something, stand there!" With speed an speed and accuracy often at odds in medicine, does a preprint system sacrifice too much accuracy simply to be fast?*

Dr. Krumholz: Bias toward action was intended to encourage people to contribute solutions to problems we face. There is always the chance of unintended adverse consequences by any action, however well intended. We have worked to mitigate risks with medRxiv – and monitor closely for unintended problems. We already circulate pre-peer review science – in RIPs, in scientific meetings, in social media, in press releases – this is an organized approach that provides an opportunity for public discussion about the science.