The COVID-19 pandemic has led to an explosion of scientific research related to the virus. Although the peer review process, traditionally the mechanism through which scientific contributions are screened for accuracy and relevance, has accelerated, the urgency of the crisis has forced decision-makers in research and public health initiatives to absorb and process a large volume of new research before it has been through the process of peer review. Preprint servers such as medRxiv.org and bioRxiv.org have hosted approximately 6,000 new COVID-19 articles as of the end of June, 2020. Much of this research has emerged from China, where the number of scientific publications has risen rapidly in the past decade, and was home to the earliest reported cases of COVID-19 and the first published articles on the virus.

While these platforms are accessible to scientists and audiences around the world, there is considerable uncertainty around the knowledge itself, particularly with articles produced by Chinese scientists, given their reputation arising from reports of fraud and misconduct and concern that publishing incentives may have in some cases prioritized quantity over quality. This study explores how readers allocate attention across preprints 2020 on two preprint servers medRxiv.org and bioRxiv.org in the initial months of the COVID-19 pandemic, and the extent to which the community reduces uncertainty itself through endorsements on social media.

We report three main findings. First, Chinese-authored preprints receive less attention (measured through downloads to the preprint) than those by authors from other countries, even after accounting for several quality measures. Second, the data indicate that endorsements drive attention: preprints mentioned by twitter users with more than 10,000 followers are more downloaded than those not mentioned by such a high-profile twitter user. Third, we document an even greater gap in terms of twitter mentions and endorsements between Chinese and non-Chinese authored articles than we observe in the downloads. In addition, we find no evidence of a Chinese endorsement premium: the benefit from endorsements is no higher for Chinese authored preprints than for other preprints. This finding suggests that attempts to resolve uncertainty of a given piece of knowledge by self-organizing networks, such as those that exist on twitter, may not result in a narrowing in the attention gap.

The results suggest that platforms designed to, or used to, promote unfettered access to early research findings do not necessarily lead to democratization of science in a context of high urgency and uncertainty. As science becomes increasingly global, one major challenge is how decision makers can assess work produced by scientists at lesser known institutions. Our findings suggest that decision makers who use signals of reputation could be overlooking potentially important science emanating from China in particular. This has consequences for the diffusion of knowledge and the generation of new knowledge. To the extent that scientists are standing on the shoulders of familiar giants, the progress of global science and public health and economic advances could be limited.