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Preprints are here to stay

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Researchers want openness and discussion, and for their findings to be disseminated independently of editor-controlled scientific journals.

Photo: Einar Nilsen

In the autumn of 2017, the editor-in-chief of the medical journal JAMA wrote that 'Progress in human health is measured in years, not days, weeks, or months' (1). He warned against speedy publication in general and against the use of preprints in particular. A preprint is a manuscript that has been uploaded and shared publicly on an online platform without being peer reviewed. The purpose is to enable researchers to take ownership of the idea and receive constructive criticism from colleagues, and for study findings to be available sooner than would be the case in a traditional publishing process (2).

Four years and a pandemic later, the situation has changed: 99 of the 100 largest medical journals are now open to reviewing manuscripts uploaded as preprints, and several are encouraging this form of pre-publication (3).

The circulation of unpublished manuscripts is not a new concept. Back in the 1960s, research groups formed so-named information exchange groups, which received draft manuscripts by post via the National Institutes of Health in the United States. The idea was to stimulate an ongoing international dialogue. The system quickly became popular, but the editors of the large journals were less than enthusiastic. Thirteen of the leading editors put a stop to the arrangement after a few years when they refused to accept manuscripts circulated in this way (4).

Then came the internet. The arXiv archive for scholarly articles in the field of physics was launched in the early 1990s. Other disciplines soon followed suit, but the medical community was sceptical. Research that forms the basis for clinical decisions should be peer-reviewed and published in scientific journals. In recent years, however, several platforms have also emerged for medical researchers: bioRxiv in 2013 and medRxiv in 2019, the latter specifically intended for research in clinical medicine and related disciplines (5). MedRxiv was founded by The BMJ (formerly the British Medical Journal), among others, and enables the direct transfer of manuscripts to multiple medical journals (5).

> ***«Only half of reputable news outlets and newspapers added a caveat about the findings in preprinted COVID-19 studies»***

Then came COVID-19. Between June 2019 and June 2020, the number of uploads on medRxiv increased from 116 to 1615 (6). According to the latest count, which so far is only available as a preprint (!), as many as 10 232 COVID-19-related manuscripts were uploaded to bioRxiv and medRxiv during the first ten months of the pandemic (7). In comparison, only 78 relevant manuscripts were uploaded as preprints during the Zika virus epidemic in 2014–16 (7).

About half of the manuscripts that are uploaded to preprint servers are published as articles in peer-reviewed journals (8). However, before this happens, studies often attract the attention of social media and journalists in traditional news media. The discourse then typically takes place on social media and not on the online platforms as was intended (3). One study found that only half of reputable news outlets and newspapers, such as The New York Times and The Guardian, added a caveat about the findings in preprinted COVID-19 studies (9). This was in spite of the warnings given, for example on medRxiv's home page: 'Preprints are preliminary reports of work that have not

been certified by peer review. They should not be relied on to guide clinical practice or health-related behaviour and should not be reported in news media as established information' (5).

> *«Journals that do not accept such manuscripts risk missing out on high-quality research»*

Preprints are here to stay. Journals that do not accept such manuscripts risk missing out on high-quality research. The vast majority of journals now therefore accept that manuscripts on preprint servers can be considered for traditional publication – provided that the authors make the editors aware of the situation. According to the International Committee of Medical Journal Editors (ICMJE), often referred to as the Vancouver Group, it is also the responsibility of the authors to ensure that readers of the preprint version are redirected to the published version where this is available (10).

In the Journal of the Norwegian Medical Association, we have received few enquiries about considering manuscripts that are available as preprints. This is of course partly due to the fact that such platforms are designed for English-language manuscripts. We are open to considering such manuscripts, with certain caveats (11). In addition, we ask our authors to be prudent in their use of preprint references. It must be clearly indicated in both the text and the reference list that the results are preliminary and have not been peer reviewed.

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