Tidsskriftet Tidsskrift for Den norske legeforening

From introduction to evaluation

EDITORIAL

ARE BREAN

are.brean@tidsskriftet.no
Are Brean, PhD, Editor-in-Chief of the Journal of the Norwegian Medical Association. He is a specialist in neurology.

The intended increase in gold open access publishing has had various repercussions. One of the world's largest research funders will no longer provide support for this type of publishing.

Photo: Einar Nilsen

Scientific publishing remained almost unchanged for more than 350 years (1): the journals took care of quality assurance, editing and publishing. A subscription fee provided readers with access to the journal content. But the rise of digital publishing put pressure on the traditional model. One factor was the publishers' exorbitant profit margins, another was that access to articles was limited to those who could afford it.

Launched in 2018 with broad international support, Plan S was an important initiative for changing the model. The rules were stringent: research funded by organisations signed up to Plan S now had to be published with full and immediate open access (known as 'gold open access') (2).

From 2013 to 2023, the annual share of scientific articles published with gold open access increased from 11 % to 38 %. During the same period, the share of articles published with subscription-only access fell from 70 % to 52 % (3). In this sense, the efforts to improve open access to research have been successful.

But success is about more than just the number of accessible articles. According to the European Commission's fact sheet from 2019, open science makes research 'more responsive to society's needs' (4). However, there is limited evidence to support this. A literature review conducted in 2024 found that open

access articles generated slightly more attention on social media than other types of articles, but there was no evidence of any direct increase in societal benefits beyond that (4).

The gold open access model also has clear downsides. It relies on authors paying a fee, which incentivises publishers to publish as many articles as possible while minimising costs. Many benefit considerably from this. One example is the Multidisciplinary Digital Publishing Institute, which went from publishing 1700 articles in 2008 to over 300 000 in 2022 (5). The combined annual revenue from author fees among the six largest publishers tripled between 2019 and 2023 (6). The price per article continues to rise, and the profit margin for some of the publishing giants is almost 40 % (7). This suggests that the level of author fees does not reflect the editorial effort put into each article.

One technique for boosting the volume of published articles is to release a series of 'special issues', where invited (usually unpaid) guest editors ask researchers to submit papers, oversee the review process and manage publication. This allows the journal to effectively publish a large number of articles at a high profit margin. The publishing powerhouse Hindawi, which was acquired by the even larger Wiley in 2021, was one of several players to adopt this growth strategy. However, thousands of articles from these special issues had to be retracted due to dubious publishing practices (5).

Traditional journals have also joined the bandwagon of gold open access and author fees. This phenomenon, known as 'cascade publishing' (8), entails reusing the journal name in sub-journals. Manuscripts rejected by the main journal are sent to one of these sub-journals, often with substantial author fees. One of the world's most prestigious journals, *Nature*, has created nearly 30 sub-journals since 2015, some with author fees of up to USD 13 000 per article (6).

Gold open access leads to independent journals and smaller publishers, which cannot compete on cost, being absorbed by the major players. Five publishing powerhouses accounted for 70 % of the increase in the number of articles published between 2016 and 2022 (9). Their power is further expanded by, for example, entering into collective agreements that offer discounted publishing rates for the major players.

The Norwegian government has several such agreements in place through the Norwegian Agency for Shared Services in Education and Research (Sikt). These agreements make practical and economic sense for researchers and for Norwegian universities and colleges. For the publishers, they are literally worth their weight in gold, and ensure a steady flow of articles and revenue. Sikt's agreements include nearly 3000 different journals owned by the publishing giant Elsevier (with a profit of £1.8 billion in 2023 and a profit margin of 38 % (7)).

Various individuals and organisations are now questioning the gold open access model. From 2025, the Bill & Melinda Gates Foundation, one of the world's largest research funders, will no longer support author fees. The reason for this decision is extensive 'unsavoury publishing practices' such as 'paper mills, questionable quality review [and] unchecked pricing'(10). The Foundation is

now embracing a variant of the preprint server model instead (10). However, evidence in support of this model is also very limited, and the research community remains rather lukewarm to the idea (11).

Another alternative is diamond open access: traditional publishing with immediate open access, without author or reader fees. UNESCO has recently spearheaded an international initiative to promote this solution (12). However, funding journals with diamond open access is challenging, which is why they are traditionally owned by independent non-profit organisations or professional associations. The Journal of the Norwegian Medical Association is one such example. While this approach may be relevant in some quarters, there is little evidence to support it.

The past decade has seen more dramatic changes in scientific publishing than the previous 350 years combined, and these have led to unwelcome repercussions. Research is about discovering the true nature of the world, rather than affirming how we would like it to be. It is therefore paradoxical that we have such surprisingly little empirical knowledge about the effects of different publishing models.

REFERENCES

1. Brean A. Åpent. Tidsskr Nor Legeforen 2018; 138. doi: 10.4045/tidsskr.18.0924. [PubMed][CrossRef]

2. Plan S. https://www.coalition-s.org/ Accessed 10.9.2024.

3. International Association of Scientific, Technical and Medical Publishers (STM). Uptake of Open Access (OA). https://www.stm-assoc.org/oa-dashboard-2024/uptake-of-open-access/ Accessed 20.9.2024.

4. Cole NL, Kormann E, Klebel T et al. The societal impact of Open Science: a scoping review. R Soc Open Sci 2024; 11. doi: 10.1098/rsos.240286. [PubMed][CrossRef]

5. Clarke & Esposito. The Brief. Retrenchment. https://www.ce-strategy.com/the-brief/retrenchment/ Accessed 10.9.2024.

6. Brainard J. Open for business. Science 2024; 385: 486–9. [PubMed] [CrossRef]

7. Nicholson C. Elsevier parent reports 10% hike in profits for 2023. Research Professional News 15.2.2024. https://www.researchprofessionalnews.com/rr-news-europe-infrastructure-2024-2-elsevier-parent-reports-10-hike-in-profits-for-2023/ Accessed 10.9.2024.

8. Pattinson D, Currie G. Designer Science – Why big brand journals harm research. London School of Economics and Political Science 9.6.2024. https://blogs.lse.ac.uk/impactofsocialsciences/2024/07/09/designer-science-why-big-brand-journals-harm-research/ Accessed 10.9.2024.

9. Sharp PA, Bonvillian WB, Brand A et al. The future of open research policy should be evidence based. Proc Natl Acad Sci U S A 2024; 121. doi: 10.1073/pnas.2412688121. [PubMed][CrossRef]

10. Bill & Melinda Gates Foundation. Open Access Policy Refresh 2025. FAQ – Frequently Asked Questions. https://gatesfoundationoa.zendesk.com/hc/en-us/sections/24836653587860-Open-Access-Policy-Refresh-2025-FAQ-Frequently-Asked-Questions Accessed 10.9.2024.

11. Chawla DS. The future of science publishing. Chem Eng News 2024; 102: 23.

12. UNESCO. Announcing the Global Diamond Open Access Alliance. https://www.unesco.org/en/articles/announcing-global-diamond-open-access-alliance Accessed 10.9.2024.

Publisert: 23. September 2024. Tidsskr Nor Legeforen. DOI: 10.4045/tidsskr.24.0484