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University of Minnesota Libraries: Response to Request for Information on Maximizing Research Funds by Limiting Allowable Publishing Costs (NOT-OD-25-138)

The University of Minnesota Libraries are pleased to respond to the National Institutes' of Health (NIH) Request for Information (RFI) on Maximizing Research Funds by Limiting Allowable Publishing Costs (Notice Number: NOT-OD-25-138). This document contains the full set of comments submitted in the online form. We start with our response to Item 2 to provide context for the rest of our response.

2. Any evidence (either from your own work or other publicly available sources) that can be publicly shared that addresses the considerations of one or more of the options;

The University of Minnesota (UMN) Libraries strongly supports NIH's aim to maximize the amount of government research funding spent on research processes, while minimizing the amount spent on making research available to researchers and the public. Based on our extensive experience with and research into open access publishing models, we have developed a set of open access (OA) principles and values that clearly align with NIH's goals. There is particularly strong alignment around support for and investment in models that enable researchers to preserve their funding for direct research activities rather than for publication fees; use transparent, fair pricing structures that pay for the cost of scholarly publishing and reasonable service development, helping us meet our obligations to be responsible stewards of budgets; and eliminate the revenue stream of article processing charges (APCs), which are often paid on top of subscriptions.

Below, we explore some data and experiences at the University of Minnesota that provide evidence that fee-per-article open access models, which currently dominate much of the research publishing landscape, do not optimize spending on research activities and processes versus research distribution.

University of Minnesota 2024 publishing data

Of the 8,500+ research and review articles published by UMN researchers in 2024, approximately 25% (roughly 2,200 articles) acknowledged NIH funding. (Just over half of UMN's articles acknowledged funding from any federal source.)

Approximately one-third of NIH-funded UMN researchers have met their public access requirements by publishing in fully open access journals. These journals may require a fee for every article that is published and typically use those fees as the main funding source for the journal (as opposed to hybrid journals in which paying a fee is usually optional, and in which open access fees are often an additional revenue stream on top of subscription fees). The average APC for UMN-authored articles with NIH funding published in fully OA journals listed in DOAJ was \$3363, which is significantly higher than the overall average of

DOAJ-listed journals as provided in the Request for Information (RFI) (\$1,235.51; \$2,176.84 for US-based journals) and higher than the proposed limits in NIH's Options 1 through 3.

The majority of UMN-authored NIH-funded articles (65%) published in 2024 were published in hybrid open access journals; these articles would likely be eligible for deposit in PubMed Central (PMC) by relying on the existing Government Use License (2 CFR 200.315). Only approximately 40% (approximately 572 of the total 2200 articles with NIH-funding) of these were published open access, demonstrating that many authors have not been using funding to pay open access fees unless required by a fully OA (non-hybrid) journal. Authors have been in compliance with the NIH public access policies, but have thus far been able to do so without paying per-article open access fees.

The number of UMN-authored articles published OA in hybrid journals in 2024 was higher than in earlier years (e.g., in 2022, 17% of articles that acknowledged NIH funding were published OA in hybrid OA journals) due to participation in so-called 'transformative agreements' (agreements between institutions or consortia and publishers that include subscription access and open access publishing) with publishers. These agreements have proven costly, have had net negative effect on the publishing system, serving as a way for publishers to take in additional income without providing additional services beyond simply making an article open access, and have not induced a "transformation to open access in many journals". These agreements have an uncertain future and cannot not be relied upon for complying with NIH requirements in the future. Additionally, although some "transformative" agreements cover fully OA journals, they primarily focus on hybrid journals, which, again, already have a route to compliance with NIH funding through reliance on the Government Use License. We provide more on the topic of transformative agreements in our response to Item 5.

Green Open Access and Government and Institutional Licenses

"Green open access" is a longstanding route to open access that does not require per-article fees, typically by some party retaining rights to provide access to a published article separately from the copy published in a journal. Originally, green OA involved authors negotiating their publication agreements to retain rights, a process that does not have direct fees attached, but can be challenging and burdensome for individuals. Some publishers responded to earlier NIH public access policies by creating overarching policies that enabled green OA more efficiently; however, other publishers created similar-sounding policies that made no-fee options much more administratively burdensome than for-fee options, to drive authors toward fee-based options. Many research institutions created local policies that helped reduce burdens on individual researchers by creating an institutional open access license; the University of Minnesota has had such a policy in effect since January 1, 2015. The UMN Libraries strongly support green OA along all these no-fee paths, by encouraging authors to retain rights to their published work, educating authors about how to use the UMN Open Access Policy, and maintaining our institutional repository.

Our Open Access Policy is comparable to the Government Use License: the University retains a non-exclusive license to authors' scholarly articles that enables deposit to non-commercial repositories. The policy does allow authors to request a waiver of the University's license, an option created in anticipation that some publishers would not want to allow the University's license to remain. Some publishers have suggested in recent months that relying on a license like this to provide open access to research is fundamentally incompatible with their publishing function. But in the last 10 years, we have had fewer than twenty-five requests for waivers with more than 50,000 articles published—suggesting it has not seemed to be an issue for publishers in practice.

Article processing charge funds

As publishers guided authors away from green OA options, article processing charge (APC; per-article fees for open access) developed into a more significant research publishing option. However, APC models began to present challenges for researchers with limited access to external funding for publication fees. This can include early-career researchers, researchers in disciplines with less available research funding, and crucially, many researchers with grant funding who continue to publish findings after the lifetime of the grant. Like many organizations and institutions, UMN explored ways to support researchers facing these challenges, through a fund supporting payment of individual APCs. We found that direct support of individual fees was not a particularly effective use of research funds: while it did achieve open access for some articles, it was not scalable or sustainable.

This fund was jointly supported by the Libraries and the Office of the Vice President for Research. At its largest, the fund contained \$40,000, but even \$40,000 supported a negligible portion of the overall research output of the University. The fund was expended quickly each time it was opened for applications—often in less than a year—despite being available only to authors who had no other funding sources. We added restrictions such as limiting to only fully OA journals and only disbursing \$2000 per author annually, but it did not slow the tide of applications, and it did increase the overhead costs (e.g., staff time) of the fund. And even over the few years the fund was operating, ever increasing APC prices (a recent study reported that 89% of more than 5,800 journals increased their APCs between 2019 and 2023, 40% of which increased 19% above inflation) (Butler, L. A., Hare, M., Schönfelder, N., Schares, E., Alperin, J. P., & Haustein, S. (2024). An open dataset of article processing charges from six large scholarly publishers (2019-2023). arXiv preprint arXiv:2406.08356), meant that \$2000 covered increasingly smaller portions of the total APC. For high output institutions like UMN, it is simply not possible to pay individual APCs for each article our authors publish.

UMN Libraries Publishing

By contrast to per-article-fee-based open access, the Libraries at the University of Minnesota has found that our library publishing program is a more sustainable way to support open access. In addition to open education resources and open monographs, this

program publishes approximately a dozen scholar-led journals—the vast majority of which are diamond open-access journals (i.e., they do not charge author fees and distribute work under open, Creative Commons licenses). One of our journals, *INNOVATIONS in pharmacy*, is currently included in PubMed Central.

Our yearly Libraries publishing program budget (excluding staff salaries) is approximately equivalent to the cost of just 16 APCs, based on the average APC for DOAJ-listed journals charged to NIH-funded UMN authors. There are certainly costs that are not accounted for in this figure, including staff time, time spent by developers outside of our institution to maintain the open-source infrastructure projects on which our program relies, and the time spent by volunteer editors. However, these costs have not expanded at a rate anywhere that by which APCs have increased, and the Libraries' continued financial support of this program underscores our assessment that diamond open access can be a more cost-effective use of public funds than paying APCs to traditional, for-profit publishers.

1. The option, or other option not considered here, that best achieves the goal of balancing flexibility in providing research results with maximizing the use of taxpayer funds to support research

We recognize the appeal of capping the amounts NIH will cover for APCs; however, after evaluating the options we agree with the statement in the Supplemental Guidance to the 2024 NIH Public Access Policy: Publication Costs (NOT-OD-25-048 <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-25-048.html>) that "establishing a particular threshold for what is reasonable may lead to inequitable outcomes in specific circumstances."

We are concerned that setting limits could lead to science becoming a "pay to play" field, where publication becomes attainable only for financially well off scientists, rather than for publication of solid science. Although the proposed limits in Options 2, 3, and 5 (\$2000 to \$6000) are higher than the overall average of DOAJ journals, DOAJ includes many journals that would not be relevant for NIH-funded work, such as journals that publish research on education, history, literature, or linguistics.

As we note in our response to RFI Item 2, the average APC for the DOAJ-listed journals UMN authors have published in was \$3363 in 2024. If the NIH limits coverage to \$2000 or even \$3000, many authors would need to find additional funding or pay out of pocket to continue to publish in many journals that they have identified as appropriate outlets for their NIH-funded work. Even with a higher limit, some APCs will be out of reach.

And even low APCs are still barriers that are "unrelated to merit, and obstruct progress" for many authors. They tilt the playing field and can prevent high quality science from being shared with the audiences who need it (BOAI 20th anniversary statement).

We do acknowledge that in some open access business models, APCs are the only way to cover the costs of publishing. So it is reasonable to pay APCs sometimes. But without

knowing the true costs of publishing, there is no clear basis for establishing an allowable cost limit. A 2021 analysis suggests the actual cost of publishing to be around \$600 per article (Grossmann, A., & Brembs, B. (2021). Current market rates for scholarly publishing services. *F1000Research*, 10, 20. <https://doi.org/10.12688/f1000research.27468.20>). Prior efforts from funders to gain a better understanding of these costs have led to limited insight. For example, although Plan S called for publishers to share the breakdown of their publication costs (see the Plan S Price Transparency Framework <https://www.coalition-s.org/price-and-service-transparency-frameworks/>), many publishers did not participate (only two of the five largest publishers did: Wiley and Sage). Similarly, Plan S's Journal Comparison Service (<https://www.coalition-s.org/journal-comparison-service>), which intended to provide information to libraries and research funders on the costs of open access publishing, had limited success, with only 549 journals participating.

Commercial publishers have been particularly resistant to providing detailed costs of publishing. In some cases, they have made it clear that their APC prices are based not on costs, but on what they believe the market will bear. Wiley has stated, "APCs are set according to careful market analysis of the journal's subject area including the availability of funding for APCs, community support for OA, and the positioning of the journal relative to competitors [...] and other titles within the relevant subject community." (<https://web.archive.org/web/20230119161458/https://www.wiley.com/en-us/network/publishing/research-publishing/editors/maximizing-the-transition-to-open-access-your-questions-answered>) Taylor & Francis sets "APCs based on funding patterns within the field, as well as benchmarking against APCs on related journals to ensure that rates are realistic for communities" and that "the geography of submissions allows us to price fairly to market." (<https://web.archive.org/web/20221004131122/https://taylorandfrancis.com/our-policies/open-access-pricing/>). With prices decoupled from costs, setting limits on publication charges may have unpredictable consequences. Among others, a cap may provide a publisher who is otherwise limiting APCs to publication costs, a new justification for increasing their APCs to whatever the set limit is.

We will provide comments for each of the five options NIH identified to Maximizing Research Funds by Limiting Allowable Publishing Costs and four additional options NIH might consider. However, our opinion is that none of the options here are the best route for maximizing public access to science and effective use of taxpayer money. Instead, we propose alternative options for NIH to consider to help create more equitable and sustainable paths to public access. We believe two of these options are possible to implement quickly and will limit unintended consequences. Option A, which encourages NIH to deemphasize journal impact factor associated with publishing in outlets with high APCs during grant proposal review, potentially by redacting journal names or requiring authors to list APC costs alongside each publication in biosketches. Option B, which encourages NIH to limit APC funding only to journals that are fully open access, eliminating

the payment of APCs to hybrid journals in which NIH funded articles could be made open access through the Government Use License.

Option 1: Disallow all publication costs.

Disallowing grant funding to be used for any publication costs would align NIH with grant-making organizations such as the Bill and Melinda Gates Foundation, which implemented a new open access policy in 2025. Their policy requires authors to share their work as a preprint on an appropriate, recognized preprint server, such as those listed at <https://asapbio.org/preprint-servers>.

Disallowing coverage of all publication costs would ensure that NIH research funding is used for conducting research. As is the aim of NIH's goal of maximizing research funds by limiting allowable publishing costs, UMN Libraries support open access models that allow researchers to preserve their funding for direct research activities rather than for publication fees.

There are existing alternatives to APC-based open access. The long-standing Government Use License, and some institutional open access licenses, can be used to make some articles available. "Diamond" open access journals provide a path with no reader- **or** author-facing fees. The Directory of Open Access Journals includes more than 13,500 journals that have no author fees.

In addition to diamond OA, some journals have had great success with the Subscribe-to-Open model in which institutions continue to subscribe to journals and if a threshold number of subscribers is met, the journal offers free reading access and fee-free publishing for all authors, not just those at institutions who can afford to participate. ([https://oad.simmons.edu/oadwiki/Subscribe to Open \(S2O\) journals](https://oad.simmons.edu/oadwiki/Subscribe_to_Open_(S2O)_journals)).

Despite these structures that provide alternatives to APC-oriented open access, there is a strong potential for negative effects if the NIH were to disallow NIH funding to be used for any publication costs. There *are* some costs to publishing, and without the ability to use some grant funds for publication, some funded research will face significant new barriers to publication and public impact.

Diamond OA has only recently become a major focus of the OA movement. At this time, despite the proliferation of fully OA journals that do not charge APCs, there may still be cases where the best outlet for the research—to reach the most appropriate audience—requires an APC. Per existing guidance ([NOT-OD-25-048](#)), NIH encourages authors to consider the "relevance of the journal in communicating findings to advance science and/or improve health outcomes" and the "suitability of the journal's target readership for the dissemination of the content." Sometimes APCs are the only realistic means of funding a fully OA journal.

Option 2: Set a limit on allowable costs per publication.

Option 2 would cap the allowable cost at \$2000 per publication. As the RFI notes, this is higher than average APC across all journals in DOAJ. However, it is lower than the average APC for journals published in the US, lower than the estimate based on R01 applications, and lower than the \$3363 average APC for DOAJ-listed journals in which UMN authors published.

A cap of \$2000 may be reasonable to cover the costs of publishing, but as we note in our response to Item 2, without accurate data from publishers about their costs, we cannot determine if this amount is sufficient.

From our publishing data, we can see that limiting the allowable cost to \$2000 would negatively affect NIH-funded University of Minnesota researchers by restricting their publishing options. The average APC of the DOAJ-listed journals in which they published in 2024 was \$3363, meaning researchers would face a shortfall, on average, of \$1363 to continue to publish in the same DOAJ-listed journals they have previously. Paying out of pocket may be possible for some researchers, but is out of reach for many. This would become more burdensome the more publications that result from their grant, and might limit the availability and impact of research that otherwise would have produced numerous publications.

Option 3: Set a limit on allowable costs per publication and allow a higher amount to be paid when peer reviewers are compensated.

Option 3 incorporates changes in publisher operations with a higher publication cost limit. We have similar concerns about setting a limit for Option 3 as for Option 2.

We appreciate NIH's desire to promote changes in the publishing system that would recognize the direct financial benefits publishers receive from unpaid peer review. A 2021 study estimated that the total amount of time researchers worked to conduct peer review of journal articles was over 100 million hours in one year, with US researchers potentially providing over \$1 billion of their time (Aczel, B., Szaszi, B., & Holcombe, A. O. (2021). A billion-dollar donation: estimating the cost of researchers' time spent on peer review. *Research integrity and peer review*, 6(1), 1-8). This labor is typically considered to be part of the "service" responsibilities for faculty members; yet publishers, who receive direct benefits, do not contribute to faculty salaries.

It has become increasingly difficult to find qualified peer reviewers who are available and willing to review for journals (For an overview, see Huisman, J., & Smits, J. (2017). Duration and quality of the peer review process: the author's perspective. *Scientometrics*, 113(1), 633-650). Although providing compensation for peer review work might improve the ability to recruit reviewers, we foresee a number of issues with Option 3.

As noted in Option 2, most publishers have not provided detailed costs of publishing, with some openly stating that their prices are based on what the market will bear, not actual

costs. This lack of clarity extends to understanding the cost of managing peer review, which publishers may exploit to maintain their profits. Publishers might increase their APC and justify it by pointing to new requirements for paying for peer review. NIH could counter this by requiring publishers to provide more transparency for their costs versus prices by requiring justification for the rates at which they compensate peer reviewers, but similar past efforts have seen little success. See our discussion in Item 5 for more on the lack of success Plan S had with this.

Additionally, the \$3000 figure is based on an assumption that each article requires \$1000 of labor from peer reviewers. The estimate of 6 hours of work for each of three peer reviewers per article does not take into account the number of articles that go through peer review but are ultimately rejected or go through multiple rounds of peer review. Acceptance rates vary widely across journals, but Aczel et al. estimated that 45% of articles that go out for peer review are ultimately rejected. Even an OA "megajournal" like PLOS One that aims to publish sound science regardless of the novelty of the findings has an acceptance rate of roughly 30% (<https://journals.plos.org/plosone/s/journal-information>); higher prestige journals have acceptance rates in the single digits. Since nearly all journal articles go through more than one round of peer review, it is not clear if \$1000 is an appropriate amount of compensation per article.

Finally, some editors and researchers have concerns that paying reviewers would have an effect on the quality of their review. One recent study examined whether paying peer reviewers affected the quality of reviews and found no difference in the proportion of articles that were ultimately accepted and that all reviews were rated as helpful by the journal's academic editors (Cotton, C. S., Alam, A., Tosta, S., Buchman, T. G., & Maslove, D. M. (2025). Effect of monetary incentives on peer review acceptance and completion: A quasi-randomized interventional trial. *Critical Care Medicine*, 10-1097), but this topic has not been studied in depth.

Option 4: Set a limit on the total amount of an award that can be spent on publication costs.

Option 4 puts a limit on the total amount of grant funding that can be spent on publication charges over its lifetime, without any limitation per article.

We see many potential issues with Option 4. The \$20,000 or 0.8% amounts are based on averages and as such, many grants could fall extremely below or above this average. The data from FY25 R01 applications showed wide variation in the number of publications expected per the life of the grant and expected costs per publication. For grants with very high numbers of article outputs, \$20,000 over the life of a grant may not be sufficient. And for a smaller grant of less than \$250,000, a cap of 0.8% might limit them to publishing only one article, or force them to settle for a less prestigious publication venue.

The estimates of APC and number of articles are based on data from R01 grant applications, but there are many other grant types that are subject to the policy and this estimate may not be sufficient or truly representative of the range of NIH-funded research.

Additionally, basing the estimate off of applications may underestimate actual costs. We often hear from researchers that they have underestimated publication costs because they are not sure of how many publications their grant will result in, where the best outlets will be for their work, or which journals will accept their work.

If NIH pursues this route, it would be useful to consider:

- 1) Over the last five years, how many articles were published per grant?
- 2) What has been the difference between the proposed costs of publication and the actual costs once the grant has been executed?

Option 5: Set a limit on both the per publication cost and the total amount of an award that can be spent on publications.

Option 5 combines the limit on total amount of grant award available for publication costs with a limit on per publication costs, but with a higher acceptable APC than options 2 or 3.

Option 5 would provide similar benefits as Option 4, but would have the same drawbacks as previous options, and raises additional concerns.

Although authors would have more options for where to publish without paying out of pocket than Options 1 through 3, the basis for a \$6000 limit per publication is unclear. As described above, many APC prices are not based on costs. Without having an understanding of the true costs of publishing an open access article, it is not possible to assess whether \$6000 is a reasonable amount.

Setting a high cap would also enable more publishers to increase their APC price and remain under the maximum. Of the journals in DOAJ that charge APCs only 24 have an APC of \$6000 or more and over 7700 have an APC less than \$6000 (i.e., room to increase their APC and still remain under the NIH limit).

Alternative options

We suggest four additional options for consideration. We believe that Options A and B/B2 provide the most immediate opportunities for NIH to reduce publication spending. Option C will require longer time frames and a different kind of investment from NIH.

Option A: Modify NIH evaluation criteria

This option would be implemented through NIH grant evaluations. Researchers often aim to publish their research in the highest profile journals, specifically those with a high Journal Impact Factor because this metric is often used as a proxy for the quality of the research. However, these journals tend to have very high APCs. For example, *Nature's* APC is

\$12,690 and their fully open access *Nature Communications* has an APC of \$6,990; the APC for *Cell* is \$11,400; and the APC for Science Advances, AAAS fully OA journal, is \$5450. We would like to note that AAAS allows for compliance with the zero-embargo NIH policy through the sharing of the AAM, which ties into our Option B/B2

(<https://www.science.org/content/page/science-journals-editorial-policies#access-policies>

). If NIH were to de-emphasize the weight of the journal title and focus on the quality of the research itself, grantees may be encouraged to publish in journals with lower publication fees that will still reach their intended audience. We suggest one way NIH could do this is by redacting journal names in biosketches or requiring authors to list the APCs next to journal names, and encouraging reviewers to judge the merit of the research independent from publication venues, or to include the cost of such publications in the evaluation. Challenges would remain, as it is the academic rewards system broadly that encourages authors to publish in these high profile journals, not just their grant funder's policy; however, simply having NIH grant funding is a beneficial metric for many researchers.

Option B: Limit funding for hybrid journal publication costs

Instead of disallowing any publication cost, NIH could limit funding to hybrid access journals, allowing funding to be used only for APCs for fully open access journals.

The Government Use License ([2 CFR 200.315](https://www.fda.gov/oc/ohrt/government-use-license)) allows authors to make their articles available in PubMed Central without paying a fee. Disallowing hybrid APCs would help emphasize for authors that the APC is not required to comply with NIH's policy and signify to publishers that NIH will not support their extractive business models.

Hybrid journals (i.e., subscription-based journals that offer authors the option to pay a fee to make their individual article open) currently enjoy two revenue streams: subscriptions and APCs. The original purpose of the hybrid option was to provide a gradual path for journals to move to being fully OA. This has not happened in the last 20 years. Aside from a few rare exceptions, hybrid journals have not decreased their subscription prices; these journals "double dip" by taking payments for the same article by charging an APC and subscription costs. (See more at

<https://www.lib.umn.edu/services/open-access/author-fees>)

APCs tend to be higher for hybrid journals, despite the APC being additional income on top of journal subscriptions. There is no reason to believe that hybrid open access publishing is more expensive than publishing in fully OA journals, nor that commercial publishers have higher costs for publishing than others; it is the *prices* that are set higher. The BOAI 20th Anniversary Recommendations neatly capture the opacity of publisher pricing: "[w]hen the author can publish the same article elsewhere, the justification cannot be that the payment improves the article's quality. Nor does the payment improve the article's quality when its purpose is to pay for a journal's brand, prestige, or metric scores. Those fees don't pay for improved quality, but for the perception of improved quality."

(<https://www.budapestopenaccessinitiative.org/boai20/>).

However, as with other options, there is the chance for unintended consequences. Publishers could decide to change their business model for more journals to switch to fully open access with APCs, and although APCs for fully OA journals have tended to be lower than for hybrid journals, this switch would mean that more authors would be unable to rely on the Government Use License and be *required* to pay an APC.

Option B2: Require equal treatment of researchers who have NIH funding

Although we have yet to see many journals flipping from hybrid to full OA, we have already seen, since the implementation of the updated NIH Public Access Policy in July, publishers changing their practices to force NIH-funded researchers to pay APCs.

Publishers such as American Association for the Advancement of Science, Emerald, and Sage have policies that allow for immediate deposit of the AAM into PMC, but publishers like Springer Nature have made it clear that they require NIH-funded researchers to pay APCs (<https://www.springernature.com/gp/open-science/us-federal-agency-compliance>).

Whether Springer Nature and Elsevier's new practices are in line with the current NIH Public Access Policy is already questionable under the Supplemental Guidance: Publication Costs issued in December 2024. The Guidance states that "Costs for publishing services that are charged differentially because an Author Accepted Manuscript is subject to the NIH Public Access Policy or the work is the result of NIH funding are unallowable because charges must be levied impartially on all items published by the journal, whether or not under a federal award (GPS 7.9.1)" (Notice Number NOT-OD-25-048). Publishers may argue that the fee is not specific only to NIH, but we question whether that is true, given that we have only seen this practice since the updated Public Access Policy went into effect.

NIH could choose to implement both a policy that prohibits the use of NIH funding to pay publication costs (APCs) for journals whose publishers charge authors a fee to upload their AAM to PMC. We propose Option B2 as a corollary to B because NIH could apply such a policy for only hybrid journals, or they could also disallow the use of NIH funding for fully open access journals for any publisher that implements a fee for the permission for authors to share either AAM in PMC.

Option C

NIH could invest funding in supporting infrastructure that enables public access to the research that it funds.

Repositories are a time-tested and robust means of enabling public access to research output, independent of publisher policies and practices. Additional funding for PubMed Central could be used to upgrade systems and provide more staff to support grantees and their uploading of published research.

Additionally, rather than paying for the costs of publishing through support of individual publication charges, NIH could investigate opportunities to directly support existing open-source, community-led publishing tools and platforms, and development of new resources in these areas. This would reduce the cost of production for scholarly articles by shifting control away from publishing companies that may have priorities other than cost-effectiveness, and goals that do not align with what is best for the research community.

Research article production costs can include copyediting, creating templates and laying out articles (or for developing automated layout workflows), figure and table development, producing JATS XML, accessibility remediation, and hosting, maintaining and developing journal management systems. A journal's production capabilities can have an impact on readers' perception of the quality and credibility of the research itself. Research indicates that scholars expect credible articles to look a certain way—and that when the look and feel of an article does not align with those expectations, their perception of the quality of that research can be affected (Barness, J., & Papaelias, A. (2021). Readable, serious, traditional: Investigating scholarly perceptions of the visual design and reading experiences of academic journals. *She Ji: The Journal of Design, Economics, and Innovation*, 7(4), 540-564). While NIH itself focuses on scientific rigor when evaluating journals for inclusion in PubMed Central, some production-related elements are also part of that evaluation.

While commercial publishers can choose to reinvest APC revenue into the development of proprietary production tools and workflows, diamond open-access publishers, and other cost-effective open-access publishers may be less able to invest in maintaining and developing their infrastructure. Instead, they may rely on community-led, open-source tools.

Investing NIH support in open-source community-led publishing infrastructure would align NIH with global efforts for sustainable open access. In our response to Item 5 we discuss Plan S, a plan created by a group of primarily European national funding bodies. Their initial approach towards their goal of reaching 100% open access publishing by 2024 did not succeed. They acknowledged that the APC-based approach they took did not lead to a system of research dissemination that was "responsible, equitable, and sustainable" (<https://www.coalition-s.org/blog/five-years-of-plan-s-a-journey-towards-full-and-immediate-open-access/>). Efforts have now turned towards supporting diamond OA, through the European Diamond Capacity Hub (<https://diamas.org/about>). In South America, Redalyc (<https://www.openaccessweek.org/theme-profiles/redalyc>) and SciELO (<https://www.scielo.org/en/about-scielo/program-publication-model-and-scielo-network/>) provide successful examples of long-running, non-commercial diamond open access infrastructure. Also, last September, Open Research Europe chose the Open Journal Systems (OJS) from the Public Knowledge Project (PKP) as its underlying platform. This selection came with financial support, which will enable PKP to develop new features. The sponsored development of these new features will not only benefit European researchers

and European open access publishers, but also more than 44,000 journals worldwide that use the OJS platform (<https://pkp.sfu.ca/2024/12/18/pkp-for-ore/>).

NIH could investigate similar opportunities to sponsor the development of production tools for open access publishing. While this option would be unlikely to lower all APCs equally—as previously discussed, some publishers already elect to set APCs based on what they believe the market can support rather than the true cost of production—it could support the sustainability of a robust diamond open access ecosystem, creating new opportunities for low- or no-cost publishing and potentially undercutting market support for high APCs.

3. Factors that NIH should consider in determining whether peer reviewers are appropriately compensated;

Please see our comments on Option 3 above. To reiterate, it would be difficult to determine the appropriate amount of compensation, to whom it would be paid, and under which conditions reviewers would be paid. Peer review is still an opaque and variable process so it is difficult to estimate the amount of labor.

- 1) Journals generally do not report on how many reviews an individual article receives.
- 2) The number of reviewers per article varies, by discipline, by journal, and by article.
- 3) Estimates of the amount of labor are based on a series of assumptions that introduce a high level of uncertainty. Journals do not ask researchers to report how long they take to provide a thorough review.
- 4) Acceptance rates vary across journals and disciplines. Some of the highest prestige journals have acceptance rates of less than 10%. The same amount of work is expended to accept or reject an article (and more work is expended on a revision process, which can still result in rejection). Tying APC support to peer reviewer pay may incentivize unpredictable changes in acceptance/rejection rates.
- 5) For articles that are revised and submitted to the same journal for additional rounds of review, the journal could expect peer reviewers to conduct all of the resubmission cycles for one fee. However, a journal may reject thousands of articles outright and thus receive no APC income for the article.

A process for how reviewers would be paid would be difficult to establish:

- 1) Would the fees apply only to OA articles for which authors anticipate using NIH funding to pay an APC? For both hybrid and fully OA journals?
- 2) Would all journals be expected to compensate reviewers, or only those that charge an APC of more than \$3,000?
- 3) Would NIH track price increases to see if journals increase their APCs (perhaps saying they must because they now pay peer reviewers)?

4) Would the payment go directly to the reviewers? Or would it go to their institution?

5) Would the expectation be that the reviewers use the money to pay for additional APCs they may incur?

In practice, for the researcher-author, the connection of payment of an APC is not directly related to the peer review labor they provide. There are relatively few journals that pay peer reviewers directly, but some do offer discounts; for example, IOP Publishing provides a (10%) discount on APCs for authors who have reviewed for their journals (<https://publishingsupport.iopscience.iop.org/questions/article-publication-charge-discount-for-reviewers/>). However, authors do not necessarily publish in the same journals they review for, so such a discount may not be useful.

Although many publishers have sophisticated systems that would enable them to pay peer reviewers, there are also many journals (often more cost-effective or cost-transparent ones) that would not be able to afford to do this (especially many that are listed in DOAJ, which already charge APCs of less than \$1000). And it is highly unlikely that any journal would be able to implement such a system by January 1, 2026.

Finally, there is limited evidence on the effect of paid peer review on the quality of the reviews. We cited one study with positive results in our discussion of Option 3, but there is potential for negative consequences. Consider if a journal paid only reviewers of articles that were accepted (which was not the case in the study). Reviewers might be incentivised to recommend articles be accepted that they might otherwise have rejected.

4. In addition to compensating peer reviewers, other kinds of publishing best practices that NIH should consider as factors in determining the potential allowability of a higher per publication cost, such as use of automated fraud detection capabilities;

We recommend against investing in automated fraud detection capabilities for the following reasons:

1) These tools are often based on generative AI, and usually on a general-purpose language model without narrow subject-specific modulation. General-purpose models are unable to review materials with the level of nuance that experts in a research field can provide. 2) Many fraud-detection tools, AI-based or otherwise, retain copies of any materials they evaluate. This breaks the traditional trust of confidentiality between authors, journals, and peer reviewers. It also creates technical glitches such as an article which was reviewed and rejected by one journal, but retained by a fraud-detection system, getting incorrectly flagged as plagiarism upon (appropriate) submission to another journal. 3) Automated fraud-detection systems have high rates of both false positives and false negatives—they incorrectly flag some materials that should be published, while allowing others through that should have been flagged. They provide a false sense of security and efficacy.

Alternatively NIH could prioritize support for not-for-profit publishers over commercial publishers. Publishing has become a lucrative industry (e.g., Wiley's projected profit margin for 2025 was 23-24%

<https://www.publishersweekly.com/pw/by-topic/industry-news/financial-reporting/article/97263-wiley-expects-steady-profit-improvement.html>). Butler et al. estimated that the "big five" academic publishers (Wiley, Elsevier, SpringerNature, Taylor & Francis, and Sage) took in over \$1 billion in APCs over the three year period 2015 to 2018. This is on top of their existing subscription income. APC prices increased at a rate three times the rate of inflation from 2005 to 2018 and have continued to increase (Khoo, S. Y.-S. (2019). Article Processing Charge Hyperinflation and Price Insensitivity: An Open Access Sequel to the Serials Crisis. *LIBER Quarterly*, 29(1), 1–18. DOI: <http://doi.org/10.18352/lq.10280>; Butler, L. A., Hare, M., Schönfelder, N., Schares, E., Alperin, J. P., & Haustein, S. (2024). An open dataset of article processing charges from six large scholarly publishers (2019-2023). arXiv preprint arXiv:2406.08356.]). We strongly believe that NIH funding should be used to fund research, not for shareholder profits.

As noted in our proposed options in our response to item 1, instead of increasing the allowable cost cap so that publishers can institute new technology, NIH could invest in publication infrastructure that would ultimately reduce costs.

5. Other evidence or information not considered here that NIH should consider in its policy on limiting allowable publication costs.

Coordination among agencies

A number of updated public access policies from US federal funding agencies are in effect now, but many more will be in place by the start of 2026. NIH might wish to hold off on making a decision now and coordinate—via OSTP—with other agencies to determine whether a limit should be implemented and, if so, whether they can be harmonized across agencies. This coordination would reduce administrative burdens for researchers with funding from more than one federal agency and would create a more united front to stand up to publisher attempts to block the reliance on the long-existing Government Use License for public access.

Potentially limited impact on the publishing system

A change in NIH policy to disallow the use of grant funding for publication costs might not have the level of impact needed to effect systemic change. Based on estimates from OpenAlex*, an open access literature database, NIH-funded research accounts for approximately 1% of global research outputs and roughly 8% of US outputs. This is a large research footprint, but even so, NIH funds a relatively small portion of overall global research output. Some publishers may determine that it is not worthwhile to make any adjustments to their practices (e.g., reducing APC prices to fit within the amount allowed,

allowing NIH funded authors to publish in hybrid OA journals without paying a fee). This could ultimately leave NIH-funded authors in a position in which they cannot publish in the journals that are the best fit for their research unless they have other sources of funding.

*OpenAlex search string:

(<https://openalex.org/works?page=1&filter=authorships.countries:countries/us,grants.funder:f4320332161|f4320337351|f4320337338|f4320334705|f4320337346|f4320337354|f4320337337|f4320337357|f4320337355|f4320337359|f4320337347|f4320319990|f4320337350|f4320337348|f4320337330|f4320337362|f4320324144|f4320337363|f4320337364|f4320337611|f4320337352|f4320337365|f4320337361|f4320337353|f4320337372|f4320337356|f4320337472|f4320337593|f4320337358|f4320337376,type:types/article|types/review>)

Reinforcement of the APC-based publishing model

The Supplemental Guidance to the 2024 NIH Public Access Policy: Publication Costs (NOT-OD-25-048 <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-25-048.html>) said that "establishing a particular threshold for what is reasonable may lead to inequitable outcomes in specific circumstances." We agree that this is a real possibility.

Although the 2024 NIH Public Access Policy emphasizes the no-cost option for compliance (a green OA route), by focusing on APCs—the changes NIH is considering in this RFI (whether through limiting APC expenditures or introducing new required payment for peer review tied to APC support) could ultimately reinforce the dominance of the APC model and drive publishers towards models in which all authors are required to pay a fee.

The recent experiences in Europe provide an illustration of the pitfalls of relying on APC-based publication models. A group of primarily European national funding bodies (plus private foundations such as the Wellcome Trust), launched Plan S in 2018. The Plan aimed for all outputs based on research funded by cOAlition S members to be published OA with a Creative Commons Attribution license in 2021 (<https://www.coalition-s.org/>).. Although there was a "green" OA pathway to compliance (the Rights Retention Strategy, (<https://www.coalition-s.org/rights-retention-strategy/>)) the initial focus was on APC-based pathways.

Plan S allowed for APCs to be paid for publishing in fully OA journals but limited publishing in hybrid journals to only those that were part of "transformative" agreements." (TAs) Under these agreements, the institution pays a fee on top of the subscription so that some or all articles with a corresponding author affiliated with the institution can be published open access at no cost to the author. Publishers often claim that these agreements are not based on APCs. However, the prices of TAs are generally based on how much the institution/consortium has been paying in subscriptions and the number of publications, meaning that, functionally, the agreements are APC-based.

"Transformative" agreements were originally intended to "flip" subscription and hybrid journals to full open access; however, the general expectation was that these journals

would be APC-based, and would ultimately end up blocking authors without funding or who are not affiliated with an institution with an agreement from publishing in the journal.

There was overall little progress made towards this flipping of journals to fully OA. cOAlition S created a "Transformative Journal" (TJ) program in which publishers could register their journals and agree to meet targets for increases in the amount of OA publishing each year. cOAlition S ended the program because not enough journals were meeting their targets (Brainard, J. (2023, June 20). 'Transformative' journals get booted for switching to open access too slowly. Science.

<https://www.science.org/content/article/transformative-journals-get-booted-switching-open-access-too-slowly>). The progress report cOAlition S published in 2024 concluding that "in aggregate the TJ data clearly shows that the transition to full and immediate OA for many of the TJ publishers is still a long way away."

(<https://www.coalition-s.org/blog/transformative-journals-analysis-from-the-2023-reports/>)

Additionally, a 2024 report from the Jisc, the organization that negotiates publishing agreements for institutions in the United Kingdom, provided data showing that their emphasis on APC-based OA, and transformative agreements especially, resulted in an increase in hybrid OA at the expense of green OA. The report described how "transformative" agreements as a whole are not bringing about a transformation, concluding based on data from 2018 – 2022 that "it would take at least 70 years for the big five publishers Wiley, Elsevier, Taylor & Francis, Springer Nature, and Sage] to flip their TA titles to OA." Instead of transforming, the agreements have essentially become formalized "double-dipping" with publishers continuing to take in subscription money along with payments for open access publishing (Brayman, K., Devenney, A., Dobson, H., Marques, M., & Vernon, A. (2024). A review of transitional agreements in the UK. Zenodo).

The history of Plan S emphasizes the limited impact of funder decisions on publisher models. cOAlition S funded approximately 6% of worldwide research compared to NIH's approximately 1%, raising questions about how much of an effect NIH policy can have on the publishing system.

Negative effects of "transformative" agreements

We would like to emphasize that limiting allowable costs may potentially drive institutions to sign on to "transformative" agreements (TAs) that undermine support for no-cost compliance routes (e.g., researchers uploading their AAMs to PMC, support for diamond OA journals).

Again, "transformative" agreements benefit the publisher at the expense of the institution and researchers and are having negative impacts on the publishing system as a whole (Farley, A., Langham-Putrow, A., Shook, E., Sterman, L. B., & Wacha, M. (2021).

Transformative agreements: Six myths, busted. College & Research Libraries News, 82(7), 298. (<https://crln.acrl.org/index.php/crlnews/article/view/25032/32927>). Editors report negative effects on journal processes from TAs, such as pressure from corporate offices to accept more articles, reduce the rigor of peer review, and reduce investment in

developmental editing. Authors similarly report reduced rigor and development in peer review processes, and increased solicitation for submissions from journals with limited connection to their research areas.

While TAs *could* provide a short term solution for limiting the amount of NIH grant funding used to support publishing, they are generally more expensive than traditional subscriptions. Our institution has received offers for agreements that would increase our costs manyfold. And from our experience, prices for "transformative" agreements continue to increase, despite the fact that as more articles are published open access, the institution is receiving less benefit for the subscription fee component of the agreement. With escalating costs, continuing existing agreements will be challenging, and expanding to additional TAs likely unrealistic.

It would also not be possible for most institutions to enter into agreements that would cover each journal that their authors publish in. For example, based on 2024 publishing data for University of Minnesota researchers, NIH-funded articles were published in more than 1,000 different journals across more than 80 publishers. Since TAs are generally more expensive than traditional subscriptions, negotiations are complex and time consuming, trying to cover every possible outlet with a "transformative" agreement is cost-prohibitive.

When publishers push for more "transformative" agreements, they are doing so at the expense of developing more cost-effective, non-APC-based models. APC-based publishing limits publishing opportunities for authors who do not have funding, including NIH-funded researchers who find themselves locked out of publishing opportunities if their publications are not accepted before the end of the grant period. Adding limits on allowable costs without taking other action to exert any pressure on the current system will likely have a net negative effect for NIH researchers. We encourage NIH to focus their support on methods for making work publicly accessible by relying on the Government Use License and making other investments in open-source infrastructure and more cost-effective open access models.

Sincerely,

A handwritten signature in cursive script that reads "Lisa German". The ink is dark and the signature is fluid, with the first and last names clearly legible.

Lisa German, Dean, University of Minnesota Libraries