August 14, 2023

STM response to Request for Information on NIST's Draft Plan for Providing Public Access to the Results of Federally Funded Research (88 FR 42302)

Thank you for the opportunity to comment on the "Draft NIST Plan for Providing Public Access to the Results of Federally Funded Research" ("the Draft NIST Plan"), as issued in the Request for Information (**88 FR 42302**). STM is pleased that NIST is soliciting comments before it finalizes its plan, and with the aim of supporting the development of its policies and implementation practices. STM hopes that the comments made by stakeholders in the current process will be fully considered in the development of the final plan, as well as its policy and its implementation. STM further hopes that we, and our members, will continue to be consulted on the various ways that NIST policy may impact scholarly communications.

STM stands for advancing open and trusted research, where researchers and the rest of society can rely on information that is credible, accessible, linked, and searchable in perpetuity. We therefore share with NIST the goal of increasing access to publications and data, not just for federally funded research, but for all research. More broadly, STM and our members are supportive of NIST's goals to advance science in ways that drive innovation and improve quality of life, which we feel is also supported and enabled by our work to support a high-quality and accurate scholarly record. Like NIST, we also advance standards and technology related to scholarly communication.

Publishers have led and responded to the interest in open science by investing heavily in open science over the past 25 years, broadening and expanding the public's ability to access and understand the work of scientists and scholars. Many of the products and services necessary for open science were created and maintained by publishers, including online infrastructure, preprinting, archiving, linking, and data management, and we continue to support and grow those efforts today. Our members have also invested in new models and approaches to providing access, including experimentation with a variety of business models while supporting sustainability and equity and without compromising on quality and integrity.

STM and our member publishers have invested significantly in a system of scholarly communication that enables sharing of the latest discoveries and innovations, supports public trust in science and public health, enables interoperability through standards and infrastructure (metadata, persistent identifiers, etc.), and ensures articles and data related to research are findable, accessible, interoperable, and reusable. Publishers continue to invest and innovate to meet the changing needs of the communities they serve, and to take advantage of the latest technologies to help research outcomes reach audiences as effectively as possible. STM supports an environment where publishers, in collaboration with NIST and the broad stakeholder communities engaged in research related to NIST-funded projects, can continue to drive quality, integrity, and innovation in scholarly communication.

1. How can NIST ensure equity in publication opportunities?

Changing access requirements within the scientific ecosystem are likely to solve some inequities from a reader perspective, but concerted and collaborative action will be necessary to ensure sustainability and equity more broadly. Agencies can minimize the risk of creating new inequities in author opportunity to publish, especially for scientists from traditionally marginalized communities and early career researchers, by ensuring that all NIST-funded authors have the funding, support, and encouragement necessary for their research to flourish and the choice of the publishing option that best suits their needs and goals. Publishers are doing their part by supporting new approaches that provide opportunities for all to participate and access scholarly communication. Ultimately, a financially sustainable scientific publishing system is critical to advance trusted and impactful science, and attention to equity throughout the ecosystem can ensure that this is achieved.

There is not one best route to providing access, and a mixed ecosystem is likely to persist for some time, even as publishers, institutions, and funders move to support open science. That said, STM believes that knowledge-creation, discovery, and sharing is best enabled when the final articles resulting from all stages of the peer-review and publication process are immediately openly available to all. The Version of Record (VoR) is the most thoroughly vetted version of the research publication, having been through all stages of the peer-review and publication process including, being copyedited, typeset, had metadata applied, and has been allocated a DOI (Digital Object Identifier). The VoR is the authoritative version for researchers and the public, and it is more cited, more used, and garners more attention than other versions of an article.[1] For example, the VoR can link bi-directionally to research objects like data and code, reflects any post-publication updates or corrections, and sits on the publisher's platform where it can be integrated with other relevant content, allowing the public to better put this information into context. For these reasons, we urge NIST to ensure all supported authors have the same opportunity to make the VoR of their articles open access upon publication through a fully-funded open access route.

While STM is committed to promoting open access, we are pleased that the Draft Plan also recognizes that there may be restrictions on making publications available immediately upon publication if an open access publishing route is not chosen [lines 354-355]. Current global efforts to expand open access indicate that direct support for publishing (which includes APC-supported open access, Read and Publish Agreements, and other evolving models) provides the most sustainable path to open access.[2] Immediate access to a version of the article funded under subscription models has not proven to work at scale, even if it may temporarily work for some publishers or disciplines, or as a transitional model. This is because such approaches present a challenge to the vital income that is necessary for publishers to continue making investments and innovating in quality, integrity, accessibility, preservation, and discoverability. The Draft NIST Plan appropriately recognizes that publications are a distinct work, separate from the research itself, and protected by copyright and licensing agreements that should be respected [lines 41-43, 114-117, 355-356]. We appreciate that the NIST plan respects publisher policies

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[1] Researchers prefer the Version of Record, as found in various surveys, including a 2020 survey by Springer Nature, "Exploring researcher preference for the version of record" (https://www.springernature.com/gp/open-research/version-of-record, accessed August 4, 2023).

[2] An indicator of this is that most of the growth in open access is driven by fully-supported OA, as can be seen in data from the STM Open Access Dashboard (https://www.stm-assoc.org/oa-dashboard/uptake-of-open-access/, accessed August 8, 2023).

[line 117] and implicitly acknowledges [line 116] that currently some publisher policies currently require a delay of 12 months before public access in order to support the sustainability of a subscription model.[3]

STM believes that the best way forward is to ensure that all NIST-supported researchers are given consistent and clear support to budget for the costs of publishing open access as part of their research grant, which enables researchers to make their work immediately and freely available in whichever journal they feel will best advance their research and impact, and under their choice of open access licence. All researchers must have options to meet their funder obligations, regardless of the journal they choose or the agreements their institution has with individual journals, in order to promote both open science and equity. As in the Draft NIST Plan [lines 420-422], grant recipients should be "encouraged to publish…in open scientific literature." This could be strengthened by connecting this with encouragement and oversight for appropriate budgeting for publications. Furthermore, while the Draft NIST Plan indicates that costs may be included in grant proposals [lines 124-125], to achieve its open science goals, NIST will need to encourage the full consideration of all open science activities in proposal budgets and review proposals to ensure that appropriate expenses are included. Finally, funding needs to be provided on an equal basis so that researchers who choose to publish in journals that are supported by APCs are not disadvantaged in the resources available for their research, student support, and other critical needs. The Draft NIST Plan says that guidance will be updated [lines 367-368, 454-455], and the above points should all form part of this guidance. Publishers would be happy to work with NIST to support in developing this guidance, applying our experience with open science.

Rather than "guidance on rights retention" [line 123], awardees should be provided with guidance on copyright and open access options. Regardless of publication outlet, authors generally have many rights related to sharing articles with the public, many enshrined in copyright law. Requiring that researchers obtain additional rights could severely limit researchers' freedom of choice over where they can publish their research results, particularly in conjunction with an immediate access requirement, creating inequities in publication opportunities for NIST-supported investigators. This is because some journals will need exclusive rights to support sustainable business models and continue investments needed for quality, preservation, discoverability, innovation, and impact.[3] Furthermore, researchers may differ in their preferred license: while some prefer to apply a Creative Commons Attribution (CC BY) license to their publication, others prefer to apply licenses that enable authors to approve (or disapprove) commercial reuse or the creation of derivative works (e.g., a Creative Commons Non-Commercial Non-Derivative (CC BY-NC-ND) license) to safeguard against potential misuse or misinformation. Publishers

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[3] While efforts to provide immediate access to articles funded by subscription journal publishers appear cost free to the researcher and funder, in fact they are reliant on subscriptions to support the significant investments publishers make; these investments ensure the quality, discoverability and accessibility of research in perpetuity. Subscription-supported investments include effectively managing the editorial and peer review processes and applying innovative technology to validate the rigor of the research we publish. Subscriptions are put at risk by the immediate availability of a large body of free accepted manuscripts, as demonstrated by widely used resources, such as Unsub.org, that encourage institutions to cancel subscriptions for materials that can be freely accessed. Nor is it cost free for funders and institutions to provide immediate access to articles funded by subscription journal publishers, as it causes additional, and duplicative, costs for the dissemination and long-term curation of research outcomes. Without sustainable funding – for a diversity of models for access -- fewer resources are available to ensure the quality and integrity of the scientific record, undermining the ability of scholarly communication to support public trust in science and a dampening effect on innovation, job growth, and scientific progress. New barriers to access could also be created if important journals that serve critical research communities cease publication.

develop policies regarding copyright, licensing, and copyright transfer to best support their communities, and flexibility should be provided to allow this to continue. Authors should be supported by straightforward guidance, absent catch phrases, to best serve the scholarly publishing ecosystem and promote academic freedom and author preferences. In particular, authors should be provided with guidance that some so-called "rights retention strategies," rather than protecting author rights, actually require mandatory licensing that relinquishes those rights.

Current global efforts to expand open access indicate that direct support for publishing (which includes APC-supported open access, Read and Publish Agreements, and other evolving models) provides the most sustainable and equitable path to open access. Agreements with institutions or funders, like Read and Publish Agreements or other pooled payment agreements, have the potential to enable equity by making open access publishing available to all researchers. Publishers are actively working to develop and promote these models, which can reduce inequity for researchers at participating institutions and can help increase compliance with policy and reduce administrative burdens. We have received reports of the success of such efforts in driving forward open access, thanks to the real-world experiment of growth of transformative agreements around the world.[4]

Another aspect of equity in publication opportunities relates to the promotion of equity and diversity in the research enterprise more broadly. Support for diverse publishing outlets is critical to such efforts. To proactively drive further change requires input from stakeholders across the research ecosystem. One way in which publishers encourage equity and diversity in the research enterprise is by providing an objective space in which work can be assessed by peers (though our impartial oversight of an independent editorial and peer review process). More specifically, in recent years publishers have established industry-wide initiatives such as the Joint Commitment on Diversity and Inclusion[5] and C4DISC[6] which are developing consensus-based standards and best practice (e.g., developing guidelines around the peer review of articles and data; creating policies to support authors with deadnames; etc.).

Finally, publishers support and invest in various initiatives to enable researchers to participate in the scholarly dialogue. This includes support for educational efforts and funding programs that expand participation of underrepresented groups and ensure quality and integrity. For example, Research4Life, a UN-publisher partnership, supports researcher skill development, provides Research Lifecycle Training Webinars, and enhances the ability of LMIC researchers to publish with participating publishers. Many publishers support and partner with AuthorAID, a global network that provides free resources and training, including in article writing, for researchers in low- and middle-income countries. Publishers offer various funding programs to support the participation of less-well-resourced researchers, including

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[4] For example, STM member Taylor & Francis notes that the top 10 most published subject areas under their transformative agreements in the past two years have been in humanities, arts, and social sciences, which have traditionally been less likely than those in the physical and biomedical sciences to choose OA. For additional data, see the STM Open Access Dashboard www.stm-assoc.org/oa-dashboard/.

[5] The Joint commitment for action on inclusion and diversity in publishing, launched in June 2020, is a coalition of publishers who have agreed to take action reduce bias in publishing activities. Full details available at https://www.rsc.org/new-perspectives/talent/joint-commitment-for-action-inclusion-and-diversity-in-publishing/.

[6] The Coalition for Diversity and Inclusion in Scholarly Communications (C4DISC) was founded by 10 trade and professional associations that represent organizations and individuals working in scholarly communications. The Coalition was formed to discuss and address issues of diversity and inclusion within the publishing industry. Full details available at https://c4disc.org/.

discounts and waivers, both individually and through collective approaches like Research4Life. Publishers also work with other stakeholders to provide resources to support authors with identifying trusted outlets to present their work (e.g., Think. Check. Submit. (www.thinkchecksubmit.org) a cross-industry initiative) and promote integrity in scholarly research and its publication through the Committee on Publication Ethics (COPE, www.publicationethics.org) and other efforts.

2.   How can NIST ensure public access and accessibility to outputs of NIST-funded research?

Publishers invest significantly in efforts that ensure the availability, utility, reliability (including integrity) and accessibility of scholarly communications. It is important to note that for access and accessibility to be provided, first the publications and infrastructures must be created and disseminated. Therefore, it is a necessary precondition to improve public access and accessibility of outputs that NIST work to ensure the viability of a robust ecosystem of scholarly communications that drives innovation, supports quality and integrity, and ensures appropriate infrastructure to enable accessibility to diverse users.

Steps to ensure public access and accessibility could be broken down into three requirements: 1) sufficient, enduring, and appropriate funding; 2) encouragement and education of researchers to budget for and choose open science; and 3) flexibility for researchers and organizations to enable diverse modes of communication.

Open access publishing of course stands to widen public access to research outputs. Appropriate and enduring funding is fundamental to enable open access, as well as to achieve the open science goals outlined in the Draft NIST Plan and in the August OSTP memo. Funding will be needed to support data sharing and stewardship as well as open access publishing, metadata enhancements, persistent identifiers, and the like. A healthy and robust ecosystem of scholarly communications enables publishers to continue to invest and innovate to widen access and accessibility on a continual basis.

Encouragement and education of researchers is also key, as they will ultimately be responsible for ensuring that the articles that they write, and data they produce, are available to the public. Our members' experience with funder requirements and compliance around the world indicates that researchers are often confused about grant requirements, including on how and when to provide access to publications, and a significant percentage of researchers erroneously believe that it is an inappropriate use of grant funds to pay for publication.[7] STM's members' experience with guidance and education indicates that such efforts can make a big difference in researchers' willingness to choose open access and comply with open science requirements.

Flexibility is needed to promote diversity in publication, ensure author choice, and support access to publishing in ways that work for researchers. As noted earlier, different publishers may offer distinct approaches to provide access, each of which may be appropriate to the communities they serve, and each of which should be allowed as a method for researchers to ensure access to any article they author that reports on NIST-funded research. A diversity of publication outlets, enabled by flexible approaches to implementation of the NIST policy, supports diversity in research. Enabling this flexibility with funding, education, and support will be critical to ensuring authors can provide access through their outlet of choice, preferably through open access publishing.

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[7] E.g., nearly 1 in 6 in the 2016 *Pay It Forward Report* and 1 in 5 in the 2019 *Taylor & Francis Researcher Survey*

Some additional aspects of access and accessibility also need to be considered and can be supported by the existing ecosystem. Publishers invest significantly to ensure that articles are accessible in various human and machine-readable formats and are available to those with diverse needs. Many publishers have invested in technology and infrastructure to build towards, meet, or exceed Section 508 accessibility and have created a diverse ecosystem of accessible resources available to diverse audiences with or without assistive technologies.[8] Some of our members were leaders in developing braille resources in multiple languages, screen reading technology implementation, and other innovations. These additional infrastructure and formatting investments are enabled by sustainable business models.

STM also notes various initiatives that we and our members have promoted to ensure access and accessibility for diverse audiences. These include Research4Life which provides access to researchers in Low- and Middle- Income countries; efforts to share plain language summaries to broaden the accessibility of cutting-edge research to non-experts;[9] and investments in the promotion of articles to the media and through social media channels.

Widening access to research outputs beyond only articles is a further consideration. STM fully supports the data management plan requirements [line 100-103] in the plan and would welcome opportunities to collaborate on guidance and the promulgation of standards to support researchers in developing and implementing data management plans. STM has supported publishers' efforts to share, cite, and link data through our Research Data Program[10], including by promoting standard descriptions of data availability, and our member publishers have many initiatives to enable researchers to share data and educate them about data stewardship.

Finally, STM notes that there are many mechanisms to providing access to articles and data already in place and appreciates that the Draft NIST Plan says that efforts will be made to avoid "unnecessary duplication" [line 480]. Utilizing existing infrastructure to deliver access, where appropriate, can reduce researcher burden and overall costs. These may include access through publisher platforms. Existing standards, including identifiers, should also be used to ensure harmonization and avoid unnecessary duplication in the scholarly record. The plan mentions one identifier on line 515; we recommend NIST support the use of additional community-adopted PIDs for researchers, institutions and funders through the grant application process. Publishers welcome discussion on existing and future approaches to capture and surface metadata, using persistent identifiers, to aid discovery of a diverse array of open science outputs.

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[8] E.g., Elsevier (https://www.elsevier.com/about/accessibility) and Taylor and Francis (https://taylorandfrancis.com/about/corporate-responsibility/accessibility-at-taylor-francis/).

[9] E.g., Optica's Spotlight on Optics (https://opg.optica.org/spotlight/about.cfm) and Taylor and Francis Plain Language Summaries (https://authorservices.taylorandfrancis.com/publishing-your-research/writing-your-paper/how-to-write-a-plain-language-summary/)

[10] Information about the research data program is available at https://www.stm-assoc.org/research-data-program/. See also https://www.stm-researchdata.org/data-availability-statements-tips/#DASsamples for our template statements, which are based on the Belmont Forum's DAS template. It was designed by a combined group of funders and publishers, ratified in October 2018 and is available through a CC-BY 4.0 licence.

3. How can NIST monitor impacts on affected communities—authors and readers alike?

STM seeks to provide transparent and accurate information about the scholarly communications ecosystem and would be happy to work with NIST to explore metrics that could consider impact on affected communities. For example, STM produces the OA Dashboard (https://www.stm-assoc.org/oa-dashboard/) to provide information on the state of open access. As another example, our members participate in the COUNTER system (https://www.projectcounter.org/) to provide usage statistics for articles. There are diverse efforts to measure the impact and usage of publications and data.

We appreciate that NIST, in framing this question, understands that there may be significant impacts on both authors and readers from this policy change, and that they may be difficult to predict. It will be important to proceed carefully and consider various aspects of the scholarly communications ecosystem. These may include usage of articles and data, the ability of authors to publish in their journal of choice, and overall costs to the system.

Potential impacts include effects on the freedom of the researchers NIST supports to publish in the journal, and under the license of their choice, to ensure the impact of their work and to safeguard against misuse or misinformation. When looking at potentially expanding access, it is important to note that, for readers, access to information is necessary but not sufficient; changes in policy may have impacts on the quality, integrity, accessibility, and dissemination of research in context that could also be monitored. Each of these is vital to the use and utility of the scholarly record, and these are all research qualities that publishers' investments and innovations ensure.

With respect to monitoring the changing financial dynamics of the publishing ecosystem, it is important to note that STM's members compete in a dynamic environment that drives them to provide the widest possible access to the articles that they publish at the lowest possible price to the research and user communities. Prices and revenue streams can vary significantly from one publisher to another, and even from one journal to another, depending on many factors such as audience, circulation/reach, ranking, number of articles published, field/specialty, and distribution method. More broadly, the financial impact will not be felt equally across the system, whether considering funders, individual institutions, or individual publishers. It will not be able to be captured by a single aspect of pricing (i.e., APCs), but would require consideration of the total investment in scholarly communications, which includes subscriptions, APCs, Read and Publish Agreements and other pooled funding arrangements, and other inputs.

Our members are committed to the maximum possible transparency around pricing, in accordance with regulation and antitrust concerns, and list APC prices are virtually always transparent[11] which supports researchers with budgeting for the costs of making their work immediately and freely available. Ultimately, a financially sustainable scientific publishing system is critical to advance trusted and

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[11] APC price lists are generally public, and transparently shared. Some examples include American Chemical Society: (https://acsopenscience.org/researchers/oa-pricing/), American Physical Society (https://journals.aps.org/authors/apcs), Elsevier (https://www.elsevier.com/about/policies/pricing), Springer Nature (https://www.springernature.com/gp/open-research/journals-books/journals), Wiley (https://authorservices.wiley.com/author-resources/Journal-Authors/open-access-article-publication-charges.html), The Public Library of Science (PLoS) (https://plos.org/publish/fees/).

impactful science for the benefit of researchers, research, and society. STM and its members would welcome additional conversation on this topic.

4.   How can NIST improve the plan to provide greater public access to NIST-funded research results?

In response to the prompts above, we have referenced areas of the Draft NIST Plan that are key to providing greater public access or that may benefit from revision. Below we highlight those recommendations, as well as a few areas of improvement that we mention below for the first time, organized under headings that identify key opportunities to ensure success of NIST's public access policies.

Emphasize the importance of copyright and intellectual property to advance research and dissemination.

- Maintain language on p.2, lines 41-43 that NIST will recognize intellectual property rights.
- Maintain language on p. 4, lines 112-113 and 116-117 that emphasizes that public access and deposit should be consistent with publisher policies.
- Continue to emphasize that public access should be consistent with legal rights, and that flexibility may be needed to support publication options, as on p.4, lines 114-117.
- On p. 4, line 123, replace "guidance on rights retention" with "guidance on copyright, open access publishing, and public access requirements." Where guidance is provided to authors on copyright, this should be to promote academic freedom and enable authors to use intellectual property rights in the manner that best helps them advance their research, which may include copyright transfer or specific forms of licensing that enable authors to approve (or disapprove) commercial reuse or the creation of derivative works.
- Add additional language on p. 3-4, after lines 94-99, that contrasts the treatment of copyright in works created by awardees from non-NIST organizations with that created by NIST employees or under contract. Such language should indicate that such awardees should have the right to license works or transfer copyright in whatever manner best supports authors' ability to publish articles that report on funded research and achieve their communication goals, as long as public access is enabled.

Provide more encouragement for researchers to budget for open access and open science activities.

- Expand on language on p.4, line 124-125, that says costs associated with publication may be included in grant proposals or project plan documents. NIST should provide clear and consistent encouragement to all awardees to include all open science costs in their budgets and provide robust guidance to support appropriate planning. Project managers and award panels should be directed to review budgets and planning documents to ensure appropriate support is planned.
- The plan notes on p. 11, line 367-368 and p. 14, line 447 and 453-455 (possibly elsewhere as well), that guidance will be provided. This guidance needs to encourage open science practices, including open access publishing. Publishers have a lot of experience with such guidance and would welcome the opportunity to collaborate on education and guidance and amplify NIST's messaging.

- In the discussion of resources needed on p.17, line 517-522 and the appendix on p.19, there is no consideration of additional resources needed by researchers, whether NIST employees or awardees from non-NIST organizations, to support open science activities, including open access publishing and data curation and stewardship. These should be considered further for NIST planning and budgeting.

As much as possible, use existing mechanisms and standards to provide access, in order to minimize duplication and burdens and maximize compliance.

- On p. 15, line 474-481, language regarding public-private partnerships could be expanded to include other broad-based, community-supported sharing and linking initiatives.[12] STM agrees that the goal of such efforts should be to enhance value, avoid unnecessary duplication, and minimize administrative burdens. This last goal could be added to the last sentence in line 481.
- On p.3, lines 68-59, the plan indicates NIST intends to make publications and data "freely available to the public, in publicly accessible repositories." In addition to the use of repositories, STM encourages the use of existing mechanisms, including publisher's platforms, CHORUS, and data repositories.
- Throughout the document, persistent identifiers are mentioned, with only one mention (on p. 17, line 515) of a specific identifier. We recommend that NIST expand the reference to identifiers, with the following recommendations in mind:
  - The primary existing PID and metadata structure, enabled through organizations including CrossRef and DataCite, should be adopted and adapted as necessary to minimize disruption, promote compliance, and prevent unnecessary duplication of effort and investment in the scholarly communications system.
  - NIST should support the use of additional community-adopted PIDs through the grant application process (e.g., ORCIDs for researchers, organization IDs for the institutions(s) affiliated with each researcher, and Funder IDs for the distinct funders of the grant). While organization IDs are not as well-established or robust as researcher IDs (with ORCID), there are several emerging options for organizations, and NIST should require the use of at least one of the following PIDs for organizations to ensure harmonization and avoid unnecessary duplication in the scholarly record: Ringgold (a global organization identifier system); ISNI (ISO standard name identifier system); ROR (the Research Organization Registry); and Crossref's Funder Registry; along with ORCID for researchers. NIST should also make metadata fields available for each of these.

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[12] These could include open protocols like Scholix, a multi-stakeholder initiative to link scholarly literature and research data, and initiatives such as seamlessaccess.org, a service designed to help foster a more streamlined online access experience by leveraging an existing single-sign-on infrastructure, and GetFTR, a tool that streamlines access to journal articles on discovery tools and collaboration networks. STM would welcome additional dialogue to discover which existing initiatives could best be utilized to support findability and access to articles and research data related to NIST-funded research, and to collaboratively develop solutions where services or infrastructures do not already exist.

Provide clear definitions and terminology.

- The version of an article reporting on NIST-funded research required to be made available under the public access plan is described by a variety of terms throughout the document, including "author's accepted version" (e.g., p. 4 line 109, 111, 115), "author manuscript" (e.g., p. 4, line 122), and "final peer-reviewed manuscript" (e.g., p. 12, lines 394-5). The recommended practice of the National Information Standards Organization is to refer to this version as the "Accepted Manuscript,"[13] which acknowledges that this version reflects the imprimatur of a third party and is therefore not exclusively the "author's."
- On p. 13, line 439 and p. 17, line 515, mention is made of the time "the manuscript" is published. It would be clearer and more accurate to refer to the time of final publication in a journal.

Acknowledge the importance of research integrity alongside access.

- The Draft NIST Plan does not mention the importance of research integrity which ensures research can be trusted and reliably built upon for the benefit of science and society, advancing access to accurate information and enhancing equity in the use of research products. STM and its members invest significantly in ensuring research integrity and the quality and reliability of the scholarly record. For example, STM Solutions recently launched the Research Integrity Hub (https://www.stm-assoc.org/stm-integrity-hub/), a robust and holistic set of tools to safeguard the integrity of science through a combination of shared data and experiences and by harnessing technological innovation. Publishers are working individually and in partnership with other organizations to prevent misconduct and ensure the integrity of the system. Safeguarding research integrity can only be done through collaboration with all stakeholders in the scholarly ecosystem, and in an environment which enables publishers to continue their substantial investments that safeguard research integrity.

Finally, we note that the most important actions that NIST can take to provide greater public access to NIST-funded research results are to educate researchers in adopting open science practices, providing funding to enable these practices, and ensuring that the systems and services that currently support the quality, integrity, accessibility, and discoverability of scholarly communication can be maintained. These latter include, but are not limited to, market incentives that encourage the development of high-quality publication outlets for scholarly communication. Ultimately, support and flexibility are needed to ensure publishers and others can continue to make the critical investments and innovations that drive discovery and innovation. STM and its members stand ready to work with NIST to make a sustainable, appropriately funded and flexible policy a success.

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[13] See p. 2 of "Journal Article Versions (JAV): Recommendations of the NISO/ALPSP JAV Technical Working Group April 2008," retrieved August 7, 2023 https://www.niso.org/sites/default/files/2017-08/RP-8-2008.pdf

About STM

At STM we support our members in their mission to advance trusted research worldwide. Our more than 140 members collectively publish 66% of all journal articles and tens of thousands of monographs and reference works. As academic and professional publishers, learned societies, university presses, start-ups and established players, we work together to serve society by developing standards and technology to ensure research is of high quality, trustworthy and easy to access. We promote the contribution that publishers make to innovation, openness and the sharing of knowledge and embrace change to support the growth and sustainability of the research ecosystem. As a common good, we provide data and analysis for all involved in the global activity of research.

The majority of our members are small businesses and not-for-profit organizations, who represent tens of thousands of publishing employees, editors, reviewers, researchers, authors, readers, and other professionals across the United States and world who regularly contribute to the advancement of science, learning, culture and innovation throughout the nation. They comprise the bulk of a $25 billion publishing industry that contributes significantly to the U.S. economy and enhances the U.S. balance of trade.