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Robert L. Santos
Director
U.S. Census Bureau
4600 Silver Hill Road
Washington, DC 20233

STM Comments Regarding Draft U.S. Census Bureau Plan for Providing Public Access to Results of Federally Funded Research (USBC–2023–0015)

To Director Santos:

STM welcomes the opportunity to provide written comments on the on the **Draft U.S. Census Bureau Plan for Providing Public Access to Results of Federally Funded Research (“the Plan”)**. 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.¹ We therefore support the Census Bureau’s commitments as articulated in the Plan and the Request for Information (RFI) to “promote open science” and “ensure effective access.”

In fact, our more than 150 members have enabled open science and broad access to the scholarly record, 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. STM’s members include scholarly societies, commercial publishers, and university presses, united by a devotion to advance trusted research worldwide. We are committed to building a future where researchers, practitioners, and the public have access to information that is open, trusted, and trustworthy. 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. We continue to support and grow those efforts today. STM members have also invested in new approaches to providing access, including experimentation with a variety of business models without compromising on quality and integrity, and supporting sustainability and equity.

As a participant in the Federal Government’s Year of Open Science, STM offers the following comments in support of improving the Plan and working with the Census Bureau on an effective implementation that ensures broad access while preserving the ability of publishers to provide for quality and integrity of the scholarly record, where information is credible, accessible, linked, searchable, and preserved for long-term access. We provide below responses to each of the prompts provided in the RFI, apart from the prompt on how to improve the plan, answers to which are woven throughout.

¹ See, for example, STM’s statement of support for open access <https://www.stm-assoc.org/stm-oa-position/>, and our research data program <https://www.stm-assoc.org/research-data-program/>.

1. *What are the best practices (from academia, industry, and other stakeholder communities) in managing public access of data and research results?*

Members of STM have experience supporting researchers as they adapt to funder policies around the globe, providing options and infrastructure that enable open science. Our experience shows that there are three key things needed to support successful implementation of a policy. These are: funding, education, and flexibility.

The experience of institutions, funders, and publishers around the world has demonstrated that there is no one best route to providing access, and a mixed ecosystem is likely to persist for some time. Therefore, flexibility in policy and implementation has been shown to be key. We therefore support language in the Plan (line 272) recognizing the diversity of practices and the need for flexibility in implementation. That said, surveys and experience have shown 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, having had metadata applied, and having been allocated a DOI (Digital Object Identifier). The VoR can link bi-directionally to research objects like data and code, reflects any post-publication updates or corrections, and is always available from the publisher's platform where it can be integrated with other relevant content, allowing the public to better put this information into context. The VoR is the authoritative version for researchers and the public. It is more cited, more used, and garners more attention than other versions of an article, and is the version preferred by researchers.²

Another best practice is working to make sure that researchers plan and budget for all open science activities that will advance public access. The NIH has set an example of this for its Data Management and Sharing Plans by requiring budgets to include, and review panels and program administrators to evaluate budgets for, appropriate and full support for the costs of all open science practices.³ The Census Bureau should encourage the full consideration of all open science activities in proposal budgets and should review proposals to ensure that appropriate expenses are included. To support this, language on line 122 should indicate that costs "should" be included in budgeting, and language on line 123 should indicate that in addition to DMPs, that "budgets for public access activities" will be reviewed as part of the Census Bureau's process.

Many agencies and other institutions have successfully implemented sharing practices in collaboration with the publishing community, through shared infrastructure and cooperative agreements with various infrastructure providers, coalitions, and individual publishing organizations. One example of such a success is CHORUS (www.chorusaccess.org), which has partnered with Federal agencies to help with public access implementation and reduce the burdens on researchers for compliance. Some of our member organizations have worked with institutions and agencies to provide repositories for data and metadata as well. STM recommends that these possibilities be added to the public-private partnership

² See, for example, a 2020 survey by Springer Nature, "Exploring researcher preference for the version of record" (<https://www.springernature.com/gp/open-research/version-of-record>).

³ See <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-23-161.html>.

section on lines 309-311, and that, rather than referring to a single institutional repository, the Census Bureau consider multiple options and approaches.

Finally, the experience of STM and our members in promoting open science practices has shown that focused attention and clear guidance is critical. The Census Bureau can build on efforts such as STM's Research Data Program⁴ that seeks to support the use of clear, transparent data availability statements in the implantation of data management and sharing plans. Such initiatives also demonstrate that all stakeholders need to work together to enhance research data sharing practices.⁵

2. *What are the biggest challenges to implementing a public access policy, and how can these challenges be addressed?*

The key challenges to implementing a public access policy relate to making a transition from the current system to one where peer-reviewed publications and associated data are made immediately available upon publication and ensuring that the transition enables the continuation of a vibrant ecosystem for the communication of the results of research. These challenges can be addressed with appropriate funding, budgeting support, and guidance; protecting academic freedom and author choice in journal outlets rather than restrictive licensing requirements; and promoting culture change and avoiding confusion amongst stakeholder communities. This is equally true for publications and for research data.

Fostering a vibrant ecosystem for the communication of the results of research with appropriate and sustainable funding: Current global efforts to expand open access indicate that direct support for publishing (which includes APC-supported open access, Read and Publish Agreements, subsidies, memberships, and other evolving models) provides the most sustainable and rapid transition towards open access.⁶ Without consistent and appropriate funding for a diversity of models for access, coupled with guidance and budgeting support, the maintenance and improvement of the quality and integrity of the scientific record is at risk, undermining the ability of scholarly communication to support public trust in science, thereby resulting in 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, in conflict with efforts to promote equity. Appropriate and sustained funding to underrepresented groups and fields could also help address equity. For these reasons, we urge the Census Bureau to ensure all supported authors have the same opportunity to make their articles open access upon publication through a fully-funded open access route.

Such 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. To support researchers with budgeting for the costs of making their work immediately and freely available, STM members are committed to the maximum possible

⁴ More on the STM Research Data Program is available at <https://www.stm-assoc.org/research-data-program/>.

⁵ See <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 funder and publisher representatives, ratified in October 2018 and is available through a CC-BY 4.0 license.

⁶ STM's Open Access Dashboard provides information on the growth of open access and various types and funding models, including Read and Publish and other pooled funding arrangements <https://www.stm-assoc.org/oa-dashboard/>.

transparency around pricing, in accordance with regulation and antitrust concerns, and publishers' APC prices are virtually always transparent.⁷

Ensuring author choice and a diversity of business models through licensing options: Flexibility in licensing options not only promotes academic freedom, but it also supports equity, bibliodiversity (i.e., smaller publishers), and supports information integrity. Flexibility supports equity by enabling researchers to choose the methods and modes of communication and protect against misuse and misrepresentation of their work if they so desire. Flexibility supports bibliodiversity by providing options for journals that need exclusive rights to support sustainable business models and continue investments needed for quality, preservation, discoverability, innovation, and impact, particularly those pursuing Green open access approaches. Flexibility supports information integrity by allowing copyright holders to approve translation, modification, and commercial dissemination of works in advance, as well as potential use of works by LLMs and AI tools, preventing the use of the work in ways that misrepresent it or promote misinformation.

Researchers should have the ability to utilize their copyright in any peer-reviewed articles reporting on research funded by the Census Bureau in the manner of their choosing, in order to best serve their interests in communicating their results and increasing the impact of their work. This should include applying their license of choice or assigning copyright to others. Any approaches that restrict author choice in determining the journal in which to publish or that require authors to relinquish rights to the public without the ability to review further uses, is inconsistent with academic freedom and the goals of funding independent research.

The Plan appropriately recognizes that there may be limitations to public access related to intellectual property (line 72) and also that authors should be able to control their copyright (line 101-102). STM supports these provisions.

Promoting culture change and avoiding confusion amongst stakeholder communities: Surveys regularly demonstrate that researchers are uncertain of open science practices, funder requirements, and their rights and responsibilities for sharing of outputs related to their research, and many do not engage in open science practices even when they support them in principle.⁸ Publishers make significant efforts to ensure that researchers understand and have tools to support open science activities through training, editorial policies, and direction to authors. There will need to be cultural changes that value the sharing of data in a responsible, curated, and high-quality manner that is useful to the research community and the general public. As noted above, the STM Research Data Program can provide insights to address these challenges. All stakeholders need to come together to support incentives, tools, and education to do so, and financial and logistical support for open science. Researchers also

⁷ Some examples include American Chemical Society: (acsopencscience.org/researchers/oa-pricing/), American Physical Society (journals.aps.org/authors/apcs), Elsevier (www.elsevier.com/about/policies/pricing), Springer Nature (www.springernature.com/gp/open-research/journals-books/journals), Wiley (authorservices.wiley.com/author-resources/Journal-Authors/open-access/article-publication-charges.html), The Public Library of Science (PLOS) (plos.org/publish/fees/).

⁸ Note, for example, a 2022 survey of Springer Nature authors discussed here: <https://scholarlykitchen.sspnet.org/2023/02/02/guest-post-are-we-providing-what-researchers-need-in-the-transition-to-open-science/>.

need to be supported and encouraged to plan and budget for these activities. As noted in the response to the previous prompt, the NIH's review of budgets for open science costs is a good model for this practice.

Finally, implementation must be structured in order to minimize administrative burdens. This can be achieved through public-private partnerships (which could be noted in section 9 of the Plan) and through flexibility in implementation procedures. One way that this could be achieved is by expanding options for submitting articles that report on Census Bureau-funded research on line 114. Rather than saying "authors are required to submit" manuscripts, the Census Bureau could indicate that "authors are required to submit, have submitted on their behalf, or provide a link to a publicly accessible version of" an article reporting on Census Bureau funded research. The Census Bureau could also consider using "accepted version" rather than "author's accepted version" in lines 115 and 117, in keeping with recommendations from the National Information Standards Organization (NISO).⁹

3. How can the Census Bureau ensure equity in publication opportunities?

Changing access requirements within the scientific ecosystem are likely to solve some inequities from a reader perspective but can also introduce new ones. Concerted and collaborative action will be necessary to ensure sustainability and equity more broadly. Publishers already invest significantly in initiatives to enable researchers to participate in the scholarly dialogue, including educational efforts and funding programs that expand participation of underrepresented groups and ensure quality and integrity.¹⁰

The Bureau 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 authors have the funding, support, and encouragement necessary for their research to flourish and to choose the publishing option that best suits their needs and goals.

In addition to providing funding and flexibility, the Bureau should also consider additional funding sources and programs to assist both funded and unfunded researchers, including those in historically under resourced institutions or communities (including, but not limited to, Historically Black Colleges and Universities (HBCUs) and early career researchers). Publishers offer various funding programs to support the participation of less-well-resourced researchers, including discounts and waivers, that could be leveraged in partnership with the Bureau, and are continuing to innovate with new options and business models that address equity.

⁹ NISO RP-8-2008, Journal Article Versions (JAV): Recommendations of the NISO/ALPSP JAV Technical Working Group (<https://www.niso.org/sites/default/files/2017-08/RP-8-2008.pdf>).

¹⁰ 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 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.

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 Inclusion¹¹ and C4DISC¹² 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.).

4. How can the Census Bureau ensure public access and accessibility to outputs of Census Bureau-funded research?

In addition to the detailed recommendations provided earlier, STM believes that the best way to ensure public access and accessibility is through collaboration with the whole research community, which is already working to communicate the outputs of research with quality and integrity. Dialogue and consultation should center the research community and the researchers themselves, as well as work with publishers and others devoted to quality outputs. 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 the Census Bureau and the broad stakeholder communities engaged in Census Bureau-funded projects, can continue to drive quality, integrity, and innovation in scholarly communication.

There are opportunities to partner with publishers, standards organizations, and other infrastructure providers to improve public access and minimize burdens on researchers through the use of existing standards, metadata practices, and persistent identifiers as well as develop new ones as needed. Publishers stand ready to share our expertise that already provides persistent identifiers, metadata, and accessibility functionality as part of the scholarly record.

5. How can the Census Bureau monitor impacts on affected communities—authors and readers alike?

STM appreciates 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 accessibility and usage of articles and data and the ability of authors to publish in their journal of choice.

STM seeks to provide transparent and accurate information about the scholarly communications ecosystem and would be happy to work with the Census Bureau to explore metrics that could consider

¹¹ 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: <https://www.rsc.org/new-perspectives/talent/joint-commitment-for-action-inclusion-and-diversity-in-publishing/>.

¹² The Coalition for Diversity and Inclusion in Scholarly Communications (C4DISC) was formed by 10 trade and professional associations that represent organizations and individuals working in scholarly communications to discuss and address issues of diversity and inclusion within the publishing industry (<https://c4disc.org/>).

impact on affected communities. There are diverse efforts to measure the impact and usage of publications and data. For example, STM produces the OA Dashboard (<https://www.stm-assoc.org/oa-dashboard/>) to provide information on progress in open access, and our members participate in the COUNTER system (<https://www.projectcounter.org/>) to provide usage statistics for articles.

For authors, potential impacts include effects on the freedom of Census Bureau-funded researchers to publish in the journal, and under the license, of their choice, to safeguard against misuse or misinformation, and to ensure the broadest possible impact of their work. For readers, the degree of access to information is not the only impact that merits review; changes in policy may have impacts on the quality, integrity, accessibility, and contextualization of reports of research 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.

There will also be potential impacts on the economics of the scholarly publishing ecosystem and, potentially the quality, integrity, and the extent of the services provided by the publishing community. Where these are monitored, these should be holistically explored and evaluated, considering the impact on value in publishing as well as costs, rather than looking at one aspect or another of the economic and value chain in isolation. It is important to note that STM's members compete in a dynamic environment that drives them to provide the best possible quality and services along with 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, along with the services provided that are funded by publisher investments, 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, field/specialty, and distribution method. More broadly, the financial impact is unlikely to 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) or quality measure, 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, along with the value enabled by those investments. Such assessment should consider the effect of policies on the impact and utility of the scholarly record and the quality and range of services provided. Ultimately, a financially sustainable scientific publishing system is critical to advance trusted and impactful science for the benefit of researchers, research, and society. STM and its members would welcome additional conversation on this topic.

Sincerely,



Caroline Sutton

CEO

STM

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.