Elsevier submission to Office of Science and Technology Policy public consultation on Public Access to Peer-Reviewed Scholarly Publications Resulting from Federally Funded Research

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INTRODUCTION

Elsevier welcomes the opportunity to comment on the Office of Science and Technology Policy (OSTP) Request for Information on public access to peer-reviewed scholarly publications resulting from federally funded research. As a leading publisher of science and health information we serve 30 million scientists, students and health and information professionals worldwide. We help advance science and health by providing world-class information and innovative tools that help customers make critical decisions, enhance productivity, and improve outcomes.

Elsevier is an established, integral partner to the scholarly research community in the United States. Our US workforce includes nearly 3,000 people spread across 15 offices in 10 states. We publish around 260,000 journal articles each year, many of which are authored by US researchers and of which approximately 35,000 acknowledge support from the US government. In addition, we publish over 250 journals in partnership with US scholarly societies, such as American College of Cardiology, American College of Surgeons, and American Academy of Otolaryngology – Head and Neck Surgery. There are over 3,000 researchers in the US whom we engage as editors and reviewers for our more than 2,000 journals.

Elsevier's vision for Universal Access

One of Elsevier's primary missions is to work towards providing universal access to high-quality scientific information in sustainable ways. We are committed to providing the broadest possible access to our publications, whilst at the same time upholding the highest level of quality in our publications. This means significant, continued investment in the publication system. As this system develops new sustainable mechanisms need to be found to enable this system to continue to operate. The value of publishing services is recognised; the costs need to be recouped. Open access business models, such as author pays and sponsored articles, have a role to play as part of a diverse landscape that also includes other business models – in particular the proven licensing and subscription model.

Current Access Levels for Researchers

Since 1999, there has been a dramatic increase in access levels delivered by providing access to digital content under license through the subscription business model.

- Researchers now have access to significantly more content than they did in the print-only era: they now read from 25% more journals than in the mid-1990s and university faculty are reading 34% more articles¹.
 - 97% of researchers in the US (93% globally) express satisfaction with their access levels to research in journal articles². This very wide access is a reflection of the innovation and vibrancy of America's successful publishing community.
 - Access to journals is 14th on their list of concerns (lack of funding is number one; too much paperwork is number five)³.

¹ Heading for the open road: costs and benefits of transitions in scholarly communications. (CEPA - Joel Cook, Daniel Hulls, David Joss and Mark Ware Consulting - Mark Ware) April 2011 52pp. http://www.rin.ac.uk/news/press/heading-open-road-costs-and-benefits-transitions-scholarly-communications

² Access vs. Importance, A global study assessing the importance of and ease of access to professional and academic information. Phase I Results. 2010. Publishing Research Consortium http://www.publishingresearch.net/documents/PRCAccessvsImportanceGlobalNov2010_000.pdf

³ Ware, Mark. "Access by UK small and medium-sized enterprises to professional and academic information," Mark Ware Consulting Ltd for Publishers Research Consortium (April 2009)

 ScienceDirect, Elsevier's online journal platform, hosts more than 10 million articles dating back to the 1820s and now has more than 600 million full text article downloads per year, approaching 2 million article downloads per day.

Current Access Levels for the Public

While researchers are satisfied with their access, this is not always the case for other groups such as individual members of the public or small businesses. Sound market-based solutions are already in place to fill these gaps, for example through online lending services such as DeepDyve, through walk-in user provisions in library licenses, and via document delivery services. As part of our commitment to Universal Access we actively identify and close access gaps in ways that are sustainable and maintain quality. For example:

- Research4Life⁵ is a public-private United Nations initiative that makes thousands of STM journals available to over 5,000 institutions in over 100 developing countries at no or low cost. In 2010, Elsevier alone provided access to over 2,000 journals and 2.5 million articles from these journals were downloaded by researchers in developing countries. In addition Elsevier provides access to over 6,000 e-books through this initiative.
- Publishers, including Elsevier, have created <u>patientINFORM</u>⁶ in partnership with key medical associations including the American Cancer Society, the American Heart Association, and the American Diabetes Association. <u>patientINFORM</u> is a public health literacy project that provides patients and caregivers with a free online resource of interpreted, packaged, and up-to-date research about specific diseases that is based upon recently published journal articles.
- Elsevier provides patients and their family members with an option to rent articles through the online DeepDyve service. Articles from 100 medical journals are available for a fee of less than \$4 per article.
- Elsevier's "walk-in" license clause enables our library customers to give any member of the public free electronic on-site access to any journal article licensed by the library. Other publishers have similar programs.

Role of Publishers

Publishers have not always been good at explaining the essential role we play in scientific communication, and there are many misperceptions. We:

- Identify and support new areas of research by establishing and creating communities around new
 journals and adapting journals as fields evolve.
- Establish and develop the editorial perspective and scope for each of the existing 27,000 journals and create the reputation and brand to attract author's manuscript submissions to the "right" journal in highly focused fields of research.
- Find and manage the appointment of journal editors and the ongoing development of journal editorial boards to ensure the proper editorial perspective, authority and responsibility to the scientific discipline and readers.
- Establish and maintain sophisticated systems to manage the processing of some 2-3 million manuscripts submitted from researchers around the world annually.

⁴ http://www.deepdyve.com/

⁵ http://www.research4life.org/

⁶ http://www.patientinform.org/

- Organize, manage, and financially and technologically support the peer review of submitted pre-prints, a labor-intensive globally-dispersed process that results in some 1-2 million accepted manuscripts annually.
- Deliver the primary mechanism to ensure the veracity, and to improve accounts, of new research through peer review. Peer review, the process of subjecting an author's scholarly manuscript to the scrutiny of highly qualified experts in the same field prior to publication, is widely supported by the academic community. In a recent study, 85% of researchers agreed that peer review greatly aids scientific communication and 90% said that it improves the quality of the published paper⁷.
- Manage the communication of peer review results to several million globally dispersed authors annually.
- Solicit, edit and prepare for production some 1-2 million manuscripts that are accepted for publication.
 This includes copyediting, proofing, formatting, branding, paginating, adding metadata and identifiers,
 checking and enhancing artwork quality, and adding links to ensure interoperability using industry
 standards like CrossRef. We also convert, structure, and semantically tag text, data, and artwork in
 XML.
- Produce some 1.5 million final published journal articles each year, and disseminate them globally both
 in print journals and online electronic journal websites to 30 million of researchers and members of the
 public.
- Archive journal volumes and promote their use in perpetuity, "future-proofing" against developments such as electronic document file format changes through arrangements with partners such as national libraries and Portico⁸.
- Ensure the integrity of the published scientific record against plagiarism and distortion. For example, publishers regularly add errata or notices to articles and (on rare occasions) remove articles from the scientific record. CrossCheck⁹, a system developed by the STM publishing industry, has also been developed to detect plagiarism in manuscripts.
- Enable visibility of research through abstract and indexing services, providing free-to-read abstracts of published journal articles, and by ensuring publications are indexed in Google and other search engines.

Question 1: Are there steps that agencies could take to grow existing and new markets related to the access and analysis of peer-reviewed publications that result from federally funded scientific research? How can policies for archiving publications and making them publically accessible be used to grow the economy and improve the productivity of the scientific enterprise? What are the relative costs and benefits of such policies? What type of access to these publications is required to maximize U.S. economic growth and improve the productivity of the American scientific enterprise?

Elsevier shares the view that there is a direct link between investment in science and growing the economy and understands that contribution that broad access to information can make to help society to progress. One of Elsevier's primary missions is to work towards sustainable universal access to high-quality scientific information. We are committed to providing the broadest possible access to our publications, and also

⁷ Publishing Research Consortium (2007) "Peer Review in Scholarly Journals: perspective of the scholarly community. An international study."

⁸ Journals preserve the scientific record for future generations of researchers to build on. Professional publishers and libraries create and archive over one million peer reviewed journal articles every year. Over the last hundred years they have digitized and archived over 35 million articles, and these continue to be available for use today. At current growth rates a further 50 million articles will be added in the next 25 years. Publishers have organized and licensed well-established organizations such as the Koninklijke Bibliotheek (the Royal Library of the Netherlands, The Hague) and Portico to provide digital archival support for researchers and library customers.

§ http://www.crossref.org/crosscheck/index.html

understand that it requires considerable investment to maintain the highest standards for peer-reviewed scientific publications. The value of publishing services is recognised; the costs need to be met.

There is already a strong, innovative market for peer-reviewed publications, and researchers report good levels of access to research journal articles. No specific action is needed to improve access to publications by researchers; indeed backing any single business model would be reckless and risks destabilizing academia and the contributions it makes to the financial well-being of the United States.

With this in mind, we recommend:

- Individual agencies work with publishers and other stakeholders to develop standards for data to make research more readily discoverable. Initiatives such as CrossRef and ORCID are described further in our response to Question 4.
- Agencies make research reports and datasets of taxpayer-funded research freely available. Note that
 these outputs arise from publicly funded research and, unlike peer review publications, do not rely on
 investment from publishers.
- Agencies that wish to fund publication costs should provide their grant recipients with funds to publish in the title of their choice. These costs would be a small fraction of the research investment.
- Agencies should make members of the public more aware of their existing access options (e.g. the Deep Dyve lending service, free abstracts, patientINFORM, and access in libraries).
- If there are specific public access gaps of concern, government agencies should work in partnership with publishers to assess these gaps and develop sustainable business models (e.g. license extensions) for closing them.

Question 2: What specific steps can be taken to protect the intellectual property interests of publishers, scientists, Federal agencies, and other stakeholders involved with the publication and dissemination of peer-reviewed scholarly publications resulting from federally funded scientific research? Conversely, are there policies that should not be adopted with respect to public access to peer-reviewed scholarly publications so as not to undermine any intellectual property rights of publishers, scientists, Federal agencies, and other stakeholders?

Copyright is an exclusive right of authors. Copyright protection granted to publishers by authors provides incentives for publishers to invest in peer review; to improve the quality, appearance and ease of citation of articles; and to enhance the infrastructure to publish and distribute scientific articles. In return for this copyright protection publishers provide authors with a wide array of valuable services.

Publishers compete for authors, and give very careful consideration to balancing author/publisher rights.

- Elsevier, for example, ensures that authors retain a broad array of reuse rights in their publications including the right to voluntarily post accepted manuscripts in repositories and on websites. See www.elsevier.com/copyright for additional information.
- Employers and funders sometimes seek to adopt copyright policies that are intended to override or undermine the agreements between authors and publishers. These are unfortunately often developed without consultation with publishers. More direct dialog between employers, funders, and publishers to find mutually agreeable and sustainable ways forward would be far preferable.

Elsevier is working successfully with an array of funding bodies (for an overview of these agreements see www.elsevier.com/fundingbodies) on sustainable solutions, and would like to extend this to finding win-

win models that work for employers too. Such options can include 'gold' Open Access, whereby publication is funded by an article processing charge paid by the author or another sponsor such as a funding body. Gold Open Access provides one approach toward our shared goal of expanding access to peer-reviewed scientific works and maximizing the value and reuse of the results of scientific research. Another option is 'green' Open Access where manuscripts are made publicly available via repositories after a title-specific embargo period.

We have specific concerns about 'green' Open Access policies such as the National Institutes of Health (NIH) Public Access Policy. Early indications show the NIH Public Access Policy has had a negative impact on Elsevier and other publishers. We have experienced a modest reduction of usage (by subscribers) and transactional sales (for non subscribers) for articles on our publishing platform after they are placed on PubMed Central even with links to the published journal article. The NIH policy has only been in effect a few years and so these early warning signs are important: they indicate usage and revenue loss could increase over time as the content duplicated in PMC increases. This early evidence also suggests that PMC is providing access to users already served by the publishing system – essentially using tax payer funds to duplicate publisher efforts, and depriving publishers of revenue for their investments. The current NIH public access policy therefore seems neither efficient nor sustainable.

Further, the NIH Public Access Policy seriously diminishes copyright protections for private-sector journal articles. Government mandated submission of private-sector journal articles without compensation undermines a publisher' intellectual property rights and a publisher's ability to recoup the significant investment they have made in the peer review, editing and distribution of these articles. In addition, the NIH policy undermines incentives for the private sector to continue to invest in the peer review system that helps ensure the quality and integrity of published research articles. The NIH Public Access Policy is very problematic and should not be considered as a viable model.

Question 3: What are the pros and cons of centralized and decentralized approaches to managing public access to peer reviewed scholarly publications that result from federally funded research in terms of interoperability, search, development of analytic tools, and other scientific and commercial opportunities? Are there reasons why a Federal agency (or agencies) should maintain custody of all published content, and are there ways that the government can ensure long-term stewardship if content is distributed across multiple private sources?

There is a large body of peer reviewed scholarly publications and a wide array of existing public access mechanisms (e.g. <u>DeepDyve</u> rental, <u>patientINFORM</u>, inter-libary loans, document delivery, walk-in use at libraries) detailed above. Therefore, a decentralized approach is already well established and continues to make sense. In these challenging economic times it makes sense to encourage collaboration rather than duplication of effort.

There are problems with consistent quality and version control when content is made accessible to the public via repositories. One of the important roles that publishers play is to carefully shepherd the version of record for each article along with any errata or retraction notices subsequently made.

Publishers have invested and continue to invest in archiving. Therefore federal "custody" would be an unnecessary duplication of effort and a poor use of public funds. Professional publishers and libraries create and archive over one million peer reviewed journal articles every year. Over the last hundred years we have together digitized and archived over 35 million articles, and these continue to be available for use today. At current growth rates a further 50 million articles will be added in the next 25 years. Publishers

have organized and licensed well-established organizations such as <u>CLOCKSS</u> (based at Stanford University), the Royal Library of the Netherlands, and <u>Portico</u> to provide digital archival support for researchers and library customers. Government agencies concerned about digital preservation should collaborate in these initiatives rather than duplicate effort.

A decentralized approach relies on common technical standards. The publishing industry actively promotes interoperability and standards development and deployment. Through the CrossRef initiative publishers over the past decade have developed the Digital Object Identifier (DOI) - a unique identifier for each piece of content, including scholarly articles and datasets¹⁰. This in turn has leveraged exciting services such as CrossCheck (for plagiarism detection), CrossMark (for version identification and control), and the emerging CrossGrant (to link funding bodies to the publications that flow from funded research). Publishers including Elsevier are active partners in the ORCID initiative to develop open researcher and contributor identifiers.

Question 4: Are there models or new ideas for public-private partnerships that take advantage of existing publisher archives and encourage innovation in accessibility and interoperability, while ensuring long-term stewardship of the results of federally funded research?

Elsevier welcomes public-private partnerships. In fact, the current system for the dissemination of scholarly information is an example of a well-functioning public-private collaboration:

- the government contributes funds for research
- researchers and their institutions then provide the facilities and knowledge to support research and informal communications
- publishers develop journals and manage the value-added peer review publishing and distribution system which places research into context, assists in its validation, disseminates it, and ensures it is preserved for posterity
- libraries and their institutions subscribe to journals to provide access to their researchers and readers
- partnerships such as <u>CLOCKSS</u> (based at Stanford University) and <u>Portico</u> provide digital archival support for all stakeholders

The role of every stakeholder, including the publisher, is critical in this process. Our contribution as publishers is to manage the peer review of manuscripts, apply quality standards, create new journals in developing fields of science, provide electronic platforms for efficient discovery and archive the version of record. Publishers also provide a number of other value added services such as high quality production, reference checking and reference linking. Publishers are also positioned to collaborate with stakeholders within disciplines to develop solutions to discipline-specific challenges. For example, through the STIX project11, Elsevier, along with other publishers and stakeholders are creating fonts for mathematics and engineering publications.

¹⁰ CrossRef , a not-for-profit group founded by publishers in 2002 and maintains 50 million items. Almost 1000 publishers participate and assign DOIs to published content items. Development of the CrossRef service has resulted in seamless navigation of the research literature by users so that researchers using the bibliography in one article can link from a reference to the full text of the referenced article.

The mission of the Scientific and Technical Information Exchange (STIX) font creation project is the preparation of a comprehensive set of fonts that serve the scientific and engineering community in the process from manuscript creation through final publication, both in electronic and print formats. Toward this purpose, the STIX fonts will be made available, under royalty-free license, to anyone including publishers, software developers, scientists, students, and the general public

Journal publishers are actively developing collaborative projects with federal research agencies that will enhance the public access, utility, and preservation of the results from federally-funded research including reports, scholarly publications and data for use by both the research community and the general public. Many of these focus on the standards and persistent identifiers that can enhance the discoverability of government funded research results and to promote interoperability among different nodes in which scholarly information is surfaced on the web. Examples include:

- a. standardizing funding information Publishers have been working via CrossRef and with government agencies to create CrossGrant, a standard to link the funding agency, research reports, published journal articles, and datasets. Working together in this way saves all of us considerable effort, and significantly improves the efficiency with which scientists can access relevant information.
- b. persistent identification of datasets and publications standard identifiers such as the DOI (which links citations in articles to those articles) make possible the inter-linking of datasets and publications and increase the discoverability of data.
- c. author and institution disambiguation name ambiguity is a persistent, critical problem entrenched in the scholarly research ecosystem. The Open Researcher & Contributor ID (ORCID) project (www.orcid.org) is a successful public-private partnership with 275 participating organizations, including government agencies, funded by \$2M in loans from publishing partners and building on earlier work by Elsevier's Scopus author ID system and the Researcher ID system by Thomson Reuters.

Question 5: What steps can be taken by Federal agencies, publishers, and/or scholarly and professional societies to encourage interoperable search, discovery, and analysis capacity across disciplines and archives? What are the minimum core metadata for scholarly publications that must be made available to the public to allow such capabilities? How should Federal agencies make certain that such minimum core metadata associated with peer-reviewed publications resulting from federally funded scientific research are publicly available to ensure that these publications can be easily found and linked to Federal science funding?

Elsevier and other publishers are working with government and other stakeholders to develop appropriate identification and metadata standards (see our response to Question 4). We encourage federal agencies to work with publishers and other stakeholders that have expertise in developing and deploying metadata to ensure standardization and shared best practices.

The capability to mine content across large datasets of scholarly publications is an exciting development for cross-disciplinary research. Publishers are actively working to advance the use of content mining in research, and as an industry we are interested in developing standard mining-friendly formats, and model licensing terms. Elsevier has developed a content mining policy¹². Again, we are happy to work in partnership with federal funding agencies. The Publishing Research Consortium recently published a survey of current practice in this area which we commend to you¹³.

Finally, publishers already work in partnership on a broad array of public access initiatives (DeepDyve, PatientINFORM, library walk-in policies, document delivery agreements). We provide free access to abstracts, invest in abstracting and indexing services, and ensure that our publications are integrated into Google and all key search engines to maximize their discoverability. Government agencies could help by

¹² http://www.elsevier.com/wps/find/intro.cws_home/contentmining

¹³ http://www.publishingresearch.net/documents/PRCSmitJAMreport20June2011VersionofRecord.pdf

making members of the public more aware of the range of access options that citizen-researchers already enjoy. If there are other specific access gaps that are of potential concern to government agencies, publishers are ready to work in partnership and to deploy our skills in accurately assessing these gaps and developing sustainable business models for closing them.

Question 6: How can Federal agencies that fund science maximize the benefit of public access policies to U.S. taxpayers, and their investment in the peer-reviewed literature, while minimizing burden and costs for stakeholders, including awardee institutions, scientists, publishers, Federal agencies, and libraries?

It is important to note that the government funds research. The peer-reviewed literature, online environment, customer services, and related applications are, however, not funded by the government but are a result of investment by publishers.

The government should not appropriate versions of scholarly material (accepted author manuscripts and published journal articles) in which publishers have invested and added value. Such policies would not be justifiable or warranted, and would result in government "taking" of private-sector products.

If a government agency does implement a public access policy that pertains to published research outputs, it should do so according to these clear principles:

- Respect copyright
- Work in full and open consultation with all stakeholders
- Provide full and sustainable funding for any articles to be made freely available
- Develop evidence-based policy, nuanced to account for differences across subject disciplines, journals, etc.

Publishers already have a number of public access initiatives (e.g. <u>DeepDyve</u>, <u>PatientINFORM</u>, library walking policies, document delivery agreements, and free abstracts). Government agencies could help by making members of the public more aware of the range of access options that citizen-researchers already enjoy.

If open access models are used by government agencies, then these must be sustainable. They should cover the full cost of publication, and drive traffic to the publisher websites where the final, curated version of record for each article is located. Models for achieving this include gold and hybrid open access where authors, or their funders, pay an article processing charge to make the article available open access. Elsevier has a number of sustainable open access agreements with funding agencies in Europe (e.g. the Wellcome Trust, and Medical Research Council UK, FWF in Austria and Telethon in Italy) and we would be happy to engage in constructive discussions with US government funding agencies about win-win solutions.

Federal agencies could expand public access very quickly simply by making available their research reports (which, unlike scholarly publications are fully funded by the tax payer) and link these to related peer-reviewed published articles on publisher platforms. Access to research reports such as experimental data, technical reports, grant reports, abstracts, and conference papers could be easily posted online. Such a policy would not infringe on or appropriate the value-adding activities of the publishing process.

Question 7: Besides scholarly journal articles, should other types of peer-reviewed publications resulting from federally funded research, such as book chapters and conference proceedings, be covered by these public access policies?

Peer reviewed articles emerge from the peer review publishing process that publishers fund. Federal agencies fund the underlying research, but not the publication process or the publications themselves.

Journals, books, and conference proceedings all have different production workflows, costs, and business models. Publishers invest substantially in producing books, particularly textbooks, and all of these costs need to be met in sustainable ways. Books are produced at the active editorial direction of the publisher and represent significant publisher investment. Conference proceedings too are often published professionally, and where this happens the costs of these publications need to be met in a full and sustainable way. Elsevier believes the bundling of even more content types is unhelpful as it adds to the complexity of an already complex, and often unclear, debate.

We believe the government should focus efforts to make data and datasets more accessible. Research shows that these resources are important to researchers, and yet academics are largely unsatisfied with their access to data¹⁴.

Question 8: What is the appropriate embargo period after publication before the public is granted free access to the full content of peer reviewed scholarly publications resulting from federally funded research? Please describe the empirical basis for the recommended embargo period. Analyses that weigh public and private benefits and account for external market factors, such as competition, price changes, library budgets, and other factors, will be particularly useful. Are there evidence-based arguments that can be made that the delay period should be different for specific disciplines or types of publications?

We believe that copyright should be respected, and therefore peer-reviewed articles should not be made publicly available without permission of the copyright holder. For accepted author manuscripts and published journal articles, both of which publishers have invested in heavily, publishers should determine sustainable business models for their publications. This includes the time, if any, at which the accepted author manuscript or final published article is made publicly available. Publishers have a right to recoup their investments. The ability to recoup that investment enables innovation, allows infrastructure to be developed and maintained, and provides incentives for innovation and services, including mobile accessibility and content mining.

There are no "appropriate" embargo periods; one size does not fit all. The research in different disciplines (and in different journal titles) has different usage patterns and other characteristics. For example, articles published in the American Psychological Association's psychology journals have a long half-life and lifetime usage of about 4.5 and 19.5 years, respectively, ¹⁵ Elsevier is piloting title-specific embargo periods with a number of institutions and funding bodies. Our embargo periods are carefully set based on comprehensive article usage data. We are very concerned that there are early indications of a modest negative impact of

¹⁴ Access vs. Importance, A global study assessing the importance of and ease of access to professional and academic information. Phase I Results. 2010. Publishing Research Consortium

http://www.publishingresearch.net/documents/PRCAccessvsImportanceGlobalNov2010_000.pdf

⁵ letter from PSP and DC Principles in response to previous OSTP RFI

the NIH policy (with 12 month embargo) on both our usage levels and Pay-Per-View revenue. This reinforces the message that one size does not fit all for embargo periods, and publishers need the flexibility to determine appropriate embargo periods on a title-by-title basis.

Our proposal for a policy framework for public access to peer-reviewed scholarly publications resulting from federally funded research

- 93% of researchers report they are happy with access to research information in journal articles.
 38% are satisfied with their access to data. OSTP's primary focus should be to improve access to data for researchers. By enabling the development of standards for data deposit and curation, and incentivizing academics to deposit their data the United States can play an essential and transformative role. Elsevier, and other publishers, can play a role to help encourage and support compliance with such policies.
- Where access gaps exist, OSTP policies should encourage government agencies and publishers to
 work together to fill these gaps in sustainable ways. It is important that the OSTP should remain
 business model neutral. In these fiscally straitened times it is important that the OSTP encourages
 all sustainable approaches to broadening and widening access: whether that is through commercial
 lending models, information philanthropy, license extensions, paid open access publications, public
 library service provision, or any other route.
- The OSTP should not adopt government mandated approaches that require the deposit of privatesector journal articles. If the government finds evidence that there are some access gaps that can only be filled through open access publishing models, then government agencies must provide funding to enable those articles/titles to be made available open access in sustainable ways.
- OSTP should encourage the many constructive partnerships already underway between publishers and government agencies to increase awareness of, and access to, the research outputs of those agencies.

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