



AMERICAN  
PSYCHOLOGICAL  
ASSOCIATION

January 10, 2012

Office of Science and Technology Policy  
Executive Office of the President  
725 17th Street, Room 5228  
Washington, DC 20502

**RE: Request for Information: Public Access to Peer-Reviewed Scholarly Publications  
Resulting from Federally Funded Research (FR Doc. 2011-28623)**

*Submitted electronically to: [publicaccess@ostp.gov](mailto:publicaccess@ostp.gov)*

Dear Sir or Madam:

I am writing on behalf of the American Psychological Association (APA) in response to the Request for Information issued by the Office of Science and Technology Policy (OSTP) in the *Federal Register* (Volume 76, Issue 214) of November 4, 2011. The OSTP notice seeks public input on “approaches for ensuring long-term stewardship and broad public access to the peer-reviewed scholarly publications that result from federally funded scientific research.” We welcome this opportunity to provide recommendations, which we understand will serve to inform the National Science and Technology Council’s Task Force on Public Access to Scholarly Publications.

APA is the largest scientific and professional organization representing psychology in the United States and the world’s largest association of psychologists with 152,000 researchers, educators, clinicians, consultants, and students. APA is also the largest publisher of behavioral science research, with 59 of the premier scholarly journals in the field of psychology. Our association strongly supports efforts to enhance public access to scientific publications that advance science and benefit the public, while safeguarding the copyright interests of publishers.

It is essential to recognize that peer-reviewed manuscripts and scholarly publications are not the direct “result” of federally-funded research subsidized by taxpayers. Such a misconception fails to take into account the value that private sector publishers contribute to the scientific enterprise through such critical functions as editorial selection, peer review, copyediting, design production, dissemination, and archiving. Publishers are also currently engaged in, and exploring, a variety of approaches to increase public access to their publications, which include free access to abstracts with reasonable costs for the full article, free access for patients, and free access to developing countries. It is not in the public interest to use taxpayer funds to duplicate services that are currently well provided by publishers. Such an action would draw funds away from critically needed research and stifle innovation in a rapidly evolving industry.

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It is noteworthy that the National Institutes of Health (NIH) and the National Science Foundation (NSF) are currently implementing two very different public access policies. The NIH model requires all NIH-funded investigators to submit or have submitted for them an electronic version of their final, peer-reviewed manuscript resulting from NIH-funded research to PubMed Central to be made publicly available within 12 months after the actual date of publication. The NSF public access model, as established by the America COMPETES Reauthorization Act of 2010, requires NSF-funded investigators to submit their final project reports and citations of published research documents resulting from their research, *along with a summary specifically for the general public that describes the nature and outcomes of their research project.* These materials are to be made publicly available in a timely manner and in electronic form through the NSF Web site.

The NSF public access model is by far the preferred model for other federal agencies to emulate because it offers a means to provide the public with accessible and more readily comprehensible information about the results of federally funded scientific research without jeopardizing the copyright interests of authors and publishers.

In the process of developing priorities for public access policies, federal agencies should be guided by the principles of “transparency, participation, and collaboration.” These principles provide the cornerstone of the “Open Government Directive” that Office of Management and Budget Director Peter Orszag detailed in his December 8, 2009, memorandum to the heads of executive departments and agencies. The last line of this memorandum is particularly instructive: “Moreover, nothing in this Directive shall be construed to suggest that the presumption of openness precludes the legitimate protection of information whose release would threaten national security, invade personal privacy, breach confidentiality, or damage other genuinely compelling interests.” The future of scientific publishing should certainly be regarded as among these “genuinely compelling interests.” Possible unintended consequences of public access policies include a reduction in the number of peer-reviewed journals, a shift toward “author pays” models of publishing, privileged access to publishing based on ability to pay, and commercial exploitation or re-use of content that is otherwise protected by the legitimate copyright and intellectual property interests of authors and publishers.

*We would now like to address each of the eight questions posed in the Federal Register notice for public comment. In particular, we would like to call your attention to our response to question #8, which includes an analysis of life-time usage of scholarly articles published in a select set of our APA journals. The results of this analysis raise serious concerns about the establishment of “appropriate” embargo periods for federal public access policies.*

**(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?**

- The most important step federal funding agencies can undertake to ensure the growth of existing/new markets and to improve productivity within the research community is to engage in a collaborative dialogue with all stakeholders, recognizing that each stakeholder has critical but varying interests that support the success of the scientific enterprise. The NSF model provides an excellent funding model, serving the interests of science through its targeted research grants. The role of federal funding agencies should remain at the funding level. The American scientific enterprise system has long excelled—and will continue to excel—in maximizing the outcomes of research funding (federal, private, or commercial).
- Publishers are willing and able to work with all stakeholders to address existing or future gaps in access. Agencies should identify specific needs of particular user groups that are not already being met and collaborate with publishers and other stakeholders to meet those needs most effectively. Researchers, the general public, funders, patients, doctors, and others each have different information requirements. Many publishers have already demonstrated their commitment to identifying and addressing these access gaps, e.g., DeepDyve rentals, Research4Life, patientINFORM, Emergency Access Initiative, and access for public libraries, journalists, and high schools.
- Some options to broaden access to materials that analyze and interpret research for scientists and the public:
  - Work to develop standards for data and meta-data to make research more readily searchable and discoverable. Publishers are already working in partnership to develop standardized information and collections through initiatives such as CrossRef.
  - Working with researchers and other stakeholders to create appropriate policies to make the federal agency-collected and maintained outputs of taxpayer-funded research, such as grant reports and research progress reports, freely available to the public.<sup>1</sup>
  - Make funds available to support payment for open access to published articles. Several research funders already do this (Howard Hughes Medical Institute, The Wellcome Trust, and the Max-Planck Institutes).
  - APA recognizes that specific needs arise in our global community. In response, APA licenses content through HINARI and other such global initiatives. APA and other publishers can generally customize those licenses to meet specific or specialized user needs, including those of government agencies, and have the ability to ensure the availability of their content within existing infrastructures.

**(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?**

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<sup>1</sup> This would ensure readability to the broadest audience. NSF is already pursuing such a policy: <http://www.nsf.gov/pubs/policydocs/porfaqs.jsp>

The federal government should:

- Refrain from establishing mandates that take Intellectual Property (IP) without full rights holder authorization and compensation.
- Ensure copyrighted materials are protected from unauthorized dissemination and piracy. Copyright is an essential ingredient in promoting creativity, innovation, and the continued integrity and reliability of the scholarly record. We have seen that the NIH policy undermines IP and promotes piracy. The free, widespread availability of scholarly publications through PubMed Central (PMC) has clearly contributed to the appearance of copyrighted material on rogue sites, leading to millions of dollars in annual losses to U.S. publishers. *In this regard, it is highly problematic that, according to NIH's own PMC data, two-thirds of database users are from overseas, undermining critical export opportunities for an \$8 billion publishing industry that employs 50,000 Americans. Not only does this finding raise concerns about international piracy, but it also runs counter to the primary justification for the NIH public access policy – i.e., to provide free access to U.S. citizens whose tax dollars fund federal research projects.*
- Provide open access to final research reports, rather than asserting a type of eminent domain over peer-reviewed journal articles. This solution would allow standardization of information reported,<sup>2</sup> rapid and broad dissemination of the government-funded materials even before publication of a peer-reviewed article, and the preservation of IP. The NSF policy referenced above can be positively contrasted with the NIH policy in this regard.
- Support the continued operation of various models of publishing to ensure access to innovation and the ability for researchers to publish in the venue of their choice.

**(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?**

- Centralized, government-controlled custody of publication carries significant downsides and few upsides:
  - Long-term stewardship of content carries significant costs that are already being borne by publishers. In an era of dwindling federal resources, central federal repositories are duplicative and an unnecessary expense and recurring burden that may not be viable for long-term stewardship. They also create an extra burden for U.S. taxpayers.

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<sup>2</sup> Some agencies may want to establish a template for certain kinds of reports so as to facilitate various kinds of aggregate meta-analysis.

- With multiple sources of scholarly publications, many of which are not based on government-funded research, partnerships among stakeholders are essential for achieving effective access to the scientific literature that represents the latest scholarly discoveries.
- A centralized governmental approach will deter private sector innovation by establishing unnecessary levels of oversight and bureaucracy that stifle creativity. It will also minimize scientific and commercial opportunities by reducing potential traffic to innovative new applications that facilitate the work of researchers.
- The publishing industry is already promoting interoperability, search, development of analytic tools, and other scientific and commercial opportunities to an impressive degree.<sup>3</sup> There is no reason to doubt that they will continue providing innovative products and services, unless their financial livelihood is undermined by harmful policies.
  - APA ensures continued access to essential scientific information for its members and the public through its scholarly journals, books, videos, abstract services, databases, and the APA PsycNET platform. PsycINFO®, in particular, is an expansive abstracting and indexing database with more than 3 million records devoted to peer-reviewed literature in the behavioral sciences and mental health. Similarly, PsycARTICLES® delivers APA journal content to more than 40 million end users.
  - A competitive publishing environment of not-for-profit and for-profit organizations – all of which must receive a return on investment to survive – has led to robust technology development in scholarly publishing during the past 20 years. This sector of the publishing community, which includes professional associations, commercial publishers and university presses, moved quickly and decisively to introduce new technologies that meet researchers’ demands for faster and more user-friendly delivery of scholarly information.
  - Publishers over the past decade have developed the Digital Object Identifier (DOI), a unique identifier for each piece of content in a scholarly publication.<sup>4</sup> In partnership with stakeholders, we are continuing to innovate in the creation and standardization of metadata to make it easier for researchers and the public to find and use scientific research information.
  - Publishers collaborated with librarians and database providers to establish COUNTER (Counting Online Usage of Networked Electronic Resources), which has produced an international set of standards and protocols governing the recording and exchange of online usage data. This enables libraries to better understand how the digital collections are being used, and it allows publishers to better understand the usage patterns of their digital content.
  - Internet search engines, abstracting services, and other tools do an excellent job of ensuring the discoverability of research, and innovations in this area are happening every day without government interference.

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<sup>3</sup> See response to question 5.

<sup>4</sup> CrossRef is 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.

**(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?**

- Journal publishers are actively working with federal research agencies to develop and implement multiple collaborative projects that will enhance the public access, utility, and preservation of materials that report on, analyze, and interpret federally-funded research. These materials include progress reports, scholarly publications, and data for use by both the research community and the general public.

**(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?**

- Publishers are dedicated to the widest possible dissemination and discoverability of publications that analyze and interpret research.
- Partnerships with industry are already underway to determine, develop, and include appropriate metadata in publications. Examples of such metadata initiatives include:
  - (1) Standards and persistent identifiers to enhance the discoverability of publications that analyze and interpret government-funded research and to promote interoperability among the funding agencies, publishers, and any third party databases and platforms:
    - a. Standardizing and facilitating funding agency information.** Publishers are collaborating with agencies to create a pilot initiative to clearly indicate the funding agency responsible for research described and analyzed in a scholarly publication or an associated dataset, giving the research community and public easy links to a variety of access options on publisher and agency Web sites. Engaging with the publishing community to gather and link this information will save agencies considerable effort and expense compared with producing or maintaining such information or services on agency Web sites.
    - b. DOIs for data sets and article supplementary material.** There is considerable opportunity for strengthening the multiple organizational partnerships that already exist to promote the identification, discoverability and archiving of data, including Datacite ([www.datacite.org](http://www.datacite.org)) and the NISO/NFAIS Working Group on Supplementary Journal Information ([www.niso.org](http://www.niso.org)).
    - c. Author and institution disambiguation.** Name ambiguity and attribution are persistent, critical problems embedded in the scholarly research ecosystem. The Open Researcher & Contributor ID (ORCID) project ([www.orcid.org](http://www.orcid.org)) is a successful

public-private partnership with 275 participating organizations.<sup>5</sup> It is funded by \$2M in loans from publishing partners and builds on successful investments by publishers in the past. A pilot demonstration began earlier this year and is on schedule. Institutional IDs will be addressed in a second stage.

(2) Discovery tools to facilitate journal content mining, access dark archives, and improve data management:

- a. **Content mining.** Content mining projects could be developed as collaborations between publishers and federal funders. Publishers are already working on projects to mine journal and book content.<sup>6</sup> It might be helpful for federal funders to develop a content mining demonstrator to illustrate the value of content mining to the broader scientific community.
  - b. **Author-driven data management.** For many years, publishers have produced and archived data-specific journals, and they are maintaining and updating such data sets with DOIs and semantic tagging. There are also many examples of pilot projects on data management.<sup>7</sup>
- Federal agencies should work with publishers and other stakeholders who have expertise in developing and promulgating metadata to ensure standardization across disciplines and share best practices.

**(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?**

- An excellent mechanism to ensure public access to materials that analyze and interpret research funded by the taxpayer is already partially implemented. By law, every federally funded research project is required to provide a detailed final report. Although these reports are not journal articles, they may be superior in many ways in satisfying the goal of increasing public access to the results of federally-funded research. Detailed final reports are often much longer than the resulting journal articles. In some cases, journal articles are never produced or published, and so the final reports provide the best and only access to the outcomes of the research projects, including those with negative findings. Final reports often precede the resulting journal articles by many months or years.
- Some science funding agencies make these final reports freely available via the Web, but others do not. Making them all available would vastly enhance public access. The federal

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<sup>5</sup> Of these participating organizations, 15% are in publishing, 40% in academia and 15% in industry.

<sup>6</sup> The Publishers Research Consortium recently completed a study on article-level content mining based on a broad survey of ongoing or planned activities among nearly 30 STM publishers or associations.

<sup>7</sup> For example, there is an NSF project under consideration (IOS-1127112) on data management in the biosciences that involves a partnership with a publisher in the field of plant biology, creating a discipline-specific archive (Dryad.org) for biology data. This allows authors to archive data used in peer-reviewed articles for a nominal fee. The American Astronomical Society (AAS) is pursuing the establishment of a universal astronomy-specific data repository based on the Dryad model, by engaging all major publishers of astronomical journals.

funding agencies themselves are in the best position to require appropriate final reports from investigators and institutions, to set appropriate standards for their content and accessibility, and to disseminate them via the Web. Web-based final reports offer the highest level of public accessibility by providing hypertext links to published peer-reviewed journal articles and other products of the research. NSF has already made significant progress in developing a viable model through its investment in *Research.gov*.

- Agencies should seek productive and mutually beneficial projects and partnerships that ensure greater availability of both taxpayer-funded research directly from the government and peer-reviewed, value-added publisher content. For example, publishers can partner with federal agencies to provide easy links between progress reports detailing research results, including lay summaries, and the peer-reviewed version of record, including complete access to the abstract or summary. Such projects would result in interoperability between funding agencies and publisher content, ensuring more timely and complete availability of scientific communication related to federally-funded research, as well as better reporting on the results of taxpayer funding for research.
- Such partnerships will maximize public access to the federally-funded research in which taxpayers invest, while minimizing the burdens and costs for stakeholders. The federal investment is in research, not publication. The publishers' investment is in cultivating and maintaining a rigorous and high-quality peer-reviewed literature. Both sources of investment contribute to the merit of U.S.-based science and research. Fruitful collaborations and partnerships will most efficiently leverage those continuing investments and maximize the benefit of public access.
- NSF provides a compelling example of how a federal agency is able to leverage its partnerships with other stakeholders to broaden the distribution and accessibility of the research it funds. Easily accessible through the NSF Web site is a constantly updated list of “discoveries” made possible through NSF grants (<http://www.nsf.gov/discoveries/>). In addition, NSF supports Science 360 – an array of resources accessible through the Web (<http://www.science360.gov>), along with smartphone applications, which provide video, audio, and news coverage of scientific discoveries made possible by NSF. These resources aggregate materials from many stakeholders, and as a result, are able to maximally leverage the contributions of those stakeholders (which include scholarly publishers). NSF is already doing this in a way that minimizes the burdens and costs for all stakeholders, including taxpayers. It is a workable model that can be emulated by other federal agencies.

**(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?**

No. Publishers also invest in these other types of content used by researchers, often by conceptualizing the project, commissioning the content, and investing heavily in its development. As with any kind of content published by a nongovernmental entity at its own initiative, government-mandated access to books, proceedings, or other such materials is an appropriation of private property.



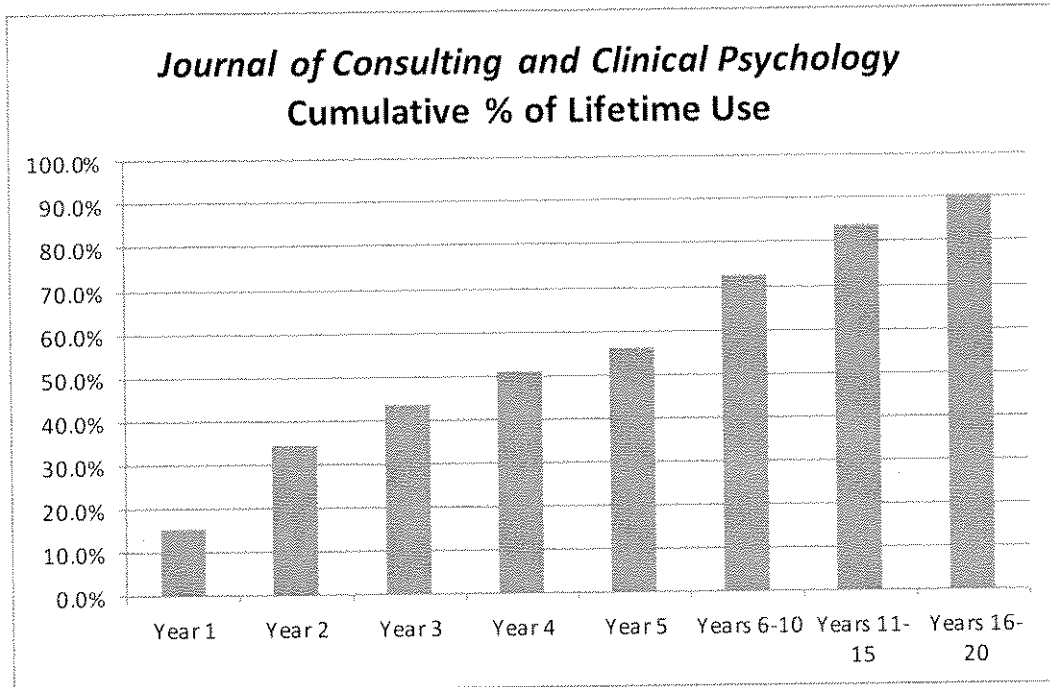
**(8) What is the appropriate embargo period after publication before the public is granted free access to the full content of peer reviewed scholarly publications resulting from federally funded research? Please describe the empirical basis for the recommended embargo period. Analyses that weigh public 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?**

- There are no “appropriate” embargo periods, and the research in different disciplines (and even subfields) has different life spans. APA tracks the usage of individual journal articles and conducts annual data analyses on a journal-by-journal basis. Usage statistics are generated based on annual journal data and lifetime article data. APA’s PsycARTICLES full-text database is used to estimate the “shelf-life” of an average journal article, i.e., the lifetime usage or how long the article is used over time, by examining downloads by copyright year.

The analysis of lifetime usage is conducted in two ways. First, individual articles are followed prospectively from their years of copyright forward. The ability to track download usage in this way is relatively recent and therefore does not allow the analysis to extend from more than five to seven years. A second method is therefore employed. This involves use of the APA full-text database, which includes the entire back-catalog inventory of APA journal articles. For a given year, download usage is computed retrospectively by computing current year usage stratified by year of copyright. This method allows the analysis to extend back in time for 20 or more years.

APA currently publishes 59 scholarly journals. For ten of these journals, approximately one-third or more of the articles were supported in whole or in part by NIH grant funds. These 10 APA journals include: *Abnormal Psychology*, *Behavioral Neuroscience*, *Developmental Psychology*, *Emotion*, *Health Psychology*, *Journal of Consulting and Clinical Psychology*, *Journal of Personality and Social Psychology*, *Neuropsychology*, *Psychological Assessment*, and *Psychology and Aging*.

The pattern of download usage of articles in these journals is remarkably consistent, both across journals and across method of analysis. Outcome data for the *Journal of Consulting and Clinical Psychology* are shown in the graph below. These data show the percentage of articles downloaded in a given year with copyrights of that year (Year 1), the previous year (Year 2), and continuing retrospectively for 20 years (Years 16-12). Also provided is the cumulative percentage of “lifetime use,” defined as 90% of use.



*Journal of Consulting and Clinical Psychology*

	% in Year	% of Lifetime
Year 1	15.4%	15.4%
Year 2	34.4%	19.0%
Year 3	43.7%	9.3%
Year 4	50.9%	7.2%
Year 5	56.3%	5.4%
Years 6-10	72.7%	16.4%
Years 11-15	83.9%	11.2%
Years 16-20	90.7%	9.8%

The data for this one journal mirrors the experience across all of APA's 59 journals. The basic pattern of lifetime usage in a given year is as follows: 16.3% in the initial year of copyright, 17.8% in the second year, 9.5% in the third year, 7.3% in the fourth year, 4.5% in the fifth year, 17.0% in years 6-10, 10.5% in years 11-15, and 7.3% in years 16-20. The basic pattern of cumulative lifetime usage across all APA journals is 16.3% in the first year, 34.1% in the second year, 43.6% in the third year, 50.9% in the fourth year, 55.5% in the fifth year, 72.5% in years 6-10, 83.1% in years 11-15, and 90.4% in years 16-20.

These data demonstrate that articles published in APA journals have a long half-life and lifetime usage of about 4.5 and 19.5 years, respectively. Using the life-time utilization of APA journal articles (which occurs over a much longer period of time than the first 12 months) as an example, funding agencies must recognize that there are no "appropriate" or

“universal” embargo periods, and that research in different disciplines (and even subfields) has different life spans.

In conclusion, given all that is at stake in the development of federal public access policies, we urge the federal government to refrain from mandating a policy that would apply across federal agencies without further study at a minimum. In short, the federal government would be well advised to view this situation as a natural experiment with the benefits that it offers to evaluate the various public access models currently in place in both the public and private sector. As noted by OSTP in an earlier January 2010 *Federal Register* notice: “The NIH model has a variety of features that can be evaluated, and there are other ways to offer the public enhanced access to peer-reviewed scholarly publications. The best models may [be] influenced by agency mission, the culture and rate of scientific development of the discipline, funding to develop archival capabilities, and research funding mechanisms.” The results of such an evaluative study would help to determine whether there is indeed a one-size-fits-all model of public access for federal agencies that could address the interests of key stakeholders, and if so, what the requisite features of such a model would be.

Thank you once again for this opportunity to offer APA’s recommendations on ways to enhance public access to the peer-reviewed scholarly publications that are based on federally funded research. We believe that the best approach to achieve greater public availability to federally funded research is through public/private collaborations that include publishers. We will continue to work in partnerships with all stakeholders – scientists, institutions, libraries, federal agencies, and other publishers – to maximize the dissemination of scientific publications, ensure their discoverability, and provide long-term stewardship to enhance the research enterprise.

Sincerely,



Norman B. Anderson, Ph.D.  
Chief Executive Officer