



IADR/AADR Comments to the Office of Science and Technology Policy on Public Access Policy

To:
Office of Science and Technology Policy
Attn: Open Government Recommendations
725 17th Street
Washington, DC 20502
via e-mail to: publicaccess@ostp.gov

From:
Dr. Christopher H. Fox, DMD, DMSc.
Executive Director
International and American Associations for Dental Research
1619 Duke St.
Alexandria, VA 22314
cfox@iadr.org

January 21, 2010

Introduction

The International Association for Dental Research (IADR) and its American Division, the American Association for Dental Research (AADR), are owners of the *Journal of Dental Research (JDR)*, a specialized scientific journal that uniquely serves the craniofacial and dental research community. The IADR, with over 10,500 members worldwide, including 4,500 members in the AADR, is dedicated to advancing research to improve oral health and to facilitating the communication and application of research findings.

One method of research communication is through our flagship journal, the *JDR*, which has the highest five-year Scientific Impact Factor (SIF) of any peer-reviewed dental journal. The main source of revenue to cover the expenses of the peer review infrastructure, print publication and online version comes from individual and institutional subscriptions. In a typical year, the *JDR* will have about 30% of its accepted research manuscripts with some NIH funding, although it has been as high as 57%.

The *Journal of Dental Research* supports the [DC Principles Coalition for Free Access](#), and content is free of access controls, no matter the funding source, 12 months after publication. We have digitized our entire *Journal* content back to volume 1, issue 1, published in March of 1919. Scientists, dental practitioners, students, and the public can access all of our content free of charge from March 1919 to January 2009. The *Journal of Dental Research* fully complies with the mandatory NIH public access policy and submits to PubMed Central (PMC) accepted manuscripts on behalf of NIH-funded authors with an embargo period of 12 months from the original date of publication.

For a small professional association, we have invested significant resources to:

- establish an effective peer-review system
- develop in-house copyediting and production systems
- launch our *Journal* online in 2002, and
- digitize all of our volumes back to 1919

The only way for the Associations to recoup this investment – not make a profit – is to retain the copyrighted material and to offer individual and institutional subscriptions.

However, a drop in subscriptions in recent years, subsequent to the 12 month embargo period, was a major contributing factor to our Association having to cease its in-house copyediting and production of the *JDR*. To be fair, it is impossible to know at this point whether the true decline in journal subscriptions was due to open access (OA) policies, the current economic crisis, or other mitigating factors. However, the decline in subscription revenue, without a corresponding drop in costs, required the Associations to move these operations to an outside publisher, where they can leverage their economies of scale to offset declining subscriptions.

As a non-profit owner of a scholarly journal, we will use this opportunity to comment to discuss our experience of shifting our in-house publishing model to an outside model,

and provide our insights on to how the OA policies have affected our business model in particular.

We appreciate the OSTP's opportunity for comment, as well as efforts by the Obama Administration to promote transparency throughout the process. The Obama Administration has also been a welcome and staunch champion of building an innovation economy through investments in biomedical research, and for this we are extremely grateful.

As mentioned above, we fully agree and comply with the DC Principles Coalition for Free Access. After all, the basic and clinical research that our members conduct is all for naught if it does not eventually result in new technologies, cures, or treatments. We recognize that diffusion of knowledge is key to turning these discoveries into reality, and is why we have invested substantial sums over past few years to digitize all of our past volumes, and make them freely available to anyone after 12 months. However, the post-grant peer review process that publishers fund helps validate and filter the best science into one central repository – in our case the *JDR* – and help disseminate the highest quality of science as quickly as possible for utilization by researchers.

Moreover, there are genuine legal and economic concerns with an OA model. In these comments, we hope to provide first-hand evidence as to why an OA policy may actually threaten and stifle innovation and U.S. competitiveness, and why the unintended consequences of an OA policy would have far reaching and dramatic effects on the viability and existence of many journal publications.

IADR's Contribution to Scientific Review

The IADR and AADR strongly support the concept of free access to scientific literature online and, in recent years, have taken significant steps toward that goal. We invested substantial resources in information and Web technologies so that the *JDR* was able to go full-text online in January, 2002. Since January 2005, all online *JDR* articles have been free to the scientific community and public at large 12 months after initial publication. Furthermore, we have digitized our entire *Journal* content back to volume 1, issue 1, published in March of 1919. The *Journal of Dental Research* also complies with the current NIH public access policy and submits to PubMed Central (PMC) accepted manuscripts on behalf of NIH-funded authors, with an embargo period of 12 months from publication. All of these digital innovations in our journal incurred significant costs, and were financed by those members and institutions that chose to subscribe to our journal. This business model has worked well for us for decades, allowing us to keep subscription costs commensurate with production costs and allowing us to determine the success of our journal by the rise and drop in subscriptions.

Aside from making our journal more accessible in the digital age, we help further science and innovation by ensuring the integrity and veracity of the science in our field by managing the post-grant peer review process. NIH has acknowledged the value that is created through the post-grant peer review process by encouraging researchers to seek

publication in a scholarly journal.¹ NIH could have chosen to manage this process on their own at any point in time by providing the additional costs and infrastructure for post-grant peer review. However, the publishing process has been a well functioning and long-standing partnership between research agencies and publishers: agencies fund the application peer review that decides which grants are funded, as well as the research itself. Then, the scientific community relies on publishers to manage the post-grant peer review process to evaluate the merit and authenticity of the conclusions of the research. However, unlike the federal funding provided during the pre-grant peer review process, post-grant peer review is not funded by the agencies at all. There is no federal funding that goes into the publication process.

On a number of occasions, OA advocates have made the claim that with advances in information technology, the costs of the publisher's operations have been reduced, some claiming almost to nothing. We can assure you, the costs to produce a scholarly journal are real. Although the days of mailing unedited manuscripts around the world for review are gone, there still exists information technology (IT) infrastructure that is necessary to send manuscripts to reviewers in numerous countries, while being able to capture and evaluate all of their comments. This is an exceptionally intensive and collaborative task, one that incurs real costs both in terms of IT, but also in human capital and labor.

We have also invested a substantial amount of funding to creating a user-friendly and innovative online platform for our journal. Our online platform provides extensive linkages to related research, references, the ISI Web of Science, Google Scholar, and PubMed. By giving the user the ability to cross reference and search other databases and programs, it dramatically cuts down the time that researchers spend analyzing information.

As the digital age has lowered our postage costs and increased efficiency of the manuscript peer review process, we have been able to reflect these lowered costs by giving free access to subscribers and non-subscribers 12 months after publication. Thus, as costs have decreased, we have invested the cost savings three ways: into digitizing our archives back to 1919, maintaining an efficient web platform, and by delivering historical content free of charge.

We are still evaluating how this change in business model affects the financial solvency of our journal, and fully anticipate a number of subscribers drop subscriptions. However, our articles are not meant, nor have a large demand from, communities outside those in oral health. We are wholly a niche industry, catering our journal articles to oral health researchers – not the general public. Most of our articles are written by authors in a

¹ In the NIH Grants Policy Statement, the NIH “encourages grantees to arrange for publication of NIH-supported original research in primary scientific journals.” However, in the Grants Policy Statement, the NIH also informs the grantee that the NIH has irrevocable authority to take the article from the publisher and reproduce the results as it sees fit. This policy is not only delineated without regard to copyright law, but it also encourages grantees to seek peer review of their work so that publishers can assume all of the costs of peer review and publication, while the NIH can wait for the finished product and then claim ownership of it.

manner only to be comprehended and evaluated by the best oral health researchers. This is done specifically with the goal of advancing scientific knowledge and diffusing the best information in one place, so scientists can spend less time searching for the highest-impact science by filtering it all in one journal.

We respectfully submit that the layperson would derive very little value from our journal articles, and would gain a better understanding of the science being conducted at NIH by more user-friendly end-of-grant reports submitted to NIH by grantees. These reports are already required, but are for some reason not being looked at as a satisfactory means of disseminating scientific knowledge across public populations. We fully support working with the public sector to make these reports user friendly, freely accessible and interoperable with our articles.

The Economics of an OA Policy

T. Scott Plutchak, Director of the Lister Hill Library of the Health Sciences at the University of Alabama at Birmingham describes the background of the NIH-publishers' relationship over the years, and the inherent problems with an OA model²:

Explicit in the NIH policy is that peer review has substantial value – so much so, that NIH does not want any manuscripts deposited that have not gone through a rigorous peer review process and gotten the stamp of approval from a recognized peer review authority – i.e., a publisher. In developing the policy, NIH could have come up with their own vetting mechanism, but instead they quite sensibly chose to rely on the experts in managing peer review.

In "the old days" (when everybody understood what the rules were), publishers gained control of copyright in exchange for managing the peer review process. They were then entitled to use that control to develop revenue streams that would compensate them for the value that they were adding to the system. Copyright gave them control of the distribution of the work to which they had added value. Under the terms of the NIH policy publishers are expected to give up that control...

It is argued that this is not an unfair "taking" since the publisher has the right to refuse to grant the license that allows the author to deposit with Pubmed Central. This is, no doubt, technically and legalistically true. But since when is a choice between complying with a policy and going out of business a real choice? "Dear publisher – we respectfully ask that, for the benefit of the common good, you give up control of the most significant element of value that you add to the scholarly communication process. We don't actually have any way of compensating you for that, so you are perfectly free to refuse to do so – in which case, you will, of course, be put out of business since you will no longer receive the manuscripts that are your bread and butter... Good luck."

² "Quantifying the Value of Peer Review," available at: <http://tscott.typepad.com/tsp/2009/06/quantifying-the-value-of-peer-review.html>

As we mentioned earlier, last year the IADR decided that it was in the best interest of the *Journal for Dental Research* to move the publications process from an in-house model to an outside partner. For nearly 90 years, the *JDR* had been edited, proofed, peer reviewed, typeset, designed and distributed all by employees at the IADR headquarters. However, due to a confluence of factors, not least of which being a government mandated public access policy, our Board of Directors decided that working with a private sector publisher could help ensure the ability to the *JDR* to grow more quickly and more cost effectively in the new digital age.

Finding a partner that could help grow our journal was not exceptionally difficult for a number of reasons, not least of which is the quality of the science being conducted in our field, of which we are proud to be a supporter. The *JDR* is the number one journal in the field of oral health research. Our Journal, being heavily international and privately-funded and less subject to open access policies, maintains sufficient value-based pricing to offset the costs of production. For a large-scale publisher, using their economies of scale can actually result in a small profit that can be used to reinvest in new and innovative publishing technologies, ensuring that the *JDR* remains a leader in usability and accessibility.

However, the full effect of the public access policy has yet to hit other small non-profit publishers. If publishers are forced to surrender copyrighted material before they can recover the costs of producing the peer reviewed articles, society publications will be forced to adjust their business models. One of the first steps a struggling journal will take is to determine if they can outsource their operations to a private sector publisher, which can use their economies of scale to offset the costs and absorb the increased losses of producing the journal. However, the ultimate result is the consolidation of scholarly journal publications in the hands of just a few publishers.

Conversely, if a journal wishes to maintain their in-house journal operations, the inevitable result of a public access policy will be for editors to simply accept fewer federally funded articles. Journals that publish a majority of federally funded articles will likely see a steeper acceleration in the number of members and institutions dropping subscriptions, as compared to those that are predominately made up of articles not subject to strict public access policies – such as those from the international community or those that are privately funded (as noted above, the *JDR* normally has only about 30% wholly or partially-funded NIH articles). These federally funded articles will represent a liability to any journal, and a publisher or editor will have to manage the number of these articles to ensure sustainability of the subscriber base.

In essence, privately funded articles, which are not subject to an OA or public access policy, will have to subsidize the decreased readership from federally funded articles. A ratio of privately funded research versus less federally funded research will have to be maintained so that a journal can maintain readership. In short, a public access policy any more stringent than the current design greatly incentivizes publishers and editors to

accept far more non-NIH funded articles over those subjected to a public access policy of 12 months or less in order to maintain subscriptions.

With an open access policy, there will be a number of small non-profit scholarly journals that have too high a ratio of articles about federally funded research, resulting in decreased subscriptions that will create an operating loss for the journal. As more and more of these journals outsource their negative-return operations, there will be less of an appetite from large publishers to take on these journals and publications, as the non-OA heavy journals are left to subsidize the heavily OA journals. Eventually, there will be no more outsourcing partners for these journals looking to outsource operations, and they will eventually have to cease operation.

This is a terrible but inevitable side effect that will result from a public access model that is less than 12 months. Editors, with an intimate knowledge of a journal's financial viability and status, will tacitly favor non-public access articles in order to maintain an economically viable journal. Researchers will no doubt discover the new economic dynamic surrounding peer review of manuscripts, and those that have been denied publication of strong scientific articles will indignantly wonder if their submission was denied because the journal had already met its "quota" of public access articles. This is an unwanted economic dynamic to introduce to an otherwise fully scientific and meritorious peer review process.

Already U.S. scientists are falling behind other countries in terms of science funding, both from private and public sources. A strict public access or OA policy, in many instances, would force many publishers to further fuel this competitive disadvantage by lowering the citation rate and publication of U.S. scientists, key factors used to raise the profile of scientist and country at the global level.

Finally, public access and OA advocates have often mentioned that costs to produce the Journal could be offset by other means, including taking revenue from other society operations, moving to an author pays model, or raising member dues. In our view, the current system is the most efficient and equitable – those that wish to utilize this particular service that the society provides, namely the journal, pay a small fee for access to it. Otherwise, members that only wish to be members of the society, and not subscribe to the Journal, are forced to subsidize those that would subscribe.

Moreover, author pays models create expensive (in our estimates \$3500-\$4500 per article) barriers to entry for journal publication, particularly for young researchers. And raising member dues in an already difficult economic period would certainly result in a decrease in members, which affects nearly all of our society operations. In short, all models represent a more inefficient allocation of scarce resources, and eliminate the necessary ability for us to judge the efficacy and quality of our journal by monitoring journal subscriptions.

Next Steps: Gather Consensus, Identify Need, Address Copyright Principles

In his Transparency and Open Government memorandum, President Obama notes that “Collaboration harnesses innovative tools, methods, and systems to promote cooperation across all levels of Government and with the private sector.” We encourage this collaboration with industry and ask that the Government leverage the private sector’s rapidly evolving expertise, technologies, products and services in order to improve the quality and scope of services available to the public.

When collaboration fails to occur, the results are duplicative systems, incompatible databases, and barriers to information dissemination. Recently, the NIH created a central repository for manuscript submissions, but did not work effectively with the publishing community to build their infrastructure or standardize their submission policies. In the end, the NIH system was incompatible with outside archiving systems, attempted to compete with an already functional and successful privately-funded system, and used scarce resources that could better have been used to conduct basic or clinical research.

As noted in the Scholarly Publishing Roundtable Report, OSTP should collaborate closely with publishers, universities and other research entities to “achieve the full potential of publicly accessible, interoperable databases.” As such, OSTP should establish a public access advisory committee, made up of a comprehensive group of stakeholders, to provide a mechanism for periodic assessment of the rapidly changing scholarly publishing landscape.

Identifying Need

As owners of the *Journal for Dental Research*, we have never, to our recent knowledge, had a request for an article or volume from an interested party who simply could not afford it. However, if that were to happen, we would provide the requested article free to that patient. As a result, we fully consider that access is indeed “open” to our Journal. We simply ask interested parties to pay for the costs to produce the articles. This system is a true “user fee,” whereby only those interested in the product offset the costs of production.

However, we do not consider “free” access to be a sustainable model for our journal, simply because there are significant costs to produce the journal. Unfortunately, advocates for free journal access equate “open” and “free” access to journals without acknowledging the costs associated with journal production.

Additionally, the end-users of our journal – mainly academics and oral health researchers – have never approached our society with the notion that subscriptions costs were a barrier to their access to knowledge, or hindered their research efforts. In fact, data show that researchers rank access to information as one of their least concerns, ranking it 13th out of 16 factors.³ Funding for research was among their greatest concerns, however.

³ Access by UK Small and Medium-sized Enterprises to Professional and Academic Information, Mark Ware Consulting Ltd for Publishers Research Consortium, April 2009

As a matter of policy development, and particularly in this case where the Federal Government proposes to take property that has established copyright protections, we believe that the questions proposed by OSTP in question 3 (*Who are the users of peer reviewed publications, and how might they use them if they are more accessible?*) should already have clearly defined answers, with accompanying goals associated with them. Had the NIH or any other federal agency identified a significant segment of the population that felt there were significant barriers to access of journal publications, then the government could work collaboratively with the private sector to address the needs of that population.

However, there has never been a segment of the population that has been identified as experiencing barriers to access for journals, or a study linking subscription fees with decreased productivity or innovation. Subscription costs have never been identified by our subscribers as a barrier to access, and in fact, as noted above, a poll of scientists reveals that most scientists are pleased with their ability to obtain scientific information.

Alternatively, the main OA advocates, particularly libraries, have made it known that a 12 month or less public access policy will help to reduce their own costs. Although proponents of a public access and OA never acknowledge the costs of producing a journal, and only refer to the “public benefit” without actually identifying to whom they are referring, they have gone on the record about some of the financial implications of an OA policy. When polled, only 43% of librarians said they would subscribe to a journal if more than 40% of a journal’s articles were freely available at 12 months.⁴ This number falls to just 27% when all of a journal’s articles are OA at 12 months. Such a response leaves little guessing as to how many federally funded articles an editor would have to maintain to keep his journal appetizing enough for libraries to maintain subscription. Furthermore, with the anticipated decrease in journal purchases, perhaps the polling above can tell us what the real motivating factor is for OA advocates.

In short, as owners of a journal, we have never experienced a disenfranchised group of interested parties wishing to access our journal. In fact, we consider our journal to be freely accessible to anyone who wished to read it. We simply ask that if a person desires the latest content, that they pay a small fee to offset the costs of producing the peer reviewed articles. If a person wishes to access content older than 12 months, it is entirely free. However, there is a lack of identifiable “public need” by both the Administration and OA advocates, which we feel needs to be clearly established before dramatic changes to the copyright protection for journal articles is considered.

To obtain concrete data on which to build a new OA policy, we strongly urge the OSTP to give consideration to the European PEER Project, which is a collaboration between government, researchers and publishers that will study the effects of “large-scale, systematic depositing of authors’ final peer-reviewed manuscripts on reader access, author visibility, and journal viability, as well as on the broader ecology of European

⁴ Publishing Research Consortium Report “Self-Archiving and Journal Subscriptions: Co-existence or Competition” (July 2006). Accessible at http://www.publishingresearch.org.uk/documents/Self-archiving_report.pdf.

research.” This study will yield empirical data to drive a goals-oriented policy. At this point, we respectfully submit that the OSTP and NIH’s policy has been driven largely based on theory, and with disregard for the potential economic and scientific effects that will result from a stringent public access or OA policies. We ask OSTP to engage stakeholders in a similar evidence-based study to before agencies meld a policy that is not based on specific goals or disregards the larger impacts on the current post-grant review system.

A Preferred Model

We believe that the Government and the private sector could work together to better disseminate the results NIH-funded research to the public. This would not only provide taxpayers with a digestible final report of the research findings, but would also hopefully drive public traffic to the NIH’s research results in order to increase public interest and support for the science being conducted. As stated earlier, we believe that the final progress reports that are required by NIH could be made more robust, being written for a public audience and housed on an interoperable and user-friendly IT infrastructure. This model would be similar to the one established under the America COMPETES Act, which required researchers funded through the National Science Foundation (NSF) to provide a final report that described their research findings, which is then deposited in a central and public repository.

This model can be adopted in a consistent manner with the President’s Open Government initiatives, and will respect the long standing copyright protections that have financed the post-grant peer review process. Perhaps most of all, it is a model that makes a clear distinction that the articles contained in peer reviewed scholarly journals are not drafted for a public audience. They are written by world class researchers and doctorates seeking validation amongst their colleagues. This model validates and filters the best science into one repository for scientists, helping scientists to more efficiently review breakthroughs and innovations in their own field.

While scholarly articles are not intended to be written for the layperson, we have an opportunity to create a better reporting system for the layperson by replicating the America COMPETES Act model at the NIH. Simply “taking” publishers peer reviewed articles as a surrogate for the lack of robust NIH public research reports will likely lead to a reduction in the number of scholarly journals, and leave editors with the undesirable economic incentive to maintain a sustainable low level of federally funded OA articles in their journals. Such a policy creates an environment that ultimately harms the U.S. researcher’s ability to compete on the global stage, as our researchers are published and cited less than counterparts in other countries.

Conclusion

The IADR agrees with the broader scientific community that the results of federally funded research – particularly through the NIH – could be better disseminated. For

years, there has been a relationship between NIH and the publishing community whereby the publishers were transferred control of copyright and distribution rights in exchange for funding the post-grant peer review and publication process. This relationship, which results in the best science being disseminated to the scientific community as efficiently as possible, is now at risk as a number of strict public access and OA advocates conflate end-of-grant reports with post-grant peer reviewed journal articles. The two entities – final grant reports and journal articles – are meant for two different audiences, serve two different purposes, and have significantly different costs associated with them. In fact, final grant reports are funded exclusively by the taxpayer, whereas journal articles, and the infrastructure used to create, disseminate and house them, are funded wholly by subscribers in the scientific community.

In short, the lack of a post-grant reporting infrastructure at NIH should not lead to the taking of publisher's long held copyright as a surrogate for end-of-grant reports. If publishers' copyrights in journal articles continue to be undermined, simple economics will render this policy obsolete, as a number of journals will no longer be able to fund the cost of post-grant peer review. This false "quick fix" would have a devastating impact on scientific integrity, and would leave U.S. scientists at a competitive disadvantage to their peers in other countries. Alternatively, the current debate presents a good opportunity to make NIH's post-grant reporting infrastructure similar to the NSF America COMPETES Act model, helping to drive a greater amount of public interest in the world class science being conducted by the NIH.

We look forward to helping consult with NIH and the Administration as the entire scientific community builds a better research reporting system for the public. We believe the private sector has learned a number of lessons about building an IT infrastructure and making central repositories fully compatible and user-friendly. With these insights from the private sector, NIH could quickly mimic NSF's approach under the America COMPETES Act. This would meet President Obama's goals of creating a more open and transparent government, borne through collaborations with the private sector, and with regard for existing and established copyright protections.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher H. Fox". The signature is fluid and cursive, with a large initial "C" and "H".

Christopher H. Fox, DMD, DMSc
Executive Director