

Issues & Implications Surrounding  
the NIH Public Access Policy

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*The Public Access Policy ensures that the public has access to the published results of NIH funded research to help advance science and improve human health (NIH 2008).*

The National Institutes of Health (NIH) Public Access Policy was implemented resulting from a Congressional directive in 2004, addressing Division G, Title II, Section 218 of PL 110-161 (Consolidated Appropriations Act, 2008). Congress had requested that National Library of Medicine (NLM) investigate the rising costs of journal licensing agreements. The House Committee on Appropriations wanted NLM to create suggestions and potential solutions for research funded by taxpayers to be kept widely accessible within the public domain. Specifically, the policy states,

The Director of the National Institutes of Health shall require that all investigators funded by the NIH submit or have submitted for them to the National Library of Medicine's PubMed Central an electronic version of their final, peer-reviewed manuscripts upon acceptance for publication, to be made publicly available no later than 12 months after the official date of publication: Provided, That the NIH shall implement the public access policy in a manner consistent with copyright law (NIH 2008).

This policy had been lobbied against so heavily by publishers, it initially had become by choice to participate, but now is officially a mandate as of 2008, where any NIH funded, peer-reviewed research *must* be added to the NIH-run PubMed Central (PMC) within twelve months of publication. This research is in the public domain in a different manner than information produced directly from the government; the government funds the research through taxpayer money, however, authors have control of the copyright (and often sign that copyright over to publishers).

The NIH wanted to maximize benefits of research funded through taxpayer money, especially so with an “annual investment in research of more than \$30 billion per year” (Groen 2008, p. 220-221). An intent of the policy was for NIH and publishers to work together so that information in PMC would be “available in as rapid and transparent a fashion as possible” (p. 221). A secure and permanent archive through PMC was also felt necessary, as archived content could otherwise be removed by publisher discretion.

This policy refers to “public access,” however it also pertains to open access, which is an important aspect of this mandate. Open access (OA) is free of charge and clear of most licensing and copyright restrictions. Within OA, there are two publishing models: *Green-road* pertains to self-archiving articles published in a journal that is not OA; and *Gold-road* implies publishing directly in an OA journal. These options were designated by Stevan Harnad in response to the “journal-affordability problem,” and are not mutually exclusive (2004). Public Access is similar, “but while the articles on deposit in PMC will be free of charge, they will usually be under copyright and nothing in the [NIH] policy requires copyright holders to permit more than what U.S. copyright law considers fair use” (Suber 2006). Proponents for the NIH policy often organize arguments in terms of OA, as public access and OA have a lot in common.

Timeliness is another important aspect of this policy. With scientific publishing, specifically medical information, a greater lag in access can have negative consequences. Shortened postponement can prove successful. Suber provides the example of the American Society for Cell Biology publishing in their society journal, where only two months of delayed access was even more successful than postponing OA by a lengthier time frame; subscriptions were increased because of “heightened visibility, citation impact, and usage of the journal’s articles” (2006).

Conflict has arisen over this policy since its initial stages, typically in regards to publisher discontent with “overt debates, pressure tactics, and threat of legal action,” with support from libraries, the public, and a number of researchers (Groen 2007, p. 198). This paper will support promotion of the NIH Public Access Policy by explaining the current climate through providing an overview of who benefits from this policy, the platform of the opposition, copyright and intellectual property issues, and suggestions to improve open access through this policy.

## **Who benefits?**

Clearly, through the title of the policy the public is an obvious benefactor, as it should be since NIH funded research is truly paid through taxpayer money. The National Research Council points out that taxpayers pay twice for information when their taxes fund the cost of generating the work, and then needing to pay again for access (1999, p. 53). Taxpayers are also patients. Crawford points out a myth of OA, being that patients could suffer confusion from information overload if provided free access to peer-reviewed medical literature on the Internet. He explains this claim is elitist, and with a great deal of information already on the web, most being junk, it is therefore not logical to provide access to questionable information, but deny access to sound research (2008). This relates to informed consent, where patients have an educated choice in treatment and procedures. Patients would not be able to make fully educated decisions without access to research and recent medical information. Considered “shared decision making,” this is “democracy on a personal level” (Willinsky 2006, p. 113). To best assist in the needs of both patient and healthcare provider, the roles of the library converge with enhancing medical information for physicians in the process of treatment, while also improving understanding of the illness and its treatment for the patient; this is informed choice and is a legal requirement in many circumstances (Groen 2007, p. 259).

Greater public access to scientific information can also protect the public from misinformation. Willinsky points out that The Union of Concerned Scientists issued a report in 2004 to accuse G.W. Bush of misusing science for political purposes:

The current administration’s partial and selective approach to the sciences on environmental and health issues has already led to damaging reports by the Union of Concerned Scientists (Willinsky 2006, p. 140).

With this, the National Research Council elucidates that funding basic research is a public good provided by the government (p. 38). This public good enhances public welfare, where incremental knowledge improves diagnosis and other treatments in medicine (p. 18).

*Research is cumulative – it advances through **sharing** results. The **value** of an investment in research is maximized only through **use** of its findings (Joseph, 2008).*

SPARC points out a number of opportunities for researchers, who also benefit from the NIH Public Access Policy, which (verbatim):

- Greatly improves their access to NIH-funded research
- Improves the ability of others to gain greater access to their NIH-funded work
- Enhances their ability to use and apply research in new and innovative ways
- Promotes educated decisions about publishing venues
- Encourages active copyright management (Joseph 2008)

Scholarly publishing is on a different economic plane than other publishing systems; “this inextricable mix of *right to know* and *right to be known* drives the academy’s knowledge economy” (Willinsky 2006, p. 6). Institutionally reinforced, *publish or perish* drives researchers to produce works that will have the greatest research impact, which is not only “a measure of what it contributes to the work of others,” but it also “speaks, as well, to the recognition and reputation of the author” (p. 22-23). This essentially explains the theory of a “gift economy,” which Hyde (1983) and Hagstrom (1965) explain as being a “system of exchange premised on reciprocity, reputation, and responsibility in which the commodification of scholarly work is immoral” (as cited in McSherry 2003, p. 225). Scientific work specifically operates on accumulated knowledge, where citing previous discoveries promotes current endeavors. This type of authorship derives its benefits not through payment of royalties based on published work, but the indirect effects of being well known and cited; this can be accomplished through greater access. Authors may gain speaking engagements, promotions, or bonuses based on overall success in publishing, but each specific contribution to scientific knowledge does not directly engender wealth for an author. The scholarly record creates a formalized “hierarchy based upon primacy of discovery as evidenced by published results” (Groen 2007, p. 216). This helps to

articulate issues regarding intellectual property and copyright, which will be discussed further in the next section.

Not only does greater access improve individual standing of authors, but also improves science as a whole, including the ability to conduct research. The Alliance for Taxpayer Access along with a group of twenty-five Nobel Prize winners sent an open letter to Congress in 2004 stating,

There's no question, open access truly expands shared knowledge across scientific fields – it is the best path for accelerating multi-disciplinary breakthroughs in research (as cited in Willinsky 2006, p. 2).

Physicians use Evidenced Based Medicine (EBM), which depends on having access to the best, most recently published research to provide the greatest quality of care for patients (Sims 2008). This acknowledges the fact that researchers and the public have a synergistic effect on scientific advancements, both intrinsically, as well as financially. Willinsky points out that public use of research “will increase the presence and impact of the work published. And this may lead, in turn, to greater public support for research and scholarship” (p. 111).

Libraries are also strongly affected by this policy and by OA, as many public interest groups formed to combat extortive journal pricing by publishers. Opposition of publishers to the policy and general resistance to OA better explains the place of libraries in this atmosphere.

## **The Opposition**

Publishers of biomedical literature are the major opponents of the NIH Public Access Policy. Groen delineates how publisher control gained of the literature developed

along two separate paths, being economic and bibliographic control (2007, p. 163). With journals having this much hegemony over production as they do, they remain influential stakeholders in biomedical literature, with a number of arguments being promoted. Interestingly, as journals have increased and maintained control, librarians of medical and scientific literature began to exert less control over access due to the power these publishing corporations maintain. Alan R. Liss notes that the problem is not the publishers, but the underfunding of libraries to keep up in providing access; he notes that publishers have heavy service contributions in production to make information available, such as sifting, reviewing, and reproducing (as cited in Groen, p. 164-165). Libraries cannot keep up because major journal publishers are involved in mergers and acquisitions; through this, journal prices increase. Benefits are reaped for publishers through this model because publishers' market share increases, while not reflecting these gains in lower journal prices for libraries (Groen, p. 191). This larger share of the market is also directly a larger portion of library holdings, which "exercises a much greater degree of control over the circulation of knowledge than the number of titles it holds would otherwise warrant" (Willinsky, p. 20). Libraries cannot keep up, therefore, must cancel subscriptions and go with Big Deal bundle packages.

Other arguments in opposition to the policy involve deferment of costs. Albert explains the argument as altering the *author-pays* system of OA actually might cost institutions more, being more expensive than the current subscription system; also, low-publication, for-profit institutions would essentially get a "free-ride," as the academy would harbor the brunt of the burden (2006). Crawford also argues succinctly in regards to the myth that the cost of OA will decrease available funding for research (due to the noted model), "the costs of the present system of biomedical research publishing, with all its inefficiencies and overly generous profit margins, still only amounts to 1-2% of the overall funding for biomedical research." He also mentions that web technology can reduce the costs further (2008).

Essentially, the main reason journal publishers oppose the policy is it is felt to be a "suggestion as a government threat to free enterprise that would cripple the journal-publishing industry" (Willinsky 2006, p. 39). However, these arguments aside, some

publishers are starting to make OA somewhat possible. In 2004, Elsevier permitted authors to post a different version of their works in OA e-print archives; however, very few have done so (p. 4). Critics posit that this and other situations enabled by publishers were known to be unsuccessful, which is why they were promoted knowing it would fail. Publishers are interested in protecting their market share, and can also ensure this by holding copyright on articles in their publications.

*Experience tells us that our creative practices are largely derivative, generally collective, and increasingly corporate and collaborative. Yet, we nevertheless tend to think of authorship as solitary and originary [sic] (Jaszi & Woodmansee 2003, p. 195).*

### **Issues of Intellectual Property and Copyright**

Another argument publishers have made is that they need copyright to protect the integrity of scientific articles. However, scientific integrity is truly protected by the symbiotic relationship of research and review of research in the scientific community: not copyright law (Crawford 2008). Crawford also notes that it is extremely rare for copyright law to be used by scientific publishers to defend the integrity of research in honor of the author; “in fact, BioMed Central knows of no situation where this has happened” (2008). McSherry explains that scientific claims are descriptive claims based on nature: facts, which cannot be copyrighted and cannot be the scientist’s property. It is from this that peer-review and wide dissemination is invoked to acknowledge the scientific claim to reap the rewards (2003, p. 254). Would journals then hinder these rewards in delaying the process of recognition by hoarding access? Groen notes that copyright could be detrimental, because the greater the distribution of work, the better



(2007, p. 243). Albeit unusual to the world of intellectual property, Albert (2006) further supports these points in noting that scientific authorship values “wide dissemination and notice for work.” Tying these points back to publisher claims in support of copyright protection, high costs must be understood as “copyright protection in scientific journal publication acted as a linchpin in maintaining control over pricing and distribution” (Groen, p. 165). Copyright in scientific authorship is being used for the benefit of the publisher; authors do not need copyright in this sense, as it does not forward their career. Publishers, however, also argue that maintaining copyright protection ensures they will receive full return for high service work and production put into publishing the article.

H.R. 6845, the *Fair Copyright in Research Works Act*, is currently a referral in committee. Cited in *Thomas*, its “official title as introduced [is]: To amend Title 17, U.S. Code, with respect to works connected to certain funding agreements” (2008). Martin Frank, coordinator of the DC Principles Coalition, recently testified before the U.S. House Subcommittee to support HR 6845, introduced in response to the NIH Public Access Policy. As noted in a DC Principles Coalition press release, this bill would “prohibit the NIH from requiring the transfer of rights to publish a peer-reviewed journal article” (Guilfoy 2008). Frank is arguing that copyright protects journal investments and the peer-review process; and author fees could potentially increase due to erosion of journal revenue (2008). Anticipating this challenge, SPARC and ARL drafted a memo in 2007:

[This] policy does not create a statutory exception or limitation to an investigator’s copyright. Rather, it merely requires the NIH to condition its grant of funding to the investigator on his agreement to provide PMC with a copy of his article for the purpose of making the article publicly available via PMC (Albanese, 2008).

Regarding the notion of peer-review being eroded through copyright issues, Crawford is clear that “OA publishing does not weaken or undermine peer review, as works are not listed unless peer reviewed” (2008). He further notes there is no basis for this claim, “which may be why it’s one of the most commonly repeated.”

## **Solutions for the Future**

Currently, the NIH policy mandate has been quite effective, while having approximately 4,000 submissions to PMC as of July 2008 (up from 720 submissions in July 2007, when voluntary) (Albanese 2008). As far as the future and conceivable solutions are concerned, issues of tenure, confusion about which OA publications are of quality to submit work to, and lack of knowledge for alternatives seem to be the major barriers to wider appeal of this policy and broader support of OA. Albert notes “the key is to reduce large profits collected by publishers without destroying peer review and high quality journals” (2006). This can be accomplished in a different approach, as suggested by the Bethesda Statement on OA publishing, by advocating “changes in promotion and tenure evaluation in order to recognize the community contribution of open access publishing and to recognize the intrinsic merit of individual articles without regard to the titles of the journals in which they appear.” (2003). A number of OA journals already are viewed as high-quality publications but just are not published in as often due to a number of scientific authors “hav[ing] difficulty identifying suitable OA journals in their fields of interest” (Albert 2006).

Faculty and scientific authors are often confused when it comes to which OA journals are the best in quality, as well as how to submit papers to PubMed Central. SPARC points out that librarians can aid in this process by providing services to help scientific authors deposit papers into PMC, potentially making it automated (Joseph 2008). Librarians can also promote the submission to the depository, however, researchers might be less interested with contributing to these, as they are most concerned with their particular disciplines with the institution coming second; Groen suggests promoting subject archives as a key to the success of the repository (2006, p. 209). Barnett & Keener delineate how Carpenter Library at Wake Forest University Health Sciences uses software, PeopleSoft, to simultaneously satisfy both of these issues, by connecting

published research with faculty profiles on the Internet, while also entering this published research into the library's repository.

Faculty might also be ignorant of pricing issues; they want high-impact journals made available to them, but with the situation of OA and current publishing models, institution libraries might not be able to provide these necessities (Willinsky 2006, p. 20). Keeping faculty informed in regards to how OA affects them might help garner support for the library and OA. As Vaidhyanathan admonishes, "while academics have slept, the content industries have systematically stifled flows of essential information, created artificial scarcity, and made certain areas of basic research potentially illegal" (2002).

Alternative copyright licensing could be invoked, such as Creative Commons, to help authors retain control of their intellectual property but make it possible for wide dissemination through OA. A main issue with copyright legislation in the United States is the lack of right to attribution. Smith (2008) provides an example of a professor whose published work was re-published into a larger work, and "because the professor had transferred his copyright to the publisher, and the US has no moral right of attribution, he had no recourse to continue to get credit for his own scholarship." Creative Commons licensing is an example of an option where attribution is assured, but restrictions of use and dissemination are more flexible. There is even, specifically, Creative Commons' Science Commons.

Though not often resorted to, "research institutions, universities, and government grant agencies could assert their legal rights to their employees' works and prohibit their authors from transferring copyright to publishers" (Albert 2006). As a main hindrance to the issue of timeliness in scientific publishing, prohibiting the transfer of copyright to publishers is certainly a viable solution if necessary. As Willinsky notes, "the publisher needs only *first-publication rights* from an author to protect the journal's position in the marketplace of ideas" (2006, p. 47).

## **Conclusion**

The NIH Public Access Policy is proving successful as a mandate, and although publishers seem to strongly object, the policy does greatly benefit the public, researchers, and science as a whole. It benefits libraries as well by combating the ability publishers have to extort journal fees, disempowering libraries in choice and budget. It is important for libraries to be active in promoting implementation of the policy to faculty and researchers, and this can be accomplished through a variety of approaches, involving educating researchers on the policy and on OA, making it easier to publish in an OA environment, and ensuring that this OA publishing provides credit more directly linked to faculty profiles. The more libraries, researchers, and the public can work together to promote this policy and OA, greater access will result through libraries, also improving biomedical research and quality of care for patients through improved ability for informed decision-making.

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