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January 26, 2007

## Open Access to Science Under Attack

**Advocates of open access to scientific research may find themselves under fire from high-profile public relations flaks and high-powered lobbying groups.**

By David Biello

The battle over public access to scientific literature stretches back to the late 1990s when Nobel Prize winner Harold Varmus began plans for PubMed Central—a repository for all research resulting from National Institutes of Health (NIH) funding—and, a few years later, launched the Public Library of Science (PLoS). These easily accessible journals and repositories have struck fear into the hearts of traditional publishers, who have enlisted the "pit bull" of public relations to fight back, reports *news@nature*.

The Professional and Scholarly Publishing Division of the Association of American Publishers hired Eric Dezenhall, head of Dezenhall Resources, a public relations firm that specializes in "high stakes communications and marketplace defense," to address some of its members this past summer and potentially craft a media strategy. Dezenhall declined to comment for this article, citing "our longstanding policy due to strict confidentiality agreements neither to identify our clients nor comment on the work we do for them," in an e-mail response to a request for an interview. But "nobody disagrees on the goals of high-stakes communications—sell a controversial product, win an election, defuse conflict and so forth," Dezenhall notes in the "manifesto" on the firm's Web site. "The life-or-death public relations struggles facing businesses today are not about information, they are about power." In this case, the struggle is over access to scientific information.

Specifically, according to Dezenhall's suggestions in a memo to the publishers that they should "develop simple messages (e.g., Public access equals government censorship; Scientific journals preserve the quality/pedigree of science; government seeking to nationalize science and be a publisher) for use by Coalition members." In addition, Dezenhall suggests "bypassing mass 'consumer' audiences in favor of reaching a more elite group of decision makers," including journalists and regulators. This tack is necessary, he writes, because: "it's hard to fight an adversary that manages to be both elusive and in possession of a better message: Free information." Finally, Dezenhall suggests joining forces with think tanks like the American Enterprise Institute and National Consumers League in an attempt to persuade key players of the potential risks of unfiltered access. "Paint a picture of what the world would look like without peer-reviewed articles," he adds.

Of course, open access does not mean no peer review. While the National Institutes of Health (NIH) is not in the business of peer review, according to Norka Ruiz Bravo, NIH's deputy director for extramural research, the entirety of PLoS journals are peer-reviewed. "Open-access journals are peer-reviewed to the same standards," notes Mark Patterson, PLoS's director of publishing. "We wanted to provide an open-access alternative to the best journals to allow the very best work to be made publicly available."

To do that, PLoS shifted from the old model of subscribers paying to read content to an author-payment business model, in which scientific researchers pay the costs (from \$1,250 to \$2,500, depending on the journal) of immediately publishing their work, Patterson says. "The flagship journals *PLoS Biology* and *PLoS Medicine* are more expensive to run than the journals that are run by the community," he adds.

The American Association of Publishers declined to comment on Dezenhall's advice, but said in a statement: "Some commentators have expressed surprise that the publishing industry is making its case about an important issue that could affect the future of research and science. We believe it's important to be clear about serious unintended consequences of government mandated open access. & Legislation that would undermine the quality, sustainability and independence of science would have consequences on all those who rely on sound science."

One such piece of legislation was introduced in the Senate last year by Sens. Joseph Lieberman (I-Conn.) and John Cornyn (R-Tex.) that would require any published paper derived from U.S.-government-backed research to be published online within six months. PubMed Central, published by the NIH—a federal institution—has come under especially intense fire. Their efforts have been dubbed "socialized science," by Rudy Baum, editor in chief of the American Chemical Society's (ACS) *Chemical and Engineering News*. "Open access, in fact, equates with socialized science," he wrote in a 2004 editorial. "I find it incredible that a Republican administration would institute a policy that will have the long-term effect of shifting responsibility for communicating scientific research and maintaining the archive of science, technology and medical (STM) literature from the private sector to the federal government."

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In fact, the ACS paid lobbying firm Hicks Partners LLC at least \$100,000 in 2005 to try to persuade congressional members, the NIH, and the Office of Management and Budget (OMB) that a "PubChem Project" would be a bad idea, according to public lobbying disclosures, and paid an additional \$180,000 to the Wexler & Walker Public Policy Association to promote the "use of [a] commercial database." It also reportedly spent a chunk of its 2005 \$280,000 internal lobbying budget as well as part of its \$270,000 lobbying budget last year to push the issue, according to disclosure documents. The ACS publishes more than 30 journals covering all aspects of chemistry, and the organization did not return phone calls for comment.

Efforts for a PubChem Central have come to naught thus far and the NIH's efforts with PubMed Central have met with limited success. Of the as many as 65,000 articles derived from NIH-funded research, only 10,000 or so are available at PubMed Central. "We have authors sending in 4 percent of articles," says Neil Thakur, Ruiz Bravo's special assistant. "An additional 10 to 12 percent are submitted by publications."

"Having been at a research institution, if something is not mandatory for me and I'm a scientist and I'm focused on the science, then doing something like this is not something that I am going to pay attention to," Ruiz Bravo adds. "We could go to a mandatory policy with a six month deadline. We've been considering that."

The open-access movement is not confined to the U.S., of course. The Wellcome Trust in the U.K. has begun providing funds to its researchers explicitly to cover the costs of publishing in open-access journals. And the NIH has signed agreements with international repositories to make its publicly available material available there.

This open-access groundswell, ranging from the physics community's preprint arXiv to centralized, postprint PubMed Central, threatens many traditional publishers, though the most prestigious journals, such as the weekly *Nature* appear unthreatened. *Nature* declined to comment for this story (Note: Both *Scientific American* and *Nature* are owned by the same company: Holtzbrinck Publishers). Rather, it is the niche publishers that may have the most to lose. "If you are published in a journal that publishes every other month or quarterly and there is mandatory open-access in six months, then, as a librarian, you are going to cancel it," notes Martin Frank, executive director of the American Physiological Society (APS), which publishes 14 journals, including the *American Journal of Physiology* (started in 1898). "We consider ourselves a delayed open-access journal."

The APS makes all of its content free after 12 months or asks authors to pay for immediate free publication online, an opportunity 18 percent of authors have taken, Frank says. He also leads the Washington, D.C., Principles for Free Access to Science group, a coalition of not-for-profit publishers advocating such a middle way. "The author-pays business model has yet to be demonstrated to be viable," he notes. "Something can only be eclipsed if something else has been demonstrated that is better than it."

"I agree with public access, but it doesn't have to be immediate," he adds. "If it's immediate, it has to be paid for."

For example, the NIH could pay for publication as the Wellcome Trust does. At \$3,000 per article that translates to roughly \$200 million a year. "That's not a lot of money compared to \$28 billion," the NIH budget in fiscal year 2006, Frank notes, "but that represents 100 research grants." Dezenhall expressed a similar sentiment in his memo to publishers: "In theory, this may provide free taxpayer access to research that they fund, but they will pay eventually with substandard articles and their money being used to develop and maintain an electronic article depot rather than to fund new research."

Regardless of the "attack dogs" hired by traditional publishers to craft their message, public access advocates remain undeterred. "We've got the technology to make this happen with the Internet. The only thing that's holding it back is this adherence to an old business model, which made sense in the world of print, but no longer makes sense," PLoS's Patterson says. "It's great for authors: anyone with an interest in their work can access it."

"There are some folks who feel very threatened by PubMed Central," the NIH's Ruiz Bravo adds. "We really are committed to having an archive. We will do everything we can to make this a successful endeavor."

"Change is in the wind, and change is hard," she continues. "I think this is inevitable."