



Expanded Public Access: A New Era with New Challenges

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White House Public Access Policy

On February 22, 2013, the world fundamentally changed for the research community when John P. Holdren, Director of the White House's Office of Science and Technology Policy, [directed](#) that within six months each federal research funding agency with R&D budgets of \$100 million or more "...**develop a plan to support increased public access to the results of research funded by the Federal Government,**" including "**peer-reviewed publications and digital data.**"

Since 2005, NIH's PubMed Central has demonstrated how improved, long-term preservation and access to research results deposited pursuant to NIH policy increases access and improves research productivity; soon, under this White House policy, new federally funded research will become universally available, benefiting both the academy and society.

Along with many of you since 1988, I have advocated for such access and am gratified that federal policy has been responsive to our interests. But our time for celebration of this advance is brief. During a short six-month period, agencies will develop draft plans for how this long-term preservation and access will occur. Research universities have a significant stake in the plans the Director ultimately approves—universities are responsible to federal research funding agencies for compliance with the regulations attendant to the grants received by their researchers. If we are faced with different deposit requirements for manuscripts and data by each of the 15 and possibly more agencies subject to the directive, the compliance bill could be very expensive and might not reflect the interests of the academy. Given that PubMed Central has established a useful model for deposit of and access to research manuscripts, we can hope that the example of good practice established by them will be drawn upon by other funding agencies as they establish their own public access policies, and that the resultant products interconnect across and between agencies and external stakeholders that promote effective, seamless public access.

But we must do more than hope for a good outcome; the funding agencies are obligated by the directive to solicit our views and take them into account in establishing their policies. Each research university campus, and the APLU and AAU who represent them, should develop a process for soliciting input and recommending to the agencies and Director Holdren desired practices for deposit. Otherwise, we have no one to blame but ourselves if compliance with the deposit policies is expensive, if access is cumbersome, or if the interests of higher education are not fully reflected in the agencies' policies.

The Special Case of Research Data

While we have greater experience with our institutional repositories and the deposit of journal literature, there is no universal model for data deposit. The directive's requirement is that "**To the extent feasible and consistent with applicable law and policy; agency mission; resource constraints; U.S. national,**

homeland, and economic security; and the objectives listed below, digitally formatted scientific data resulting from unclassified research supported wholly or in part by Federal funding should be stored and publicly accessible to search, retrieve, and analyze.”

“Data” covers a wide range of collected material, from small data sets with few observations, to results of simulations that have been run thousands or millions of times, to landsat photos and X-ray and optical images from Hubble. The storage capacity needed to retain such data sets ranges from tiny to immense. Some data sets are one-time only snapshots, and some are updated nearly continuously. Some are readable by standard statistical packages, and others are readable only with very specialized and esoteric software. Fortunately, the directive makes it clear that some things—laboratory notebooks, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, communications with colleagues, or physical objects such as laboratory specimens—are not included in the definition of research data for the purposes of the directive, somewhat reducing the potential variety.

The Holdren memorandum recognizes that intellectual property interests are greater for some digital data than for others, that cost has to be weighed against form and permanency of storage, that training may be required for those involved with digital data storage and access, etc. These and other factors may be described in the data-management plans that extramural and intramural researchers must develop when requesting federal funds. Many in the research community have had some experience with developing data-management plans as required by the National Science Foundation and the National Endowment for the Humanities.

It must be a special concern of the academy that these federal agency digital-data plans reflect the interest of the researchers, students, and our institutions. There are competing claims for every dollar of university resources, as well as those from funding agencies. Economy must be a major consideration, along with ease and assurance of full access. From our long experience with scholarly journals, we surely have learned that a willingness of others to perform valuable services for the academy, e.g., refereeing and publication, should not justify complete transfer of title to our intellectual property over to them. Similarly, turning responsibility for digital data management over to those who do not have the academy’s sole interest as their own might well result in a future where access to digital data generated by our faculty becomes increasingly expensive and difficult for them and their students. We should plan carefully in order not to repeat our experiences with the scholarly publications marketplace. The White House memorandum provides the academy with an important opportunity for such planning.

The job of ensuring access was not completed with Director Holdren’s welcome decision. To assure that resulting plans serve scholarship well, it is critically important that we provide input to federal agencies while they are considering what to propose to the White House, as well as during the Director’s approval process. We must help ensure that agency plans are efficient and effective, and that they meet the needs of the academy, the Government, and the public.

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