

Obfuscating with transparency

Transparency is critical when it comes to decision-making that broadly affects the public, particularly when it comes to policies purported to be grounded in scientific evidence. The scientific community has been increasingly focused on improving the transparency of research through initiatives that represent good-faith efforts to enhance the robustness of scientific findings and to increase access to and utility of data that underlie research. Yet, concerns about transparency associated with scientific results continue to emerge in political discussions. Most recently in the United States, a new proposal by the Environmental Protection Agency (EPA) would eliminate the use of publications in its policy discussions for which all underlying data are not publicly available. Here, a push for transparency appears actually to be a mechanism for suppressing important scientific evidence in policy-making, thereby threatening the public's well-being.

Under the new policy, studies that do not fully meet transparency criteria would be excluded from use in EPA policy development. This proposal follows unsuccessful attempts to enact the Honest and Open New EPA Science Treatment (HONEST) Act and its predecessor, the Secret Science Reform Act. These approaches undervalue many scientific publications and limit the impact of valuable information in developing policies in the areas that the EPA regulates.

Increasingly, many publications, including those from the *Science* family of journals, are linked to underlying data in accessible forms in repositories where they are readily available to interested parties, particularly those who seek to reproduce results or extend the analysis. The details of data deposition depend on the types of data involved, including those related to research on human subjects, as well as on the availability and maturity of relevant repositories, among other factors. Nonetheless, many publications are not explicitly linked to their underlying data for a variety of reasons, including, for example, restrictions related to the use of human subjects data put in place prior to data collection. Under the

proposed transparency rules, publications based on such data would not be considered in policy discussions.

As a core skill, scientists are trained in judging research publications even without access to all the underlying data. Many factors are considered in analyzing research papers, including judging the articulation and logic of the research design, clarity of the description of the methods used for data collection and analysis, and appropriate citation of previous results. This does not necessarily require that scientists scrutinize the raw data. Most publications address potential sources of error and uncertainty, which

can be used to judge reliability of the results. Publications also increasingly disclose conflicts of interest that might influence the authors' approaches to data collection, interpretation, or conclusions. Of course, scientific progress depends not just on individual publications but on the accumulation of evidence from multiple sources. Scientists integrate results across multiple publications. If several publications address overlapping or similar questions, scientists judge the individual publications and then combine the results to generate interpretations that are consistent with the reliable observations across the entire set.

In developing effective policies, earnest evaluations of facts and fair-minded assessments of the associated un-

certainties are foundational. Policy discussions require an assessment of the likelihood that a particular observation is true and examinations of the short- and long-term consequences of potential actions or inactions, including a wide range of different sorts of costs. Those with training in making these judgments with access to as much relevant information as possible are crucial for this process. Of course, policy development requires considerations other than those related to science. Such discussions should follow clear assessment after access to all of the available evidence. The scientific enterprise should stand up against efforts that distort initiatives aimed to improve scientific practice, just to pursue other agendas.

—Jeremy Berg



Editor-in-Chief,
Science Journals.
jberg@aaas.org



“These approaches...limit the impact of valuable information in developing policies...”

Science

Obfuscating with transparency

Jeremy Berg

Science **360** (6385), 133.
DOI: 10.1126/science.aat8121

ARTICLE TOOLS

<http://science.sciencemag.org/content/360/6385/133>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.