



1333 New Hampshire Ave NW Suite 200 • Washington, DC 20036
(202) 630-5090 • www.sparcopen.org

Aug 19, 2026

Re: Comments on the Request for Information on Measuring and Rewarding Scientific Impact
(NOT-OD-26-087)

Submitted electronically

SPARC, a non-profit organization of more than 190 libraries and academic organizations across the United States that supports research and education systems that enable everyone, everywhere to access, contribute to, and benefit from shared knowledge, appreciates the opportunity to comment on NIH's Request for Information on Measuring and Rewarding Scientific Impact.

SPARC commends NIH for using this RFI to reconsider how scientific success is measured. NIH's stated aim, to align its measures of success with its core mission of generating knowledge that improves health, is one SPARC strongly supports, and it is a natural complement to NIH's Replication and Reproducibility Initiative. SPARC also commends NIH for its leadership for early steps to give investigators room to describe and be credited for a broader range of research products, such as the recent Biosketch revisions.

Our comments focus on two recommendations that speak directly to that aim: NIH should (1) move away from proxy metrics that are poorly correlated with research quality, rigor, or impact, and (2) name and reward open research practices explicitly as indicators of scientific success.

To that end, SPARC recommends that NIH:

- Explicitly deprioritize publication counts and journal-level metrics, such as the Journal Impact Factor, as indicators of investigator quality, rigor, or impact in any indicators or guidance that result from this RFI, consistent with the San Francisco Declaration on Research Assessment (DORA).
- Recognize open, reusable data, software, and other research outputs as core indicators of scientific contribution.
- Require or incentivize the use of persistent identifiers for researchers, organizations, and research outputs across NIH-funded research.
- Encourage adoption of contribution-based credit frameworks in place of author-order-driven credit, particularly for team-based and interdisciplinary science.
- Favor non-proprietary, community-governed infrastructure over proprietary vendor metrics and platforms when NIH adopts tools to measure and report on the indicators identified through this RFI.

- Adopt a holistic, multi-indicator approach to research assessment and avoid overreliance on any single metric, however well-intentioned, since a single metric used as a target for reward or funding decisions is inherently vulnerable to gaming.

Below is a more in-depth look at the recommendations to help NIH reach its stated goals.

Move Away from Proxies

Publication counts, journal prestige, and related bibliometric indicators such as Journal Impact Factor are poor proxies for research quality, rigor, or real-world impact. The Journal Impact Factor, in particular, was not designed to evaluate individual researchers or individual articles; it was created as a tool for librarians making journal purchasing decisions, and it carries well-documented deficiencies as a measure of research quality.¹ That is why the San Francisco Declaration on Research Assessment (DORA), now signed by thousands of individual researchers and hundreds of research organizations and funders, calls on institutions not to use journal-based metrics as a surrogate for the quality of an individual scientist's contributions or in funding decisions.² Peer national funding agencies have already acted on this principle. Canada's tri-agencies, for example, are DORA signatories and have updated their peer review guidance to direct reviewers away from journal-based metrics and toward a broader, more qualitative assessment of contribution and impact.³

Continuing to rely on these proxies is not a neutral choice. It actively incentivizes the behavior NIH is trying to move away from, such as:

- **Rewarding volume over quality.** Counting publications creates pressure to fragment findings into the smallest publishable unit, rather than to produce fewer, more complete, and more rigorous studies.
- **Rewarding novelty over replication.** Journals and reviewers favor novel, positive findings, which discourages the replication and null-result reporting that NIH's own Replication and Reproducibility Initiative identifies as foundational to rigorous science.
- **Undervaluing collaboration.** Author-order and citation-based metrics were built for an era of small, single-investigator science and struggle to fairly credit the large, interdisciplinary, team-based projects that this RFI's Collaboration category identifies as increasingly central to biomedical research.

SPARC recommends that NIH explicitly deprioritize publication counts and journal-level metrics as indicators of investigator or research quality in any indicators or guidance that emerge from this RFI, and instead consider indicators that assess the research itself: its rigor, transparency, and reusability, rather than where or how often it was published.

Move Toward Open Research Practices

¹ Seglen, Per O. "Why the Impact Factor of Journals Should Not Be Used for Evaluating Research." *BMJ* 314, no. 7079 (1997): 498–502. <https://pmc.ncbi.nlm.nih.gov/articles/PMC2126010/pdf/9056804.pdf>

² San Francisco Declaration on Research Assessment, "Read the Declaration," <https://sfdora.org/read/>.

³ Canadian Institutes of Health Research, "Responsible Research Assessment at CIHR" <https://cihr-irsc.gc.ca/e/51731.html>.

Open research practices directly support NIH's stated goals around reproducibility and data sharing, and this RFI is an opportunity for NIH to name these practices explicitly as indicators worth measuring and rewarding, rather than leaving them as implicit or secondary considerations.

Requiring and rewarding open accessibility of research outputs. Making data, code, software, protocols, and other research outputs openly available, not merely "available upon request," should be recognized as a core scientific contribution in its own right, not an afterthought to publication. Openly shared outputs are what make replication and reuse possible in the first place, and NIH should consider both requiring and then rewarding indicators that capture whether outputs are measurably and actively reusable.

Adoption of persistent identifiers. Consistent use of persistent identifiers (PIDs), including identifiers such as ORCID iDs for researchers, ROR IDs for organizations, and DOIs or ARKs for datasets and software makes contributions traceable, attributable, and machine-readable across the research lifecycle. Persistent identifiers are also the connective tissue that makes many of the other indicators in this RFI measurable at all. Without them, NIH cannot reliably track data reuse, software citation, or team contribution at scale. NIH is well positioned to require or strongly incentivize their use across their intramural research programs and the grants it funds.

Contribution-based credit instead of author-order-driven credit. Author order is a poor and increasingly outdated signal of who did what on a project, particularly for large, team-based, or interdisciplinary science. For example, the Contributor Roles Taxonomy (CRediT), which defines fourteen distinct contributor roles, offers a structured alternative that captures roles like data curation, software development, and project administration alongside traditional writing and conceptualization roles.⁴ NIH's own Intramural Research Program already uses CRediT to adjudicate authorship disputes, resolving roughly a dozen such conflicts a year with a common vocabulary for contribution.⁵ This is the type of credit system that NIH is well positioned to extend outward that can encourage structured, contribution statements across the research it funds so that credit reflects actual roles rather than position in an author list. Finding ways to both surface contributions as well as provide meaningful attribution (such as with the Open Exchange Architecture⁶) would directly support NIH's interest in better recognizing collaboration and team science.

Use of non-proprietary, community-governed platforms and repositories. Reliance on proprietary vendor metrics and platforms concentrates control over how scientific value is defined in the hands of commercial entities whose incentives may not align with NIH's mission. As NIH adopts tools to track the indicators identified through this RFI, SPARC urges the agency

⁴ NISO, "Contributor Role Taxonomy (CRediT)," <https://credit.niso.org/>.

⁵ Partin, K. & Hosseini, M., "Using the contributor role taxonomy (CRediT) as a tool in resolving authorship disputes at the NIH," *Accountability in Research* (2025), <https://doi.org/10.1080/08989621.2025.2596063>

⁶ Rowan Cockett, "Introducing the Open Exchange Architecture," OXA, January 28, 2026 <https://oxa.dev/articles/introducing-oxa>

to favor infrastructure, including repositories, identifier systems, and evaluation tools, that is non-commercial and openly governed by the scientific community, ensuring that the metrics used to evaluate NIH-funded science remain aligned with public, mission-driven goals rather than commercial ones.

Guard Against Overreliance on Any Single Metric

SPARC's recommendation calls on NIH to move away from proxy metrics and toward supporting open research communication practices. Any metric or indicator that NIH ultimately adopts through this process should be part of a holistic, multi-indicator approach to assessment rather than a singular number that stands in for scientific quality. A metric of data-sharing activity, persistent identifier use, or open-source contribution can be just as easily gamed as a citation count or a journal placement once researchers understand that it drives funding or advancement decisions. Compliance can become a matter of checking a box rather than genuinely advancing rigor, reproducibility, or reuse.

Consistent with that principle,⁷ SPARC recommends that NIH:

- Use any new indicators that emerge from this RFI in combination with one another and alongside qualitative, expert-driven review, rather than allowing any single indicator to become a de facto target or threshold.
- Periodically revisit and revise the indicators it adopts, with community input, recognizing that any measure, once it becomes consequential, will attract efforts to satisfy it in form rather than substance.
- Be explicit, in any resulting guidance, that the goal is a fuller and more accurate picture of rigor, reproducibility, collaboration, and impact, not a replacement scorecard.

Conclusion

Taken together, these recommendations would give NIH a more direct, accurate, and durable way to assess the rigor, reproducibility, collaboration, and real-world impact of the science it funds.

The research community has already developed and tested frameworks for assessing contribution, openness, and quality more holistically, and elements of that work are already in use inside NIH's own Intramural Research Program. What is needed is for NIH to work closely with the community to adapt and formalize these frameworks as indicators of scientific success, used holistically and in combination, across the extramural research it funds. SPARC appreciates NIH's willingness to solicit input on this topic and urges the agency to adopt the recommendations above in any resulting policy or guidance.

Respectfully submitted,
Corinna Turbes,
Senior Manager of Government Affairs
SPARC

⁷ Hicks, D., Wouters, P., Waltman, L., de Rijcke, S., & Rafols, I. (2015). "Bibliometrics: The Leiden Manifesto for research metrics." *Nature*, 520(7548), 429-431, <https://doi.org/10.1038/520429a>