

Biomedical institutions agree on a set of open science practices to monitor

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Laptop with data visualizations. Credit: Wallusy, Pixabay

Eighty stakeholders from twenty major biomedical research institutions across the globe have agreed upon a list of 19 open science practices to be implemented and monitored. The study, led by Dr. Kelly Cobey, Scientist and Director of the Open Science and Meta Research Program at the University of Ottawa Heart Institute, Canada, forms the basis for the future development of institutional digital dashboards that will

display that institution's compliance with open science practices. The study is published in the open access journal *PLOS Biology* on January 24.

Globally, mandates and guidelines relating to [open science](#) have grown in recent years. Open science practices including open access publishing, preprints, [data sharing](#), and clinical trial registration help to ensure that research is as transparent, accessible, and useable. The COVID-19 pandemic has highlighted how the traditionally "closed" nature of biomedical research does not serve the [global community](#). To transition to an "open" research ecosystem researchers require training and support.

Despite a multitude of a calls and policies that aim to "open up" research, no system to monitor the state of practice at [academic institutions](#) currently exists. Monitoring is necessary to track progress over time, but also to identify areas where interventions are needed to change practice. The 19 core open science practices established in this article will help to standardize monitoring globally.

The study describes an iterative process through which stakeholders at institutions communicated to obtain consensus. A three-round Delphi study in which a group of stakeholders voted on potential open science practices to monitor was used. The first two rounds of the Delphi voting took place via electronic surveying, while the final round was completed over two days as a virtual meeting. Participants had the opportunity to comment and anonymously vote on potential practices, and to suggest novel practices to the group.

This approach helped to standardize communication and reduce bias. The 19 practices will now be tested in terms of how feasible they are to automate for inclusion in an [open source](#) digital dashboard that will be developed for use at biomedical institutions.

"Having an agreed set of open science practices to monitor is an important milestone for the community. Through taking this community-centered approach we hope to develop and make available a tool for biomedical institutions to monitor open science practices," said Dr. Cobey, "Ultimately we need to track open science practices in order to ensure that we are taking timely steps to open up research and to ensure we comply with existing open science mandates."

Cobey adds, "Policy in the absence of monitoring is not effective. We have reached agreement on how to design a digital dashboard to track open science practices to determine if we are doing a good job implementing them or not."

More information: Community consensus on core open science practices to monitor in biomedicine, *PLoS Biology* (2023). [DOI: 10.1371/journal.pbio.3001949](https://doi.org/10.1371/journal.pbio.3001949)

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