

Codifying Collegiality: Recent Developments in Data Sharing Policy in the Life Sciences

Genevieve Pham-Kanter, Darren Zinner, and Eric G. Campbell

Supplementary Appendix S2. Survey Questions Used in Analysis

INFLUENCE OF POLICIES OF FUNDING ORGANIZATIONS

1. Overall, how much influence does each of the following policies of funding organizations have on your sharing of information, data or materials with other academic scientists?

	Large influence against sharing	Small influence against sharing	No influence	Small influence towards sharing	Large influence towards sharing	Not applicable
a. Overall data sharing policies of the National Institutes of Health (NIH)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
b. Data sharing policies of the National Human Genome Research Institute (NHGRI)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
c. NIH policies governing genome-wide association studies (GWAS)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
d. Data sharing policies of the National Science Foundation (NSF)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
e. Data sharing policies of government agencies-other than NIH or NSF (e.g., Department of Defense, USDA)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
f. Policies of private funding organizations and foundations (e.g., HHMI, Wellcome Trust)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆

INFLUENCE OF OTHER POLICIES (PUBLICATION POLICIES, TRAINING AND INFORMAL POLICIES, INTELLECTUAL PROPERTY POLICIES)

2. Overall, how much influence does each of the following have on your sharing of information, data or materials with other academic scientists?

	Large influence against sharing	Small influence against sharing	No influence	Small influence towards sharing	Large influence towards sharing	Not applicable
a. Attitudes and practices of former advisors or mentors	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
b. Formal instruction you received while in training (Responsible Conduct of Research training, classes, seminars, etc.)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
c. Policies governing material transfer agreements (MTAs) at your institution	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆

d. Technology transfer policies, other than MTAs, at your institution	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
e. Agreements with industrial sponsors	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
f. Your commercial activities (i.e., patenting, licensing, etc.)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
g. Publication policies of professional journals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
h. Informal rules/norms of your research field	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆

COMPLIANCE WITH JOURNAL POLICIES

3a. Please indicate whether, in the past 3 years, you have been required by a journal to...? For each "yes" response, please answer question <3b>.

3b. How often did you submit, make available or transfer this information?

	No	Yes		Never	Sometimes	Always	Not applicable
a. Submit detailed description of methods as online supplement	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	→	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
b. Make data available as online supplement	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	→	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
c. Submit biomaterials (e.g., tissues, reagents, organisms, etc.) to third party repository	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	→	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
d. Submit data to third party repository (e.g., GenBank)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	→	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
e. Transfer biomaterials (e.g., tissues, reagents, organisms, etc.) to accommodate request from another lab	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	→	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
f. Make data available to accommodate request from another lab	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	→	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄

EFFECT OF JOURNAL REQUIREMENTS ON PROGRESS OF RESEARCH

4. Overall, how much has each of the following hindered or helped the progress of your research?

	Hindered	Hindered	No effect	Helped	Helped
a. Online methods supplements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
b. Online data supplements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
c. Third party biomaterials repositories	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅
d. Third party data repositories	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅

REVIEW OF DATA SHARING PLANS IN GRANT PROPOSALS

5. In the last 3 years, have you served as a reviewer of grant proposals for federal agencies that dealt with life science research grants (e.g., NIH, NSF, Department of Defense, Department of Energy)?

- ₁ Yes
- ₂ No → Go to question <6>.

6. How influential was the quality of the data sharing plans in your overall evaluation of the proposals you reviewed?

- ₁ Very important
- ₂ Important
- ₃ Somewhat important
- ₄ Not at all important

COMPLIANCE WITH MATERIAL TRANSFER AGREEMENTS

7. In the last 3 years, how often have you shared data or materials with someone outside your institution *without* a material transfer agreement (MTA), even though you knew such an agreement was required by your institution?

- ₁ Never
- ₂ Rarely
- ₃ Sometimes
- ₄ Always
- ₅ Not applicable
- ₆ I am not aware of policies at my institution requiring an MTA.

8. In those instances when you did not get an MTA from your institution, please indicate the importance of the following factors (asked only of those who answered 2, 3, or 4 to question <7>)

	Very important	Moderately important	Not very important	Not at all important
a. Scope of MTA overly broad	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
b. MTA takes too much time to arrange	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
c. MTA requires too much red tape at own institution	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
d. MTA negotiations between own and other institution too onerous	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
e. Philosophically opposed to MTA restrictions	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄
f. Other (specify one) _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄

DATA SHARING IN GENETICS

9. In the last 3 years, has your lab conducted or collaborated on a project that generated primary data for a genome wide association study (GWAS)?

- ₁ Yes
₂ No → *Go to question <10>.*

10. In your most recently completed GWAS, were you required to deposit data generated from the study into a data repository (e.g., dbGaP)?

- ₁ Yes
₂ No → *Go to question <11>.*

11. In your most recently completed GWAS, did you deposit the required data into the data repository?

- ₁ Yes
₂ No → *Go to question <12>.*

12. Please indicate the amount of time that elapsed between the date that data from your most recently completed GWAS was submitted to the repository and the date you submitted your first publication using that data.

- ₁ Less than 6 months
₂ Between 6 and 12 months
₃ Between 12 and 24 months
₄ More than 24 months
₅ Data from the GWAS have not been included in any manuscripts submitted for publication

SANCTIONS FOR DATA WITHHOLDING

13. As a result of another academic scientist's failure to share information, data or materials, have you ever...?

	Yes	No
a. Appealed to a funding agency, journal, or professional association	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
b. Stopped collaborating with another academic scientist	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
c. Refused to share your information, data or materials with that person or group	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
d. Delayed sharing with that person or group	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂