Appendix 1: Journal characteristics and research environment.

When authors submit their manuscripts, they are asked a list of specific questions about scientific research conflicts of interest (COI), developed by the International Committee of Medical Journal Editors (ICMJE) (http://www.icmje.org, accessed 9/3/18). This list was developed by that committee to provide identical format, detailed data, and best practices information gathering for all of the over 4,800 journals that use it (http://www.icmje.org/journals-following-the-icmje-recommendations/, accessed 9/3/18).

The setting in which the current research was done, was a single journal, and therefore its generalizability is important. *Annals of Emergency Medicine* is the official journal of the American College of Emergency Physicians. It was founded 46 years ago, has a 2017 impact factor of 5.3 (top 6th percentile of all science journals), and has been top journal of 28 in impact factor in its specialty category for several decades. Currently it provides full text downloads of articles to 1.8 million users a year, 50% outside the U.S. The journal's editors have a long history of performing and supporting original research into the processes and improvement of scientific peer reviewed research, having now published over 100 articles on those topics (https://www.annemergmed.com/content/sciencepeer2) which to date have been cited several thousand times. Its editors have participated regularly in standard-setting organizations and meetings of other editors and researchers on improving research (such at the International Peer Review Congresses https://peerreviewcongress.org/previous.html, accessed 8/3/18).

Annals editors and reviewers are all academic physicians and researchers representing virtually all the medical schools in the U.S., including all of the top research institutions. The journal follows COPE recommended practices and very carefully curates its reviewers (see Appendix 11, 2018 Peer Review Status report).

Studies making reliable direct comparisons of quality performance between journals are extremely rare, but those that exist that involved *Annals* found, for example, similar rates of correct detection by reviewers of specific methodologic errors in a manuscript, as were found in a replication study 10 years later in The Journal of the Royal Society for Medicine.[26, 27] We are aware of no studies that document any significant differences in quality performance with other major journals.

Appendix 2: *Text of the email sent to reviewers in treatment arm*, which contained the COI disclosures.

  "Dear X,

  Annals adheres to ICMJE guidelines regarding conflicts of interest. Therefore, Annals asks authors to provide the conflict of interest information upon manuscript submission. Below are the questions that the authors are asked upon manuscript submission, along with the responses of the authors of this manuscript *(manuscript title inserted here in bright blue font)*"

Appendix 3: *Sample disclosures shown to reviewers*, one from a manuscript that had a conflict of interest (Panel A), and one from a manuscript that did not have a conflict of interest (Panel B). The author's disclosure details are printed in bright blue.

Panel A (conflicted):

Annals adheres to ICMJE guidelines regarding conflicts of interest. Therefore, Annals asks authors to provide conflict of interest information upon manuscript submission. Below are the questions that the authors are asked upon manuscript submission, along with the responses of the authors of this manuscript (Development of a Computerised Decision Aid for Thrombolysis in Acute Stroke Care):

1A. For any aspect of the submitted manuscript, did any authors or their institutions receive: grants, consulting fees or honoraria, support for meeting travel, fees for participation in review activities such as data monitoring boards or statistical analysis, payment for writing or reviewing the manuscript, provision of writing assistance, medicines, equipment, or administrative support?
Authors' response: Yes.

1B. If yes, please detail the specifics:
The authors indicated that they received the following type(s) of support: Grants, consulting fees or honoraria
Details provided by authors: GAF?s previous institution has received research grants from Boehringer Ingelheim (manufacturer of Alteplase), and honoraria from Lundbeck for stroke-related activities.

2A. Do any authors have any financial relationships in the past 36 months with entities in the bio-medical arena that could be perceived to influence, or that give the appearance of potentially influencing, what you wrote in the submitted work? Examples include, but are not limited to: board membership, consultancy, employment, expert testimoney, grants/grants pending, payment for lectures including service on speakers bureaus, payment for manuscript preparation, patents (planned, pending, or issued), royalties, payment for development of educational presentations, stock/stock options, other travel/accommodations/meeting expenses, or other (err on the side of full disclosure)?
Authors' response: Yes.

2B. If yes, please detail the specifics:
The authors indicated that they had the following financial relationships: Payment for development of education presentations; Other travel/accommodations/meeting expense; Board membership, consultancy, employment
Details provided by authors: GAF has also received personal remuneration for educational and advisory work from Boehringer Ingelheim and Lundbeck.

Panel B (unconflicted):

Annals adheres to ICMJE guidelines regarding conflicts of interest. Therefore, Annals asks authors to provide conflict of interest information upon manuscript submission. Below are the questions that the authors are asked upon manuscript submission, along with the responses of the authors of this manuscript (Admission Blood Glucose Predicts Hemorrhagic Shock in Multiple Trauma Patients):

1A. For any aspect of the submitted manuscript, did any authors or their institutions receive: grants, consulting fees or honoraria, support for meeting travel, fees for participation in review activities such as data monitoring boards or statistical analysis, payment for writing or reviewing the manuscript, provision of writing assistance, medicines, equipment, or administrative support?
Authors' response: No.

1B. If yes, please detail the specifics:
The authors indicated that they received the following type(s) of support: Not applicable.
Details provided by authors: Not applicable.

2A. Do any authors have any financial relationships in the past 36 months with entities in the bio-medical arena that could be perceived to influence, or that give the appearance of potentially influencing, what you wrote in the submitted work? Examples include, but are not limited to: board membership, consultancy, employment, expert testimoney, grants/grants pending, payment for lectures including service on speakers bureaus, payment for manuscript preparation, patents (planned, pending, or issued), royalties, payment for development of educational presentations, stock/stock options, other travel/accommodations/meeting expenses, or other (err on the side of full disclosure)?
Authors' response: No.

2B. If yes, please detail the specifics:
The authors indicated that they had the following financial relationships: Not applicable.
Details provided by authors: Not applicable.

"Please enter a number from 1-5, with 5 being the best…"

Manuscript Rating Question(s):	Scale	Rating
Originality/importance of the science, or of the clinical impact	[1-5]	
Abstract accurately reflects all essential aspects of the study (including all major results and limitations)	[1-5]	
Quality and validity of the study methodology and design	[1-5]	
Conclusions supported by results	[1-5]	
Limitations are addressed	[1-5]	
Composition is clear, organized, and complete	[1-5]	
Manuscript presents and interprets the results objectively and accurately	[1-5]	
Overall desirability for publication in Annals	[1-5]	
Do you have any financial competing interests, either direct or indirect? (Select 1 for yes, 2 for no, 3 for unsure)	[1-3]	
Do you have any personal competing interests? (Select 1 for yes, 2 for no, 3 for unsure)	[1-3]	
Do you have any intellectual or fiduciary conflicts? (Select 1 for yes, 2 for no, 3 for unsure)	[1-3]	

. Note: italicized text is for explanatory purposes within this appendix and did not appear in the actual survey.

Reviewer Follow-up Survey Page 1

Control condition:

When you evaluated the manuscript *<article title inserted here>*, you were not provided with information about the authors' conflict of interest disclosures.

On the next page, we are going to give you this information. We would like to know whether this information would have affected your evaluation of this manuscript.

Treatment condition:

When you evaluated the manuscript *<article title inserted here>*, you were provided with information about the authors' conflict of interest disclosures.

Do you recall reading this information for your review?

- ○ Yes
- ○ No
- ○ Not Sure

We would like you to imagine that you had NOT received this information. On the next page, we would like to know whether NOT having this information would have affected your evaluation of the manuscript.

Reviewer Follow-up Survey Page 2

Control condition:

Below is the conflict of interest information on the manuscript you reviewed. You did not have this information when you reviewed the manuscript *<article title inserted here>*:

Text in blue after a question represents the exact text answer provided by the authors.

Annals asks authors to provide conflict of interest information upon manuscript submission. Below are the questions that the authors are asked upon manuscript submission, along with the responses of the authors of this manuscript *<article title inserted here>*:

1A. For any aspect of the submitted manuscript, did any authors or their institutions receive: grants, consulting fees or honoraria, support for meeting travel, fees for participation in review activities such as data monitoring boards or statistical analysis, payment for writing or reviewing the manuscript, provision of writing assistance, medicines, equipment, or administrative support?

Authors' response: <Displayed here was authors' response from options: yes vs. no>.

1B. If yes, please detail the specifics:

The authors indicated that they received the following type(s) of support: <Inserted here were any relationships author's provided in a text entry form>

Details provided by authors: <Inserted here were any details author's provided in a text entry form>

2A. Do any authors have any financial relationships in the past 36 months with entities in the bio-medical arena that could be perceived to influence, or that give the appearance of potentially influencing, what you wrote in the submitted work?

Examples include, but are not limited to: board membership, consultancy, employment, expert testimony, grants/grants pending, payment for lectures including service on speakers bureaus, payment for manuscript preparation, patents (planned, pending, or issued), royalties, payment for development of educational presentations, stock/stock options, other travel/accommodations/meeting expenses, or other (err on the side of full disclosure)?

Authors' response: <Displayed here was author's response from options: yes vs. no>.

2B. If yes, please detail the specifics:

The authors indicated that they had the following financial relationships: <Inserted here were any relationships author's reported in a text entry form>

Details provided by authors: <Inserted here were any details about relationships authors reported in a text entry form>

Reviewer counterfactual ratings survey

Suppose you HAD received the above information about the authors' conflict of interest disclosures. How would you rate the manuscript?

The rating criteria are shown in the column on the left. The ratings you provided in your review are reproduced in the middle column. In the column on the right, please indicate how you would have rated the manuscript on each criterion if, when you did your original review, you HAD received the above conflict of interest information

Manuscript Rating Question(s):	Rating you provided	How you would rate it now
Originality/importance of the science, or of the clinical impact	<reviewer's rating>	
Abstract accurately reflects all essential aspects of the study (including all major results and limitations)	<reviewer's rating>	
Quality and validity of the study methodology and design	<reviewer's rating>	
Conclusions supported by results	<reviewer's rating>	
Limitations are addressed	<reviewer's rating>	
Composition is clear, organized, and complete	<reviewer's rating>	
Manuscript presents and interprets the results objectively and accurately	<reviewer's rating>	
Overall desirability for publication in *Annals*	<reviewer's rating>	

To what extent do you think that the authors' COI information that you received for this manuscript, led you to make specific additional written comments or recommendations in the text of your review for the editor, beyond what you would have written if you had not received the COI information? (Do not consider your numerical ratings in this answer, just your text comments).

Not at all   Some   A great deal

○   ○   ○   ○   ○

Enter any comments here about the impact of the COI information on the text of your written review

[ ]

Treatment condition:

The page the participants saw in the treatment condition was identical to the page that participants saw in the control condition, with these exceptions.

Intro Text:

Below is the conflict of interest information that you received when you reviewed the manuscript *<article title inserted here>:*

<Conflict of interest information was presented as in the control group>

Counterfactual questions:

Suppose you had NOT received the above information about the authors' conflict of interest disclosures. How would you rate the manuscript?

The rating criteria are shown in the column on the left. The ratings you provided in your review are reproduced in the middle column. In the column on the right, please indicate how you would have rated the manuscript on each criterion if, when you did your original review, you had NOT received the above conflict of interest information

Manuscript Rating Question(s):	Rating you provided	How you would rate it, had you NOT received information on the authors' COI disclosures
Originality/importance of the science, or of the clinical impact	<reviewer's rating>	
Abstract accurately reflects all essential aspects of the study (including all major results and limitations)	<reviewer's rating>	
Quality and validity of the study methodology and design	<reviewer's rating>	
Conclusions supported by results	<reviewer's rating>	
Limitations are addressed	<reviewer's rating>	
Composition is clear, organized, and complete	<reviewer's rating>	
Manuscript presents and interprets the results objectively and accurately	<reviewer's rating>	
Overall desirability for publication in Annals	<reviewer's rating>	

Please rate the extent to which you agree with each statement, given the authors' conflict of interest disclosures that you received for this manuscript.

Note: Please do NOT press the back button - it will invalidate your responses.

	Strongly disagree 1	2	3	4	Strongly agree 5
The authors of the paper were subject to significant conflicts of interest.	○	○	○	○	○
The conflict of interest information I received was sufficient to objectively evaluate the manuscript.	○	○	○	○	○
After reading the conflict of interest information provided by the authors, I knew what, if any, impact it should have on my	○	○	○	○	○

Have you already completed a follow-up survey like this for a DIFFERENT manuscript review?

○ Yes

○ No

○ Not Sure

Next, some questions about your perspectives on conflicts of interest. Please state the degree to which you agree or disagree with each of the following statements:

	Strongly disagree 1	2	3	4	Strongly agree 5
Industry collaboration with academics is, on balance, a good thing.	○	○	○	○	○
Requiring authors to disclose conflicts of interest improves the quality of academic publications.	○	○	○	○	○
The typical peer reviewer would know how to change their review and recommend changes in the manuscript (if needed) based on COI information disclosure.	○	○	○	○	○
It is reasonable to require authors of medical papers to disclose conflicts of interest.	○	○	○	○	○
Investigators receiving financial support from commercial interests have a hard time being objective in their research.	○	○	○	○	○
The problem of conflicts of interest is exaggerated in the U.S. media.	○	○	○	○	○
Conflicts of interest are a serious problem in medical research.	○	○	○	○	○

Next, some questions about you.

First, we would like to know about support from industry (i.e., not from government, foundations or educational institutions) that you have received **as personal income**. Below is a list of possible sources of industry support. We like to know the relative contribution of each source to your yearly personal income would.

	None	Less than	Less than 10% of your yearly income	More than 10% of your yearly income
Salary-support (note: only from industry-funded research)	○	○	○	○
Consulting fees	○	○	○	○
Speaking fees	○	○	○	○
Support for meeting travel expenses	○	○	○	○
Other: please provide details	○	○	○	○

[   ]

Please check all that apply.)

☐ M.D.

☐ PhD

☐ Master's

☐

[   ]

Other, please describe:

In what year did you complete your residency?

(If this question is not applicable, please write N/A in the text box above.)

Have you served on an editorial board of a peer-reviewed journal in a position where you made the decision as to whether a manuscript would be accepted or not?

○ Yes

○ No

If yes, for approximately how many years?

Have you served as a peer reviewer for medical journals about specialties <u>other than</u> emergency medicine?

No	Once	Several times in my career	Routinely (several times a year)
○	○	○	○

For how many, if any, grant applications (for government and/or non-profit organizations) have you served as a reviewer?

0 applications	1-10 applications	11-50 applications	51-100 applications	>100 applications
○	○	○	○	○

On how many, if any, scientific peer-reviewed publications *are you listed as an author*?

0 publications	1-10 publications	11-50 publications	51-100 publications	>100 publications
○	○	○	○	○

On what fraction of your peer-reviewed publications are you listed as *either the first or the last author*?

0-10%	11-25%	26-50%	51-75%	76-90%	91-100%
○	○	○	○	○	○

For roughly what percent of your publications in scientific peer-reviewed journals have you...

	0-10%	11-25%	26-50%	51-75%	76-90%	91-100%
...been required to disclose whether you have conflicts of interest?	○	○	○	○	○	○
...had any conflicts of interest to disclose?	○	○	○	○	○	○

Reviewer Follow-up Survey Page 4 (treatment + control)

Your gender:

○ Male

○ Female

○ Other

Your age:

[   ]

When you reviewed the manuscript *<article title inserted here>*, did you know who its authors were?

○ Yes, I knew who the authors were

○ I had a hunch as to who the authors were

○ No, I did not know who the authors were

At the beginning of this survey, you received information about the authors' conflict of interest disclosures.

To what degree would you want to get similar information in the future for manuscripts you review?

Very much do
not want this
information

Very much
want this
information

○   ○   ○   ○   ○

Has the information you received about possible COI during this survey process changed your view as to whether it is reasonable to require authors to disclose conflict of interest?

○   No change

○   Yes - disclosure should be required

○   Yes - disclosure should not be required

Thank you for completing this survey!

If you have any comments about it, please enter them here:

On the conflict of interest form, authors were asked the following questions (taken verbatim from the ICMJE form filled out by authors):

1. "For any aspect of the submitted manuscript, did any authors or their institutions receive grants, consulting fees, or honoraria, support for meeting travel, fees for participation in review activities such as data monitoring boards or statistical analysis, payment for writing or reviewing the manuscript, provision of writing assistance, medicines, equipment, or administrative support?"
2. "Do any authors have financial relationships in the past 36 months with entities in the bio-medical arena that could be perceived to influence, or that give the appearance of potentially influencing, what you wrote in the submitted work? Examples include, but are not limited to: board membership, consultancy, employment, expert testimony, grants/grants pending, payment for lectures including service on speakers bureaus, payment for manuscript preparation, patents (planned, pending, or issued), royalties, payment for development of educational presentations, stock/stock options, other travel/accommodations/meeting expenses, or other (err on the side of full disclosure"

In our sample, a total of 525 papers declared a conflict of interest – meaning that the authors had answered "Yes" to at least one of the above two questions. Authors responding "yes" to either of the above questions must describe the conflict of interest (in an open-ended text box). Two coders independently coded the content of these disclosures. Each coder did this first for authors' responses to the first COI question, and then again for authors' responses to the second COI question. The coders coded for the presence of four different types of funding – whether the authors had received funding from an entity that was: commercial (i.e., a for-profit company), non-profit, government, or a university. To make these categorizations, the coders googled the funding sources disclosed. In a few cases, the coders could not categorize the given disclosure, typically because the authors' disclosures were ambiguous. In such cases, the disclosure was assigned to the category "other." Thus, this coding system produced ten dummy variables, one for each possible funding type (i.e., commercial, non-profit, government, university, other), for each of the two disclosure items.

The coders were blinded to the study hypotheses as well as to the scores the manuscripts had earned in the review process. The coders agreed 95.8% of the time.

When the coding was completed, we re-ran our primary analysis, this time including a dummy variable for each of the coded categories, as well as variables denoting the possible interaction between each category and our treatment. Results are in appendix 9. Note that in this analysis, we collapsed across authors' responses to the two different COI questions; thus for example, a manuscript for which the authors disclosed commercial funding in response to the first question, and then disclosed no COI in response to the second question, would be coded as a "1" for the commercial dummy variable.

We also ran two additional versions of this analysis: one in which we used the dummy variables *only* from the first question (thus for this example of a manuscript in which the authors disclosed a commercial funder in response to the first COI question, and no COI in response to the second COI question; the manuscript would be coded as a 1 on commercial); and another in which we used the dummy variables *only* from the first question – thus in this case a manuscript in which the authors disclosed a commercial funder in response to the first COI question, and no COI in response to the second question, would be coded as a 0). These results also revealed that the intervention had no effect.

A note on how disagreements were treated in the analysis (i.e., the 4.2% of cases for which the coders disagreed). In the analysis reported in appendix 9, when coders disagreed, we assigned a value of 1 to the given variable for the given manuscript. For example, if one of the coders coded that a given COI disclosure indicated the presence of commercial funding (i.e., assigned a score of "1" for the commercial dummy variable), but the other coder coded the same disclosure as NOT indicative of commercial funding (i.e., assigned a score of "0" for the commercial dummy variable), then we assigned a 1 for the commercial dummy for that manuscript. However, the results are substantively equivalent when we re-ran the analysis assigning a 0 to such discrepancies.

Appendix 7.1-7.2: Robustness checks

Summary of the robustness checks provided below: First, we replicated the primary analysis reported in the manuscript for each of the seven other manuscript quality assessment items (appendix 7.1.a, 7.1.b). We also conducted additional regressions on the primary outcome measure in which we added controls (paper fixed effects, reviewer fixed effects; appendix 7.2.a), restricted the dataset to a reviewer's first-provided review (i.e., removed subsequent observations from reviewers who were exposed to the intervention more than once; appendix 7.2.b), restricted the dataset to reviewers with a track record of high review quality ratings by editors over the previous five years; appendix 7.2.c), and used a slightly different specification in which we added an interaction term to the model (instead of running separate regressions for manuscripts that did versus did not have conflicts; appendix 7.2.d). Finally, we also re-ran the primary analysis, restricting the dataset to: manuscripts for which the authors only answered "Yes" to the first COI question (7.2.e), and again for manuscripts for which the authors only answered "Yes" to the second COI question.

Appendix 7.1: *Supplementary analyses using alternate outcome measures.*

First, we present regression analyses parallel to those reported in the paper, one for each of the specific criteria on which the reviewers rated the given manuscript. Thus whereas in the main text we report the regression analysis using reviewers' ratings of the overall desirability of the manuscript (the primary outcome measure), here we show the regression analysis for each item measuring a specific facet of the manuscript.

In each table, as in the primary analysis reported in Table 2, Model 1 denotes the overall treatment effect (i.e., collapsing across whether the authors disclosed versus did not disclose a conflict of interest). Model 2 tests for treatment effects among conflicted manuscripts. Model 3 tests for treatment effects among unconflicted manuscripts. Parentheticals represent 95% confidence intervals.

Appendix 7.1.a: *Supplementary analyses using alternate outcome measures, Manuscripts with COIs.*

Note: The "Overall desirability" item, bolded below, was our primary outcome measure.

Manuscripts with COIs (n=319)

	Treatment Mean (SD)	Control Mean (SD)	Difference (95% CI)
Originality/importance of science or clinical impact	3.32 (1.02)	3.23 (0.97)	0.09 (-0.05 to 0.23)
Abstract accurately reflects all essential aspects of study	3.40 (0.91)	3.28 (0.97)	0.12 (-0.01 to 0.26)
Quality and validity of study methodology and design	3.09 (1.03)	2.93 (1.04)	0.16 (0.01 to 0.31)
Conclusions supported by results	3.21 (1.03)	2.97 (1.03)	0.24 (0.09 to 0.39)
Limitations are addressed	3.00 (1.01)	3.02 (1.06)	-0.02 (-0.17 to 0.13)
Composition is clear, organized, and complete	3.42 (1.02)	3.39 (0.99)	0.04 (-0.11 to 0.18)

Presents and interprets results objectively and accurately	3.37 (1.01)	3.29 (0.97)	0.08 (-0.07 to 0.22)
Overall desirability for publication in Annals	**2.96 (1.16)**	**2.85 (1.12)**	**0.11 (-0.05 to 0.26)**

Appendix 7.1.b: *Supplementary analyses using alternate outcome measures, Manuscripts without COIs.*

Manuscripts without COIs (n=569)

	Treatment Mean (SD)	**Control Mean (SD)**	**Difference (95% CI)**
Originality/importance of science or clinical impact	3.13 (0.97)	3.06 (0.98)	0.06 (-0.04 to 0.17)
Abstract accurately reflects all essential aspects of study	3.16 (1.01)	3.08 (1.00)	0.08 (-0.03 to 0.19)
Quality and validity of study methodology and design	2.76 (0.97)	2.73 (0.99)	0.03 (-0.07 to 0.14)
Conclusions supported by results	2.84 (1.05)	2.83 (1.07)	0.01 (-0.11 to 0.12)
Limitations are addressed	2.76 (1.00)	2.80 (1.00)	-0.04 (-0.15 to 0.06)
Composition is clear, organized, and complete	3.27 (1.02)	3.20 (1.04)	0.08 (-0.03 to 0.18)
Presents and interprets results objectively and accurately	3.08 (1.04)	3.09 (0.98)	-0.01 (-0.12 to 0.10)
Overall desirability for publication in Annals	**2.62 (1.10)**	**2.62 (1.09)**	**0.01 (-0.11 to 0.12)**

Appendix 7.2.a: Additional regressions on the primary outcome measure, with controls (paper fixed effects, reviewer fixed effects) added.

Primary analysis, adding fixed effects for manuscript. Model 1 denotes the overall treatment effect (i.e., collapsing across whether the authors disclosed versus did not disclose a COI). Model 2 tests for treatment effects among conflicted manuscripts. Model 3 tests for treatment effects among unconflicted manuscripts. Parentheticals represent 95% confidence intervals.

	(1)	**(2)**	**(3)**
Informed	0.04	0.11	0.01
	(-0.09, 0.17)	(-0.11, 0.33)	(-0.16, 0.17)
Adjusted R^2	0.21	0.23	0.18
N	1776	638	1138

Primary analysis, adding an interaction term, fixed paper effects, and fixed reviewer effects. Specifically, Model (1) measures the effect of being informed for all reviews. Model (2) interacts treatment with whether the submission had a conflict of interest, this is the same as our primary analysis. Model (3) includes submission fixed effects. Model (4) includes submission and reviewer fixed effects.

	(1)	(2)	(3)	(4)
Informed	0.04	0.01	0.01	-0.08
	(-0.05, 0.13)	(-0.11, 0.13)	(-0.14, 0.15)	(-0.29, 0.13)
Has COI		0.23		
		(0.08, 0.38)		
Informed × Has COI		0.10	0.10	0.19
		(-0.09, 0.29)	(-0.15, 0.35)	(-0.19, 0.56)
Constant	2.70	2.62		
	(2.62, 2.78)	(2.52, 2.71)		
Adjusted R^2	0.00	0.01	0.24	0.44
N	2282	2282	2282	2282

Appendix 7.2.b: The effect of receiving authors' COI disclosures on overall evaluation, with the dataset restricted to a reviewer's first-provided review.

The effect of receiving authors' conflict of interest disclosures for a given manuscript on reviewers' overall evaluation of those manuscripts, **restricting the sample to each reviewer's first review in our dataset** (in case reviewers responded systematically differently after having contributed to our dataset.) Model 1 denotes the overall treatment effect (i.e., collapsing across whether the authors disclosed versus did not disclose a conflict of interest). Model 2 tests for treatment effects among conflicted manuscripts. Model 3 tests for treatment effects among unconflicted manuscripts. Parentheticals represent 95% confidence intervals.

Model	Number of manuscripts	Treatment Mean (SD)	Control Mean (SD)	Difference (95% CI)
1. All manuscripts	109	2.78 (1.28)	2.73 (1.29)	0.04 (-0.23 to 0.32)
2. Manuscripts with COIs	41	2.96 (1.37)	2.96 (1.26)	0.01 (-0.51 to 0.52)
3. Manuscripts without COIs	68	2.66 (1.22)	2.60 (1.29)	0.07 (-0.26 to 0.39)

Appendix 7.2.c: The effect of receiving authors' COI disclosures on overall evaluation, with the dataset restricted to reviewers with a track record of high review quality ratings by editors over the previous five years.

The effect of receiving authors' conflict of interest disclosures for a given manuscript on reviewers' overall evaluation of those manuscripts, **restricting the sample to reviewers in the top third of the editors' routine ratings for quality of each review** (in case high quality reviewers respond systematically differently than low and medium quality reviewers.)**.** We conducted this robustness check

to test whether a treatment effect might emerge among the best reviewers. We defined "highest quality reviewer" as those reviewers whose previous average review quality rating (editors assign a quality rating to every review) falls in the top third of all reviewers. Model 1 denotes the overall treatment effect (i.e., collapsing across whether the authors disclosed versus did not disclose a conflict of interest). Model 2 tests for treatment effects among conflicted manuscripts. Model 3 tests for treatment effects among unconflicted manuscripts. Parentheticals represent 95% confidence intervals.

Model	Number of manuscripts	Treatment Mean (SD)	Control Mean (SD)	Difference (95% CI)
1. All manuscripts	181	2.67 (1.20)	2.67 (1.06)	0.01 (-0.21 to 0.22)
2. Manuscripts with COIs	61	2.93 (1.10)	3.02 (1.10)	-0.09 (-0.45 to 0.27)
3. Manuscripts without COIs	120	2.55 (1.23)	2.49 (1.00)	0.06 (-0.21 to 0.33)

Appendix 7.2.d: The effect of receiving authors' COI disclosures on overall evaluation, with an interaction effect added to the model.

The effect of receiving authors' conflict of interest disclosures for a given manuscript on reviewers' overall evaluation of those manuscripts. Unlike the specification in Table 2, **this specification includes an interaction effect.**

|	(1)
(Intercept)	2.62
	(2.53, 2.71)
Has COI	0.23
	(0.08, 0.39)
Treated	0.01
	(-0.11, 0.12)
Treated: Has COI	0.10
	(-0.09, 0.29)
Adjusted R^2	0.01
N	1776

Appendix 7.2.e: The effect of receiving authors' COI disclosures on overall evaluation, with the dataset restricted to:

1) Manuscripts for which the authors answered "Yes" to only the *first* of the two COI questions on the ICMJE form, i.e.: "For any aspect of the submitted manuscript, did any authors or their institutions receive grants, consulting fees, or honoraria, support for meeting travel, fees for participation in review activities such as data monitoring boards or statistical analysis, payment for writing or reviewing the manuscript, provision of writing assistance, medicines, equipment, or administrative support?"
2) Manuscripts for which the authors answered "Yes" to only the *second* of the two COI questions on the ICMJE form, i.e.: "Do any authors have financial relationships in the past 36 months with

entities in the bio-medical arena that could be perceived to influence, or that give the appearance of potentially influencing, what you wrote in the submitted work? Examples include, but are not limited to: board membership, consultancy, employment, expert testimony, grants/grants pending, payment for lectures including service on speakers bureaus, payment for manuscript preparation, patents (planned, pending, or issued), royalties, payment for development of educational presentations, stock/stock options, other travel/accommodations/meeting expenses, or other (err on the side of full disclosure."

Model	N	Treatment Mean (SD)	Control Mean (SD)	Difference (95% CI)
1. COI: yes to Q1 only	131	3.05 (1.15)	2.84 (1.15)	0.21 (-0.04 to 0.46)
2. COI: yes to Q2 only	32	2.55 (1.07)	2.50 (1.07)	0.05 (-0.46 to 0.56)

Appendix 8: Power analysis.
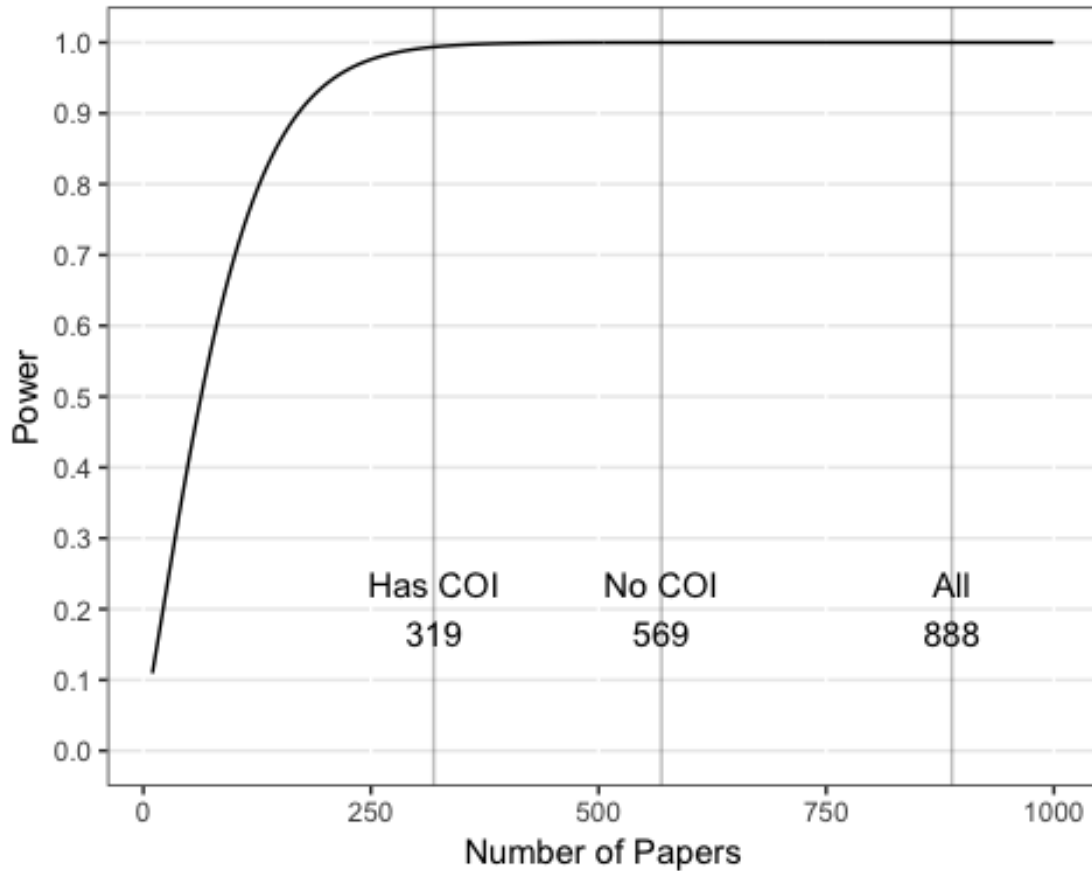
Power to detect a difference score of 0.4 points (SD 1.6 points) with a two-sided paired t-test, 5% significance level, as a function of sample size. Vertical lines indicate observed number of papers by COI status.

```
#' Create a power analysis graph.
#'
#' @param effect_sizes A vector of effect sizes.
#' @param data A table of data used to calculate sample sizes.
#'
#' @importFrom pwr pwr.t.test
#' @importFrom broom tidy
#' @export
#'

library(tidyverse)
library(feather)
library(lubridate)
library(magrittr)
library(readxl)
library(lfe)
library(pwr)
library(pander)
```

```r
power_graph <- function(effect_sizes, data) {

    papers <- data %>%
        group_by(submission_id, has_coi, coi_shown) %>%
        summarise(y = mean(rating10, na.rm = TRUE)) %>%
        spread(coi_shown, y) %>%
        ungroup()
    names(papers) <- c("submission", "has_coi", "y0", "y1")

    papers <- papers[complete.cases(papers), ]

    sample_sizes <- papers %>%
        summarise(
            all = n(),
            no_coi = sum(has_coi == 0),
            has_coi = sum(has_coi == 1)
        )
    sample_sizes <- data.frame(n = t(sample_sizes))
    sample_sizes$text <- c("All", "No COI", "Has COI")

    grid <- expand.grid(
        n = seq(10, 1000, 5),
        diff = effect_sizes
    )
    sigma <- 1.6
    grid$d <- grid$diff / sigma

    power <- function(n, d) {
        x <- pwr.t.test(n = n, d = d, type = "paired")
        x$power
    }
    grid <- grid %>%
        rowwise() %>%
        mutate(power = power(n, d)) %>%
        ungroup() %>%
        mutate(diff = factor(diff))

    g <- ggplot() +
        geom_line(aes(x = n, y = power, group = diff), data = grid) +
        geom_text(aes(x = n * 1.0, y = 0.2, label = paste(text, n, sep = "\n")), data = sample_sizes) +
        geom_vline(xintercept = sample_sizes$n, alpha = 0.25, color = "black") +
        theme_bw() +
        ylab("Power") +
        xlab("Number of Papers") +
        scale_y_continuous(breaks = seq(0, 1, 0.1), minor_breaks = NULL, limits = c(0, 1)) +
        theme(panel.grid.minor = element_line(color="white"), panel.grid.major.x = element_line(color="white"))

    return(g)
}

reviews <- read_feather("../data/processed/reviews.feather")

power_graph(effect_sizes = c(0.4), data = reviews)
```

Appendix 9: Reviewers' self-reported history with conflicts of interest.

Note: The demographics were measured in the follow-up survey; therefore, we have demographics on approximately 80% of the sample (i.e., those who completed the follow-up survey). Data are numbers (%).

		Control (N = 368)	Treatment (N = 361)
Salary support: % receiving…	None	306 (91%)	280 (87%)
	<$500/year	4 (1%)	12 (4%)
	<10% of yearly income	18 (5%)	24 (7%)
	>10% of yearly income	7 (2%)	6 (2%)
Consulting fees: % receiving…	None	270 (81%)	245 (76%)
	<$500/year	19 (6%)	25 (8%)
	<10% of yearly income	42 (13%)	45 (14%)
	>10% of yearly income	4 (1%)	7 (2%)
Speaking fees: % receiving…	None	286 (85%)	264 (82%)
	<$500/year	28 (8%)	28 (9%)
	<10% of yearly income	21 (6%)	28 (9%)
	>10% of yearly income	0 (0%)	2 (1%)
Support for meeting travel expenses: % receiving…	None	275 (82%)	260 (81%)
	<$500/year	30 (9%)	26 (8%)
	<10% of yearly income	30 (9%)	34 (11%)
	>10% of yearly income	0 (0%)	2 (1%)
Percent of scientific publications for which had any conflicts of interest to disclose: % within each category:	0-10%	267 (80%)	239 (75%)
	11-25%	17 (5%)	23 (7%)
	26-50%	16 (5%)	19 (6%)
	51-75%	10 (3%)	9 (3%)
	76-90%	8 (2%)	9 (3%)
	91-100%	17 (5%)	21 (7%)

Appendix 10: Exploratory analysis of intervention effect as a function of the type of disclosed funding source.

This analysis is restricted to conflicted manuscripts (N=525). It tests for the effect of receiving authors' COI disclosures on overall evaluation, with dummy variables denoting whether the given disclosure (i.e., authors' responses to either the first and/or the second COI question on the ICMJE form – appendix 3) included at least one: commercial entity, governmental entity, non-profit entity, university entity, or other entity (that did not fall into one of these four categories). In the regression output below, the omitted group is "other."

This analysis also includes a variable for the interaction between each of these dummies and our intervention. These interactions are the key variables; if a particular funding source had a greater or smaller impact on reviews for reviewers who viewed them, then these interaction terms should be positive or negative, respectively, and statistically significant. None is significant.

To summarize the regression output below:

- There is no main effect of the treatment (i.e., receiving the authors' COI disclosures) on overall evaluation. This is denoted by the "treatment" variable in the output below.
- There are no main effects of any of the dummy variables: none of the dummy variables denoting the different categories of funding emerged as statistically significant predictors of overall evaluation.
- There were no interactions: none of the dummy variables interacted with our intervention, meaning that the (null) effect of our intervention did not depend on the nature of the funding disclosed in the COI.

	(1)
(Intercept)	2.72
	(2.51, 2.93)
commercial	0.07
	(-0.17, 0.30)
government	0.13
	(-0.09, 0.36)
non_profit	0.11
	(-0.10, 0.32)
university	-0.12
	(-0.46, 0.21)
treatment	0.19
	(-0.08, 0.47)
treatment*commercial	-0.19
	(-0.50, 0.11)
treatment*government	-0.16
	(-0.44, 0.13)

treatment*non_profit	0.06
	(-0.23, 0.35)
treatment *university	0.01
	(-0.43, 0.46)
Adjusted R^2	0.00
N	827

Notes: The "Overall desirability" item, bolded below, was our primary outcome measure. Each confidence interval is computed using a paired t-test (within review comparisons) with no adjustments for multiple comparisons.

	All (n=2407)		Control (n=1195)		Treatment (n=1212)	
	Actual Mean (SD)	Counterfactual Mean (SD)	Actual Mean (SD)	Counterfactual Mean (SD)	Actual Mean (SD)	Counterfactual Mean (SD)
Originality/importance of the science, or of the clinical impact	3.15 (1.04) 0.01 (0.00	3.15 (1.04) to 0.01)	3.12 (1.03) 0.00 (-0.00	3.12 (1.02) to 0.01)	3.19 (1.04) 0.01 (0.00	3.18 (1.05) to 0.02)
Abstract accurately reflects all essential aspects of study (including all major results and limitations)	3.18 (1.05) 0.00 (-0.00	3.17 (1.04) to 0.01)	3.16 (1.04) 0.00 (-0.00	3.16 (1.03) to 0.01)	3.20 (1.05) 0.01 (-0.00	3.19 (1.05) to 0.01)
Quality and validity of the study methodology and design	2.83 (1.08) 0.00 (-0.00	2.83 (1.09) to 0.01)	2.82 (1.08) -0.00 (-0.01	2.83 (1.08) to 0.01)	2.83 (1.09) 0.01 (-0.00	2.83 (1.09) to 0.02)
Conclusions supported by results	2.91 (1.13) 0.01 (0.01	2.90 (1.13) to 0.02)	2.90 (1.11) 0.01 (0.00	2.89 (1.11) to 0.02)	2.93 (1.15) 0.01 (0.00	2.92 (1.15) to 0.02)
Limitations are addressed	2.86 (1.08) 0.02 (0.01	2.84 (1.08) to 0.03)	2.88 (1.06) 0.02 (0.01	2.87 (1.07) to 0.03)	2.83 (1.09) 0.02 (0.01	2.81 (1.09) to 0.04)
Composition is clear, organized, and complete	3.29 (1.08) 0.00 (-0.00	3.28 (1.08) to 0.01)	3.30 (1.08) 0.00 (-0.01	3.29 (1.08) to 0.01)	3.28 (1.08) 0.01 (0.00	3.27 (1.08) to 0.02)
Manuscript presents and interprets the results objectively and accurately	3.16 (1.06) 0.03 (0.02	3.13 (1.07) to 0.04)	3.18 (1.04) 0.03 (0.02	3.15 (1.05) to 0.04)	3.14 (1.09) 0.03 (0.02	3.10 (1.09) to 0.05)
Overall desirability for publication in Annals	2.69 (1.19) 0.02 (0.01	2.67 (1.19) to 0.02)	2.69 (1.17) 0.01 (-0.00	2.68 (1.17) to 0.02)	2.69 (1.21) 0.02 (0.01	2.67 (1.20) to 0.03)

Appendix 12: Reviewer rates of written comments and recommendations in the free text of the review

In the last year of this study a question was added to the questionnaire, "To what extent do you think that the authors' COI information that you received for this manuscript, led you to make specific additional written comments or recommendations in the text of your review for the editor, beyond what you would have written if you had not received this COI information? (Do not consider your numerical ratings in your answer, just your text comments)." The response scale had 5 points, with the extremes labeled "Not at all" and "A great deal," and the midpoint labeled "Some." The purpose of this question was to assess whether other mechanisms than the quality scores, such as free text comments about possible COI and bias by the reviewers, varied according to COI disclosures.

Below is a histogram of the responses (N = 221). Answers were heavily on the negative side (indicating few or no changes to the free text comments). "Not at all" was chosen 180 times (81%), the lowest two rankings were selected 207 times (94%). The top 3 rankings were selected 14 times (6%), and the top 2 rankings only 4 times (2%).