

Software Carpentry Workshop

FMV



How to Make More Published Research True

John P. A. Ioannidis

Published: October 21, 2014 • DOI: 10.1371/journal.pmed.1001747

Article

About the Authors

Metrics

Comments

Related Content

Download PDF

Print

Share

- Effective Interventions
- Stakeholders
- Research Currencies
- Modifying the Reward System

Figures

	Overall	High	Low
Number of studies	10	5	5
Number of participants	1000	500	500
Number of events	100	50	50
Number of deaths	10	5	5
Number of hospitalizations	10	5	5
Number of complications	10	5	5
Number of withdrawals	10	5	5
Number of dropouts	10	5	5
Number of lost to follow-up	10	5	5
Number of non-compliance	10	5	5
Number of protocol deviations	10	5	5
Number of other events	10	5	5

	Overall	High	Low
Number of studies	10	5	5
Number of participants	1000	500	500
Number of events	100	50	50
Number of deaths	10	5	5
Number of hospitalizations	10	5	5
Number of complications	10	5	5
Number of withdrawals	10	5	5
Number of dropouts	10	5	5
Number of lost to follow-up	10	5	5
Number of non-compliance	10	5	5
Number of protocol deviations	10	5	5
Number of other events	10	5	5

CrossMark

Subject Areas

[Clinical trials](#)



Large Research Practices that May Help Increase the Proportion of True Research Findings

- ▶ Large-scale collaborative research
- ▶ Adoption of replication culture
- ▶ Registration (of studies, protocols, analysis codes, datasets, raw data, and results)
- ▶ Sharing (of data, protocols, materials, software, and other tools)
- ▶ Reproducibility practices
- ▶ Containment of conflicted sponsors and authors
- ▶ More appropriate statistical methods
- ▶ Standardization of definitions and analyses
- ▶ More stringent thresholds for claiming discoveries or “successes”
- ▶ Improvement of study design standards
- ▶ Improvements in peer review, reporting, and dissemination of research
- ▶ Better training of scientific workforce in methods and statistical literacy

Large Research Practices that May Help Increase the Proportion of True Research Findings

- ▶ Large-scale collaborative research
- ▶ Adoption of replication culture
- ▶ Registration (of studies, protocols, analysis codes, datasets, raw data, and results)
- ▶ Sharing (of data, protocols, materials, software, and other tools)
- ▶ Reproducibility practices
- ▶ Containment of conflicted sponsors and authors
- ▶ More appropriate statistical methods
- ▶ Standardization of definitions and analyses
- ▶ More stringent thresholds for claiming discoveries or “successes”
- ▶ Improvement of study design standards
- ▶ Improvements in peer review, reporting, and dissemination of research
- ▶ Better training of scientific workforce in methods and statistical literacy

Large Research Practices that May Help Increase the Proportion of True Research Findings

- ▶ Large-scale collaborative research
- ▶ Adoption of replication culture
- ▶ Registration (of studies, protocols, analysis codes, datasets, raw data, and results)
- ▶ Sharing (of data, protocols, materials, software, and other tools)
- ▶ Reproducibility practices
- ▶ Containment of conflicted sponsors and authors
- ▶ More appropriate statistical methods
- ▶ Standardization of definitions and analyses
- ▶ More stringent thresholds for claiming discoveries or “successes”
- ▶ Improvement of study design standards
- ▶ Improvements in peer review, reporting, and dissemination of research
- ▶ Better training of scientific workforce in methods and statistical literacy