Fostering research integrity: just a regulatory issue?

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Most researchers are honest...

...but misconduct happens
How much misconduct?

High profile cases

Surveys: 7-40%

Statistical analysis
deliberate
misleading
accidental
ignorance
incompetence
well-meaning
more common
regulation
rare
deliberate misleading
dishonesty
culture change
Multi-agency

Collaboratively developed

Principles based
Compliance with the concordat is a condition of HEFCE grant

‘The institution is required to comply with the Concordat to Support Research Integrity published by Universities UK in July 2012 [...] Institutions in receipt of research grant from the Council are also required to provide assurance of their compliance with the Concordat through the annual assurance return to the Council and following any guidance that the Council may provide. For 2013-14 only, in recognition that compliance by some institutions may require a period of time to achieve, institutions in receipt of research grant from the Council may provide assurance either of their compliance, or that they are working towards compliance, with the Concordat.’
Culture change

Awareness

Training
“Contrary to the rules of philosophers of science, who advise testing hypotheses by trying to refute them, people (and scientists, quite often) seek data that are likely to be compatible with the beliefs they currently hold.”

Daniel Kahneman

Thinking, fast and slow
Culture change

Awareness
Training
Openness
“To take full advantage of modern tools for the production of knowledge, we need to create an open scientific culture where as much information as possible is moved out of people’s heads and laboratories, and onto the network.”

Michael Nielsen
Reinventing discovery
Open research...

...can be checked

...is better research
Wicherts JM, Bakker M, Molenaar D (2011)


doi:10.1371/journal.pone.0026828
Psychology - 73% authors reluctant to share data

Studied: 49 papers in 2 journals containing 1148 statistical tests

Compared quality of tests from shared vs not shared data
Figure 1. Distribution of reporting errors per paper for papers from which data were shared and from which no data were shared.


http://www.plosone.org/article/info:doi/10.1371/journal.pone.0026828
Conclusions

Open research and data sharing have a major role to play in improving research integrity

Policies to encourage and enhance data sharing should be part of institutional response to tackle misconduct

There may be a role for funder mandates that require data sharing
Thank you for listening

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