

Substantial costs associated with scientific misconduct should prioritize prevention efforts

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The estimated costs associated with a single investigation of scientific misconduct can be as high as US \$525,000, and the costs of investigating the allegations of scientific misconduct annually reported in the United States to the Office of Research Integrity (ORI), could exceed US\$110 million, according to a paper from Arthur M. Michalek and colleagues from Roswell Park Cancer Institute, Buffalo, New York, USA published in this week's *PLoS Medicine*.

The authors devised a [statistical model](#) to estimate the costs associated with scientific misconduct — which they divided into three categories; conduct of the fraudulent research, investigation, and remediation — and then applied this model to one case study that was based on an actual investigation. The authors conservatively estimated that if their observed costing for this single investigation was applied to all 217 allegations of misconduct reported to the ORI in their last reporting year, the direct costs would exceed \$110 million.

The authors argue that although scientific misconduct may never be eliminated, cases of misconduct more related to a lack of scientific standards (rather than to deliberate misdeeds) can be prevented but concede that how such prevention can be achieved has not yet been determined. They say, "Most academic institutions have... undertaken a number of efforts to increase awareness through education and training, setting forth and enforcing scientific codes of conduct, providing

mentorship training, auditing and monitoring procedures, and implementing procedures for reporting and investigating alleged incidents of misconduct."

The authors conclude: "The ultimate effectiveness of these approaches may take time to discern. What is known, however, is that the costs of these proactive activities pale in comparison to the costs of a single case of [scientific misconduct](#)."

More information: Michalek AM, Hutson AD, Wicher CP, Trump DL (2010) The Costs and Underappreciated Consequences of Research Misconduct: A Case Study. PLoS Med 7(8): e1000318.
[doi:10.1371/journal.pmed.1000318](https://doi.org/10.1371/journal.pmed.1000318)

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