Fraud and deceit in medical research

Aims: Research misconduct has adverse consequences not only for investigators and their institutions, but more importantly for the scientific community. Fraud and deceit in medical research may misleadingly result in changes in healthcare practice. This article examines the prevalence, the genesis and consequences of fraud in medical research. Because of its fundamental importance, the definition of research misconduct is evolving with a paradigm shift in understanding the ethical boundaries and integrity of scientific practices.

Methods: We performed a Pubmed search of literature published in the English language using the following queries “research misconduct” and “fraud and deceit in medical research”. The magnitude of research misconduct was estimated through a review of academic surveys, article retraction rates, and meta-analyses. The potential causes of fraud were reviewed from the macro-scale of academic journals, supporting institutions and funding bodies to the micro-scale of individual investigators. Prominent regulatory bodies were identified and their function was reviewed.

Results: The function of regulatory bodies governing integrity of medical research is no longer confined to prosecution and investigation in cases of fraud. In the past decade, supportive regulatory bodies have emerged that provide formal protocol guiding academic institutions and their actions, financial and administrative support in suspected cases of fraud, and early intervention for fraud prevention. Varying definitions formerly generated ambiguity regarding researchers accountability to accusations of misconduct, but this has improved with provision of formal definitions by the Commission of Scientific Integrity in the US and Committee on Publication Ethics in the UK. Review of article retraction rates revealed that the incidence of reported cases of fraud has increased in the past three decades. This may be attributed to clearer nationally adopted definitions of fraud, delineation of what constitutes misconduct, and the numerous emerging avenues for reporting fraud anonymously and with institutional protection. Assured protection and support for individuals identifying fraudulent research (whistleblowers) may increase reporting rates and facilitate subsequent investigations.

Conclusion: Recent prominent cases of research misconduct have drawn international attention to the issue of fraudulent research and prompted a more organized institutional approach to its address. The continued education of academic institutions, funding bodies and regulators will facilitate a more cohesive and thorough approach to detection and correction. Regulatory bodies in the UK and US have made great strides toward a standardized approach to research governance. As medical research is increasingly globalized, the medical community will benefit from a provision of international guidelines. Integrated approaches to the prevention of fraud will promote good practice and integrity in medical research.

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DISCLOSURES

Potential conflicts of interest for each author: NONE. Acknowledgements: NONE. Funding sources: NONE.

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