

Statistical methods for detecting fabricated or falsified data in various research areas

Abstract:

Misconduct in healthcare related research can have devastating consequences. Especially if randomized clinical trials (RCT) are the target of misconduct. The optimal study design for evaluating interventions such as new drugs or other methods is an RCT, and meta-analyses built on RCTs often serve as evidence for guidelines. If these guidelines are obscured with potentially false evidence, it may in the end have devastating effects on the patients.

Despite the severity of this problem, limited efforts are made to counteract this (with perhaps the exception of plagiarism). There can be many reasons for this, but one important cause is likely the lack of studies in this aspect of meta-research. While statistical methods can be very useful tools for detecting potential misconduct, more research is needed to evaluate, compare and develop methods in order to identify optimal ways of using statistics for finding potential misconduct.