Modelling multiple sources of dissemination bias in meta-analysis

Dan Jackson*
daniel.jackson@mrc-bsu.cam.ac.uk

Dissemination bias may be caused by publication bias through the decisions of journal editors, by selective reporting of research results by authors or by a combination of both. Typically, study results that are statistically significant or have larger estimated effect sizes are more likely to appear in the published literature, hence giving a biased picture of the evidence-base. Previous statistical approaches for addressing dissemination bias have assumed a single selection mechanism. Here we consider a more realistic scenario in which multiple dissemination processes, involving both the publishing authors and journals, are operating. The methods can be used to provide sensitivity analyses for the potential effects of multiple dissemination biases operating in meta-analysis.

* MRC Biostatistics Unit, Institute of Public Health, University Forvie Site, Robinson Way, Cambridge, CB2 0SR, United Kingdom.