

## **Context is everything: Conclusions of Gartlehner et al should be interpreted with caution**

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The new study by Gartlehner et al.<sup>1</sup> claims that the benefits of homeopathy may have been over-estimated due to high levels of reporting bias. However, as this problem is well-known to affect all areas of medical research, context is everything.

Although the authors state that, “non-publication of trial results and selective outcome reporting .... is not a phenomenon that is limited to homeopathy”, they failed to provide adequate context for their results by making any direct comparison to other areas of clinical research. Homeopathy is arguably out-performing conventional medicine, or, at the very least, has comparable levels of reporting bias. Using representative examples of high-impact studies on reporting bias across all medical fields, when compared with the data presented by Gartlehner et al.<sup>1</sup> it is clear that:

- 1) half of all registered clinical trials<sup>2</sup> in conventional medicine fail to report their results within 12 months; whereas 62% of all registered homeopathy trials reach publication, and
- 2) inconsistencies in reporting of primary outcome<sup>3</sup> occur in 43% of conventional medical studies; whilst this happens in only 25% of published homeopathy trials.

The potential impact of unregistered/unpublished results on estimates of treatment effects is well known<sup>4</sup>, yet for homeopathy, according to Gartlehner et al.<sup>1</sup>, the impact may be minimal, or nothing at all: “the difference in effect sizes between registered and unregistered studies did not reach statistical significance”. Therefore, it is surprising that the authors claim that Dr Mathie’s “landmark meta-analyses”, used as the starting point for their analysis, “might substantially overestimate the true treatment effect of homeopathic remedies and need to be interpreted cautiously”. A thorough examination of their study reveals that their data do not support this claim.

While attempts have been made to use this new study to undermine the evidence base in homeopathy, claiming “poor research practice”<sup>5</sup>, such claims are entirely unfounded. Reporting bias occurs in all areas of medical research, so, unsurprisingly, it occurs in homeopathy research too. Contrary to these authors’ claims, the clinical evidence base in homeopathy does not need more “cautious interpretation” than any other scientific evidence.

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Rapid response published on [BMJ Evidence-Based Medicine](https://www.bmj.com/company/newsroom/poor-research-practice-suggests-true-impact-of-homeopathy-may-be-substantially-overestimated/) website: 24 March 2022

Conflict of Interest: None declared.