

**Title:** Prevalence of common outcomes from randomized controlled trials in systematic reviews:  
A meta-regression

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## **ABSTRACT**

### Background

Treatment guidelines depend on the conclusions drawn from systematic reviews (SRs) and meta-analyses, which, in turn, typically depend on randomized controlled trial (RCTs) data. However, the degree to which RCTs employ consistent outcomes and report the results sufficiently to allow for aggregation remains unknown.

### Aim

To assess the completeness of common intervention outcomes in systematic reviews across medical specialties.

### Hypothesis

We hypothesized that as a medical subject matures, investigators increasingly consolidate their studies around a common outcome. Similarly, a higher prevalence of common outcomes would be apparent in larger SRs (those that included more RCTs and more study subjects) and those SRs that span a greater time interval. Finally, we hypothesized that SRs with a greater total number of evaluated outcomes would exhibit a lower proportion of reported common outcomes; such diversity of outcomes might reflect a failure among investigators to accept a universal outcome.

### Methods

To ensure all disciplines were represented, a convenience sample of SRs, RCTs, and outcomes were drawn from 21 medical topics (those directly related to a medical discipline) in the Cochrane Database of Systematic Reviews. The primary outcome was the proportion of included RCTs that reported a common outcome within each SR. We evaluated SR characteristics associated with this proportion, including the number of RCTs within the SR, the total number of study subjects, the duration of the SR period, and the number of outcomes in each SR.

### Results

Only 14.3% of 105 SRs (encompassing 2308 RCTs) included an outcome common to all RCTs. We found a statistically significant negative correlation between the number of included RCTs within a SR and likelihood of reporting a common outcome ( $p < 0.001$ ). We also found a negative correlation between the time interval covered by a SR and the proportion reporting common outcomes ( $p = 0.01$ ).

### Conclusions

The prevalence of SRs reporting uniform outcomes across all available RCTs is small. Journal guidelines must be improved and outcomes made more consistent in order to produce results that may be aggregated.