

The expanding scope of comparative effectiveness analyses requires collaborative IT solutions

Gert van Valkenhoef

Background

The scope of systematic reviews and health technology assessments is rapidly expanding due to increasing demand for more complex models that account for patient, treatment, and trial characteristics, network meta-analyses that include more interventions, and the growing number of clinical trials. By the year 2000, the effort required to publish a typical systematic review had already reached the thousands of person-hours, which were predominantly spent on data acquisition tasks. Innovative solutions are required to prevent the costs of comparative effectiveness research from ballooning out of proportion.

Problem

Typically only the end product of systematic reviewing, a report summarizing the evidence, is made widely available. However, capturing the intermediate results of literature searching, publication screening, and data extraction has the potential to greatly enhance the efficiency of future reviews. In the face of the increasing scope of systematic reviews, this unnecessary duplication of effort must be eliminated. However, doing so is difficult due to the current culture of data protectionism and a lack of suitable software that enables convenient and useful sharing of the intermediate results.

Approach

Building on our previously published reviews of software for systematic review and trial analytics, the talk identifies the technical and cultural challenges to be met. We propose that a web-based solution enabling the global research community to contribute their intermediate results in exchange for access to the data contributed by others could rapidly gain momentum. Such a system would challenge data protectionism by greatly reducing the level of investment required for data acquisition.

Conclusion

A disruptive web-based system enabling a massively collaborative approach to systematic reviewing can make data protectionism obsolete and eliminate much of the effort required for future systematic reviews.