

Information on

Systematic Reviews



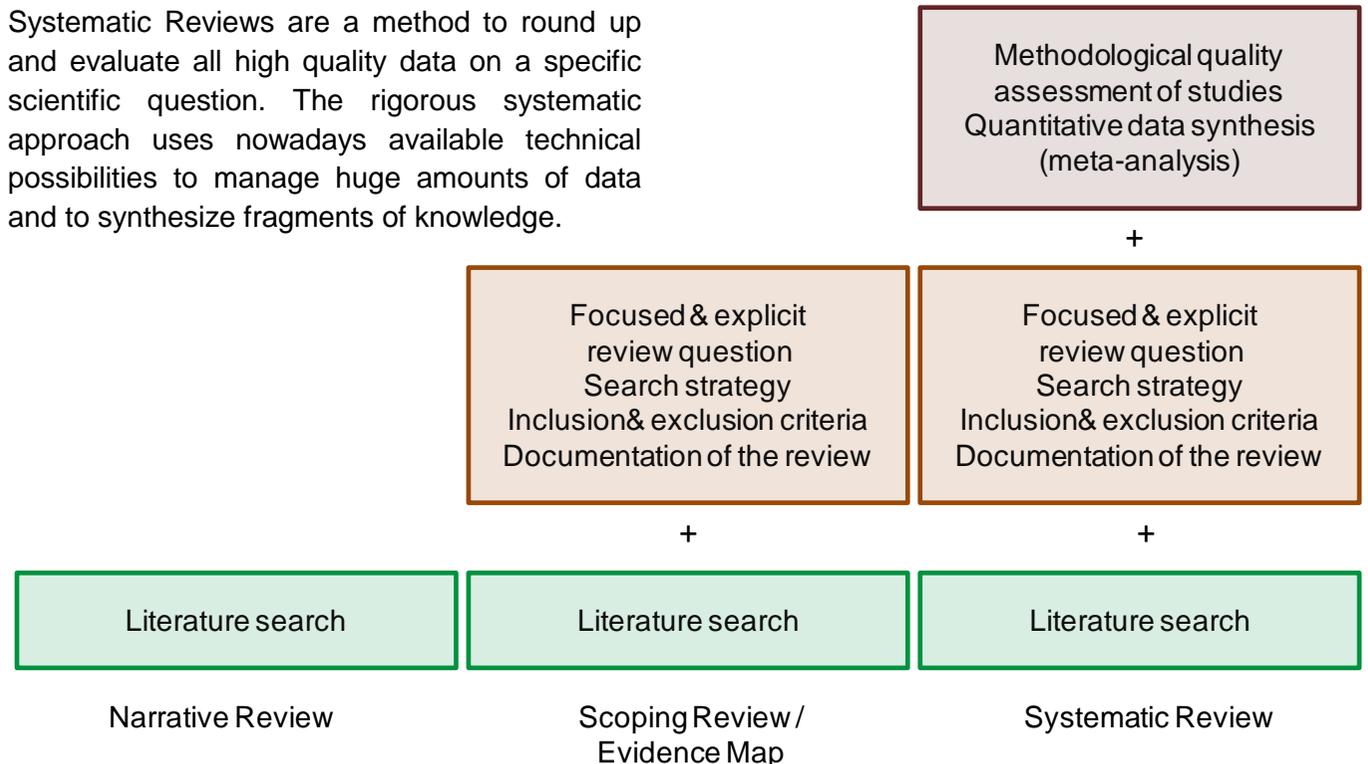
Innumerable scientific journals and publications, numerous electronic databases, diverse search engines or reference management software tools - it is hardly possible to maintain an overview and to manage the massive research literature. As a result, studies or experiments are sometimes needlessly repeated.

Controversial answers to the same scientific question cause uncertainty, particularly in the instances of those who have to make decisions. However, single studies or experiments may only provide an answer corresponding to the local experimental conditions, and to the applied study design and sampling methods.

Systematic Reviews are a method to round up and evaluate all high quality data on a specific scientific question. The rigorous systematic approach uses nowadays available technical possibilities to manage huge amounts of data and to synthesize fragments of knowledge.

A Systematic Review: isn't it just a literature search?

Unlike regular reviews or literature searches systematic reviews follow strict standards and a rigorous methodology: a **search strategy**, defined in precise terms and in advance, will look for all publications dealing with a very specified **review question**. The selection of relevant studies is based on pre-defined **in- and exclusion criteria**. The **methodological quality** of the studies is assessed and - when possible - results are quantitatively synthesized (statistical **meta-analysis**).



In **medical research** systematic reviews are very well established. Questions of frequency of diseases, best therapy, diagnosis, prognosis, aetiology or cost efficacy are dealt with to bring the best scientific evidence to practice, e.g.

- personalized therapy recommendations on the basis of a comprehensive review of clinical study data
- evidence of causes of diseases (up to recognition as an occupational disease) on the basis of a comprehensive aetiology data review
- guidance for infectious diseases control in school and other child care settings on the basis of a comprehensive incubation period and infectiousness data analysis

However, this method is applied more and more also in other areas of the **life sciences** like food & feed safety, environment, or agriculture, e.g.

- comprehensive evaluation of the consequences of environmental measures or interventions like wind turbines
- derivation of agricultural management practices recommendations on the basis of an overall review of their impact on the yield and on the environment
- formulation of plausible exposure scenarios for toxins on the basis of overall assessments of their occurrence in food
- setting of dietary reference values for micronutrients (e.g. vitamin D) intake

Systematic Reviews in times of growing numbers and availabilities of publications of all kind might help **authorities, politicians, scientists, industrialists, associations, consultants or analysts** to:

- comprehensively assess various, even controversial results of research
- serve as a basis to develop guidelines and determine reference or threshold values
- provide evidence to judge risks, benefits and harms of interventions and behaviours
- gather together and summarize related research
- provide a starting point to initialize research programs or perform research projects

Each scientifically sounded review requires the input of a multidisciplinary team consisting of subject experts combined with information scientists and statisticians. Our team is experienced in informatics and statistics, in retrieving information and managing references. We have access to relevant electronic databases and software tools for data and reference management.

Especially in the life sciences we see interesting and manifold applications for this methodology. Together with you we want to open up new ways - please do not hesitate to contact us!



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The quality of our service is guaranteed by our Quality Management System.

Systematic Reviews are performed according to Standard Operating Procedure (SOP).