

## Knowledge Synthesis Methods

### 5. Rapid evidence assessment<sup>1</sup>

#### Summary of method

A structured, step-wise methodology, usually following an *a priori* protocol to comprehensively collate, critically appraise and synthesise existing research evidence (traditional academic and grey literature), following systematic review methodology but with components of the process simplified or omitted to produce information in a short period of time.

The method is sometimes called ‘rapid review’ (Tricco *et al.* 2015). The exact set of methods used, or the components of systematic review omitted, are flexible, and the method itself is not well defined internationally.

A standardised version of Rapid Evidence Assessment has been defined by the UK Government (Collins *et al.* 2014). This is used for the time and cost estimates below.

Reporting requirements in Collins *et al.* (2014) include: protocol of methods, fates of all articles screened at full text, transparent documentation of all methods used. For more general rapid review, there are no strict reporting requirements, as there are no internationally agreed method guidelines.

Rapid Evidence Assessments, or rapid reviews, are not usually endorsed by a co-ordinating or certifying body. This leads to a wide range in method details, reporting and overall review quality.

#### Key references

Collins, A., Miller, J., Coughlin, D., Kirk, S., (2014). *The Production of Quick Scoping Reviews and Rapid Evidence Assessments: A How to Guide*. Joint Water Evidence Group, UK.

Tricco, A.C., Antony, J., Zarin, W., Strifler, L., Ghassemi, M., Ivory, J., Perrier, L., Hutton, B., Moher, D., Straus, S.E. (2015). *A scoping review of rapid review methods*. BMC Medicine 13, 224.

#### Examples of application

UK Department of Environment, Food and Rural Affairs (Defra) have funded Rapid Evidence Assessments (for example, Waterson and Randall, 2013) for policy questions on water quality.

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<sup>1</sup> A guidance note from Dicks LV, Haddaway N, Hernández-Morcillo M, Mattsson B, Randall N, Failler P, Ferretti J, Livoreil B, Saarikoski H, Santamaria L, Rodela R, Velizarova E, and Wittmer H. (2017). *Knowledge synthesis for environmental decisions: an evaluation of existing methods, and guidance for their selection, use and development – a report from the EKLIPSE project*.

Waterson A and Randall NP (2013). *What impact does the alteration of timing to slurry applications have on leaching of nitrate, phosphate and bacterial pathogens?* A Rapid Evidence Assessment.  
[http://www.wskep.net/assets/documents/Rapid-Evidence-Assessment-Slurry-application-\(280214\).pdf](http://www.wskep.net/assets/documents/Rapid-Evidence-Assessment-Slurry-application-(280214).pdf)

## Rapid Evidence Assessment

Cost <sup>2</sup>	Staff (c.3-6 months FTE), subscriptions (database access, article access), software (reference/specialist review management) travel and subsistence, expert (informatician, quantitative/qualitative specialist)  Affected by: size of the evidence, existence of previous reviews, need for specialist expertise, complexity of the question, required level of rigour
Time required	c. 3-9 months  Affected by: quantity of literature, availability of staff, response time
Repeatability	Moderate (depends on which components are cut)
Transparency	High (if conducted well, i.e. endorsing organisations), protocol is important
Risk of bias	Medium (depends on which components are cut)
Scale (or level of detail)	Independent of scale (any)
Capacity for participation	Potential to participate throughout
Data demand	High
Types of knowledge	Scientific/technical, explicit
Types of output	Written report plus other communication materials (e.g. policy brief), list/description/database of existing evidence, answer to question, identification of knowledge gap
Specific expertise required	Topic expert, quantitative/qualitative specialist(?)

<sup>2</sup> Assumes Collins *et al.* (2014) guidelines followed exactly.

## Strengths

Typically quicker to complete than a gold standard equivalent systematic review

Follows methodological principles of systematic review

Methods are documented transparently and shortcuts are clear to see

Often include searches for grey literature

Potentially upgradable into a full systematic review without complete repetition

## Weaknesses

Not fully comprehensive

Not as reliable as a full systematic review

Protocol typically not externally peer-reviewed

Flexible methods and non-specific guidance means reliability, and risk of bias are variable - many different corners can be cut

Not usually suitable for very broad topics

Risk of vote-counting (see Vote-Counting) if results are extracted from studies but not fully synthesized quantitatively

