

Box 2.5 *(Cont'd)*

a database of reviews of educational interventions, located at the Centre for Evidence-Informed Policy and Practice in Education, funded by the Department for Education and Skills, England. Examples of completed reviews include a systematic review of effective literacy teaching in 4 to 14 year olds, and a systematic review of the impact of school head teachers and principals on student outcomes.

Published systematic reviews can also be located in relevant bibliographic databases, such as Medline. If an existing good quality review is identified, but it is slightly out of date (for example, new studies have been published since the search was carried out) then it may make more sense to update it than carry out a new one. This will involve carrying out additional searches and including new studies. If only a few studies post-date the review, and they are small and/or significantly methodologically unsound, the review conclusions may not change significantly.

If you feel the earlier review was inaccurate in some way, because it missed a significant proportion of the relevant literature, or because it did not carry out any **critical appraisal** of the included studies, it may be appropriate to carry out a new, more comprehensive systematic review. Good collegial practice would also involve correspondence with the authors of the earlier review.

2.6 ALTERNATIVES TO SYSTEMATIC REVIEWS

Alternatives to the full systematic review are available. These may be useful for example as a prelude to refining the question for a systematic review, or to map out a general topic area. Some approaches to synthesizing research are outlined in Table 2.1.

2.7 DEFINING THE QUESTION: BREAK THE QUESTION DOWN

It is helpful to start by breaking the review question down into sub-questions. If the review aims to answer a question about effectiveness, the question can be framed using a model called PICO (population, intervention, comparison, outcomes),²³ which encourages the researcher to consider the components of the question, as follows:

Table 2.1 Some common approaches to research synthesis

<i>Type of review</i>	<i>Definition</i>	<i>Example</i>
Systematic review	A review that aims to comprehensively identify all relevant studies to answer a particular question, and assesses the validity (or “soundness”) of each study taking this into account when reaching conclusions	Effects of school-based social problem-solving interventions on aggressive behavior ¹² A systematic review of the effects of private and public investment on health ¹³
Narrative review	Sometimes used to refer to a systematic review that synthesizes the individual studies narratively (rather than by means of a meta-analysis). This involves systematically extracting, checking, and narratively summarizing information on their methods and results	Social consequences of poor health in childhood: A systematic review ²
Conceptual review/conceptual synthesis	A review that aims to synthesize areas of conceptual knowledge that can contribute to a better understanding of these issues. The objectives of these syntheses are “To provide an overview of the literature in a given field, including the main ideas, models and debates.” ¹⁴	Conceptual synthesis 1: Learning from the diffusion of innovations ¹⁵

(Continued)

Table 2.1 (Cont'd)

<i>Type of review</i>	<i>Definition</i>	<i>Example</i>
Rapid review	A literature review carried out (often systematically) but within a limited time (sometimes weeks or a couple of months) and with restrictions on the scope of the search (for example, restricted by year, or country)	The state of children in the UK (“The project aims to provide a comprehensive picture of how children are doing, how their well-being varies within the countries of the UK and by gender, age, ethnicity, family type, and level of income”) ¹⁶
Realistic review (or realist synthesis)	Approach to reviewing studies which involves synthesizing individual studies with a view to producing generalizable theories (rather than synthesizing outcomes across studies (as systematic reviews do)	Realist synthesis review of “Megan’s law” (a US law that mandated the registration and community notification of sexual offenders) ¹⁷
Scoping review	A review sometimes carried out in advance of a full systematic review to scope the existing literature – that is to assess the types of studies carried out to date, and where they are located. This can help with refining the question for the full review, and with estimating the resources that will be needed.	Housing for people with dementia – a scoping review: “This work encompasses issues of design, location, technology and finance . . . The substantive interest . . . is in generating evidence on the various elements that constitute more, and less, effective forms of housing for people at different stages of dementia in different settings . . .” < http://www.york.ac.uk/inst/chp/srpspc/projects.htm >

“Traditional” review	Term sometimes used to refer to a literature review that does not use systematic review methods. Such reviews can still represent excellent overviews of wider literature and concepts – not just reviews of outcomes.	Day services for people with learning disabilities in the 1990s ¹⁸
Critical review	Term sometimes used to describe a literature review that assesses a theory or hypothesis by critically examining the methods and results of the primary studies, often with a wealth of background and contextual material, though not using the formalized approach of a systematic review	Organizational story and storytelling: A critical review ¹⁹ <i>Pathological gambling: A critical review</i> ²⁰
Expert review	Literature review, common in medicine and in basic sciences, written by an acknowledged expert (or group of experts) in the field.	Expert review of an approach to functional capacity evaluation (method of assessing capacity to work, as part of work rehabilitation). ²¹
“State of the art” review	This term is sometimes used to refer to reviews designed to bring readers up to date on the most recent research on a specific subject. What constitutes “recent” can vary, as can the reviews’ methods. State of the art reviews tend to focus on technical subjects such as engineering or transport.	A state of the art review of income security reform in Canada. ²²

- *Population:* What population am I interested in (Children? If so, what age groups? People using a particular service? People with a particular social or health need? All of the above?)
- *Intervention:* What intervention exactly am I interested in reviewing? Is it one intervention, or a cluster of interventions (as in a social program). There may be several related interventions used to address the same problem. Take, for example, road traffic injuries in children. The relevant interventions might include education of children and motorists, law enforcement on the road, traffic calming, and so on. At other times, it may be appropriate to select the most relevant intervention in a particular context, or the most widely used. To take another example, consider a hypothetical review of the effectiveness of interventions to reduce antisocial behavior in young people. With enough resources, the reviewer's net could be cast very widely, and any intervention aimed at preventing or reducing this problem could be addressed. This might include a wide range of interventions aimed at parents and at children (such as parenting interventions, mentoring, schools-based interventions to prevent truanting, and interventions aimed at communities, such as community wardens), and the interventions themselves might address a range of behaviors from crime and aggressive behavior, to health behaviors such as alcohol and drug misuse. However, it is often the case that a narrower range of interventions is reviewed, in a particular setting, and this is often justified by the view that what works in one setting or one population may not work in another.
- *Comparison:* With what is the intervention being compared? For example in research into the effectiveness of a particular form of sex education, with what is it being compared? A different form of sex education?²⁴ No sex education? Programs advocating abstinence?
- *Outcomes:* For many social interventions there is a wide range of outcomes, and the assessment of effectiveness involves collecting information on both positive and negative impacts, and assessing the balance between them. In specifying the review question it is important to determine which outcomes are the most relevant for answering the question. In the example of sex education, a range of outcomes is possible, from very immediate (proximal) outcomes such as increased knowledge, and changed attitudes to sexual behavior, to later (distal) ones such as rates of early sexual activity, rates of teenage pregnancy and terminations of pregnancy among those receiving the intervention, compared to a control group.
- *Context:* For reviews of social interventions there is a further component, which needs to be considered – the *context* within which the intervention is delivered. It is possible to review the

scientific evidence, but still learn little about how the intervention was delivered, what aided and/or hindered its impact, how the process of implementing it was carried out, and what factors may have contributed to its success or failure. Users of “social” systematic reviews are increasingly seeking this information. It is not enough to say that a particular social policy or intervention “worked” or “did not work,” without taking into account the wider context.

For **complex interventions** with a strong social component to how they are delivered (and received), we often need to know more than just “what works” – we need robust data on how and why it works; and if it “works,” we need enough information to know whether this was a reflection of the environment within which it was developed and delivered. This information is often not included in systematic reviews at present, but increasingly it is seen as important to broaden the scope of systematic reviews of effectiveness, such that they include a range of study designs to answer different review questions. This issue is discussed further in chapter 6.

2.8 NO MAGIC BULLET

One reason why information on processes and meanings underlying interventions is excluded from most reviews is that many interventions are reviewed as if they were “magic bullets.” If some intervention can be shown to “work” in one setting then it is sometimes assumed that it can also “work” elsewhere, particularly if the mechanisms by which it works are similar in different populations. This is sometimes the case, and healthcare treatments such as aspirin for headache are generalizable to other cultures because the physiological pathways by which they act do not vary greatly. However this is not always the case; there are ethnic differences in the efficacy of treatments for hypertension, for example. For many social interventions, the recipient’s capacity to benefit and ability to access the intervention vary widely with educational and socioeconomic status, gender, and ethnicity, as well as location. Blanket judgments about effectiveness are, therefore, frequently meaningless because they involve extrapolating from the average study (which may not exist) to the average citizen (who certainly does not exist). Saying something meaningful about effectiveness in social systematic reviews involves generalizing from studies about effectiveness. This generalization requires capturing contextual and process-related information from the primary studies.