Systematic Literature Reviews in the Health and Social Sciences: Tools, Techniques and Tips

This interactive guide presents an accessible overview of the key principles, techniques and tools for a successful systematic literature review in the health and social sciences. Printable reading lists are included at the end of each main section, together with note-taking exercises, good practice tips and a recap quiz. This resource aims to empower undergraduate and postgraduate students to undertake literature review projects confidently and rigorously – following the most recent methodological guidance.

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Recap Quiz

What Makes a Literature Review 'Systematic' and Getting Started

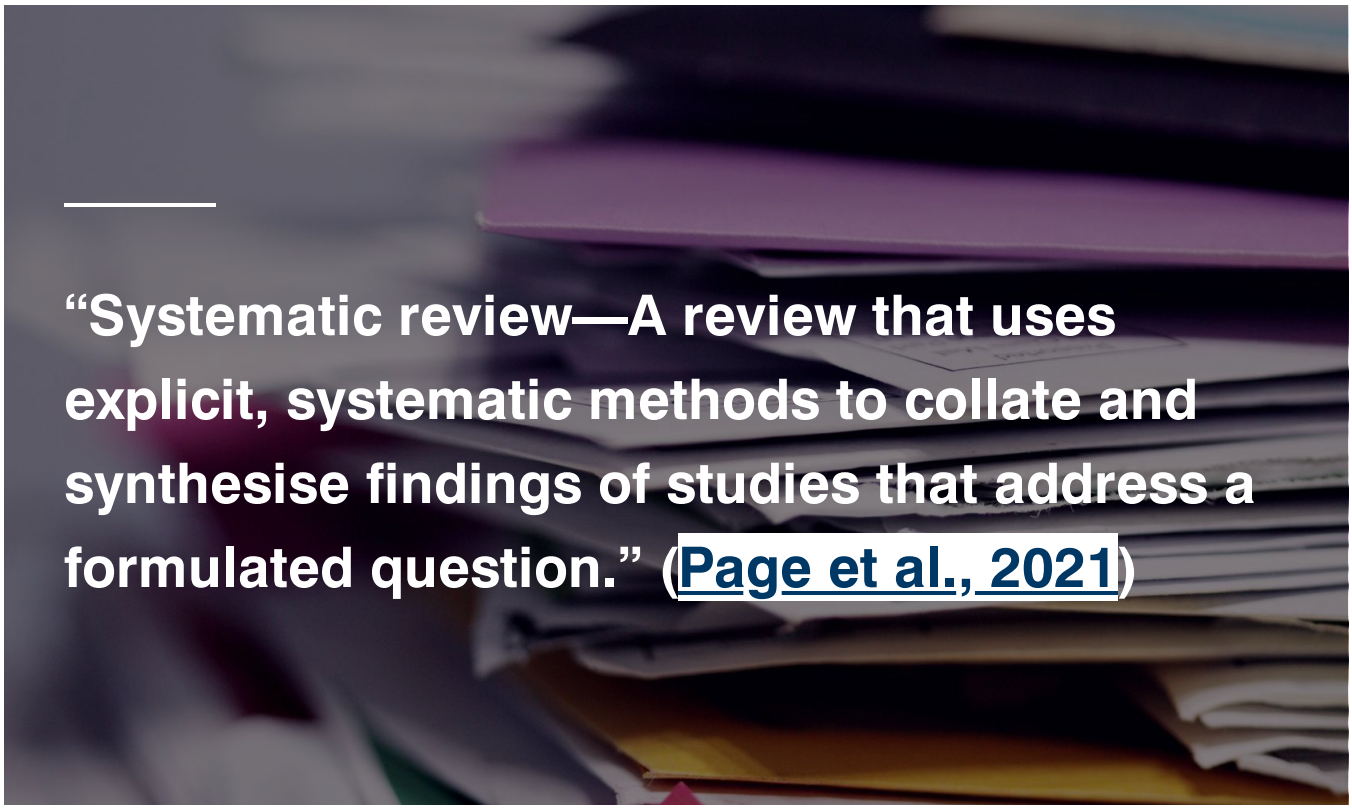
This section explains what systematic reviews are and why they are important. The main stages of a systematic review are briefly introduced before a detailed discussion of what must be done before one commences such a research project. The PRISMA guidelines, a crucial tool for conducting a systematic review, are also introduced.

1

Glossary

Engage with this resource to learn the definitions of some terms that will be covered.

What is a Systematic Review?



Evidence-based decision-making in policy and practice relies on the syntheses of all available evidence about a topic or problem. Integrating findings from an ever-expanding body of research is essential to make them accessible to researchers and practitioners.

Well-conducted systematic reviews clearly define at the outset which criteria determine if studies will be included for review or excluded. They identify all relevant literature, rigorously appraise possible biases in the reviewed studies, and methodically synthesise the results from the individual studies. Due to their comprehensiveness and rigour, systematic reviews are considered the cornerstone of evidence-based practice (MacMillan et al., 2019).

What Makes a Literature Review 'Systematic'?

There are a number of defining features of systematic reviews to ensure the degree of rigour and systematicity of procedures (Hammersley, 2013):

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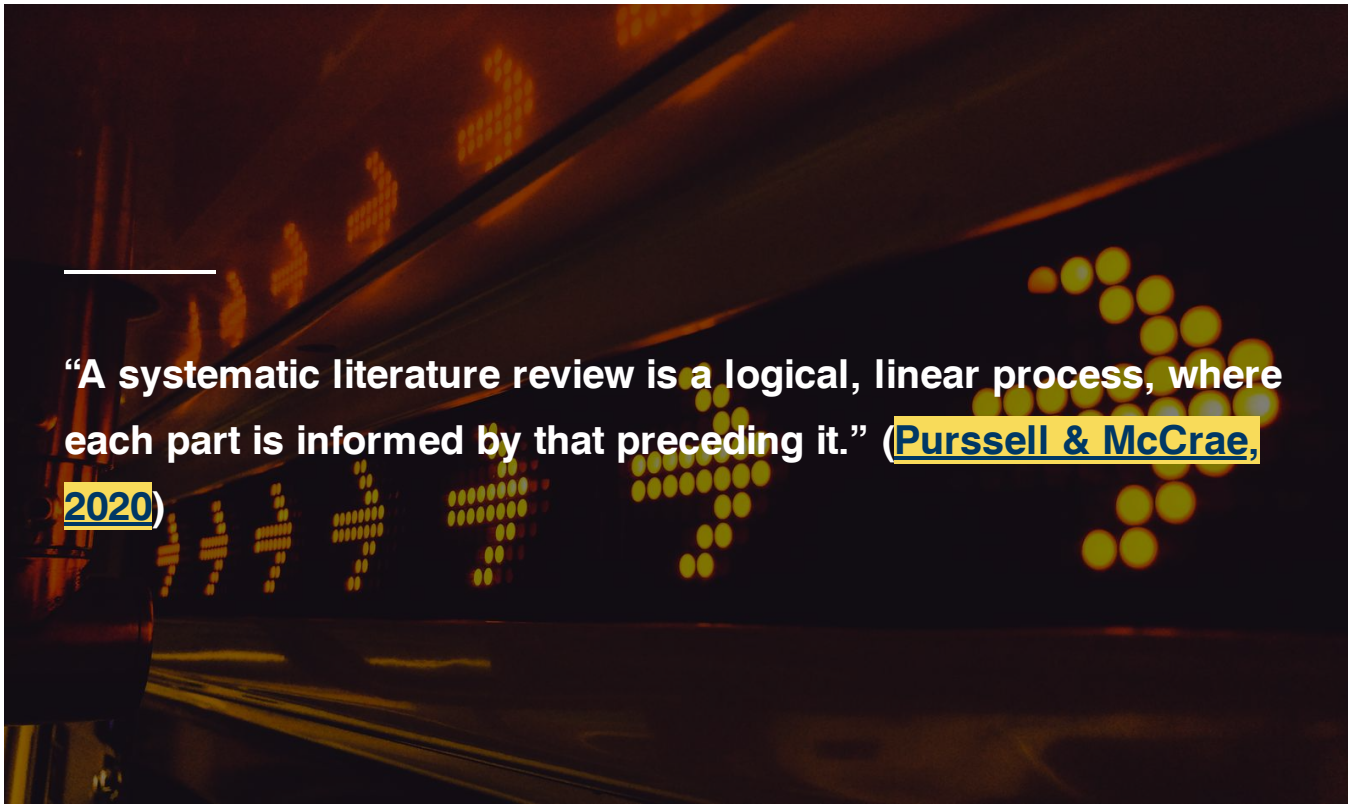
Stages of the Systematic Review



Informed by the most recent best practice guides, appraisal tools, and reporting guidelines, rigorous systematic reviews follow several key stages (MacMillan et al., 2019):

4

Defining the Research Question

A systematic review's aim(s) must be clear and amenable to methodical enquiry. Consider two versions of this review question discussed by Purssell and McCrae (2020).

"What is known about the influenza vaccine in older people?"

- This question is too broad and, therefore, not suitable for a systematic review.

"What is the effectiveness of the influenza vaccine in older people?"

- This is a much more focused question that indicates the independent variable (vaccination status) and dependent variable (incidence of influenza).

In addition to being clear and focused, review questions must be novel. Questions can be novel in terms of the type of question asked, the population examined, or the recency of the reviewed evidence (e.g., studies published in the last five years). Researchers should also ensure that answering the question could significantly contribute to scientific knowledge.

5

PICO

PICO (Population, Intervention, Control, and Outcome) is a useful heuristic for designing review questions with sufficient specificity. MacMillan and colleagues (2019) highlight that if reviewing the impact of breast screening on early breast cancer detection in women, the PICO might look like this (hover over the letters to see more details):

Sometimes, the review's focus does not neatly fit into PICO. For example, the 'I' may be better exchanged for 'E', meaning 'exposure', especially if reviewing epidemiological or qualitative research (Purssell & McCrae, 2020).

PICOS

If reviewing studies with specific research designs, researchers may use PICOS, an extension of the PICO framework, with the 'S' indicating 'study design'. For example, Purssell and McCrae (2020) state that if reviewing RCTs that assessed the impact of morphine plus ibuprofen versus morphine only on pain in postsurgical patients, the PICOS might look like this (hover over the letters to see more details):

The PICO/PICOS frameworks are also useful when developing terms for the comprehensive literature search in a systematic review.

Creating a Systematic Review Protocol

> “Systematic reviews should build on a protocol that describes the rationale, hypothesis, and planned methods of the review; few reviews report whether a protocol exists. Detailed, well-described protocols can facilitate the understanding and appraisal of the review methods, as well as the detection of modifications to methods and selective reporting in completed reviews." (Moher et al., 2015)

A protocol is an explicit plan for a systematic review. The protocol outlines the rationale for the review and the methodological and analytical approach at the outset. Preparing a protocol is essential; it ensures careful planning and encourages ethical and best practice conduct by the research team such as accountability, integrity, and transparency. Some examples of what a protocol should contain include:

Search Strategy

A draft of the search strategy for at least one electronic database, such that it could be repeated.

Data Management

A description of the mechanism(s) that will be used to manage records and data throughout the review.

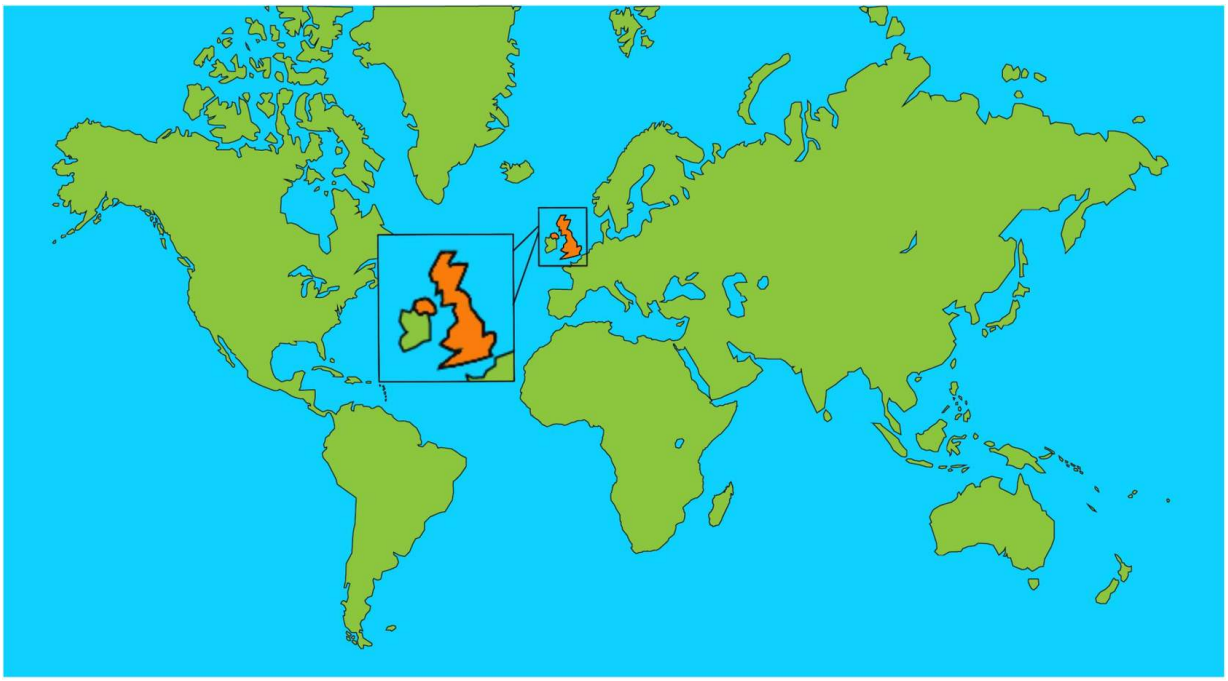
Risk of Bias Assessment

An outline of the methods for assessing the risk of bias of reviewed studies, including whether this will be done at the study or outcome level, or both. It should be stated how this information will be used in data synthesis.

Meta-Bias(es)

Specify if and how meta-bias(es) (e.g., publication bias across studies, selective reporting within studies) will be assessed.

When preparing protocols, it is advisable to closely follow the PRISMA-P (Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols) guidelines, which were developed as an extension of the PRISMA guidelines, which will be discussed later in this week's content.

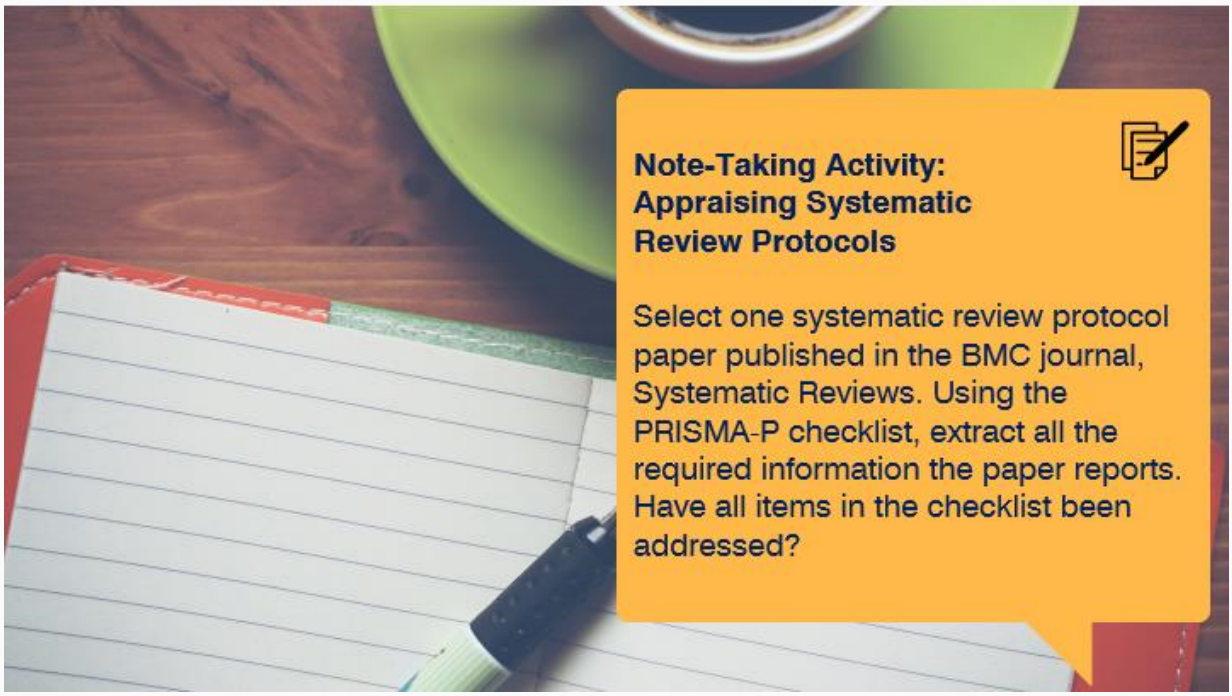


World map with UK highlighted

In the UK, protocols are commonly registered on PROSPERO, an online portal where researchers record their intention to undertake a given health-related systematic review before beginning. PROSPERO aims to prevent unplanned duplication of reviews and enables readers to see if the methods of completed reviews differed from the original plan, allowing assessments of whether changes could have impacted results.

Appraising Systematic Review Protocols

A range of systematic review protocol papers are published in the BMC journal, Systematic Reviews. As highlighted above is is wise to follow the PRISMA-P checklist when preparing protocols.



The Systematic Review Roadmap: The PRISMA Guidelines

Planning, undertaking, and writing up a systematic review is a multi-stage process that can be overwhelming without a framework or roadmap to

follow. To help researchers navigate this journey (and ensure rigorous, transparent reporting of the rationale, methods, and findings of systematic reviews), the PRISMA guidelines were developed in 2009.

A 2020 update provided new guidance for reporting the identification, selection, critical appraisal, and synthesis of studies reviewed. The PRISMA 2020 guidelines include a 27-item checklist (with expanded checklists for each item), an abstract checklist, and flow diagrams for reporting literature search and screening results (Page et al., 2021).

Familiarise yourself with the main components of the PRISMA 2020 checklist, and keep these in mind as you progress through this week, which broadly follows the activities necessary to complete a systematic review.

This might be a good time to take a break if you haven't already done so.

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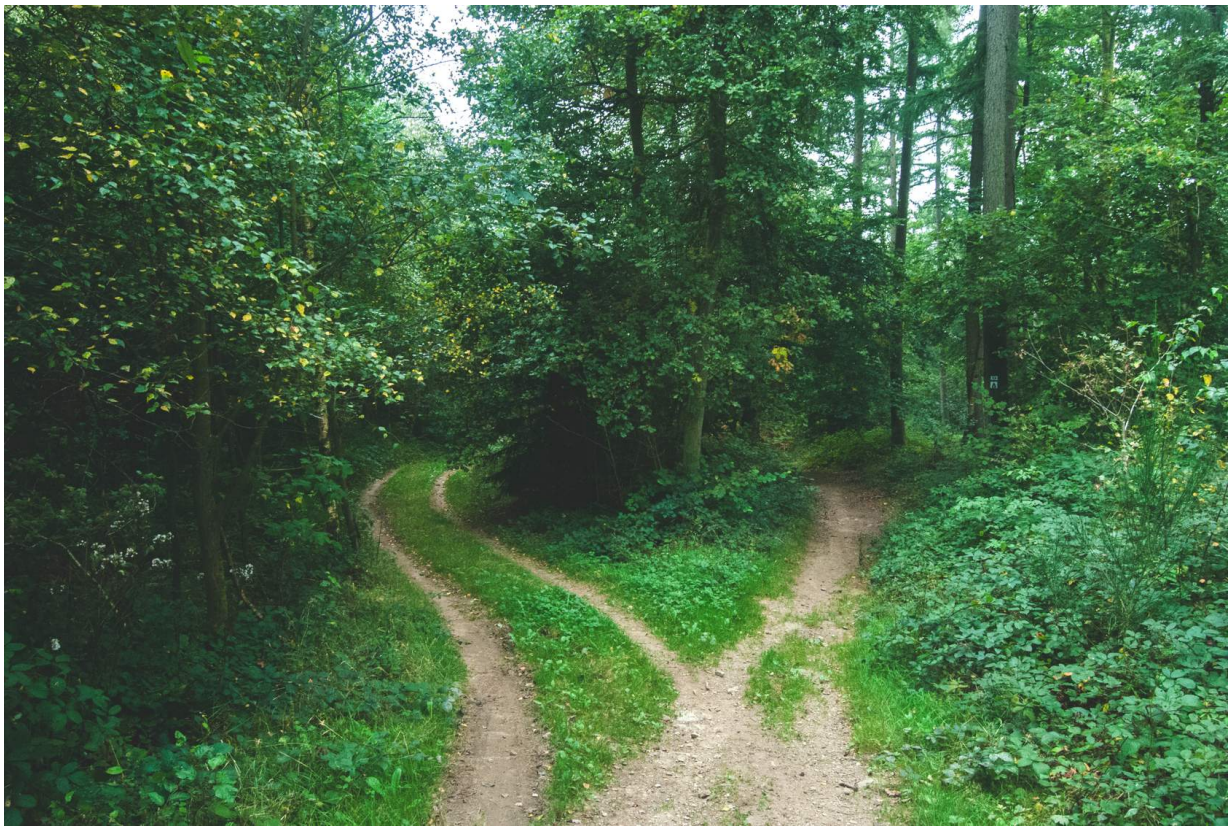
Is a Systematic Review Right for My Project? Comparing Review Types

This section explores the differences between systematic reviews and other review types such as scoping, narrative, and critical reviews. The materials presented aim to help learners make informed decisions about the most appropriate review type to undertake.



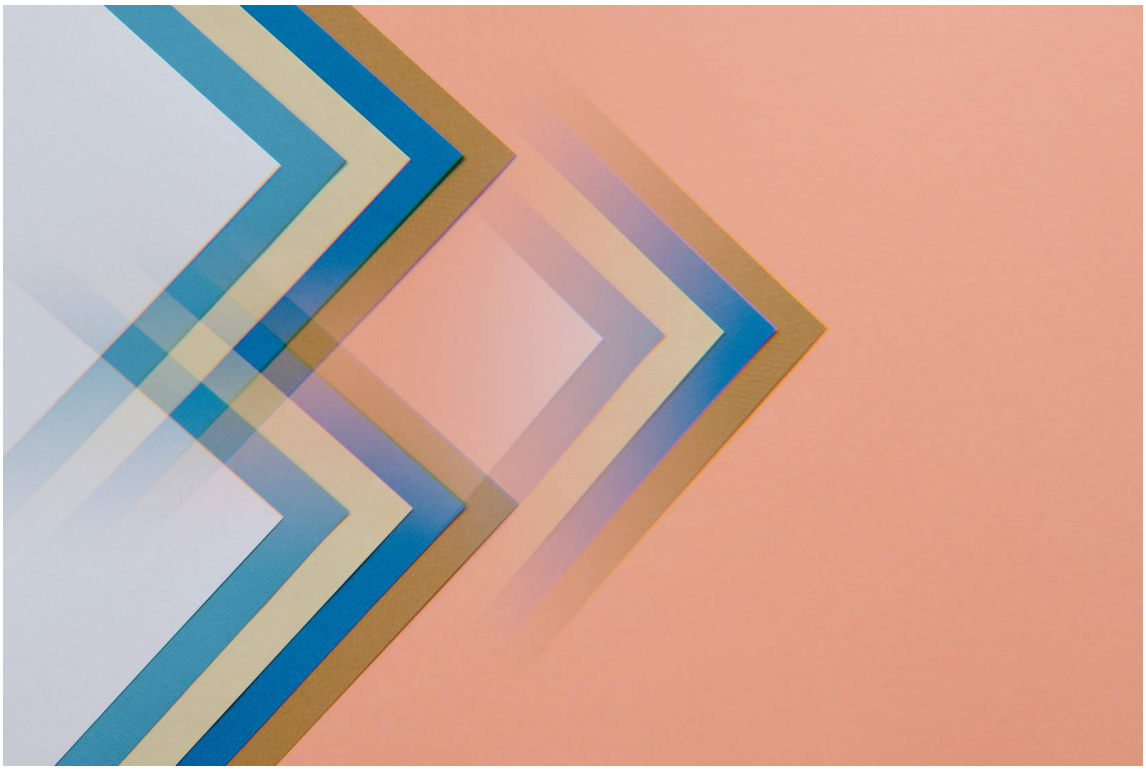
Beyond systematic reviews, there are many other approaches to reviewing the literature. They are used for distinct purposes and circumstances, especially when systematic reviews are inappropriate for the review aims or unfeasible due to time or other constraints.

Grant and Booth (2009) used a basic framework, denoted by the acronym 'SALSA', to examine and describe the different features of the most common review types (hover over each letter):

Some of the review types discussed by Grant and Booth (2009) are shown in the graphic below, although it is important to note that there are others.

1

Narrative, Critical, and Scoping Reviews



More detail is provided here about three review types: narrative, critical, and scoping.

2

Narrative Reviews (or Simply, 'Literature Reviews')

'Narrative' is a generic term, usually referring to a review that thematically and broadly overviews findings on a particular research topic. Unlike systematic reviews, narrative reviews are not protocol-based, and they may not follow rigid eligibility criteria. Instead, they typically rely on the researchers' subjective knowledge and interests. They review a non-exhaustive range of relevant studies and may not utilise systematic search strategies, thereby increasing the chance of selection bias (MacMillan et al., 2019).

Although narrative reviews vary in comprehensiveness and systematicity, systematic reviews are generally more structured and employ a greater range of methods to increase rigour and minimise bias (i.e., having multiple reviewers screen studies).

Critical Reviews

Critical reviews use non-exhaustive literature searches to identify and appraise the most significant sources related to the review objectives. They are especially useful for generating critique and hypotheses and identifying empirical or conceptual gaps and future research directions. They do not generally involve a systematic quality appraisal; sources are evaluated based on relevance and contribution to the debate or problem. They often include diverse sources, including qualitative and theoretical works.

Critical reviews usually lack the systematicity of some other review types and can be criticised for being subjective and incomplete. Nevertheless, they are extremely useful for advancing research and theory. Karadzhov (2021) is an example of a critical review.

Scoping Reviews

Scoping reviews characterise the nature, diversity, and size of research areas, especially those that are rapidly evolving. Their design is flexible based on the reviewers' time and resources; the search completeness depends on those factors.

The PRISMA Extension for Scoping Reviews (PRISMA-ScR) states that, in contrast to systematic reviews, scoping reviews aim to summarise the evidence base regardless of quality or bias. Quality assessment is, therefore, optional and not typically conducted, although some authors systematically consider source type (e.g., quantitative or qualitative, empirical or non-empirical). Rigorous scoping reviews are transparent, replicable, and can indicate the need for a systematic review. However,

their lack of quality assessment makes them less systematic and objective.

Yimgang and colleagues (2021) is an example of a scoping review.

2

A Systematic Review or a Scoping Review?

Systematic reviews are widely considered the cornerstone of evidence-based health care in that they aim to produce reliable and meaningful findings to guide practitioners, policymakers, and other decision-makers.

In contrast, scoping reviews "do not aim to produce a critically appraised and synthesised result/answer to a particular question and rather aim to provide an overview or map of the evidence." (Munn et al., 2018). Because scoping reviews usually lack a risk of bias assessment, their findings are less translatable to clinical practice and health policy.

Munn and colleagues (2018) discuss when systematic reviews are more appropriate than scoping reviews, and vice versa. Examine the table below, which summarises when each approach is indicated:

SYSTEMATIC REVIEWS	SCOPING REVIEWS

When the aim is to:

- Uncover international evidence.
- Confirm current practice/address any variation/identify new practices.
- Identify and inform future research areas.
- Identify and investigate conflicting results.
- Produce statements to guide decision-making.

SYSTEMATIC REVIEWS	SCOPING REVIEWS

When the aim is to:

- Identify the types of available evidence in a field.
- Clarify key concepts/definitions in the literature (e.g., personal recovery).
- Examine how research has been conducted on a certain topic (e.g., the range of tools used to measure hip replacement wear).
- Identify and analyse knowledge gaps
- Identify key characteristics related to a concept.
- Be a precursor to a systematic review (e.g., by developing inclusion and exclusion criteria so future systematic reviews are feasible and can use evidence effectively).

Comparing Narrative, Scoping, and Systematic Reviews

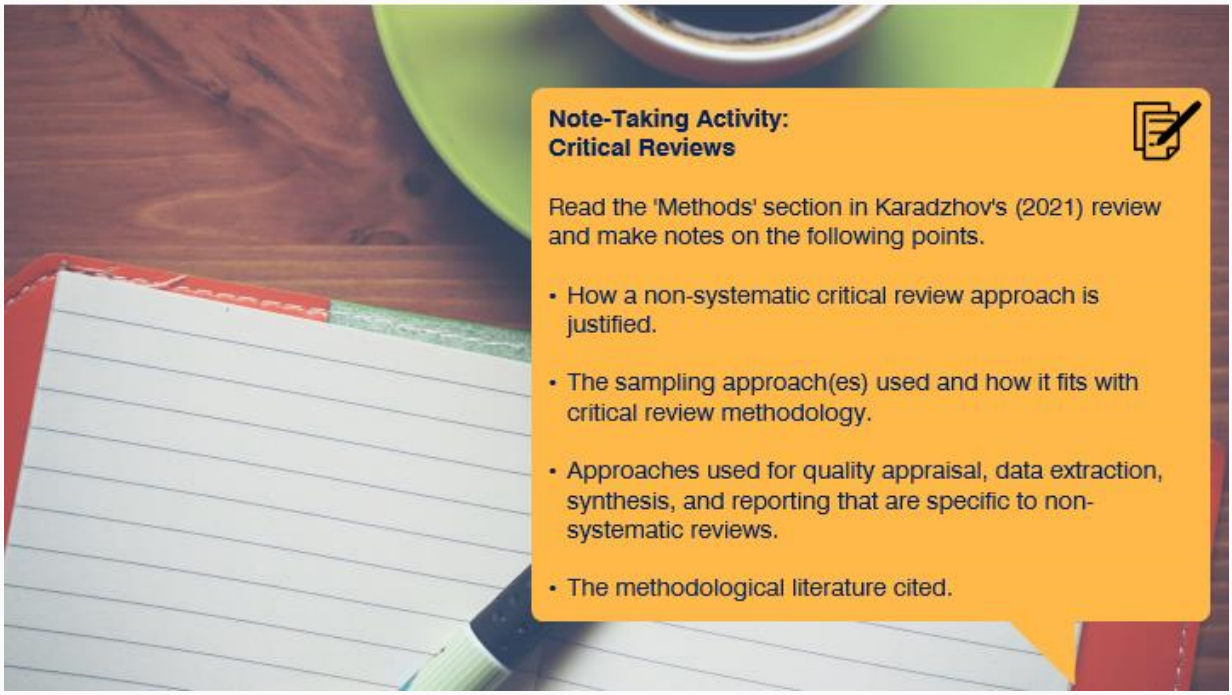
Munn and colleagues (2018) present a summary table comparing the defining characteristics of traditional literature (narrative), scoping, and systematic reviews:

	Traditional Literature Reviews	Scoping Reviews	Systematic Reviews
A priori review protocol	No	Yes (some)	Yes
PROSPERO registration of the review protocol	No	No	Yes
Explicit, transparent, peer reviewed search strategy	No	Yes	Yes
Standardised data extraction forms	No	Yes	Yes
Mandatory critical appraisal (risk of bias assessment)	No	No	Yes
Synthesis of findings from individual studies and generation of summary findings using meta-analysis or meta-synthesis (synthesis of data from qualitative studies)*	No	No	Yes

*Not all systematic reviews of quantitative data perform a meta-analysis.

Critical Reviews

Karadzhov (2021) presents a critical conceptual review about personal recovery and socio-structural disadvantage.



Good Practice Tip

If you are planning to carry out a literature review, you should:

- **Justify why the chosen review type is appropriate to address the research question.**
- **Be aware of, and critique, published reviews on similar topics, highlighting how your review will significantly advance knowledge in the field.**
- **Critically assess the strengths and weaknesses of the chosen review approach and how this impacts the completeness and integrity of the findings.**

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Key Stages: Search, Screening, Extraction, Appraisal and Synthesis

The main stages in the systematic review – literature search, data extraction, quality assessment, and synthesis and interpretation – are presented. Best practices in searching and screening sources are shared. Learners are also acquainted with tools for appraising individual studies.

1

This is an opportunity to become familiar with, or refresh your knowledge of, these key terms related to literature searches (Purssell & McCrae, 2020). Click on the 'i' icon to get started.

2

Developing Eligibility Criteria

Before undertaking a literature search, the researcher must be clear on what eligibility criteria individual studies must meet to be included in the systematic review. Purssell and McCrae (2020) remind us that eligibility criteria:

- Must logically follow the review question.
- Must be as concise as possible to limit the scope of the review.
- Must be decided before the review commences.

- Should be adhered to after the review starts. Removing eligible studies often introduces bias and is like a researcher randomly eliminating participants from analysis.

Case Study: Dementia Experiences

The following eligibility criteria could be applied to a review of dementia experiences.

Exclusion criteria that do not add new information are considered redundant and advised against. For example:

Modifying the Eligibility Criteria

Reviewers may amend their initial eligibility criteria during or after their scoping search (Purssell & McCrae, 2020). A scoping search is a brief database search to determine how much research exists on the topic the reviewer wishes to explore. If a very large body of relevant literature is encountered, the reviewer may narrow the scope of the review. However, there must be a strong scientific rationale for modifications other than convenience. Changes should be documented and justified.

A Systematic Review into Non-Pharmacological Dementia Interventions (4 minutes)

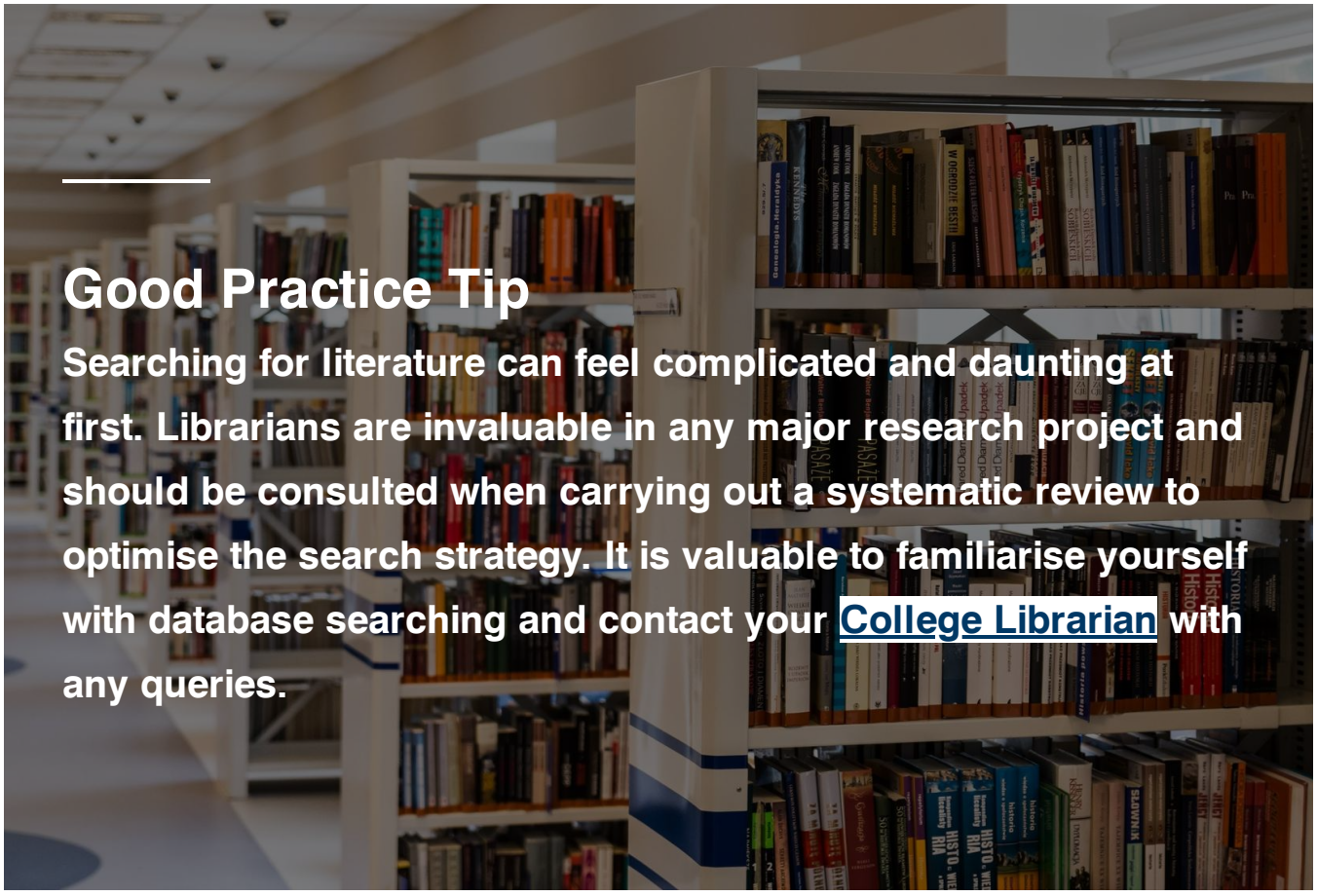
Paula Cairns, an MSc Global Mental Health alumna, describes how she tackled her systematic review looking at non-pharmacological interventions for people with dementia living in long-term care.

Paula Cairns is currently working as a Graduate Teaching Assistant on the MSc Global Mental Health course, as well as working with SAMH to support

people who are living with mental illness.

4

Searching the Literature



Good Practice Tip

Searching for literature can feel complicated and daunting at first. Librarians are invaluable in any major research project and should be consulted when carrying out a systematic review to optimise the search strategy. It is valuable to familiarise yourself with database searching and contact your College Librarian with any queries.

Search Techniques

Searches in systematic reviews often involve multiple techniques:

Conventional Approach	Entails a comprehensive search of relevant bibliographic databases using appropriate keywords, search strings, MeSH terms, Boolean operators, and delimiters.
Supplementary Techniques	Includes contacting experts and pearl growing, also known as snowballing or citation mining. Pearl growing involves identifying a relevant source, searching its reference list for further sources, then searching the

Search Sources

The search strategy in a systematic review usually involves multiple electronic databases. Databases are chosen based on the focus of the

review. Examples include MEDLINE/PubMed, Embase, PsycINFO, CINAHL, AMED, among others. Databases by subject can be searched here. It is important to understand the scope, functions, strengths, and limitations of each database. For example:

- What limits and filters can be applied?
- How are Boolean operators utilised?
- What indexing system is used?

Google Scholar

Google Scholar should not be the sole electronic database searched due to the high likelihood of retrieving a vast number of irrelevant sources of variable quality. Search strategies are also not as replicable as those run on the aforementioned databases. Moreover, newly published papers are not available as quickly on Google Scholar as they are in specialised databases such as PubMed.

Yet, Google Scholar's vast scope and lack of date, geographical, and language restrictions make it potentially useful for hand-searching, including citation and reference list searching.

Recording the Search Strategy and Outputs

The search procedure and its outputs should be accurately and thoroughly reported. This demonstrates the methodological rigour and repeatability of the review, thereby strengthening confidence in its conclusions. The following information should be reported (Purssell & McCrae, 2020):

- All databases searched
- Dates each database was searched
- Any language/publication status restrictions
- Other data sources searched
- Any researchers/organisations contacted
- 'Hand-searching' of reference lists

A copy of the search strategy, including search strings, delimiters, and number of retrieved items, should be included in an appendix.

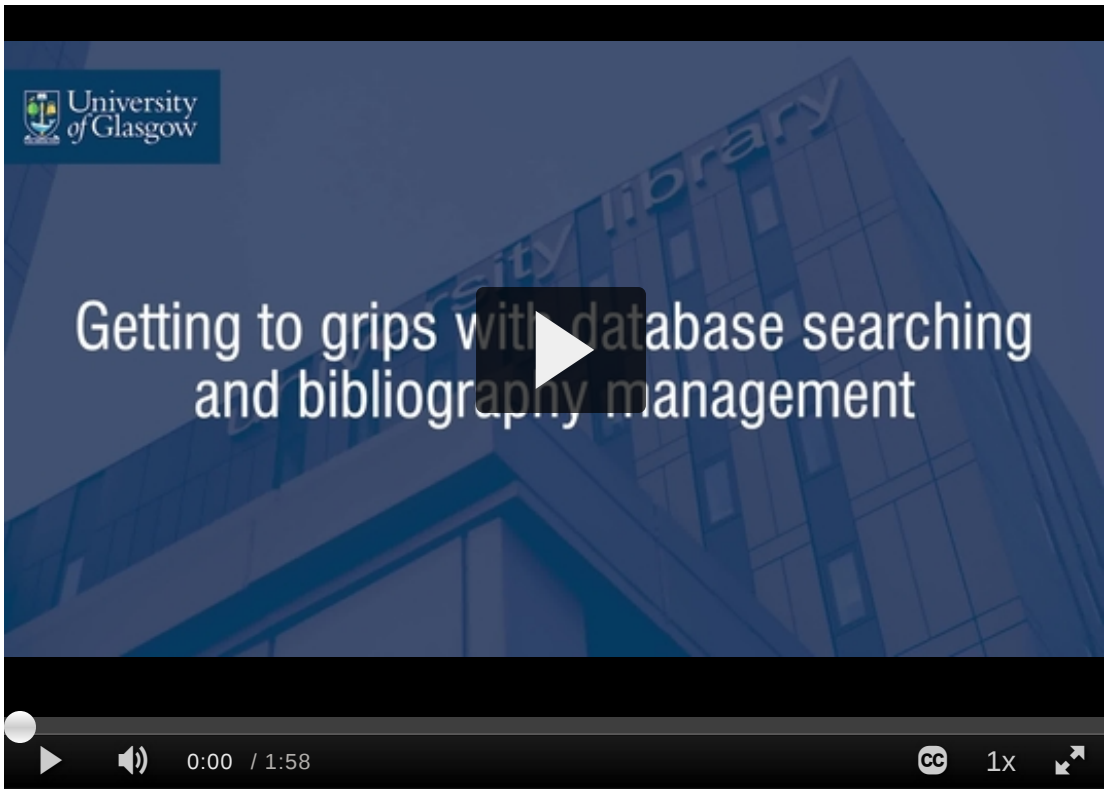
Keeping a Bibliography

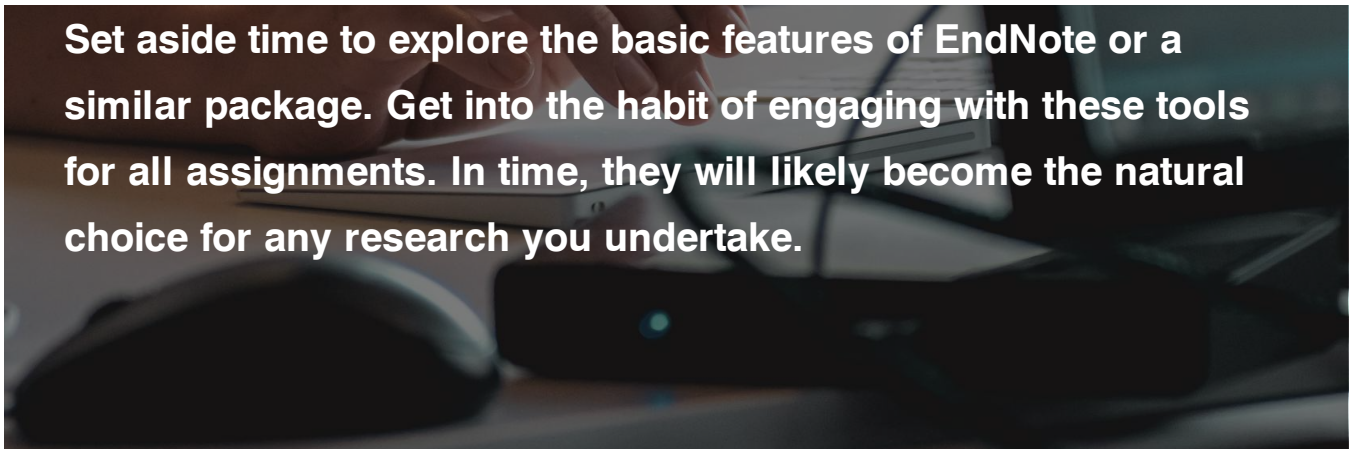
Bibliographies must be kept for every assignment and research project, but this is especially important in systematic reviews, which typically require the management of many sources. Start your bibliography as early as possible to avoid a heavy workload and errors at the end of the project.

Reference management tools enable researchers to create records for relevant literature. They are useful for managing search results and screening studies for eligibility. EndNote is a popular reference management tool and can be accessed via your University account. Other options include Mendeley, RefWorks, and Zotero.

Searching and Bibliography Management (2 minutes)

Ailsa Frew outlines the value in prioritising getting familiar as early as possible with valuable tools for searching and organising the literature.





6

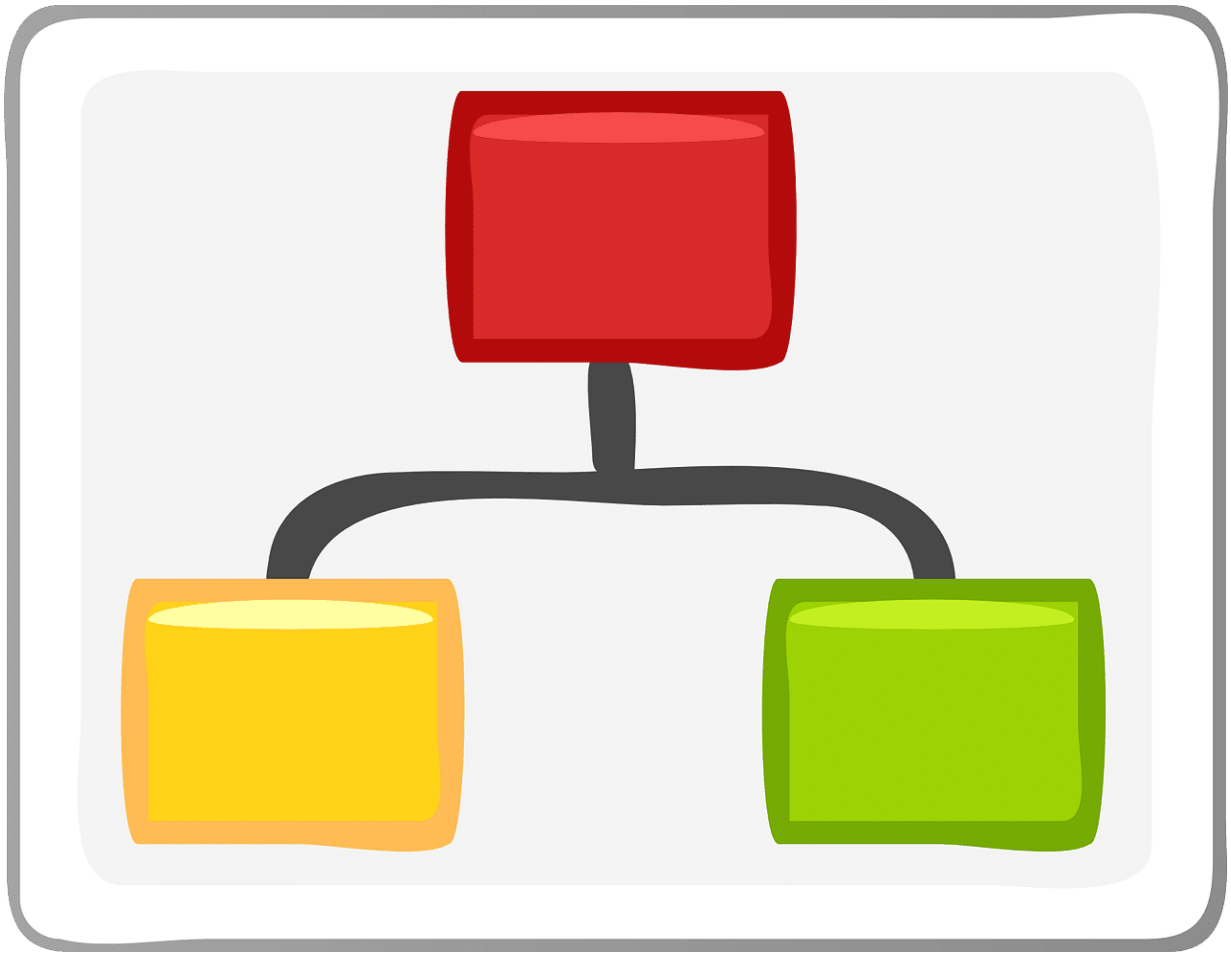
Screening Sources for Eligibility

In systematic reviews, screening is the methodical process of briefly assessing whether sources identified during the literature search meet the eligibility criteria. The initial stage usually involves reading the titles and/or abstracts to judge whether to progress the study to the next, full-text screening phase or exclude the study from the review altogether.

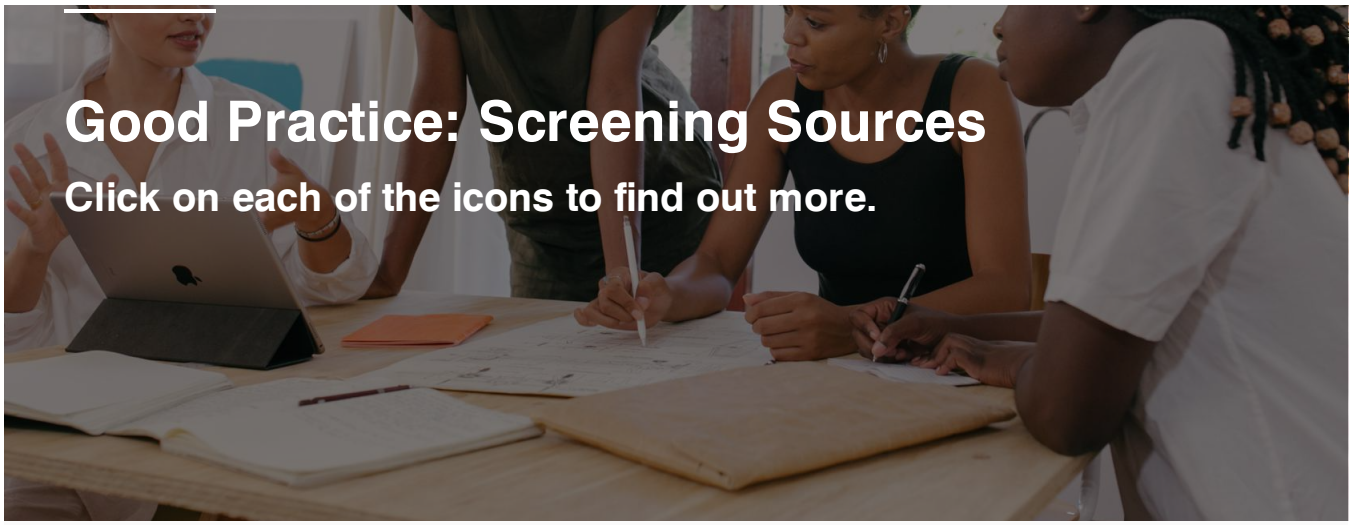
A well-planned screening approach ensures that no potentially useful sources are excluded prematurely, while reducing the number of irrelevant sources examined in the later, more time-consuming stages - full-text screening, data extraction, and critical appraisal. The rigour of the screening process considerably affects the overall quality of the review.

The PRISMA 2020 Flow Diagram

The PRISMA 2020 guidelines provide flow diagram templates, which should be used in systematic review reports to visualise the literature search and screening procedures and results. Editable templates, which you should use if you intend to conduct a systematic review, can be downloaded from the PRISMA website.



Examine the templates and pay attention to how the 'records screened' (i.e., number of sources whose titles and abstracts were screened) and the 'reports assessed for eligibility' (i.e. full-text screening) are typically reported. Note that it is customary to report reasons for exclusion during the full-text screening, but not during the title and abstract screening phase.



Good Practice: Screening Sources

Click on each of the icons to find out more.

Data Extraction

Once the literature search is finalised and all eligible studies have been identified, all relevant data need to be extracted from each study. It is important to use a consistent approach when extracting data. Doing so demonstrates systematicity and aids study comparisons and the identification of evidence gaps. It also shows the researcher has a thorough knowledge of each reviewed study.

Data Extraction Form

Using a data extraction form can help maintain consistency. A sample form by Booth and colleagues (2016) is attached. Some literature review software

packages allow reviewers to customise their data extraction templates.

PDF

Booth et al. (2012) Sample Data Extraction Forms.pdf

74.8 KB

8

Literature Review Software

Software packages can assist with data extraction, analysis, and synthesis. Please note that you are not expected to learn how to use all of these software packages. However, you may find some of the below examples useful, depending on the type of research project you undertake:

NVIVO	REVMAN	COVIDENCE	EPPI-REVIEWER

NVivo is a qualitative data analysis software package that can assist with:

- Importing sources as pdf files from a PC or bibliographic software such as EndNote
- Sifting and refining information sources
- Making annotations

- Performing qualitative data analysis
- Text searching the entire dataset.

Chapter 8 in Jackson and Bazeley (2019) offers detailed guidance for using NVivo.
Note: An NVivo student licence is freely available via the University IT Services.

Cochrane Review Manager (or RevMan) is the Cochrane Collaboration's software for preparing and maintaining Cochrane reviews. RevMan helps prepare protocols and full reviews. It can also assist with conducting a meta-analysis, which is a statistical method for combining the results of quantitative studies. Cochrane, previously known as the Cochrane Collaboration, is an international, independent network of researchers and practitioners aiming to enhance evidence-based healthcare.

Covidence assists with uploading search results; removing duplicates; screening titles, abstracts, and full texts; conducting risk of bias

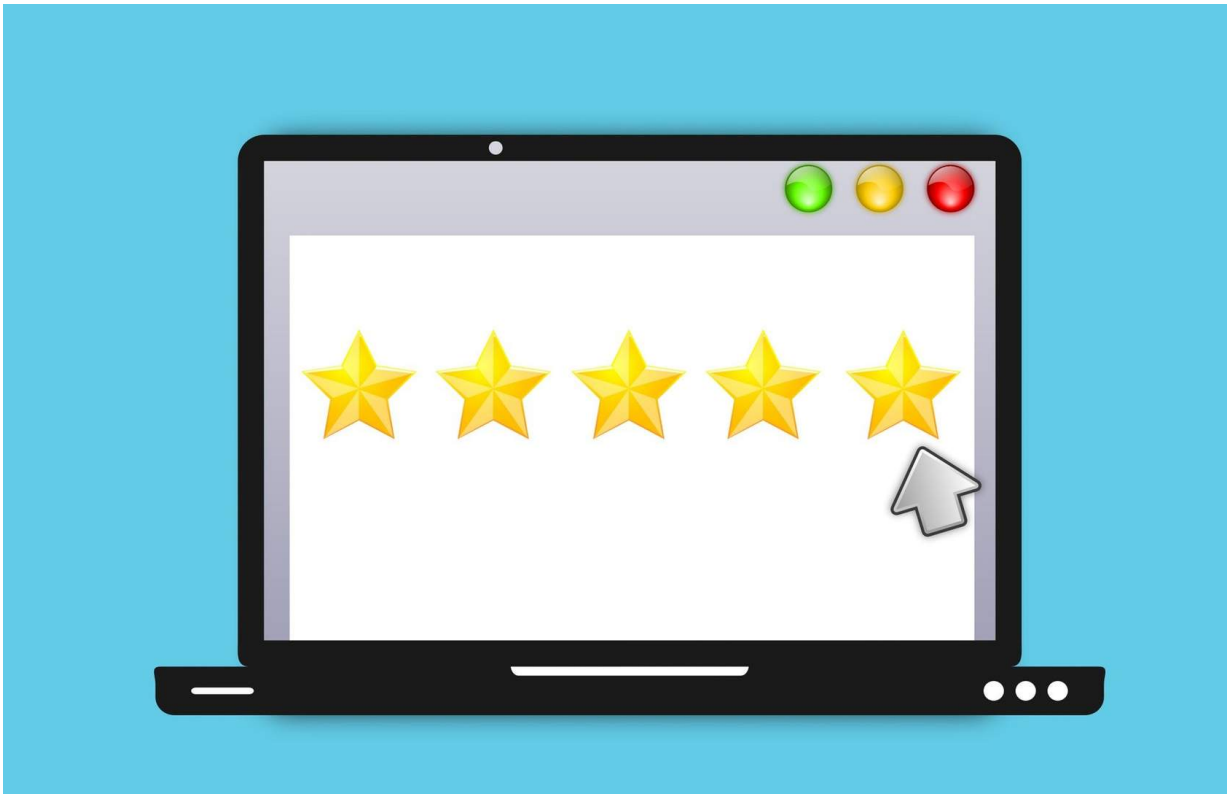
assessments; and other integral functions.

NVIVO	REVMAN	COVIDENCE	EPPI-REVIEWER

EPPI-Reviewer performs similar functions to Covidence.

Appraising the Studies

For systematic reviews to make justifiable claims, it is important to appraise the quality and relevance of the individual studies included. Procedures for critically appraising the methodological quality of individual pieces of research will be explored in detail later in this course. However, you should be aware that multiple tools exist to aid the assessment of the quality of individual studies when conducting a systematic review. Different tools are available depending on the design of the study to be appraised. Examples include:



The STROBE Statement

The STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) statement, developed by Von Elm and colleagues (2007), outlines what

The CONSORT

The CONSORT (Consolidated Standards of

The CONSORT Statement

Reporting Trials) statement includes a checklist and a flow diagram to help researchers assess the reporting of experimental studies (Schulz et al., 2010).

CASP

CASP (Critical Appraisal Skills Programme) has developed eight appraisal tools for various types of study design.

A Systematic Review into Postnatal Depression and Suicide (4 minutes)

Ailsa Frew, an MSc Global Mental Health alumna, describes the processes she worked through to complete her systematic review on postnatal depression and suicide.

Ailsa Frew is a global mental health alumni and is currently working as a graduate teaching assistant to support the development of the online learning materials.

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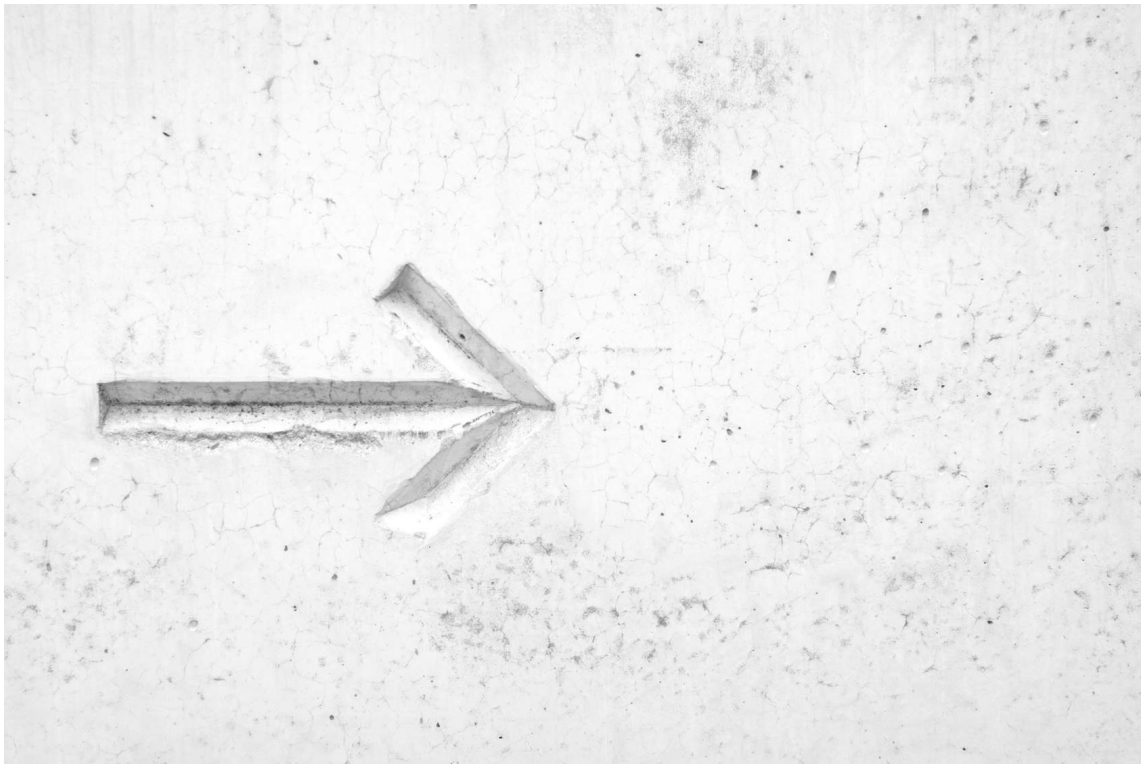
Synthesising and Making Sense of the Evidence



The next step is to synthesise the findings of the individual studies and interpret the evidence. The synthesis can be quantitative (e.g., a meta-analysis) or narrative (e.g., descriptive; MacMillan et al., 2019). If the reviewed studies are highly heterogenous, or the review has a broad scope, a narrative synthesis is preferable. Narrative syntheses have no universal guiding framework, but some best practice advice is offered below.

2

Create Overview Tables

A table containing key information about all the studies, including their titles and authors, aims, intervention and control groups, and statistically significant results, among others, should be included (Purssell & McCrae, 2020). The table may also include the quality assessment outcomes for each study.

Tables should first be compiled on a spreadsheet and then inserted into the report. Tables containing a high level of detail can be added to an Appendix.

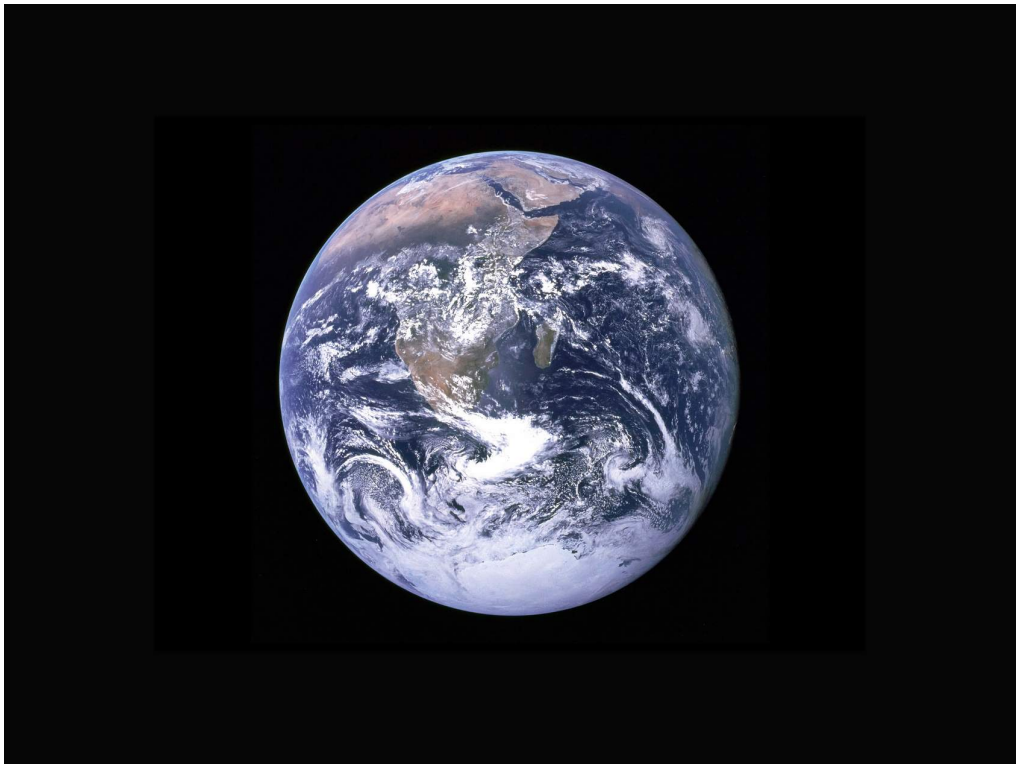
3

Consider the Quality and Quantity of Individual Findings

If reviewing intervention studies, for example, the studies reporting beneficial effects should be contrasted with those that do not. The risk of bias identified in each study should also be considered. For instance, high-quality studies could be discussed separately from low-quality studies.

Outliers should be examined carefully – are there studies with extremely positive or negative results?

Consider the Bigger Picture

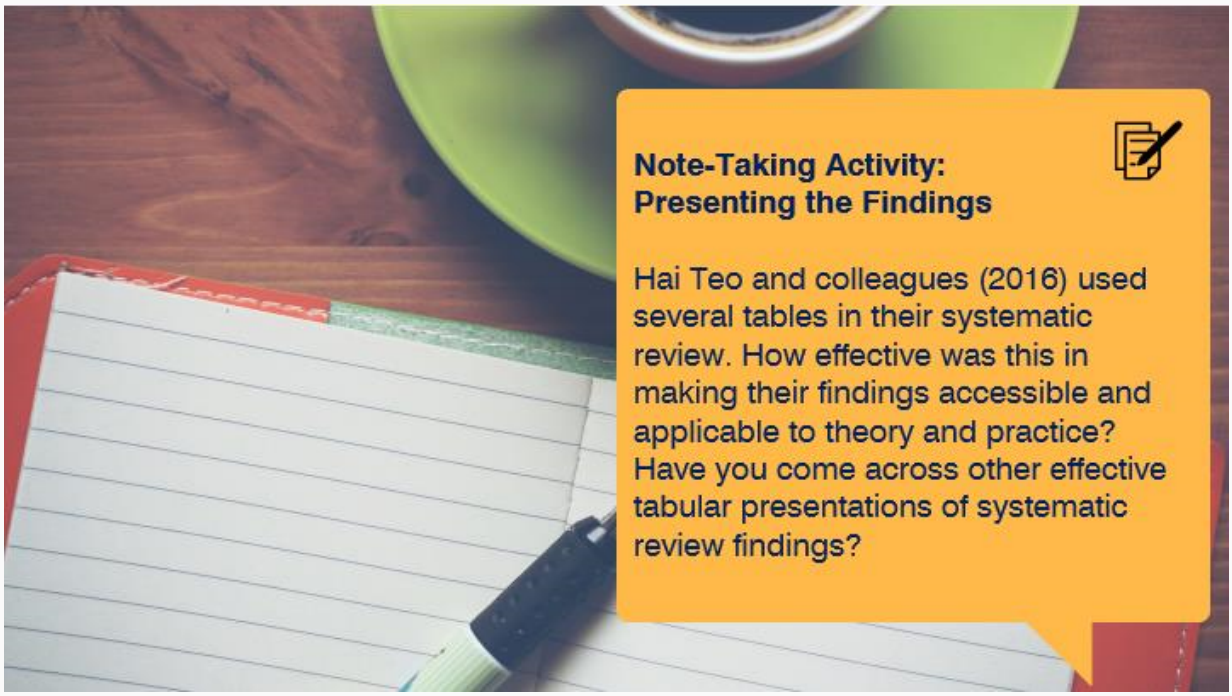


The FORM framework can be used to structure the synthesis and articulate recommendations for clinical practice (Hillier et al., 2011). FORM considers the quality and quantity of the evidence, consistency of results across studies, impact on the target population, and generalisability and applicability of the findings.

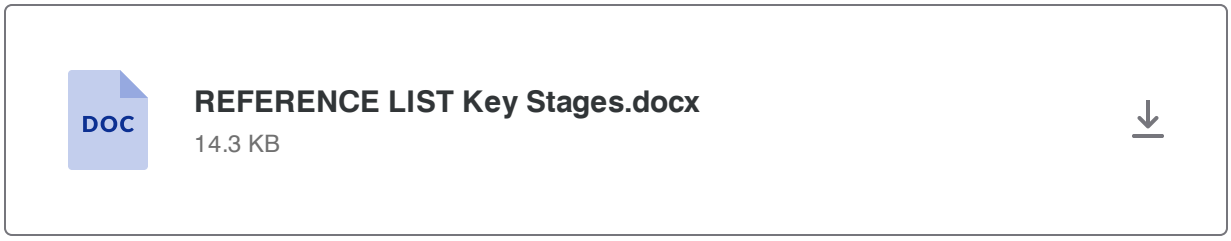
The review should conclude with a clear statement about what is known about the topic, how this relates to practice, what remains unknown, and what questions future research should address.

Presenting Systematic Review Findings

Hai Teo and colleagues (2016) completed a systematic review considering facilitators and barriers for men's engagement with health screening.



This might be a good time to take a break if you haven't already done so.



Appraising Systematic Reviews

Learners are shown how to appraise the quality of systematic reviews and encouraged to critically reflect on their limitations more broadly.

1

Appraising Systematic Reviews

Although systematic reviews sit at the top of the evidence hierarchy, like any other type of study, they are susceptible to biases and caveats. When reading or conducting systematic reviews, it is important to be critical and reflective about how those limitations affect the credibility of the findings. Liabo and colleagues (2017) recommend considering three dimensions when appraising systematic reviews (hover over each circle):

2

Types of Bias

Different types of bias can affect the validity of a systematic review (Booth et al., 2016). Hover over each heading below to reveal the definition.

3

1

Appraisal Tools

There are several resources that researchers can use to minimise bias while conducting systematic reviews. As a reader, you may find these resources helpful when appraising the systematic reviews of others.

AMSTAR

AMSTAR (A MeaSurement Tool to Assess systematic Reviews) is a popular instrument designed to aid with critically appraising systematic reviews of RCTs. AMSTAR 2 is an adaptation that additionally enables assessment of non-randomised healthcare intervention studies.

ROBIS

While AMSTAR assists with broad critical appraisal, ROBIS (Risk of Bias in Systematic Reviews) aids, specifically, with assessing the risk of bias in systematic reviews. ROBIS also includes an optional section that helps with appraising the relevance of the methods of a review to its focus.

Other Questions to Consider

Booth and colleagues (2016) offer several questions to guide researchers in assessing the likelihood of bias in their review:

- Have I clearly specified the question to be examined by my review, how included studies address it, and the extent to which my conclusions answer the question?
- Have I defined explicit, objective eligibility criteria?
- How confident am I that I have identified all potentially eligible studies?
- Has the eligibility criteria been applied in ways that limit bias (i.e., so that I have not inappropriately accepted or rejected studies)?

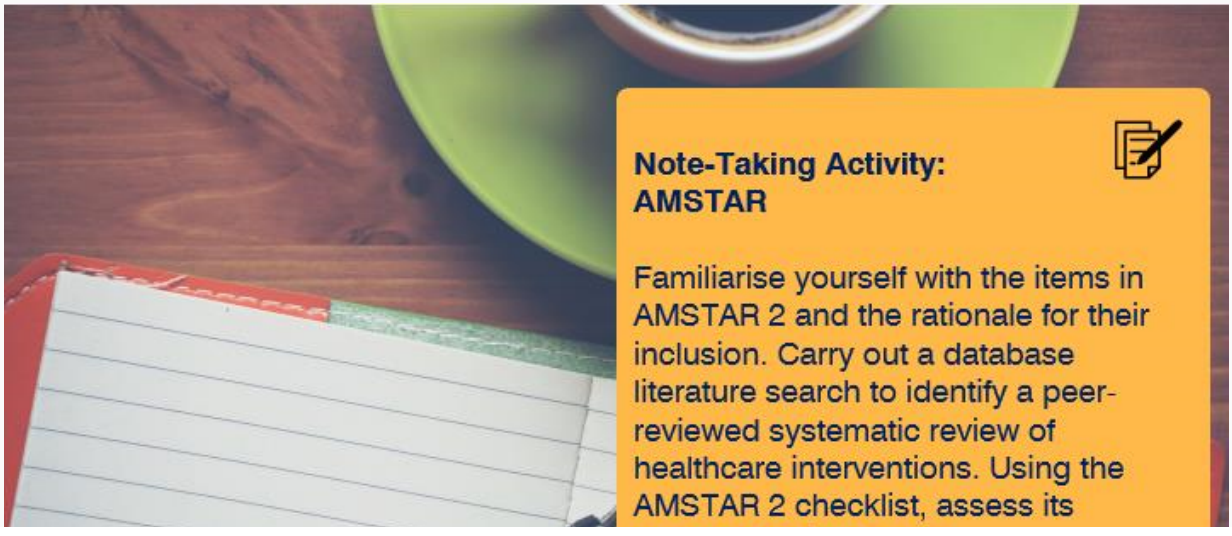
- Have I guarded against outcome selection bias by assembling as high a proportion as possible of relevant information from included studies?

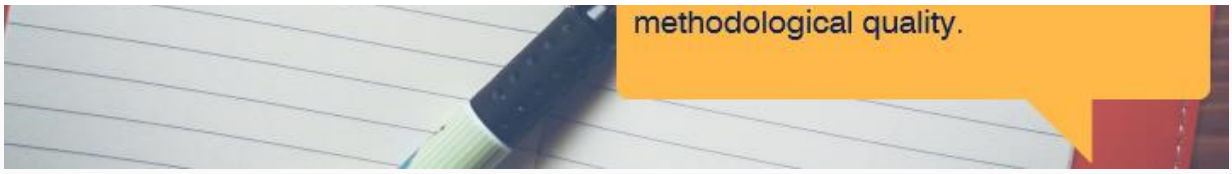
- Have I used various analyses to explore uncertainties in my findings?

- Have I presented my findings in a structured report with clear links between what is observed and what is concluded?

AMSTAR

The AMSTAR 2 checklist can be applied to critically appraise systematic reviews.





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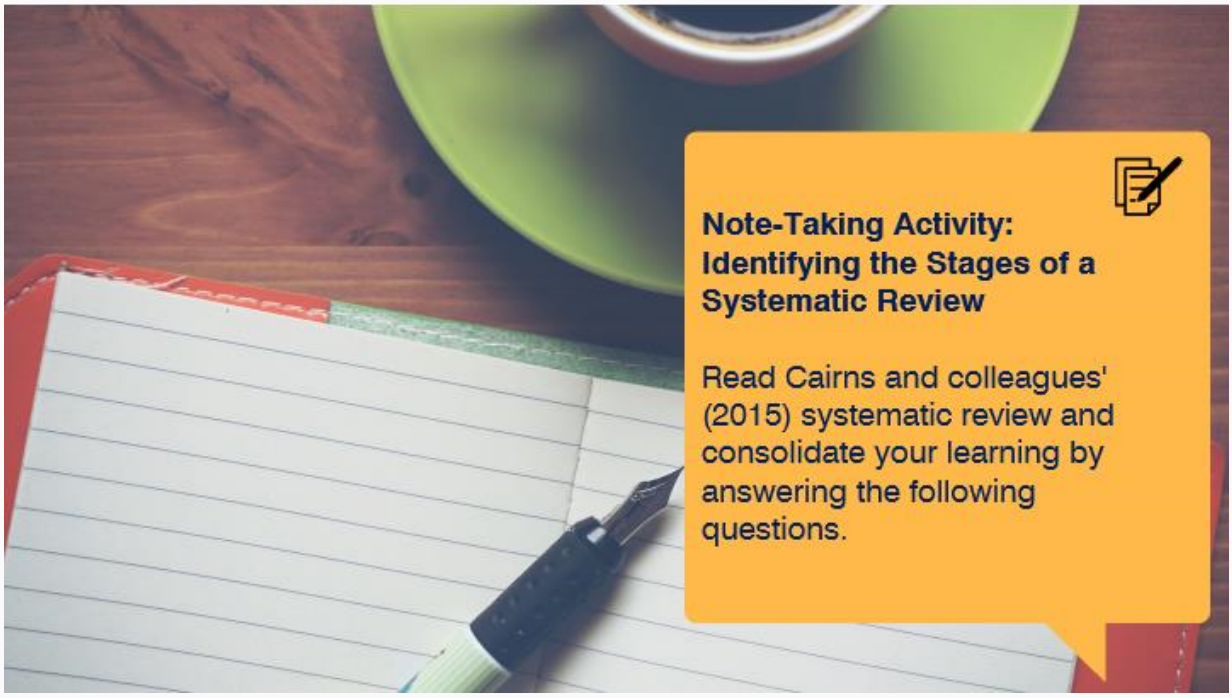
Identifying the Stages of a Systematic Review

Cairns and colleagues (2015) undertook a systematic review on the effectiveness of workplace interventions to tackle socio-economic inequalities in obesity.



1. Are the research aims and objectives identifiable?
2. Is an awareness of pre-existing research on the topic demonstrated?
3. Is there evidence of protocol development (i.e., PROSPERO registration)?
4. Did the authors use data extraction tools?
5. Do the authors make justifiable interpretations regarding what their findings contribute to the evidence base? Have the limitations of their review been considered?
6. Have reporting guidelines been used to report the findings?

General Critical Reflections on Systematic Reviews

It is important to critically reflect on the utility and potential disadvantages of systematic reviews. Several considerations are highlighted below (Hammersley, 2013a; 2013b):

Reliance on Evidence Hierarchy

If rigid eligibility criteria are applied based on the evidence hierarchy (for example, including RCTs only), systematic reviews may exclude potentially useful forms of evidence such as qualitative studies and natural experimental studies (Humphreys et al., 2017).

Strict Eligibility Criteria

Due to their precise research questions and eligibility criteria, systematic reviews may exclude research studies whose relevance is not obvious (Hammersley, 2013b).

Synthesis Challenges

Systematic reviews tend to assume that all reviewed studies addressed the same specific issue and investigated it similarly, but this may not be the case, making it difficult to aggregate findings. Hammersley (2013b) highlights that studies may focus on different parts of the same picture and could be viewed as additive pieces of a mosaic.

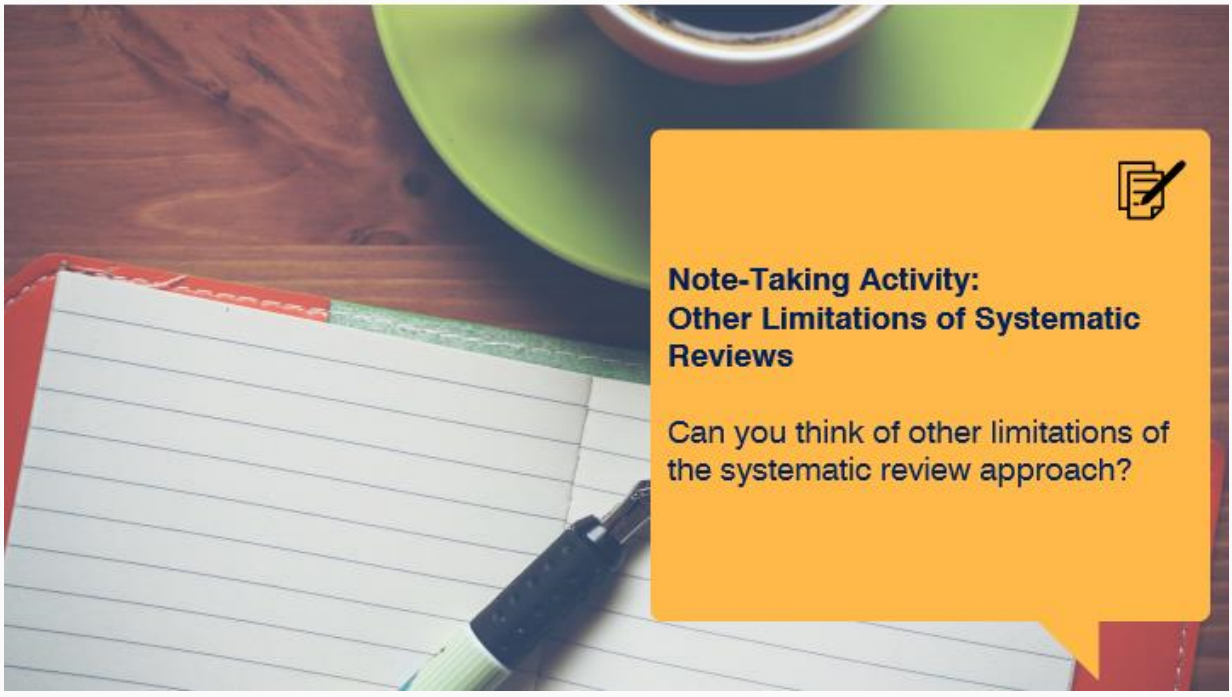
Publication Bias

If authors have not submitted non-significant findings to journals, or journals have not published such findings (the file-drawer problem), these

studies will not be readily available for inclusion in systematic reviews, potentially leading to overestimations of effects (MacMillan et al., 2019).

Unhelpful Systematic-Unsystematic Distinctions

Hammersley (2013b) argues that the systematic-unsystematic distinction used to classify review types is unhelpful. It may assume that unsystematic reviews are not as trustworthy because they do not meet the 'systematicity' criteria. Instead, Hammersley suggests a distinction between 'issue-focused' and 'field-mapping' reviews, highlighting that the latter type (unsystematic reviews) are also of high value and they can meet the needs of service providers/policymakers and synthesise vast, complex bodies of research.



Good Practice Tip

When conducting or critically assessing a systematic review, it is important to consider whether both high- and low-income settings are represented. If not, then the research produced may not generalise to the global community. Due to the fact that significantly fewer studies are conducted in low- and middle-income countries (LMICs), researchers may choose to broaden their inclusion criteria and use a range of search strategies to capture diverse studies.

DOC

REFERENCE LIST Appraising Systematic Reviews.docx

14.2 KB

Recap Quiz

Quiz (8 minutes)

A risk of bias assessment of included studies is expected in scoping reviews.

- ◯ Yes
- ◯ No

SUBMIT

The short words used in database searches to connect your search terms and broaden or narrow your search are called...:

- [ ] Stop words
- [ ] Boolean operators
- [ ] Truncation
- [ ] Wildcards

SUBMIT

Which of the following are common bibliography management software packages?

- [ ] EndNote
- [ ] Zotero
- [ ] Mendeley
- [ ] LaTeX

- ◯ All of the above

SUBMIT

The PRISMA extension for scoping reviews is called...:

- ◯ PRISMA-P
- ◯ SQUIRE
- ◯ PRISMA-ScR
- ◯ PRISMA-S

SUBMIT

The description, " Typically results in hypothesis or model. Seeks to identify conceptual contribution to embody existing or derive new theory", characterises which literature review approach best?

- ◯ Rapid review
- ◯ Critical review
- ◯ State-of-the-art review
- ◯ Umbrella review

SUBMIT

The 'PICO' framework helps one...:

- ◯ Conduct a risk of bias assessment
- ◯ Construct a review question

- Choose a review type
- Sift and screen studies

SUBMIT

The 'FORM' framework helps one...:

- Conduct a risk of bias assessment
- Construct a review question
- Formulate recommendations for clinical guidelines
- Choose a review type

SUBMIT

The phenomenon whereby studies finding nonsignificant results remain unpublished due to authors not submitting their work to journals, or journals not publishing such findings, is called...:

- ◯ Grey literature
- ◯ Salami slicing
- ◯ Publication bias
- ◯ Researcher effect
- ◯ Confirmation bias

SUBMIT

END OF SESSION