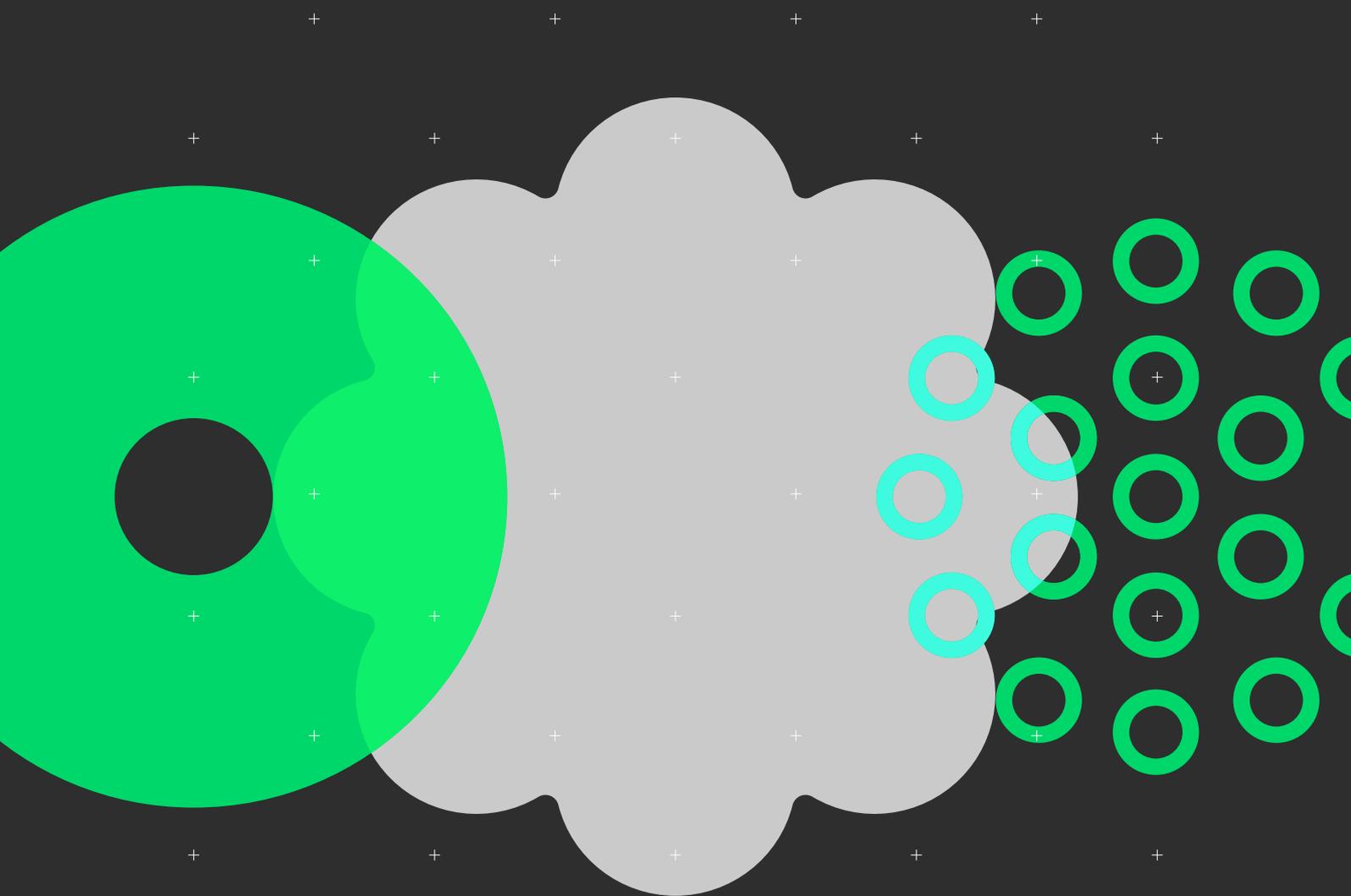


Finding evidence for decision making: a quick guide



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Midlands
Decision Support
Network



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Welcome

This quick guide has been developed by the Strategy Unit for the Midlands Decision Support Network. It is written for analysts who are seeking to triangulate findings with the wider evidence base. But it is suitable for anyone who is thinking about how to use evidence to inform decisions about health and care.

The guide begins with an introduction to evidence and how it can inform decision making, before taking you through the steps involved to find and analyse evidence, with signposting to further resources and support. The guide will be further developed over time.

For further information about how the Strategy Unit can support you to use evidence, including training and development, or to provide us with feedback on this guide, please get in touch using the contact details on the back page.

What is ‘evidence’?

In a clinical context, the term “evidence” is often used to refer to findings from robust research. In a strategic or commissioning context, the term “evidence” is often used more broadly.

In this guide, we’re using a definition which describes four types, or sources, of evidence:

- research findings;
- experiential learning and expertise from practice;
- local intelligence; and
- the perspectives of patients, service users, carers and local communities.

In a multidisciplinary, integrated context, there are likely to be different interpretations of “evidence” and differences in how these are valued.

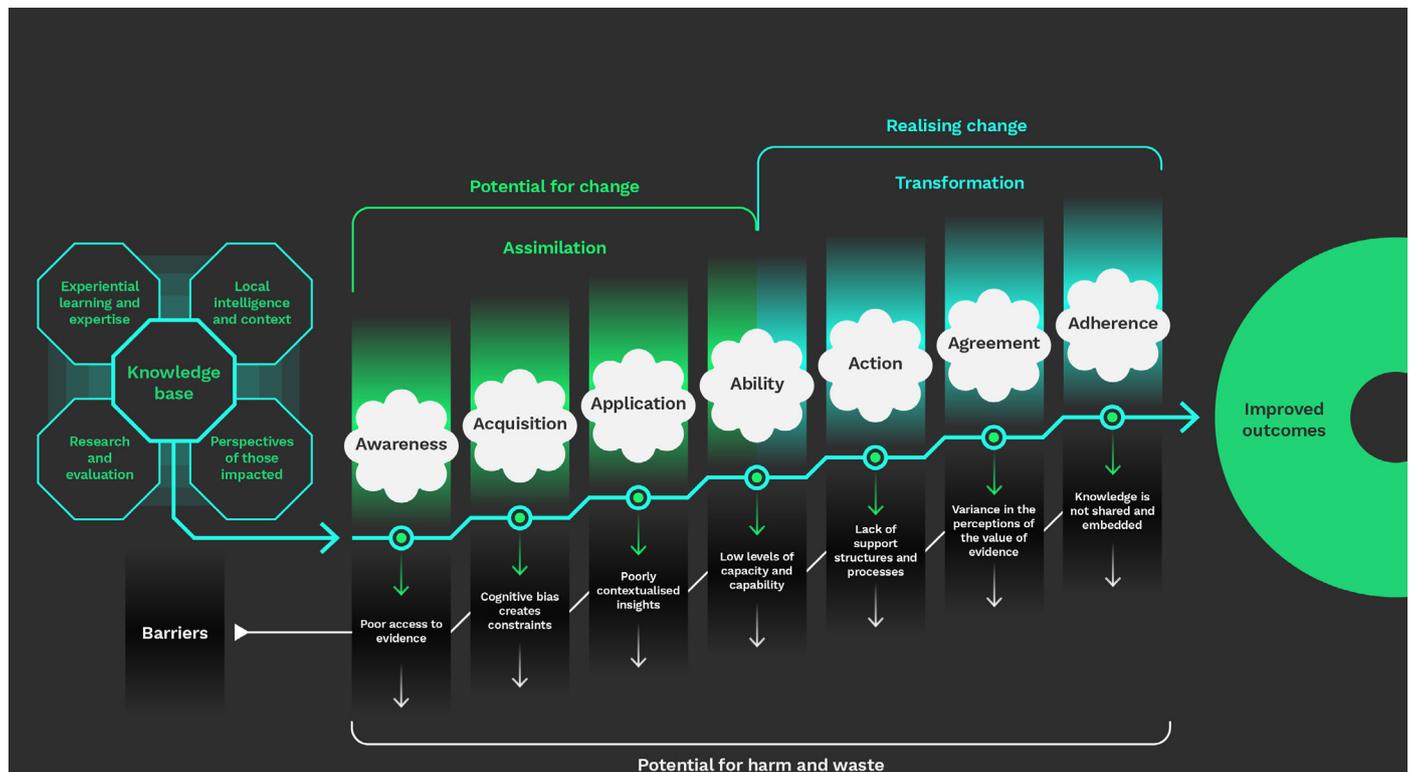
This guide focuses on how to find existing evidence from practice, research and local intelligence. Gathering the perspectives of people involves creating new evidence from surveys, focus groups and other forms of data collection. For help with this, you may find it helpful to consult the [Strategy Unit’s guide](#) to person-centred intelligence.



Adapted from: Briner, R. B., et al. (2009) Evidence-Based Management: Concept Cleanup Time? Academy of Management Perspectives, 19-32.

How does evidence inform decision making?

- Evidence can inform how best to invest finite resources for better outcomes
- Problems in health and care are often complex and messy, inevitably involving trade-offs
- Evidence can help decide which interventions, initiatives, improvements and innovations offer the best value for the investment
- Evidence can be used to challenge assumptions and to build consensus



This diagram is inspired by:

Smith M, Saunders R, Stuckhardt L, McGinnis JM. [Best Care at Lower Cost: The Path to Continuously Learning Health Care in America](#). Smith M, Saunders R, Stuckhardt L, McGinnis JM, editors. Washington, DC: 2013.

Glasziou P, Haynes B. The paths from research to improved health outcomes. *BMJ Evidence-Based Medicine* 2005;10:4-7.

Zahra, Shaker A., and Gerard George. "Absorptive Capacity: A Review, Reconceptualization, and Extension." *The Academy of Management Review*, vol. 27, no. 2, Academy of Management, 2002, pp. 185-203.

Evidence can't provide silver bullet answers but can provide valuable insights, helping you to:

- frame problems, generate options and identify innovations
- understand what is likely to work, in what contexts, how and why
- weigh potential benefits and harms as well as local implications
- minimise the risk of investments which offer only marginal benefits or could cause harm
- prepare for implementation and continuous improvement by identifying enablers, possible unanticipated consequences, mechanisms for change and lessons learned
- identify knowledge gaps and uncertainties to explore via experimentation and evaluation



“I believe in evidence. I believe in observation, measurement, and reasoning, confirmed by independent observers. I’ll believe anything, no matter how wild and ridiculous, if there is evidence for it. The wilder and more ridiculous something is, however, the firmer and more solid the evidence will have to be.”



Isaac Asimov, *The Roving Mind*

How do I find and use evidence?

If you've ever struggled to find evidence, take some comfort in the fact that you're not alone!

Many of our clients have shared with us the barriers they have encountered when they try to find and use evidence, including:

- Not knowing where to look
- Feeling overwhelmed by the range of sources
- Having too little time
- Struggling to understand technical/academic papers
- Hard to judge quality of evidence
- How to search databases

It can be difficult to keep up with the volume of new evidence:

- A team of researchers estimated in 2020 that the volume of research in the life sciences doubles every 14.4 years!¹
- And not so long ago, a team from the US suggested that biomedical knowledge would be doubling every 73 days by 2020 (compared to every 50 years in 1950 and every 7 years in 1980!)²

So, it's not surprising that searching for evidence can feel overwhelming. This guide will help you to navigate your way around barriers and pitfalls so you can find your way to evidence that is relevant, useful and reliable.

Let's start with a simple overview of the process of finding evidence



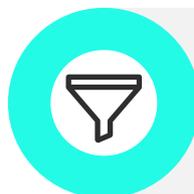
Frame

What is the question (or problem)?



Find

What should I look for and where?



Filter

What evidence is valid and relevant?



Decipher

What insights are applicable in this context?



Synthesise

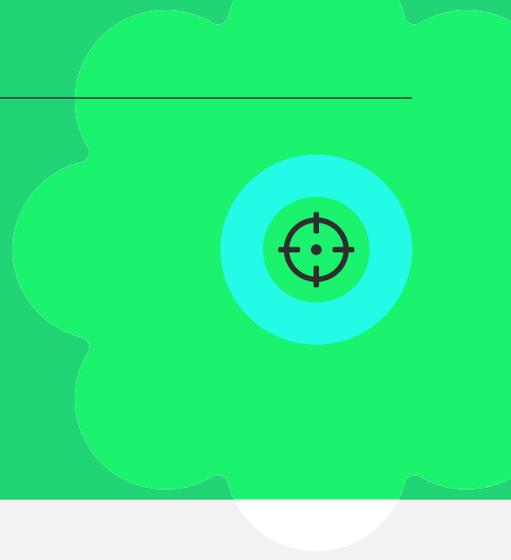
How do I make sense of it all?

¹ Bornmann et al, 2020, arXiv, <https://arxiv.org/ftp/arxiv/papers/2012/2012.07675.pdf>

² C. P. Friedman, J. C. Rubin, K. J. Sullivan, 2017, Yearb Med Inform 2017:16-7. <http://dx.doi.org/10.15265/IY-2017-004>

Frame

What is the question (or problem)?

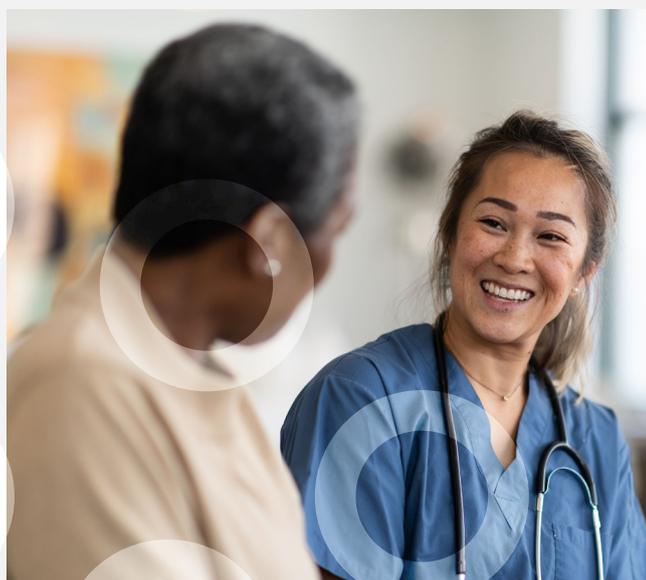


Working on your question will help you decide where to start searching. For example, your question might be best addressed by certain types of research study.

Taking time now to set out your inclusion and exclusion criteria will save you time later. This includes thinking about how you might narrow or broaden your search if the results aren't what you expect.

Thinking about what you need to know:

- What are you aiming to explore e.g. a problem, an intervention, a service innovation?
- How do you plan to use the evidence you find?
- What settings are you interested in e.g. primary care, secondary care?
- Is it appropriate to explore international evidence and if so, which health systems are comparable?



Framing your question

There are a number of helpful frameworks which you can use to break down your question into key concepts, which you can use to develop your search strategy. Here's an example using the **PICO** framework which is commonly used in evidence based practice:

PICO: (Population; Intervention; Comparison; Outcomes)

What is the impact on vaccine uptake (O) in young people (P) of walk-in vaccination clinics (I) compared to bookable appointments (C)?

Other frameworks include:

CIMO: Context; Intervention; Mechanisms; Outcomes

ECLIPSE: Expectations (improvement, innovation or information); Client group (recipients of service); Location (where service is housed); Impact (change in service and how measured); Professionals involved; Service

SPICE: Setting; Perspective; (Intervention/ Interest, of Phenomenon; [Comparison]; Evaluation

SPIDER: Sample; Phenomenon of Interest; Design; Evaluation; Research type

Inclusion and exclusion criteria

Your inclusion and exclusion criteria essentially create boundaries for your search. By framing your question, you will have focused on the populations, interventions, outcomes or settings of interest.

You might also set criteria according to:

Publication type: for example, if you are limited on time, you may focus on secondary evidence, which summarises and appraises primary studies (e.g. reviews). If you're searching for evidence from research, you may be interested in particular study types.

Date: You may decide on the appropriate date range, according to: changes in national policy (so any literature prior to the changes may be less relevant); availability of existing reviews (if there is a robust review on this topic, you may choose to limit your search to what has been published since); or significant social, political or economic occurrences (for example, the COVID pandemic).

Geographic scope: Depending on your question, you may focus your search by geographic area. For some questions, the context might be quite specific to the NHS or the UK (e.g. for questions on the experiences of NHS care). For many questions, we tend to explore international literature but you may need to impose limits (e.g. for countries of a similar level of development, we often limit to OECD countries).



Find

What should I look for and where?

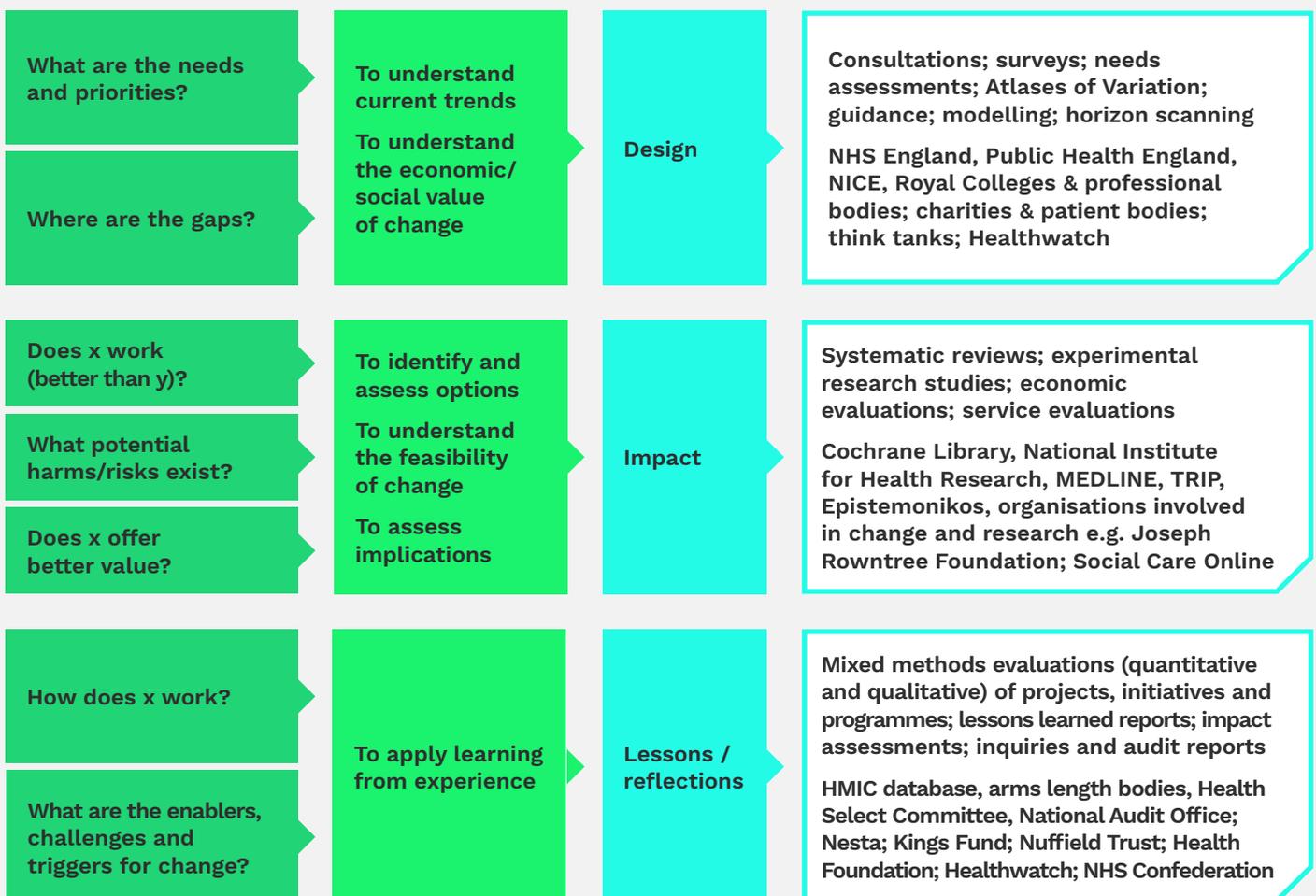


It can be tempting to pop a few keywords into the Google search box and zoom in on the first few results. Google is easy to use and will usually turn up something but you risk missing some very important evidence!

Your search strategy sets out where you will look for evidence and how you will search different sources. You'll need to give some thought to what type of evidence is most appropriate for

your question. Typically, you'll look for a mix of academic papers and reports from relevant organisations (often referred to as grey literature).

The best place to find academic papers is via bibliographic databases like MEDLINE which are available via national (England) licences for NHS and Public Health workers. We've curated a [handy collection of links](#) to key evidence resources to help you get started. The following diagram can also help you work out which sources to go to for different questions.



Searching

When you search bibliographic databases and search engines, you will search for the concepts you identified in your question. For each of these concepts, you'll need to identify key words and phrases to use in your search. These are likely to be a combination of words found in the titles and abstracts of publications as well as the terms used to index the database (for example, the Medical Subject Headings used in MEDLINE).

If you're not very familiar with the topic, you could try:

- reading one or two key papers on the topic that you already know about to understand the terminology in use
- looking for existing reviews or summaries of the evidence
- checking if anyone has already done a search on this topic – the King's Fund Library and the HSMC Centre Library often share snappy searches which can be a good starting point
- starting with an aggregated search tool e.g. NICE Evidence, TRIP Database, Epistemonikos

Searching for 'grey literature'

The term "grey literature" refers to papers and reports which are produced outside of traditional publishing channels, and so is often harder to track down.

This can include policy and guidance as well as locally produced evidence. For some questions, it may be important to find evidence derived from practice (as opposed to research) which might include before and after evaluations; lessons learned reports; and case studies.

Whilst this evidence may not be produced with the same rigour of research, there may be useful insights to glean, particularly where there is little empirical evidence. However, it is important to consider the risk of bias and that contextual factors (which may not be articulated clearly) could limit the transferability of any findings. Typically, we would seek to identify a range of practice-derived evidence so we can spot patterns across different settings.

Take a look at our curated collection for some [helpful links](#) to get you going on your search.



Filter

What evidence is valid and relevant?



When you have completed your searches, the next step is to filter your results to focus on the evidence which is most likely to be relevant to your question. You will also need to make some judgments about the validity of evidence.

You will have already set out some inclusion and exclusion criteria to help you decide what's "in" and what's "out". Going back to the earlier example on vaccination uptake in young people, we might wish to focus on evidence which meets the following criteria:

- Types of evidence (e.g. service evaluations, case studies)
- Population (young people)
- Intervention (walk-in vaccination clinics)
- International context (focus on UK evidence initially)
- Outcomes of interest (vaccine uptake)

As you shortlist, you may find it helpful to prioritise a few core papers which you should read first. If you haven't found what you expect (too little or too much), you may need to revisit your search strategy.

Assessing validity and limitations – evidence from research

Even with peer review, there is good evidence that:

- journals are more likely to publish articles with positive findings (publication bias)
- within articles, positive findings receive more prominence than negative findings
- information about harm is less well presented than information about benefit
- peer reviewers and editors can fail to spot methodological and statistical mistakes.

So it's important to understand the limitations (validity and reliability), of the evidence you find.

Questions to ask include:

- Is it clear what question or problem is being addressed?
- Are the methods used appropriate for the question?
- Are the results clear?
- Do the results match the conclusions?
- How do the findings fit with other evidence?

Informed Health Choices have prepared a useful [guide](#) advising how to spot faulty logic and untrustworthy evidence. You might also be interested in the interactive [Understanding Health Research guide](#).

Assessing validity and limitations – evidence from practice

Much of the evidence from practice is unpublished – often referred to as "grey literature". Try this helpful checklist¹ to judge the validity of any grey literature you find:

- **Authorship:** Who wrote this? What are their qualifications/credentials? How is this funded? Are there any signs of bias?
- **Attribution:** What is the source of the data/information/evidence?
- **Disclosure:** Is it clear who owns the website? Could there be a conflict of interest?
- **Currency:** Is it clear when this was written? Is it still relevant?
- **Content:** Is it relevant to the context I'm searching around? Is it accurate?

¹de Brun C and Pierce-Smith N. Searching skills toolkit 2nd ed, Wiley Blackwell, 2014

Decipher

What insights are applicable in this context?



Now you have a core of relevant papers and reports, the aim is to focus on findings which are applicable and transferable to your context.

How do you decide what's relevant and transferable?

- Are the contextual factors similar or different to your setting e.g. population; intervention; environment?
- Relevant contextual factors to help understand transferability include:
 - external factors (e.g. political and regulatory environments; labour markets; technology); and
 - internal factors (e.g. culture; leadership; size and scale; financial situation; standards of care).

What insights do you look for?

- You may find it helpful to focus on outcomes, challenges/enablers, mechanisms of change and unanticipated consequences.



Synthesise

How do I make sense of it all?



The task now is to assemble the “story” of the evidence you’ve found, summarising key findings in a logical structure and sharing your reflections on the quality of evidence.

You may find it helpful to use a thematic framework – for example, if you’re exploring health inequalities, the [PROGRESS Plus framework](#) can help to sort findings by the different groups who may be impacted by inequalities.

Looking at your evidence base as a whole, some questions to consider are:

- How do your findings shed light on your question(s)?
- What key themes or patterns are emerging?
- To what extent is there consistency or variation in the evidence you have found?
- What are the main implications (for strategy or practice) of what you have found?
- What are the limitations of the evidence you have found which might warrant caution?

For the types of question you will explore, it is likely you will encounter varying levels of uncertainty and it is important to avoid framing your findings as certain or definitive facts.



What to do about knowledge gaps?

There are always going to be gaps in the evidence base. Where there are significant gaps, you may need to consider how to address these gaps and uncertainties, for example, by:

- tracking ongoing research;
- experimentation and evaluation; or
- consensus building.

Mobilising your findings

The final step is to consider how you will share and act on your findings. Historically, it has been challenging to act on evidence in health and care. Our Insight to Action Guide can help you develop an approach which works for you.

Quick tips



Frame – What is the question (or problem)?

Spending time on your question now saves time later! Use a framework like PICO (Population, Intervention, Comparison, Outcome/s) to help frame your question. Set out inclusion and exclusion criteria to help you focus in on the most relevant evidence.



Find – What should I look for and where?

Short on time? Look for: Existing reviews or summaries; Try an aggregated search e.g. NICE Evidence, TRIP Database; Existing searches e.g. Kings Fund, HSMC Library



Filter – What evidence is valid and relevant?

Your time framing your question will help you determine what's relevant. Explore the basis of claims made to test the validity of evidence – are the methods used appropriate? What is the basis for any claims or arguments made?



Decipher – What insights are applicable in this context?

Relevant contextual factors to help understand transferability include: external (e.g. political and regulatory environments; labour markets; technology) and internal (e.g. culture; leadership; size and scale; financial situation; standards of care).



Synthesise – How do I make sense of it all?

Explore gaps, uncertainties, limitations and conflicts in the evidence base – it is as important to understand what the evidence doesn't or can't tell us at present.

What pitfalls should I avoid?

Stopping too soon

There's a risk of rushing to the easy-to-find evidence and missing important insights.

Relying too much on Google

Google doesn't cover all the sources you need to search and can act as a "filter bubble".

Unconscious bias

It can be easy to narrow in on the evidence which reinforces our own world view.

Flawed research

Be mindful that papers can be retracted if serious errors are detected. Avoid "predatory" journals which publish poor quality research.

Overinflating findings

Be careful not to confuse causation and correlation.

Where can I get help and support?

Please see the Midlands Decision Support Network prospectus for information about training.

If you need practical help, members of the Knowledge Mobilisation Community of Practice may be able to provide support. You can find out more about the Community of Practice [here](#).

We have curated a collection of helpful links to accompany this guide, providing you with quick and easy access to a range of useful resources.





[Contact Us](#)

