Understanding Evidence:

A Framework for Guiding the Use of Evidence in Decision Making for Mental Health Interventions including Adjunct Therapies

Australian Government
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transforming DVA

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About this framework

The purpose of this document is to provide information that should be considered when making decisions about the evidence supporting the usefulness of a particular mental health intervention.

This guide has been developed to be used by a range of Department of Veterans' Affairs (DVA) staff.

Types of interventions

There are a number of different categories of interventions: stand-alone, adjunct (also known as augmentation or adjuvant), evidence-based, alternative and emerging. These interventions can be described as follows:

Stand-alone

The only intervention that the patient receives. It is aimed at improving symptoms. When deciding on whether it is suitable or not, this intervention should be compared to best practice interventions.

Adjunct

This intervention is added to another primary intervention, with the aim of improving the level of symptoms to a greater extent than the primary intervention would be able to do alone.

When deciding on whether this is suitable or not, one should consider how effective the primary intervention is alone, in comparison to when the adjunct intervention is added to the primary treatment.

Both stand-alone and adjunct interventions can be evidence-based, alternative or emerging interventions. The principals that are outlined in this framework apply to all of these intervention categories.

Evidence-based

Interventions that have been proven to be effective, and are supported by rigorous scientific evidence. They are often recommended by treatment guidelines.

Alternative

Interventions that are not accepted as best practice evidence–based treatments, usually due to a lack of rigorous scientific evidence. These interventions may be popular, or widely used, but are not recommended by treatment guidelines. This does not necessarily mean they don't work, it just means that we don't have enough evidence yet to know if they work or not.

Emerging

An intervention where research has been started, but is still in its infancy and there is currently not enough evidence to support its use.

These types of interventions may already be used by people with mental health problems and are often reported on in the media as offering new hope, however these reports are commonly based on anecdotal evidence or small preliminary studies. This does not mean they don't work, we simply don't have enough evidence to know if they work or not yet.

How do we know an intervention works?

This may seem like a simple question but in fact, it is not quite so simple. Knowing whether an intervention works involves looking to the evidence base for that intervention and weighing it up. And there are many things to consider in the process.

When making decisions about an intervention, evidence can help you decide whether the intervention would be useful and appropriate. What do we mean by 'evidence'? When we say 'evidence', we are talking about information that we can use to tell us whether an intervention works or not.

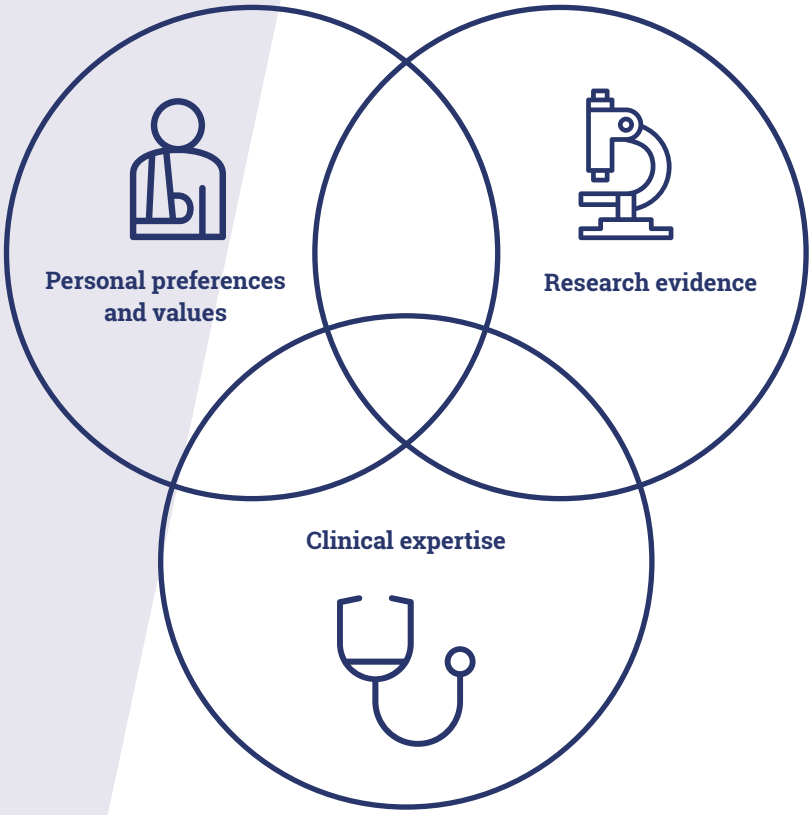
Why is evidence important?

Evidence is one important part of the decision making process. It tells us whether an intervention works or not and, if it does work—how well and for who.

This information can help you to make an assessment about whether using the intervention is justified. Research evidence can be integrated with clinical expertise and an individuals' preferences to ensure decisions made about health care are in the best interests of the individual and offer the best chance of improved wellbeing, while reducing the risk of harms and inefficient use of resources. The balancing of evidence with clinical and personal perspectives is called 'evidence-based practice'.

If we know how to read and assess the evidence it can help us to make informed decisions on what works. If we know how to judge the strength of evidence this helps make sure that the best possible healthcare is provided to veterans who need it. When decisions are backed by evidence veterans are given the best chance at improved wellbeing and recovery, rather than time, effort and resources being spent on interventions that are not effective, appropriate or are even harmful. But how do we use evidence?

Figure 1. The evidence-based practice model.



How do I use evidence for decision-making?

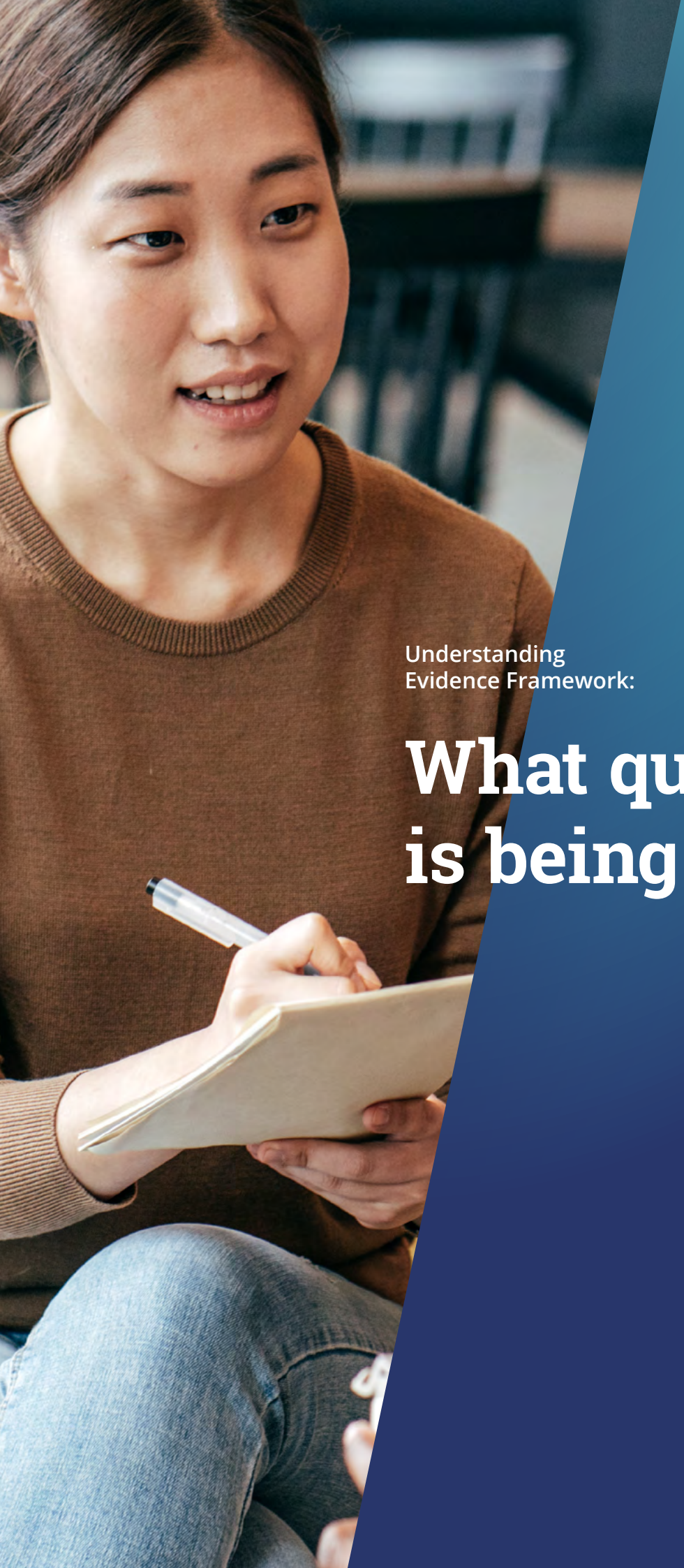
There are several steps that help us use evidence effectively to ensure we make informed decisions.

These steps will differ slightly depending on if we are making a decision about an intervention (evidence-based, alternative or emerging) that will be used as a person's main treatment (stand-alone), or as an adjunct to their main treatment.

This document will present key information to consider when you are assessing research evidence.

The four main elements involved when using evidence to make decisions about interventions are outlined in Figure 2 below.

Figure 2. Elements involved when using evidence to make decisions about interventions.



Understanding
Evidence Framework:

What question is being asked?

What do you want to know?

When making decisions about what evidence supports a particular intervention it is important to work out what you want to know. By this we mean; what intervention, for what people, to treat which condition? Is this a stand-alone intervention or an adjunct intervention?

When an intervention is being proposed as a stand-alone intervention you will want to know how well it works compared to other best practice evidence-based interventions.

When making a decision on an adjunct intervention, you want to know that it will enhance the effects of the primary intervention so that the primary intervention is more effective with the added adjunct intervention than without it.

Note: It is best to consider adjunct interventions in situations where the veteran is already receiving an evidence-based intervention.

Factors you should consider when working out what question is being asked are:

Who (is the intervention for), **what** (is the intervention); **other options** (what else is available), and **which condition** (what does it treat). For example, if you were considering whether **equine therapy** is useful to address anxiety, the questions to think about would be:

The next step is to consider the evidence.

Understanding
Evidence Framework:

What types of evidence are there?

How do I know what the strongest evidence is?

Not all evidence is the same. Some types of evidence are created by following strict and precise research 'rules' that help results to be reliable, accurate and credible, while others are more based on opinions.

Being aware of how much confidence you can have in the different types of evidence that you consider is an important part of the decision making process.

That is, how certain are we that this intervention treats the disorder of our interest? There are many different types of studies and they provide different levels of 'certainty' about how well an intervention works.

Table 1 presents the different types of studies in order of certainty from very high—clinical guidelines to low—qualitative studies, along with descriptions of each type of study design.

Table 1. Common studies found in research literature and the level and type of evidence they provide.

Study design	Description	
Endorsed guidelines	Developed by panels of experts and consumers who weigh up the quality and certainty of evidence from systematic reviews with factors like how important the problem is, whether people value the option, how much it costs, how easy it is to use, whether it reduces health inequity and whether there are other options that are cheaper. Recommendations are made about whether or not an intervention should be used for a given problem, or whether more research is needed before a judgement can be made. Guidelines should be endorsed by a credible body such as the National Health and Medical Research Council (NHMRC) or a professional college or association.	VERY HIGH CERTAINTY
Systematic review with meta-analysis	A review of all of the available literature that uses statistics to summarise the results from studies that are included in the review.	
Systematic review without meta-analysis	A review that gathers, combines and assesses evidence from all the studies on a topic.	HIGH CERTAINTY
Rapid Evidence Assessment (REA)	A review that appraises and synthesises evidence from studies, but uses a narrower focus (for example, within a limited timeframe). Useful for providing a quick answer to a specific question. Must be interpreted with more caution that systematic reviews as they do not cover the topic in as much depth.	
Randomised Controlled Trial (RCT)	An experimental study that randomly allocates participants to groups, including a control group with no intervention or a placebo.	
Cluster RCT	A study in which groups of participants e.g., a school, are allocated to receive an intervention, while a different group, receives a control intervention.	MODERATE CERTAINTY
Quasi-RCT	A well-designed and controlled study that does not use randomisation.	
Cohort study	A group (or 'cohort') are followed over time to see how exposure to certain factors affects them.	
Case-control study	Compares outcomes in participants who have a health problem (cases) to outcomes in a control group without that problem.	
Pre- & Post-test study	Collects data before and after exposure to an intervention that was not implemented by a researcher.	
Narrative review	A type of review that collects and synthesises evidence from other published research.	LOW CERTAINTY
Qualitative study	A non-experimental study that collects data as written or verbal responses to questions rather than as numerical (i.e., quantitative) measurements. Qualitative studies describe rather than measure, and can provide very rich insights into what participants think about an intervention, their preferences, or perceived barriers. They can help decision making by complementing findings about whether an intervention works, with information about whether it is valued by people, and if it is useful for different populations and settings.	

INTERVENTION STUDIES
OBSERVATION STUDIES
QUANTITATIVE

What about other sources of information?

Table 1 describes what are considered to be good sources of reliable evidence. But what about evidence in a newspaper article, a recommendation from a health service provider, marketing material or an anecdote?

These types of evidence are typically very low level evidence and therefore would provide us with a low degree of certainty that a particular intervention works. Assessing these less-scientific sources of evidence can be harder as there are no 'rules' on how to do them well, like there are for research studies.

There are ways in which other sources of information can be useful. For example, books or book chapters can provide comprehensive overviews on particular topics, and can often be easier to read than scientific papers.

Expert opinions can be useful when there is no other scientific evidence available. However, in other cases these evidence types can be prone to bias, so it is very important to look at these types of evidence carefully. Generally, they should be considered alongside higher levels of evidence where possible.

Figure 3 on the following page outlines the various types of other sources of information that are commonly encountered. This figure provides information on what to consider when reviewing information from other sources.

Figure 3. How to understand and use very low level evidence and other sources of information.

	Pros	Cons	Implication
Books			
	• If books are based on reviewing the evidence they can be useful and comprehensive. • They can provide more detail than a study paper. • Information is well-organised and user friendly.	• They may not review the scientific literature comprehensively; sometimes authors only select some of the evidence so provide a biased view. Not necessarily up-to-date information.	• Information should be supplemented with more up-to-date evidence if possible.
Websites			
	• Can be useful with easy to read information.	• May be hard to judge accuracy and credibility.	• Check information is up-to-date and the provider is credible, e.g., government body, research institute, health organisation, peer reviewed academic journal.
Expert Opinion			
	• Experts can often present complex information in ways that are understandable.	• May not be based on up-to-date research evidence; may present research in a biased way.	• Recommendations based on expert opinion alone should be primarily used when higher quality evidence is not available.
Media Reports			
	• Often report complex scientific information in easy to understand ways and can be based on other high quality sources (e.g., research findings).	• May be missing detail needed to judge applicability. • Prone to oversimplifying, distorting, or sensationalising findings. • Inaccuracies may not be routinely checked. • May be influenced by political or commercial interests.	• Should be fact-checked and if possible followed-up, and verified via its original source.
Marketing			
	• Contain easy to read information.	• Aimed at promoting benefits of a product or intervention, and are therefore biased. • Claims may be based on low quality evidence, insufficient evidence, or may ignore limitations.	• Source of claims should always be checked. Independent information should also be sought. If no source is provided for claims—disregard.
Anecdote			
	• Will provide information on one person's experience, which is usually a positive one.	• May be inaccurate or not applicable, outdated, misremembered, biased, or factually incorrect. • Cannot be generalised to other people. If an intervention has worked well for one person, this does not guarantee that it will work for someone else.	• Should not be considered as evidence.

Understanding
Evidence Framework:

How do I know if an intervention works?

So, we have all these types of evidence, but how do we use the evidence to tell us if an intervention works?

To get this information the certainty of the evidence needs to be determined. Considerations include the type of study design, whether the evidence shows that the intervention worked, how well it worked, and whether it is reliable and credible.

When the intervention is included in a clinical practice guideline

In an ideal scenario, the intervention will be referred to in a clinical practice guideline.

Clinical practice guidelines represent very high level evidence. They are based on expert review of the literature, and provide treatment recommendations. It is important when reading a clinical guideline, that you check if the recommendation is **for** or **against** the use of a particular intervention. **Figure 4** provides guidance on what the different recommendations mean.

Figure 4. Interpreting the types of recommendations made in clinical guidelines.

When there is other high – low quality evidence

In reality, many interventions do not appear in clinical guidelines which makes things a little bit more complicated.

Table 1 provides examples of types of evidence that are associated different levels of quality.

When you have high or moderate quality evidence, for example, a systematic review. These questions can be used for either stand-alone or adjunct interventions, and for evidence-based, alternative or emerging interventions.

The answers to these questions will provide information about whether the evidence is relevant and if there are any negative effects to be considered.

It is important to recognise that when you are assessing an individual study, less confidence can be placed in the findings, because important factors might not be noticeable until you look at a few studies together.

For example, one study may show that an intervention has a large effect while another may show no effect, so two studies could tell you opposite effects for the same intervention. The more studies that you consider as a group, the more certain you can be about the results. Where qualitative studies are being considered it is important to recognise that these studies do not measure symptom change, and as such will not be able to answer questions on whether the intervention works from a symptom change perspective.

Figure 5 shows questions that can be asked to understand what high to low quality evidence says and whether it is relevant to your question.

Figure 5. Questions and considerations for assessing high to low quality evidence.

What if there is only other sources of information or very low level evidence?

There will be many instances where higher certainty evidence such as guidelines, systematic review, randomised controlled trials or even low level evidence such as qualitative or case studies are not available.

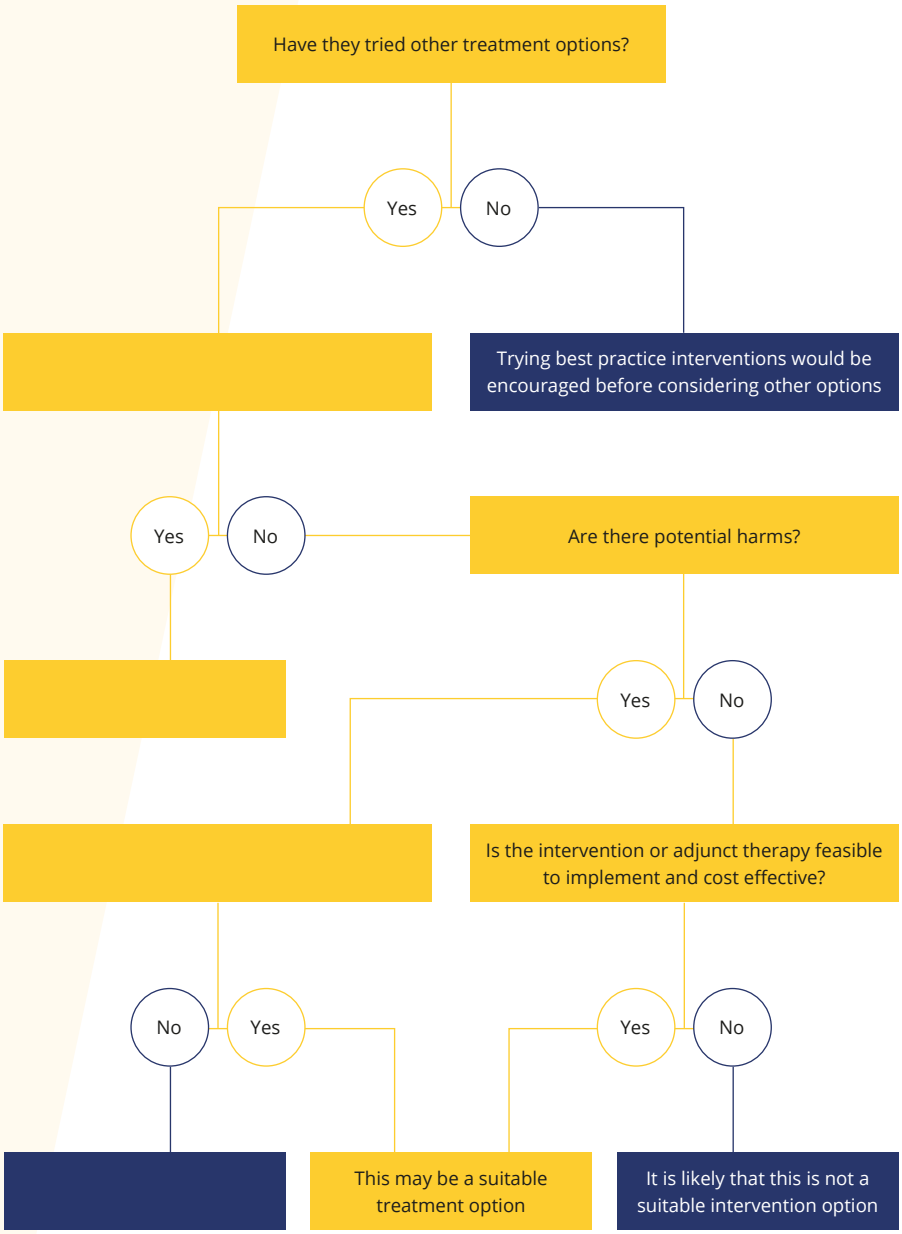
This is most common when the intervention is alternative or emerging. What might be available are other sources of information such as books, media reports, websites, expert opinion, anecdotes or marketing information. As outlined in **Figure 3**, there are some benefits to this type of information. However, there are also some serious limitations that also need to be considered. The main one is that this type of information can be unreliable due to risk of bias and questionable credibility.

However, there are going to be times when consideration may be given to an intervention where the level of evidence is less than ideal. For example, this may be when someone has tried all of the available best practice evidence-based intervention and their symptoms are persisting, where someone is unable to access or tolerate evidence-based interventions, or where symptoms are so chronic or severe that their quality of life is detrimentally impacted.

In these circumstances, interventions may be sought that promote wellbeing rather than try to cure or reduce symptoms. In these instances, interventions will not treat someone's disorder but will help the individual to maintain a reasonable quality of life.

The questions in **Figure 6** can be asked of any intervention but are particularly important to consider when making decisions about interventions in the circumstances described above - where evidence is of low certainty.

Figure 6. Considerations when making a decision about an intervention where only low level evidence is available.



Understanding
Evidence Framework:

Weighing pros and cons

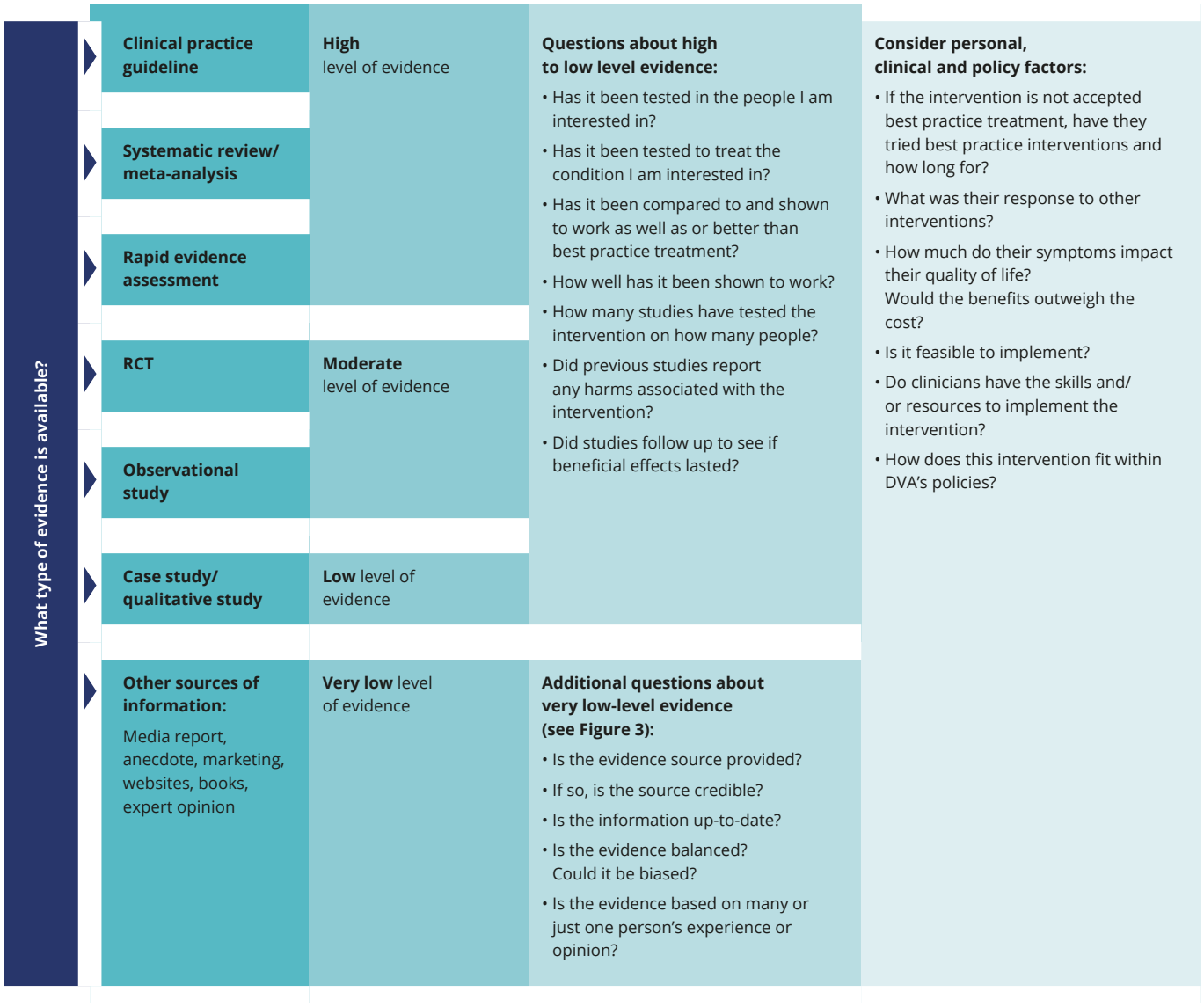
How do I use evidence to make decisions?

It is certainly much easier to make a decision about an intervention when there is a lot of evidence to support its use—such as recommendations in clinical guidelines.

However, often we need to make decisions about interventions which have much lower level evidence—and then the question is how much evidence is enough? Unfortunately there isn't a recipe to tell us an answer. It is really a case of weighing up everything we have discussed thus far and, where possible, balancing this with clinical expertise and patient perspectives as introduced in **Figure 1**. **Figure 7** brings together a number of the key elements that have been discussed in this framework, and provides suggestions for how everything can be weighed up or considered as whole.

By determining the level of evidence available, asking the questions detailed in **Figure 5,** and taking into account the factors detailed in **Figure 6**, it will be possible to think about the implications of either supporting, or not supporting the use of a particular intervention.

Figure 7. Considerations when weighing up the available information.



Conclusion

When making a decision based on the evidence, there are several elements that need to be considered. These include:

- **being clear about what the question is that is being asked;**
- **considering what type of evidence is available and what the strongest evidence is;**
- **working out what the evidence tells you; and**
- **applying a holistic approach to answer the question about what works for whom, under what conditions, to what extent and how.**

Where there is an absence of a strong level of evidence, low levels of evidence must be considered very cautiously.

Any evidence should be weighed up with clinical expertise and personal perspectives to come to balanced decision that can assist you in determining what the evidence tells you and how it might apply to your intended audience.

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