Additional file 2. Basis for the recommendations, caveats and risk mitigation

Recommendation	Research evidence	How this can affect use of the information and decision-making	Caveats and risk mitigation
Make it easy for your target audience to quickly determine the relevance of the information, and to find the key messages.			
1. Clearly state the problem and the options (interventions) that you address, using language that is familiar to your target audience – so that people can determine if the information is relevant to them.	People commonly use search engines to find health information, they often do not go beyond the first results page, and they examine and abandon pages quickly.[1-4] People quickly make judgments about the potential relevance of information before considering the quality of the information; and relevance and ease of access can affect judgements about the trustworthiness or credibility of information.[2,5-7]	The harder it is to find information and the longer it takes people to assess its relevance, the less likely it is that it will be used. Making it possible to quickly determine whether the information addresses a problem (or risk) and options (interventions) that are relevant, can increase the likelihood that people in your target audience will use it. People are most likely to seek information that is relevant to specific problems or concerns that they have or specific interventions that they are considering.	The more likely it is that people will find and use your information, the more important it is to ensure that it is informed by the best available evidence and that it is usable and useful. Many decision-makers are unlikely to use Boolean operators when searching, and are likely to search using a single search term.[1,8] It may be important to consider how people in your target audience are likely to search for information and what terms they are likely to use; and to include multiple terms, when relevant. It may also be important to consider ways of increasing the ranking of your information by search engines, such as Google. For users who are directed to your website, it is important to ensure that information is easy to find using the website's search function.[3,9]
2. Present key messages up front, using language that is appropriate for your audience and make it easy for those who are interested to dig deeper and find information that is more detailed.	Too much text contributes to the rejection and mistrust of websites, and reduces the likelihood that information will be used; people examine and abandon online information quickly; and much online health information has a readability level that is inappropriate for general public use.[2,10,11] Decision-makers want and are more likely to read short, clear summaries with brief key messages rather than large blocks of text, and layered information, beginning with a concise summary through to detailed information and links to systematic reviews, caters for varying needs, time demands, and expertise.[5,12-25]	The more quickly that people find and understand the key messages, the more likely it is that they will use the information. Poor readability can reduce the likelihood of information being used and can result in misunderstanding and misinformation.	Repetition of information in more than one layer can be off-putting and should be minimised.

Recommendation	Research evidence	How this can affect use of the information and decision-making	Caveats and risk mitigation
3. Report all potentially important benefits and harms, including outcomes for which no evidence was found – so that there is no ambiguity about what was found for each outcome that was considered.	It is frequently ambiguous whether unreported outcomes - particularly harms - were considered and no evidence was found or they were not considered; and outcomes are frequently reported selectively.[26-36]	Reporting all of the potentially important benefits and harms that were considered, including ones for which little or no evidence was found, can reduce ambiguity and misleading reporting of key findings.	How important outcomes are to people varies. Patients, health professionals, policymakers, and researchers may have different views about which outcomes are important. It may be important to engage people in your target audience (or the people affected by a decision) in making judgements about the relative importance of outcomes. If there are many outcomes, this can be overwhelming. It may be desirable to report the most important outcomes in the top layer (summary information) and other important outcomes in other layers.
For each outcome, help your target audience to understand the size of the effect and how sure we can be about that; and avoid presentations that are misleading.			
4. Explicitly assess and report the certainty of the evidence.	Several factors affect the certainty (or quality) of the evidence for estimates of effect, and the certainty of the evidence can vary from very low to high.[37-44]	The certainty of the evidence can affect the decisions that people make. Assuming the purpose is to inform people rather than to persuade them, it is necessary to include information about the certainty of the evidence. Not doing so can be misleading. Unsystematic and nonexplicit assessments of the certainty of the evidence also can be misleading.	Assessments of the certainty of the evidence requires judgements. The underlying judgements and the basis for those judgements should be available. Uncertainty might sometimes be misunderstood or misused as an excuse for not taking appropriate actions, particularly for health system and public health interventions.[45] Clear explanations of what is meant by different levels of certainty should be provided (e.g. as scroll-overs); and care should be taken not to imply that uncertainty about effects necessarily means that an intervention should not be used.
5. Use language and numerical formats that are consistent and easy to understand	Verbal expressions of uncertainty or probability often mean different things to different people and some verbal expressions may be easier to understand than others.[46-52] Inconsistent use of language increases the risk of spin and verbal descriptions that are inconsistent with the evidence.[53,54] Use of consistent language that has been tested can improve the understanding, usability, and usefulness of information about intervention effects.[55,56]	Using consistent language with well-defined meanings can help reduce the risk of misunderstandings and misleading descriptions of the certainty of the evidence and the size of the effects.	Overly rigid application of consistent descriptions can result in awkward sentences that are difficult to understand. The language that is used to describe the certainty of the evidence and the size of the effects should be chosen carefully and, ideally, tested.

Recommendation	Research evidence	How this can affect use of the information and decision-making	Caveats and risk mitigation
6. Present both numbers and words, and include summary of findings tables.	Words may be easier to understand than numbers, and words used to express probabilities are often ordered consistently, but their interpretation is highly variable and may result in inappropriate perceptions and decisions.[47-49,51,57,] Numbers are more accurate, but many people have poor numeracy skills and may have problems understanding effect estimates.[50,51,58] People differ in their preferences for words, numbers, or both.[47] Combinations of words and quantitative presentations are likely to have advantages over quantitative presentations alone as this can help to interpret and ensure understanding of numbers.[51] Summary of findings tables are perceived as understandable and useful, and they can improve how quickly people find key information, understanding, accurate perceptions of effects, and choices.[13,56,59-61]	Presenting both numbers and words and including summary of findings tables can help to ensure correct understanding of effect estimates and may improve decision-making.	Words alone may be sufficient for communicating vague or very uncertain effects.[48] Some people may be put-off by numbers or overwhelmed by summary of findings tables. One strategy for mitigating this risk is to partially hide the tables (e.g. by only showing the top of the table or a thumbnail image), so that they can be quickly accessed by those who want that information, while not putting off those who do not. Another strategy is to use interactive summary of findings tables, which enable users to modify what information is displayed.
7. Report absolute effects.	A relative effect may give readers the impression that a difference is more important than it actually is when the likelihood of the outcome is small to begin with.[62,63]	Absolute effects generally are less likely to be misleading than relative effects and are easier to understand and use when making a decision.	For some target audiences it may be desirable to report both absolute and relative effects. Absolute effects may be difficult to calculate or interpret for some outcomes. In those cases, it may be best not to report an absolute effect. Consideration should be given to providing help with interpreting such effect estimates, when needed.
8. Avoid misleading presentations and interpretations of effects.			
• Help your audience to avoid misinterpreting continuous outcome measures.	Important continuous outcome measures, such as pain or quality of life, are easily misinterpreted and it is often difficult to make sense of them.[29,64-66]	Interpretation of continuous outcome measures is challenging. Careful reporting and explanations may help your target audience to make sense of them and to avoid misinterpreting them.	Although guidance is available for reporting continuous outcome measures,[64] alternative presentations all have merits and limitations.
• Explicitly assess and report the credibility of subgroup effects.	Most differential effects suggested by subgroup results are likely to be due to the play of chance and are unlikely to reflect true differences.[67]	Using explicit criteria to make judgements about the credibility of subgroup effects can help to avoid misleading presentations.[68-71]	Assessments of the credibility of subgroup effects requires judgements. The underlying judgements and the basis for those judgements should be available.

Recommendation	Research evidence	How this can affect use of the information and decision-making	Caveats and risk mitigation
• Avoid confusing "statistically significant" with "important", or a "lack of evidence" with a "lack of effect".	Whether or not an effect is "statistically significant" is frequently confused with whether an effect is important.[72-77]	Considering the precision of effect estimates when making judgements about the certainty of the evidence,[78,79] and not reporting effects as "statistically significant" or "statistically non-significant" can reduce the chances of misleading your target audience.	Although confidence intervals are more informative than p-values, confidence intervals can also be misinterpreted.[80-83] There are pros and cons to reporting confidence intervals and little evidence to support a recommendation either to include them or exclude them, or how to present and explain them, if they are included. Deciding whether and how to report confidence intervals may depend on the target audience.
Help your target audience to put information about the effects of interventions in context, and to understand why the information is trustworthy.			
9. Provide relevant background information, help people weigh the advantages against the disadvantages of interventions, and provide a sufficient description of the interventions.	Absolute effects may vary widely across subgroups with different baseline risks.[84-87] How much people value different outcomes also can vary widely.[88-90] Interventions are frequently inadequately described in trial reports and in systematic reviews.[91,92] Other factors besides treatment effects and the certainty of the evidence can affect people's decisions.[93-99]	Differences in baseline risk, differences in values, and other factors, including costs, acceptability, and feasibility can affect decisions. It may not be possible or appropriate to provide all this information outside of the context of guidelines or recommendations. Nonetheless, decision-makers may find it helpful to have potentially important considerations flagged,[15] and doing so may reduce the risk of other important factors not receiving appropriate consideration. If a decision is made to use an intervention, decision-makers cannot implement it if it is not adequately described.	When additional information is provided, care should be taken to ensure that it is trustworthy.
10. Tell your audience how the information was prepared, what it is based on, the last search date, who prepared it and whether the people who prepared the information had conflicts of interest.	This information is often lacking or difficult to find.[100] Information from reputable sources often is not based on systematic reviews, not clear, incomplete, and misleading.[100-102] Information may become out-of-date if new research evidence has been reported since it was prepared.[103-110] Conflicts of interest are common, frequently are not disclosed, and can lead to biased reporting.[111-121]	The source of information about the effects of treatments does not alone provide a reliable basis for judging how reliable the information is. Empowering people to make well-informed decisions about interventions requires that they have access to trustworthy information and that they are able to assess the trustworthiness of information based on how it was prepared, when it was prepared, and the extent to which conflicts of interest may have distorted the information.	This information should be up-to-date, easy for the target audience to understand, and easy to find.

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