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Identifying comparisons in Cochrane Consumers and Communication Group reviews

The question(s) your review asks will determine the selection criteria (what will be included and excluded), as well as the comparisons to be made in the review.

In the protocol, you set out a plan for those comparisons you wish to make in the review. For instance, many reviews will be interested in the following comparisons:

- Intervention versus control (answering the question ‘does the intervention work better than control?’)
- Intervention versus usual care (answering ‘does the intervention work better than usual care?’)
- Intervention A versus intervention B (answering ‘does one type of intervention work better than another?’)

While it seems a simple step to go from describing the comparisons of interest in your protocol to identifying them in the included studies at the review stage, the reality can be far more complicated, particularly in reviews of complex interventions.

It is important to realise that although this step can be straightforward, it not always is, and it can often be quite challenging to identify:

- which comparisons are being made by the studies you have actually found and included (extracted data from) in the review, and
- how to sensibly group studies under the broad comparisons (ie which comparisons are similar enough to consider together for the purposes of analysis).

This step of creating a sensible structure for the review and its analyses, by making sense of the comparisons you have found in extracted data, is a largely hidden one but is critical.

Below are some general tips that might be helpful as you are thinking this through, and following this are some examples of the kinds of comparisons that appear in CCG reviews.

Some tips for thinking about comparisons in reviews of complex interventions:

- Keep in mind what questions your review is seeking to answer: are you trying to establish the effectiveness of the intervention compared to a control? Or trying to identify which intervention type is most effective for changing a given outcome? Or both?
- What comparisons are most important to health professionals and consumers?
- Looking at existing trials in the area your review is being undertaken can be useful for helping you to recognise the range and types of comparisons possible in the field, and how to recognise them in your included studies.
- Think about a theoretical framework or logic model underpinning the proposed effects of the intervention in your review. This might help to guide your choice of comparisons.
- Define the intervention carefully – and think about the key information you need to collect in your review to make sense of the complexity. This relates back to your review question. For example, are you interested in particular aspects of the delivery or format of the intervention?
- Define the control (comparison) groups, and especially ‘usual care’ carefully – again thinking about the key information you need to collect on the features of control groups, usual care, other interventions, in order to be able to sort out which comparisons can be made in the review.
 - The interventions may be complex, but so may the controls
 - eg is the ‘control’ group or ‘usual care’ always the same thing? is it sometimes no intervention; other times a package of care, just missing one specific intervention component of several?
 - Think carefully - how comparable are your control groups? Is it reasonable to treat them as equivalent, or are there substantial (and possibly important) differences?

Examples of comparisons in reviews of complex interventions:

One or more of the following comparisons may be possible to make in your review – depending on the question your review is trying to answer:

- Intervention versus no intervention
- Intervention versus control (this may or may not be the same as ‘no intervention’) – but an appropriate control depends on what you are trying to isolate and evaluate:
 - eg multimedia education versus other education – isolates the effects of multimedia delivery
 - eg multimedia education versus control multimedia – isolates the effects of education
- Intervention versus placebo
 - Note that placebos can be used to evaluate the effects of behavioural and/or complex interventions, as well as more straightforward interventions such as administration of a medicine.
 - eg educational DVD versus placebo DVD: to determine the effect of education, rather than to determine the effects of the DVD format
- Intervention versus usual care
 - Note that ‘usual care’ is often highly variable and care needs to be taken to:
 - define what is meant by usual care (and be aware it may vary across different health systems)
 - extract relevant information about what usual care involves from included studies, and
 - consider how similar ‘usual care’ is across the different studies using this as a comparator.
 - For instance, usual care might take the following forms in different included studies:
 - written information sheet
 - usual clinical care
 - a complex package of care missing one active intervention component.

Treating all three as comparable may not be valid, and needs to be carefully considered in the review.

eg If looking at two studies where the effects of a complex automated telephone follow-up package (intervention) were compared with:

- usual care: no contact, usual clinical care, or

- usual care: repeated nurse-delivered follow-up calls

Might have very different effects on outcomes. If such differences are not considered this may lead to invalid conclusions about the effects of interventions.

- Comparisons might differ, and be able to be stratified, according to features of the intervention, such as:
 - Simple intervention versus usual care
 - More complex intervention versus usual care
 - Very complex intervention versus usual care
- Intervention A versus intervention B:
 - This can take many forms, depending on the interventions being evaluated and the question(s) the review is posing.

For instance, the comparisons may be trying to determine the effects of varying certain features of the intervention (eg format, mode, complexity) or its delivery:

 - Complex intervention versus simple intervention
 - Multiple intervention sessions or doses versus one-off intervention delivery
 - Written information versus verbal information
 - Trained intervention provider versus untrained provider
- Delivery of complex interventions, which may be multifaceted, may also be complicated by delivery alongside co-interventions
 - Keep in mind that it is important to distinguish between a complex intervention and a less complex intervention delivered together with a co-intervention.
 - For instance, the following represent different comparisons:
 - complex self-management package (written information, counselling, goal setting and telephone support) versus usual care
 - self-management package (written information, counselling) plus goal setting and telephone support versus goal setting and telephone support