

## Equity considerations in EPOC reviews

Because EPOC reviews inform decisions about interventions that affect populations of people, equity is an important consideration. Systematic reviews can sometimes help to inform equity considerations by providing decision makers information about the effects of interventions on disadvantaged populations.

Interventions can reduce or increase inequities if they are specifically targeted at disadvantaged populations, if there is a difference in their absolute effectiveness in disadvantaged populations (due to a difference in baseline risk or compliance), or if there is a difference in their relative effectiveness in disadvantaged populations (related to how the intervention might work). Differences in baseline risk or compliance might be important to consider in the discussion of a review, but do not require any special consideration in the protocol, unless the analysis will use absolute measures of effect. Potential differences in relative effects, on the other hand, should be identified in the protocol to reduce the chances of misleading subgroup analyses.<sup>1,2</sup>

### Consideration of differences in relative effects

If there are good reasons why important differences in relative effects might be expected, the review protocol should describe the specific disadvantaged populations of interest and how this will be investigated. Consideration of differences in relative effects for disadvantaged populations should be addressed similarly to any other subgroup analysis (see [What are explanatory factors and why should they be included in protocols?](#)).

**When preparing a protocol**, review authors should consider relevant disadvantaged groups for which the intervention might have a different relative effect based on the intervention's mechanism of action. This might include groups that are disadvantaged due to their economic status, employment or occupation, education, place of residence, gender, or ethnicity. If there are good reasons why important differences in relative effects might be expected, review authors should

- Include plans for any subgroup analyses in their protocol, including
  - Specification of which subgroups will be investigated
  - The predicted direction of subgroup effect
  - The indirect evidence supporting the prediction (e.g. biological or sociological rationale; studies of other relevant populations, interventions or outcomes)
- Only investigate subgroups for which there is a plausible reason (indirect evidence) for anticipating a subgroup effect.
- Use appropriate tests of interaction to assess the probability that any observed differences might have occurred by chance, if possible
- Examine the consistency of subgroup effects across studies, if possible
- Examine the consistency of subgroup effects across related outcomes, if relevant

*Suggested citation: Cochrane Effective Practice and Organisation of Care (EPOC). [Resource title]. EPOC Resources for review authors, 2017. [epoc.cochrane.org/resources/epoc-resources-review-authors](http://epoc.cochrane.org/resources/epoc-resources-review-authors) (accessed DD Month YYYY)*

**When reporting the findings of a review**, review authors should clearly and comprehensively report all subgroup analyses, if any were undertaken. This should include the extent to which criteria for evaluating the credibility of each subgroup analysis were met.<sup>2</sup> Review authors should

- Use language that is consistent with the extent to which such criteria were met (and the extent to which we can be confident in the estimated subgroup effect) when reporting potentially important subgroup effects; \* e.g.<sup>3</sup>
  - If important criteria are not met (e.g. a high probability that the apparent subgroup effect might have occurred by chance or inconsistent subgroup effects across studies for which there is not a compelling explanation) report the difference in effects as hypotheses warranting further investigation and do not include them in the abstract or conclusions (“The difference in effect is uncertain.”)
  - If it is unlikely that differences in effects could have occurred by chance, but the estimated subgroup effect warrants low confidence due to other criteria not being met, report the subgroup effect as hypotheses and do not include them in the abstract or conclusions (“There may be a difference in effect.”)
  - If most of the criteria are met and it is likely that there is an important subgroup effect, report it as probable (“There probably is a difference in effect.”)
  - If all or nearly all of the criteria are met and a high degree of confidence is warranted, report it without qualification (“There is a difference in effect.”)
- In the absence of compelling evidence of a subgroup effect, assume that the best estimate of effect for any subgroup is the overall effect and they should report their findings accordingly<sup>4</sup>
- If a population for which there is a plausible reason for anticipating a different effect was not included in any of the included studies, consider the evidence summarised in the review as indirect evidence for the relevant population and assess the extent to which the certainty of evidence should be considered lower for that population<sup>5</sup>

#### **Consideration of the applicability of the results of the review to disadvantaged populations**

Consideration of the applicability of the findings of a review to disadvantaged populations or settings is similar to applicability considerations for any other population.<sup>6-10</sup>

**In the Discussion section of a review**, the authors should consider the applicability of their findings to any disadvantaged populations for which a subgroup analysis was planned, but was not possible.

If the types of interventions that are included are highly relevant to disadvantaged settings and there is a lack of evidence from such settings, review authors should consider whether resource or capacity constraints, health system arrangements or baseline conditions might limit the applicability of the results to those settings.<sup>10</sup> If there are good reasons why these considerations might limit the

---

\* Potentially important subgroup effects are differences in the relative effect that are large enough that people might make different decisions based on the subgroup effect than they would based on the overall effect.

*Suggested citation: Cochrane Effective Practice and Organisation of Care (EPOC). [Resource title]. EPOC Resources for review authors, 2017. [epoc.cochrane.org/resources/epoc-resources-review-authors](http://epoc.cochrane.org/resources/epoc-resources-review-authors) (accessed DD Month YYYY)*

applicability of the findings to disadvantaged settings, these should be addressed in the Discussion section.

Other potentially relevant considerations that might be included in the Discussion section are differences in compliance and differences in baseline risks that could result in important differences in absolute effects, even if the relative effects are the same. When there is evidence of important differences in compliance or baseline risk, this should be noted. If not, the reasons for anticipating important differences should be clearly stated.

Considerations of applicability in the Discussion section should focus on potentially important differences. Those are differences or potential differences in the absolute effects or differences in how confident one is in the estimates of effect that are large enough that people might make a different decision based on the absolute effect for a disadvantaged population or setting than they would based on the overall results of the review. When such differences exist, it can be helpful to prepare a Summary of Findings table for any relevant disadvantaged population or setting for which a decision might be different than if it was based on the Summary of Findings for the overall results.

## References

1. Deeks JJ, Higgins JPT, Altman DG, on behalf of the Cochrane Statistical Methods Group. 9.6 Analysing data and undertaking meta-analyses: Investigating heterogeneity. In: Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011. Available from [www.cochrane-handbook.org](http://www.cochrane-handbook.org)
2. Sun X, Briel M, Walter SD, Guyatt GH. Is a subgroup effect believable? Updating criteria to evaluate the credibility of subgroup analyses. *BMJ* 2009; 340:850-4.
3. Glenton C, Santesso N, Rosenbaum S, Strømme Nilsen E, Rader T, Ciapponi A, Dilkes H. Presenting the results of Cochrane systematic reviews to a consumer audience: a qualitative study. *Med Decis Making* 2010; 30:566-77.
4. Efron B, Morris C. Stein's paradox in statistics. *Sci Am* 1977; 236:119-27.
5. Guyatt GH, Oxman AD, Kunz R, Woodcock J, Brozek J, Helfand M, et al. GRADE guidelines 8. Rating the quality of evidence - indirectness. *J Clin Epidemiol* 2011; doi: 10.1016/j.jclinepi.2011.04.014
6. Schünemann HJ, Oxman AD, Vist GE, Higgins JPT, Deeks JJ, Glasziou P, Guyatt GH, on behalf of the Cochrane Applicability and Recommendations Methods Group. 12.3 Interpreting results and drawing conclusions: Issues in applicability. In: Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011. Available from [www.cochrane-handbook.org](http://www.cochrane-handbook.org)
7. Guyatt GH, Oxman AD, Kunz R, Woodcock J, Brozek J, Helfand M, et al. GRADE guidelines 8. Rating the quality of evidence - indirectness. *J Clin Epidemiol* 2011; doi: 10.1016/j.jclinepi.2011.04.014
8. Dans AL, Dans LF, Guyatt GH. Applying results to individual patients. In: Users' Guides to the Medical Literature Second Edition. New York: McGraw Hill Medical 2008, 273-89.
9. Dans AM, Dans LF, Oxman AD, Robinson V, Acuin J, Tugwell P, Dennis R, Kang D. Addressing inequities in clinical practice guidelines. *Clin Epidemiol* 2007; 60:540-6.
10. Lavis JN, Oxman AD, Souza NM, Lewin S, Gruen RL, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP). 9. Assessing the applicability of the findings of a systematic review. *Health Res Policy Syst*. 2009, 7(Suppl 1):S9.

*Suggested citation: Cochrane Effective Practice and Organisation of Care (EPOC). [Resource title]. EPOC Resources for review authors, 2017. [epoc.cochrane.org/resources/epoc-resources-review-authors](http://epoc.cochrane.org/resources/epoc-resources-review-authors) (accessed DD Month YYYY)*