Assessing the Certainty of Evidence

Systematic Review Training

Center for Knowledge Management

VANDERBILT **V** UNIVERSITY

MEDICAL CENTER

Objectives:

✓ *Discuss ways to assess the certainty of evidence*

Terminology

- Risk of bias- assessment of bias in individual studies
- Quality of evidence- "assessment of a body of evidence"

Institute of Medicine (US) Committee on Standards for Systematic Reviews of Comparative Effectiveness Research. Finding What Works in Health Care: Standards for Systematic Reviews. Eden J, Levit L, Berg A, Morton S, editors. Washington (DC): National Academies Press (US); 2011. PMID: 24983062.

Recommended standards for evaluating the body of evidence

Standard 4.1 Use a prespecified method to evaluate the body of evidence

Required elements:

4.1.1 For each outcome, systematically assess the following characteristics of the body of evidence:

- Risk of bias
- Consistency
- Precision
- Directness
- Reporting bias

4.1.2 For bodies of evidence that include observational research, also systematically assess the following characteristics for each outcome:

- Dose–response association
- Plausible confounding that would change the observed effect
- Strength of association

4.1.3 For each outcome specified in the protocol, use consistent language to characterize the level of confidence in the estimates of the effect of an intervention

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Strength of the Evidence: GRADE

- **G**rading of **R**ecommendations **A**ssessment, **D**evelopment and **E**valuation - working group established in 2000.

- Seeks to provide a systematic and transparent approach to evidence summaries

- Two key areas of focus
  - Rating the quality of evidence
  - Rating the strength of the recommendation

"I figure there's a 40% chance of showers, and a 10% chance we know what we're talking about."

Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, Schünemann HJ; GRADE Working Group.. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. BMJ. 2008 Apr 26;336(7650):924-6. doi: 10.1136/bmj.39489.470347.AD. PubMed PMID: 18436948;

GRADE: Quality of Evidence Ratings

Quality of evidence	Symbol	Letter
High	⊕⊕⊕⊕	A
Moderate	⊕⊕⊕○	B
Low	⊕⊕○○	C
Very low	⊕○○○	D

Schünemann H, Brożek J, Guyatt G, Oxman A, editors. GRADE handbook for grading quality of evidence and strength of recommendations. [Internet]. Updated October 2013. The GRADE Working Group, 2013. [cited 2023 Sep 8]. Available from https://gdt.gradepro.org/app/handbook/handbook.html#h.52ccy41iwbon.
Guyatt GH, Oxman AD, Kunz R, Vist GE, Falck-Ytter Y, Schünemann HJ; GRADE Working Group. What is "quality of evidence" and why is it important to clinicians? BMJ. 2008 May 3;336(7651):995-8. doi: 10.1136/bmj.39490.551019.BE. PMID: 18456631; PMCID: PMC2364804.

GRADE: Quality of Evidence Ratings

Randomized controlled trials start with "High"; observational studies start with "Low"

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Reduce quality:
- Study limitations
- Inconsistency of results
- Indirectness of evidence
- Imprecision
- Publication bias

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Reduce quality:
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Increase quality:
- Large magnitude of effect
- Plausible confounding
- Dose-response gradient

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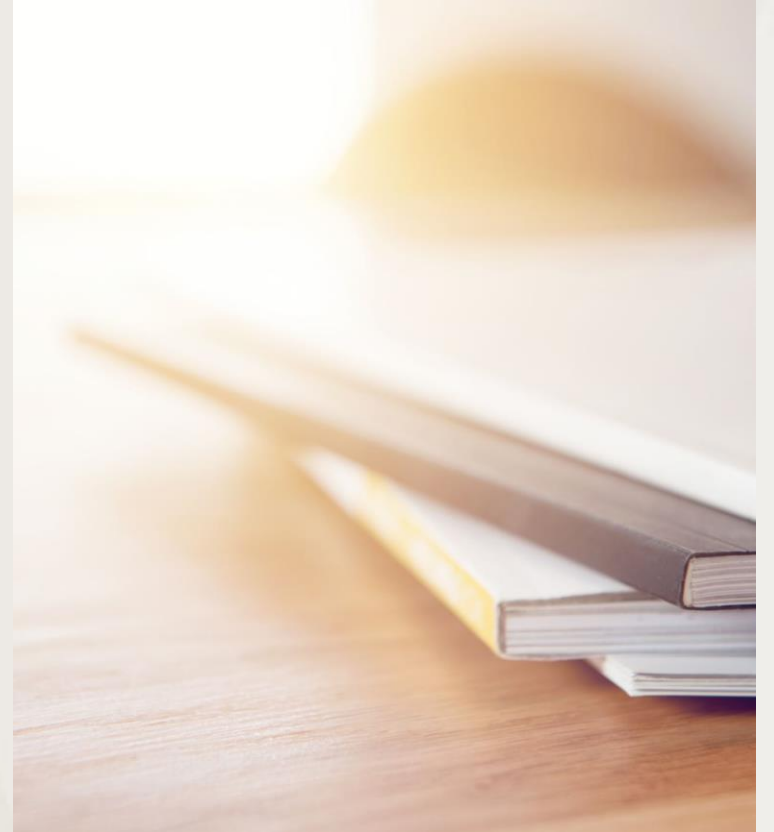
Who Uses GRADE?

More than 100 organizations from 19 countries

Recap

- Discuss ways to assess the certainty of evidence

Presented by

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