folkehelseinstituttet

GRADE

The Grading of Recommendations Assessment, Development and Evaluation (short GRADE)

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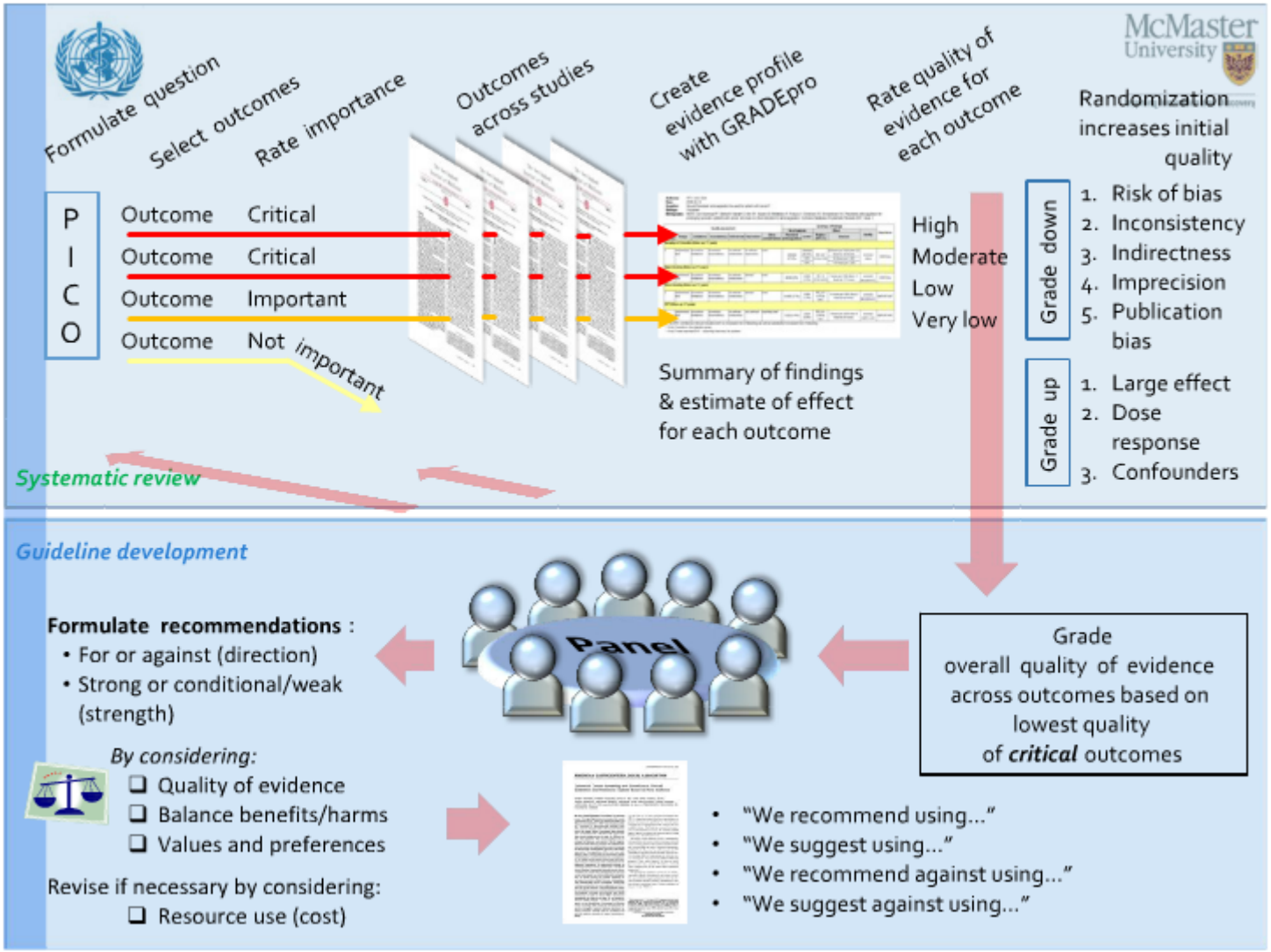
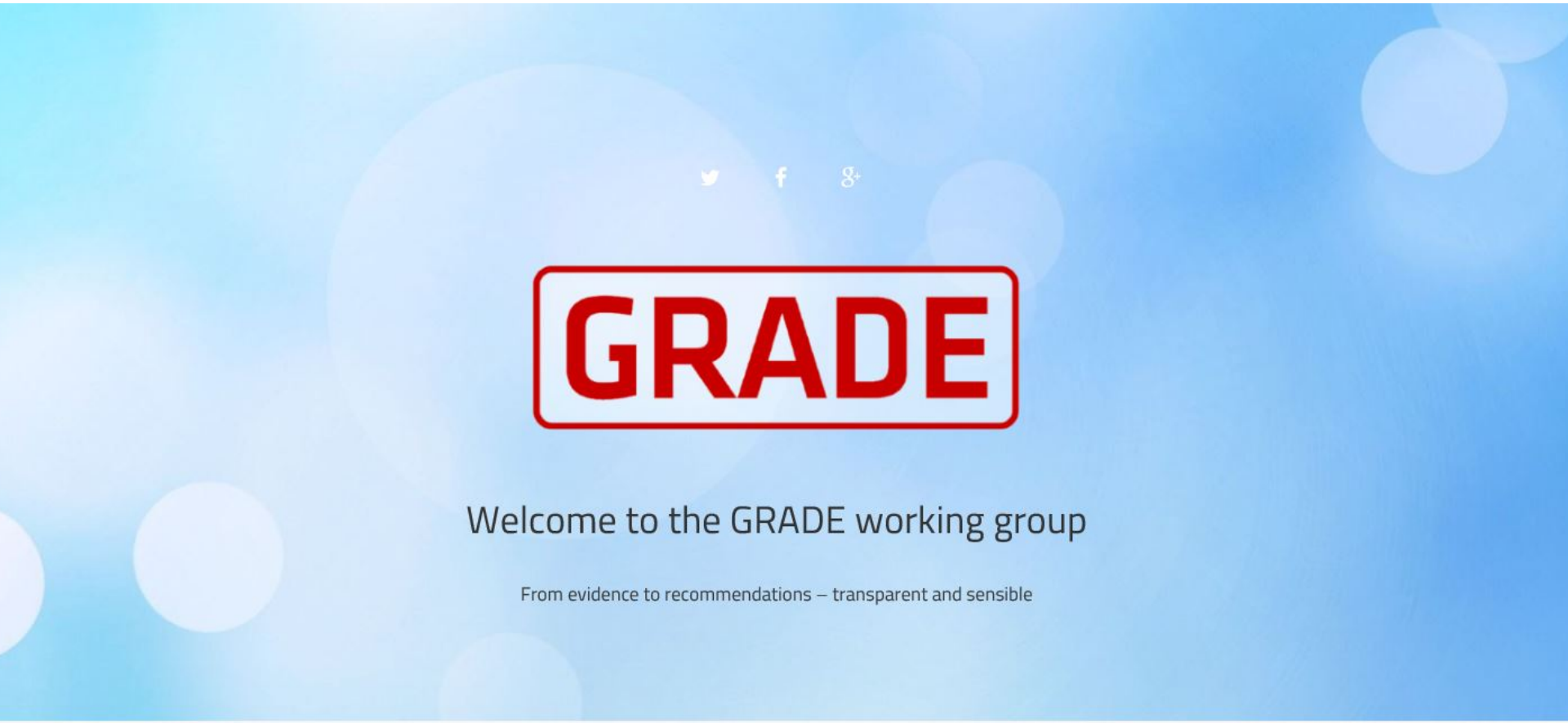
Guideline development



http://www.gradeworkinggroup.org/



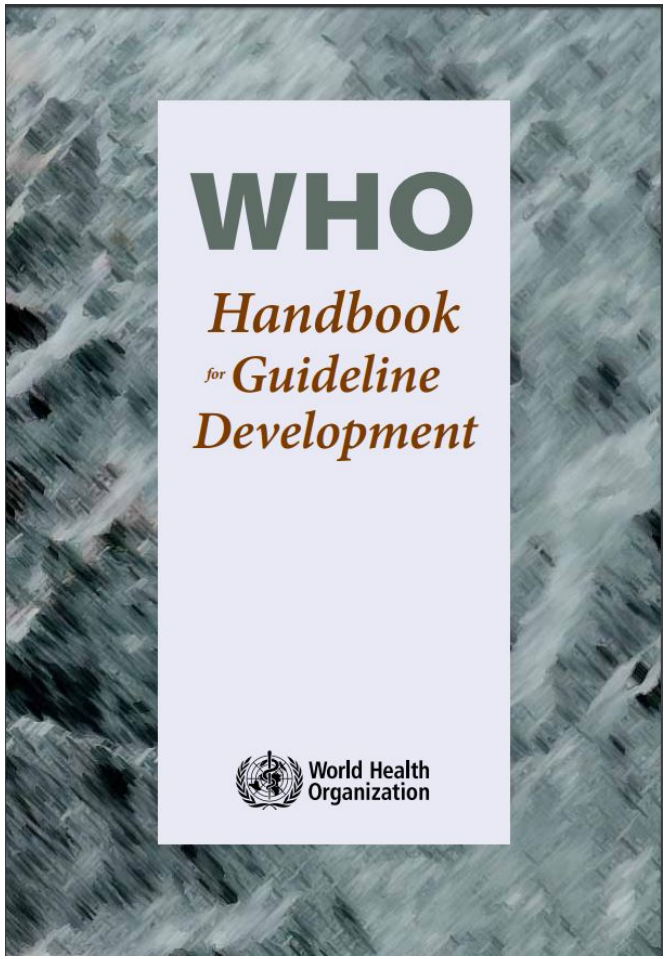
Many online learning resources available on web-site

What is GRADE?

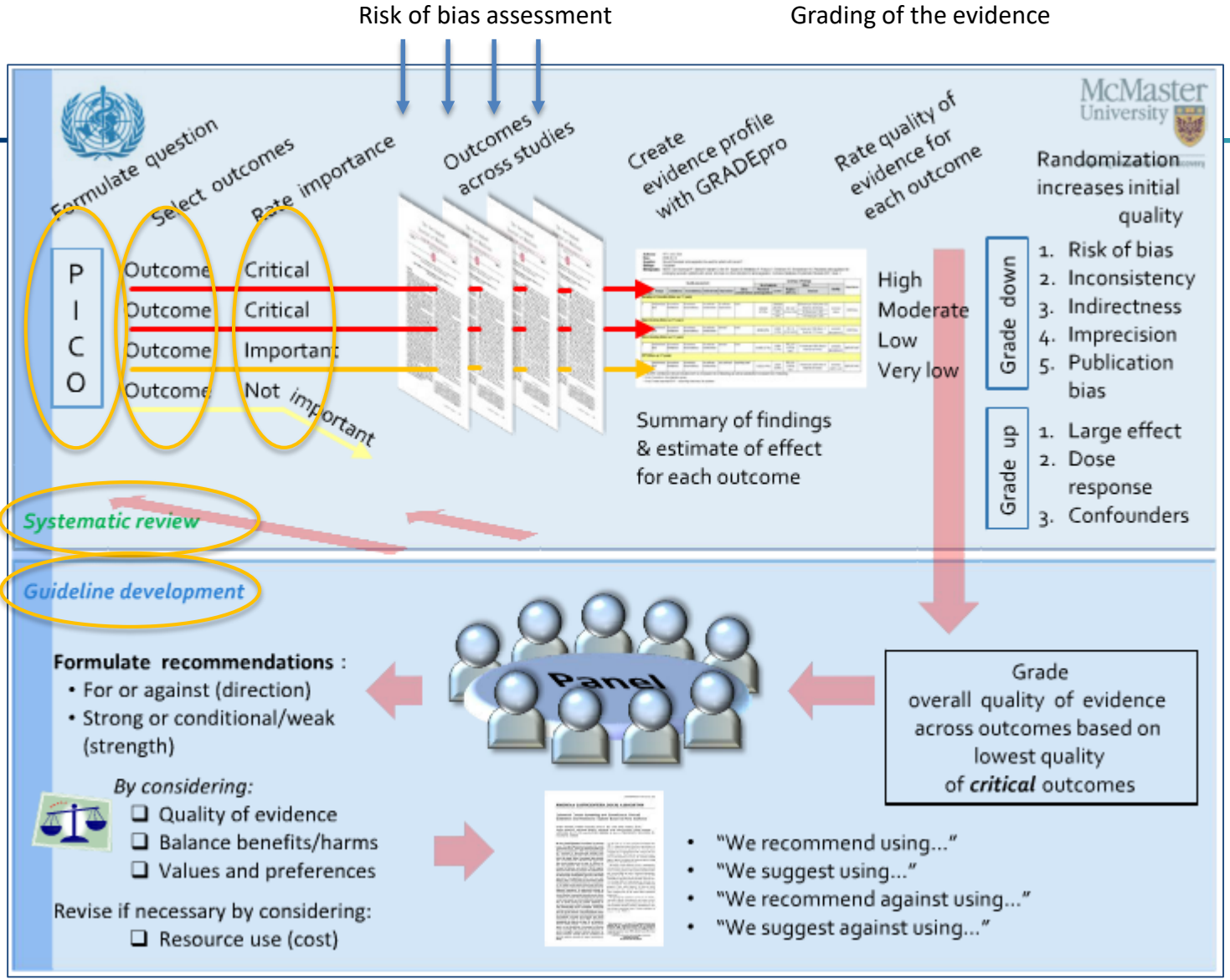
The GRADE working group

The Grading of Recommendations Assessment, Development and Evaluation (short GRADE) working group began in the year 2000 as an informal collaboration of people with an interest in addressing the shortcomings of grading systems in health care. The working group has developed a common, sensible and transparent approach to grading quality (or certainty) of evidence and strength of recommendations. Many international organizations have provided input into the development of the GRADE approach which is now considered the standard in guideline development.

Increasing use of the GRADE approach



Population
Intervention
Comparison
Outcome



Risk of bias assessment

Review authors' judgement:

- **Was the allocation sequence adequately generated?**
- **Was allocation adequately concealed?**
- **Was knowledge of the allocated intervention adequately prevented during the study?**
  - Participants
  - Trial personnel
- **Were incomplete outcome data adequately addressed?**
- **Are reports of the study free of suggestion of selective outcome reporting?**
- **Was the study apparently free of other problems that could put it at a high risk of bias?**

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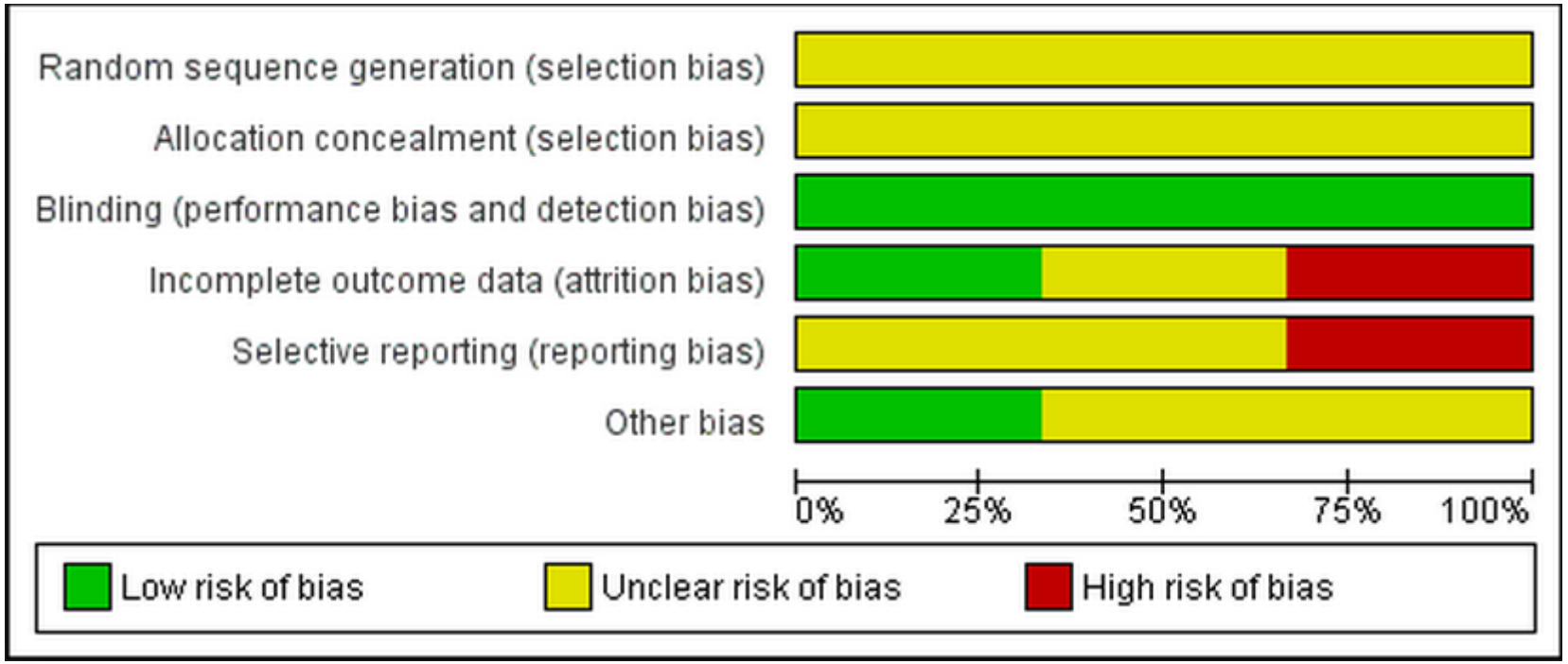
Domains from the Cochrane Handbook: http://handbook.cochrane.org/

Risk of bias summary for a body of evidence



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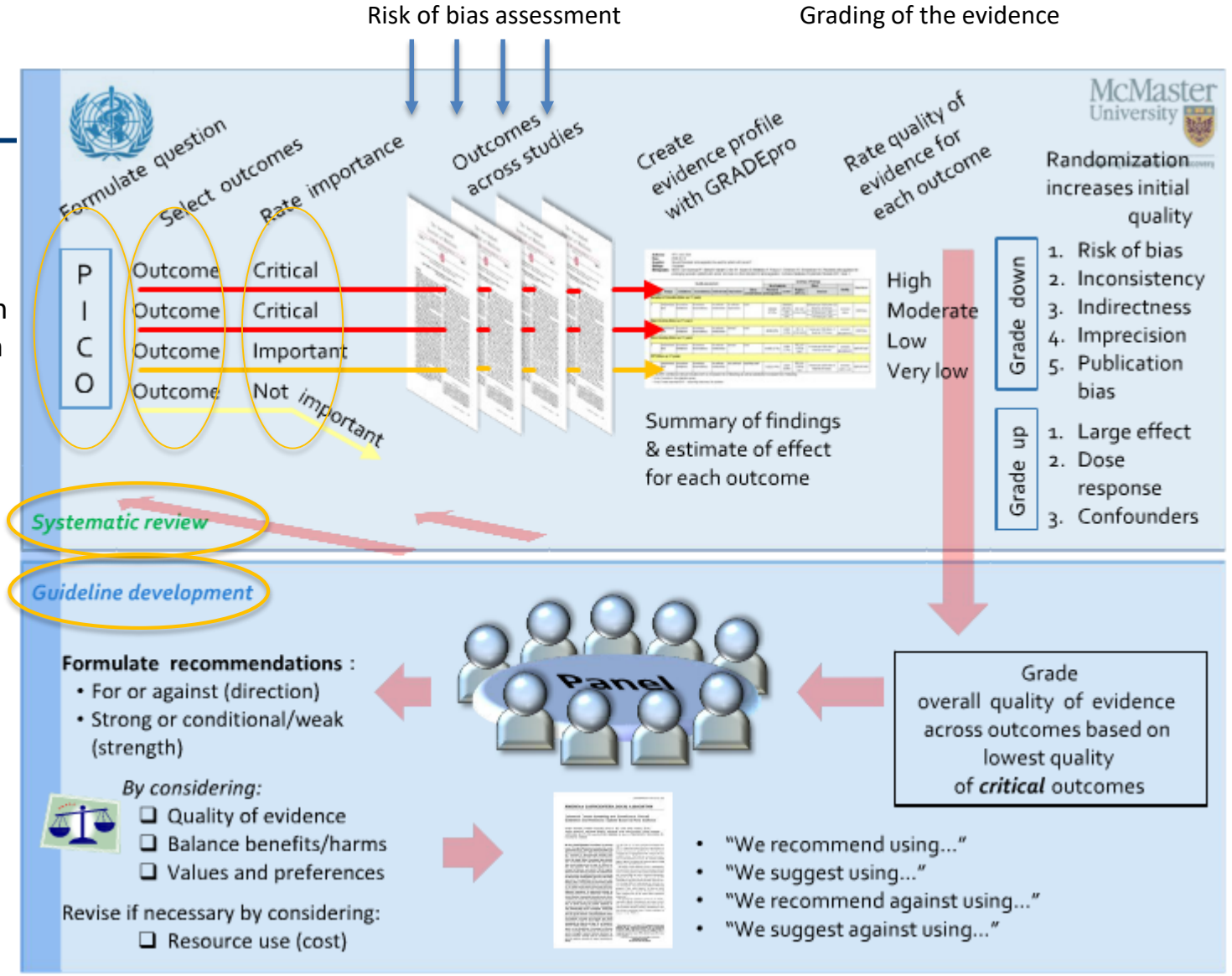


Grading of Recommendations Assessment, Development and Evaluation

http://www.gradeworkinggroup.org/

Table: GRADE's approach to rating quality of evidence (aka confidence in effect estimates)

For each outcome based on a systematic review and across outcomes (lowest quality across the outcomes critical for decision making)

1. Establish initial level of confidence		2. Consider lowering or raising level of confidence		3. Final level of confidence rating
Study design	*Initial confidence in an estimate of effect*	*Reasons for considering lowering or raising confidence*		*Confidence in an estimate of effect across those considerations*
		↓ Lower if	↑ Higher if*	
Randomized trials →	High confidence	Risk of Bias Inconsistency Indirectness Imprecision Publication bias	Large effect Dose response All plausible confounding & bias • would reduce a demonstrated effect or • would suggest a spurious effect if no effect was observed	High ⊕⊕⊕⊕
				Moderate ⊕⊕⊕◯
Observational studies →	Low confidence			Low ⊕⊕◯◯
				Very low ⊕◯◯◯

*upgrading criteria are usually applicable to observational studies only.

GRADE categories for the quality of a body of evidence

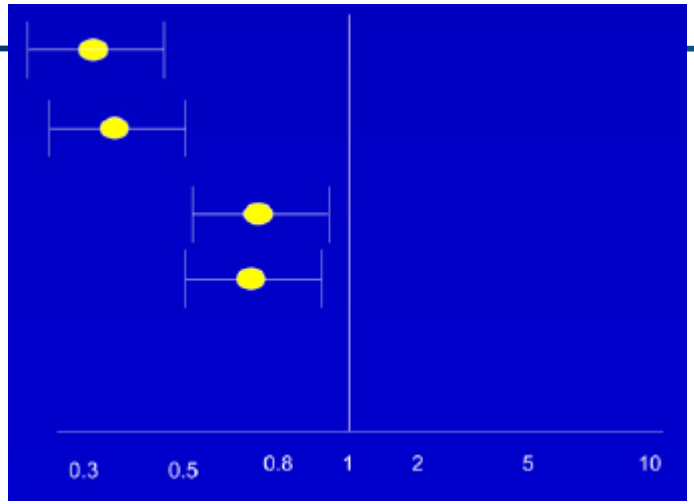
Quality level	Symbol	Definition
High	⊕⊕⊕⊕	We are very confident that the true effect lies close to that of the estimate of the effect.
Moderate	⊕⊕⊕◯	We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low	⊕⊕◯◯	Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.
Very low	⊕◯◯◯	We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

Determinants of quality

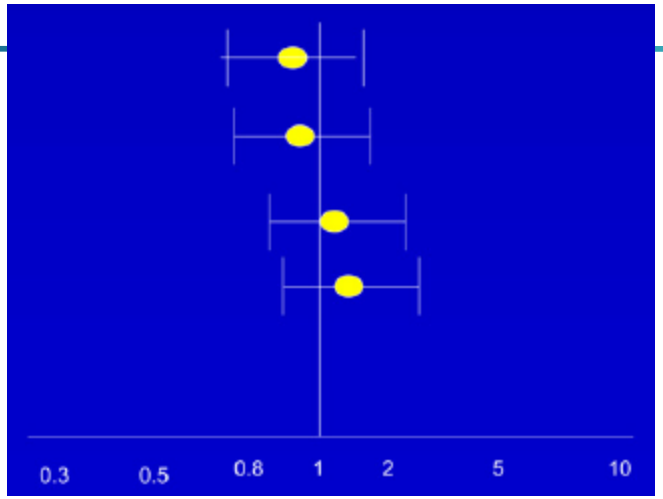
5 factors that can lower quality

1. limitations of detailed design and execution *(risk of bias criteria)*
2. Inconsistency *(or heterogeneity)*
3. Indirectness *(PICO and applicability)*
4. Imprecision *(number of events and confidence intervals)*
5. Publication bias

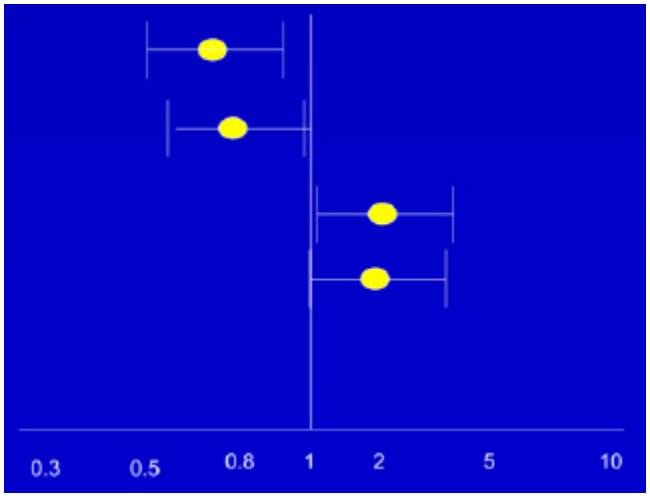
Heterogeneity



No overlap,
same direction of effect



Overlap,
different directions of effect



No overlap,
different directions of effect

Imprecision

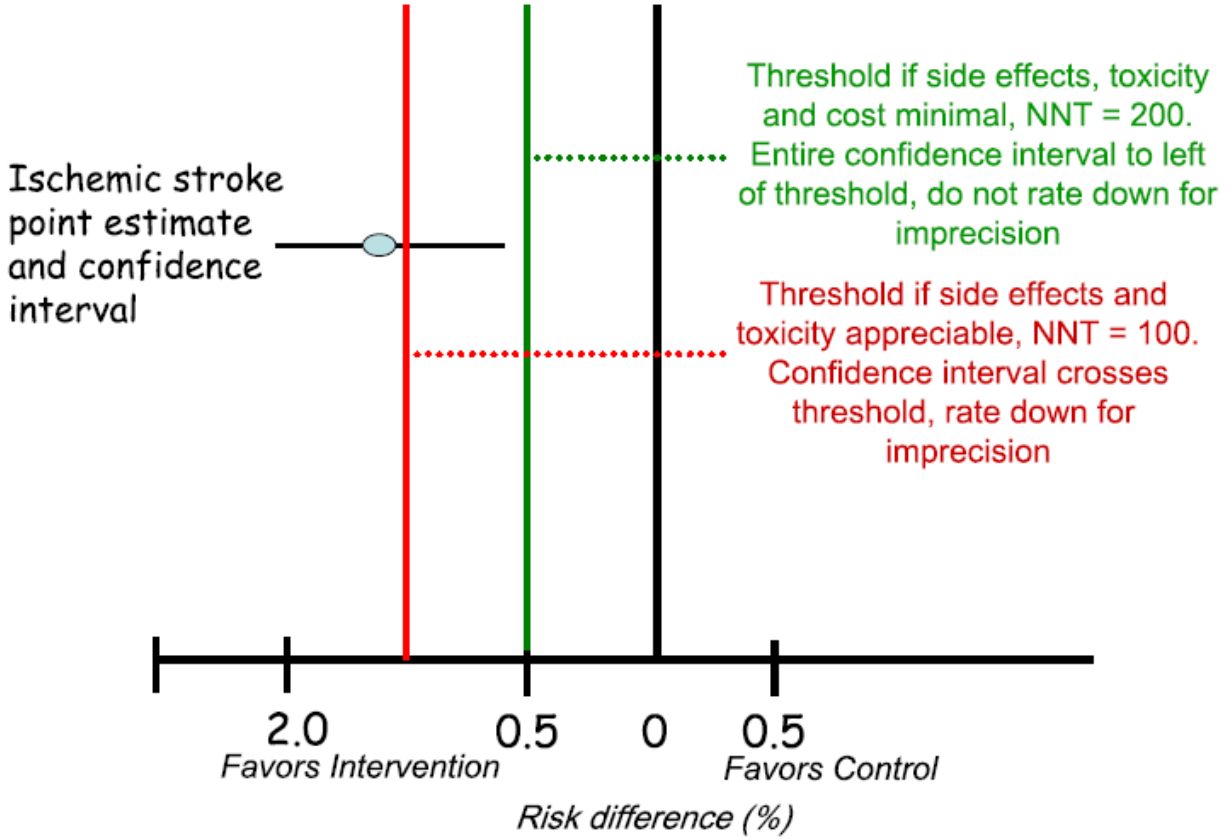
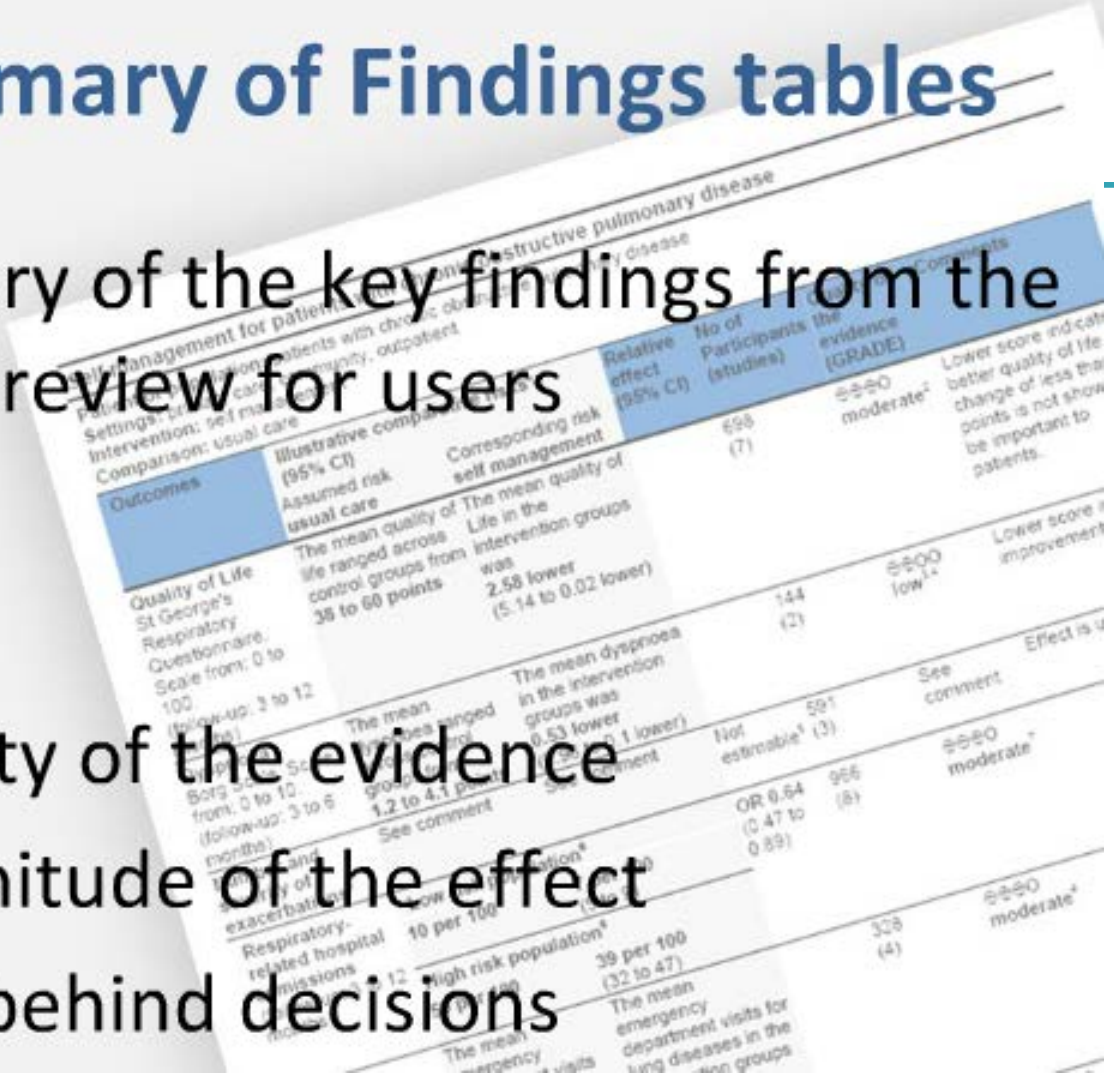


Fig. 1. Rating down for imprecision in guidelines: thresholds are key.

NNT: Number-Needed-to-Treat

The Summary of Findings tables

- Is a summary of the key findings from the systematic review for users
- Presents
  - the quality of the evidence
  - the magnitude of the effect
  - reasons behind decisions



Exercise for osteoarthritis of the knee (Review)

Fransen M, McConnell S, Harmer AR, Van der Esch M, Simic M, Bennell KL.

THE COCHRANE COLLABORATION®

SUMMARY OF FINDINGS FOR THE MAIN COMPARISON *[Explanation]*

Immediate post-treatment effects of exercise for osteoarthritis of the knee

Patient or population: patients with knee OA
Settings: clinic or community
Intervention: land-based exercise
Comparison: no exercise

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	Number of participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
	No exercise	Land-based exercise				
Pain Self-report questionnaires. Scale from 0-100 (0 represents no pain)	Mean pain in the control groups was **44 points**	Mean pain in intervention groups was **0.49 standard deviations lower** (0.39-0.59 lower) This translates to an absolute mean reduction of 12 (10-15) points compared with control group on a 0-100 scale[a]		3537 (44 studies)	⊕⊕⊕⊕ **High**	SMD -0.49 (-0.39 to -0.59) Absolute reduction in pain 12% (10%-15%); relative change 27% (21%-32%) [a] NNTB 4 (3-5)[b]
Physical function Self-report questionnaire. Scale from 0-100 (0 represents no physical disability)	Mean physical function in control groups was **38 points**	Mean physical function in intervention groups was **0.52 standard deviations lower** (0.39-0.64 lower) This translates to an absolute mean improvement of 10 (8-13) points on a 0-100 scale[c]		3913 (44 studies)	⊕⊕⊕◯ **Moderate**[d]	SMD -0.52 (-0.39 to -0.64) Absolute improvement 10% (8%-13%); relative improvement 26% (20%-32%)[c] NNTB 4 (3-5)[b]

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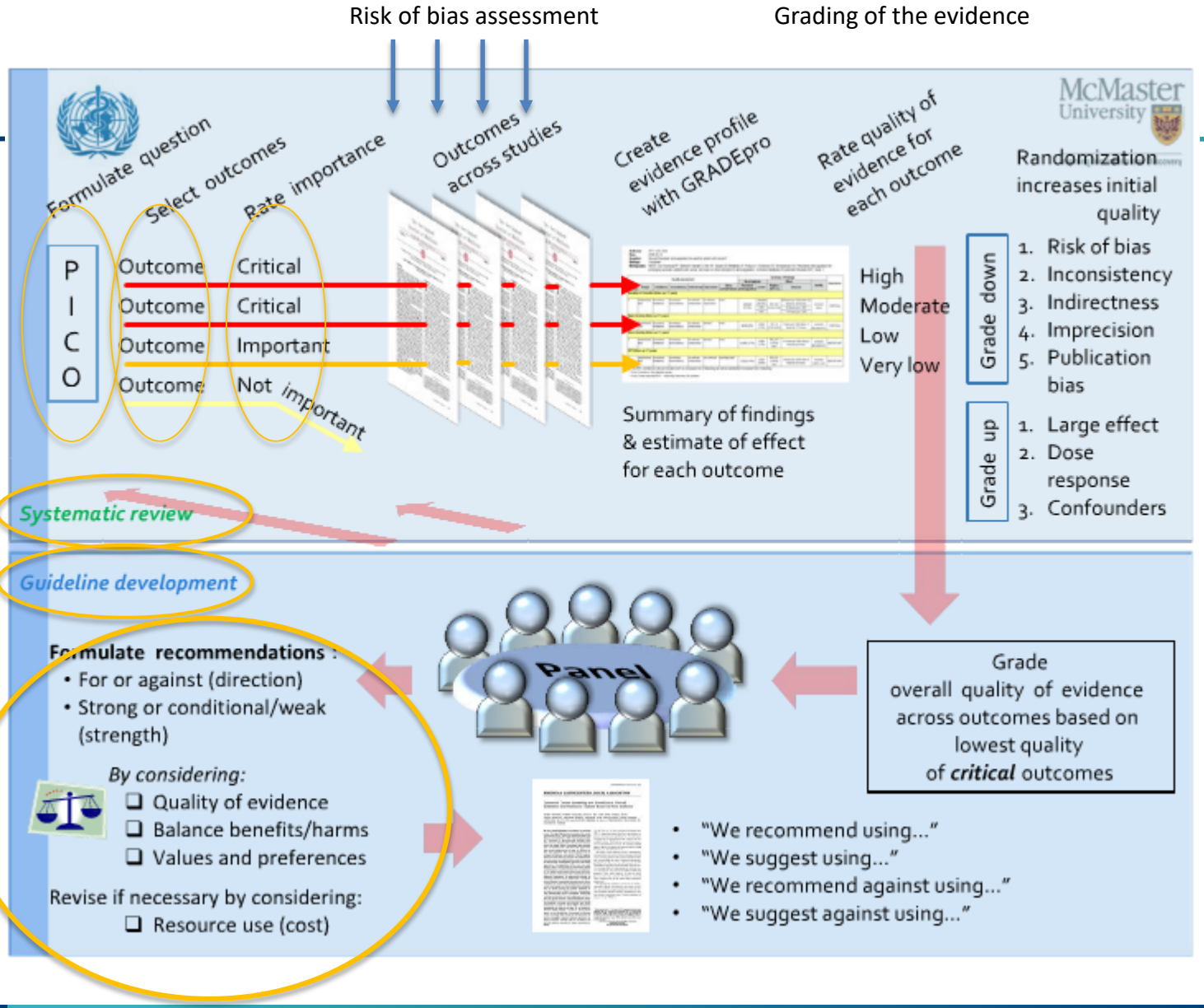

Learning material - examples

- Cochrane interactive learning http://training.cochrane.org/interactivelearning
- GRADE https://cebgrade.mcmaster.ca/
- Equatornetwork http://www.equator-network.org/
- Testing treatments http://www.testingtreatments.org/

Protokoll presentasjon

- 5 minutes on research question and background
- 5 minutes on challenges
- 3 minutes for one positive feedback and one suggestion for improvement from each of the reviewers
- Comments from the class

Presenters and reviewers

Presenter	«Oponents»
Unni	Job, Ann
Adis	Torunn F, Seman
Christine	Lillian, Gugsa
Torunn T	Elbariki, Josephine
Seid	Anne, Ekaterina