ROB-MEN: 
Risk Of Bias due to Missing Evidence in Network meta-analysis

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A day with...SMG

11\textsuperscript{th} May 2021

Project funded by the Swiss National Science Foundation (grant agreement No. 179158)
Rationale

• Methods to assess publication bias and selective outcome reporting bias in pairwise meta-analysis

• Network meta-analysis (NMA) relative treatment effects estimated from direct + indirect evidence

• No rigorous framework to assess reporting bias in NMA
ROB-MEN

Evaluate the risk of known unknowns bias
Evaluate selective outcome reporting within a study
Use signalling questions

Evaluate the risk of unknown unknowns bias
Use qualitative and quantitative methods for publication bias

Classify all pairwise comparisons as undetected bias or suspected bias

Decide whether there are small-study effects in NMA

Decide whether the contribution from pairwise comparisons can bias the NMA estimate (accounting for presence and direction of bias)

Decide whether pairwise comparisons without data for the outcome of interest lead to suspected bias

Algorithm to synthesize (Box 2)

Classify all NMA estimates as low risk or some concerns or high risk of bias
Network of six non-invasive diagnostic modalities for detection of coronary artery disease in low risk acute coronary syndrome (ACS) patients (*Siontis et al, 2018*)

- Single photon emission computed tomography-myocardial perfusion imaging (SPECT-MPI)
- Exercise electrocardiogram (ECG)
- Cardiovascular magnetic resonance (CMR)
- Coronary computed tomographic angiography (CCTA)
- Stress echocardiography (Stress echo)
- Standard care

**Outcome:** referral to invasive coronary angiography (ICA)
Summary

• ROB-MEN first tool to evaluate bias due to missing evidence in NMA

• Part of CINeMA framework
  (https://cinema.ispm.unibe.ch/)

• Shiny app https://cinema.ispm.unibe.ch/rob-men/

• Elaboration and examples available as preprint
  www.medrxiv.org/content/10.1101/2021.05.02.21256160v1