

UNLOCKING HEALTHCARE INSIGHTS

# Bias in Evidence Synthesis



**Cochrane**

Multiple Sclerosis and Rare Diseases  
of the Central Nervous System



# WHAT IS BIAS IN RESEARCH



Bias refers to **systematic errors** or deviations in study design, conduct, or analysis that can **distort** the results and conclusions of research studies.

This means that can mean that some **flaws** or **problems** in the way the studies are conducted can lead to **larger** or **smaller** effect than what the **true** one.



# WHAT IS RISK OF BIAS



Risk of bias assesses the **likelihood** that systematic errors have influenced study results, affecting the **validity** and **reliability** of findings.



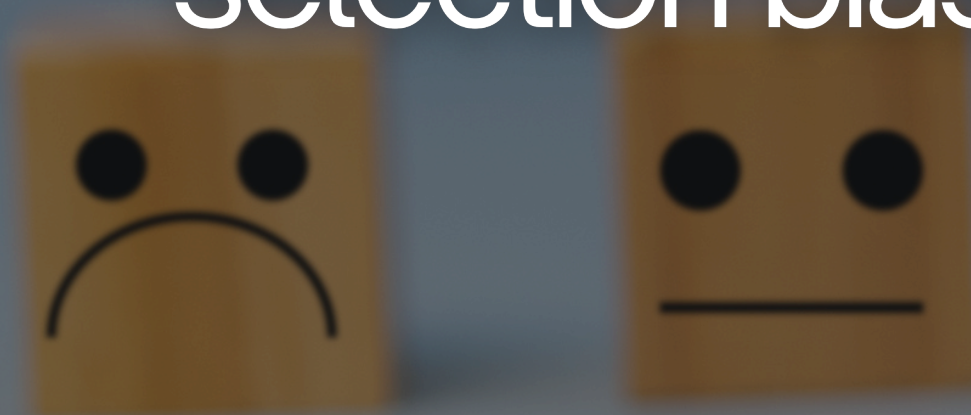
Bias should be considered in **two key areas** within a systematic review or meta-analysis.





If the results of individual studies are biased, it can lead to **misleading** conclusions in the meta-analysis.

Bias should be also accounted for in the **meta-analysis** itself, where the synthesis of findings from included studies may be **influenced** by reporting bias or selection bias.







- **Selection Bias:** Differences in the selection of studies, leading to a skewed representation.
- **Publication Bias:** Selective publication of studies based on the direction or significance of their results, resulting in an incomplete representation.
- **Reporting Bias:** Selective reporting of outcomes within included studies, leading to an incomplete or distorted understanding of the intervention's effects.

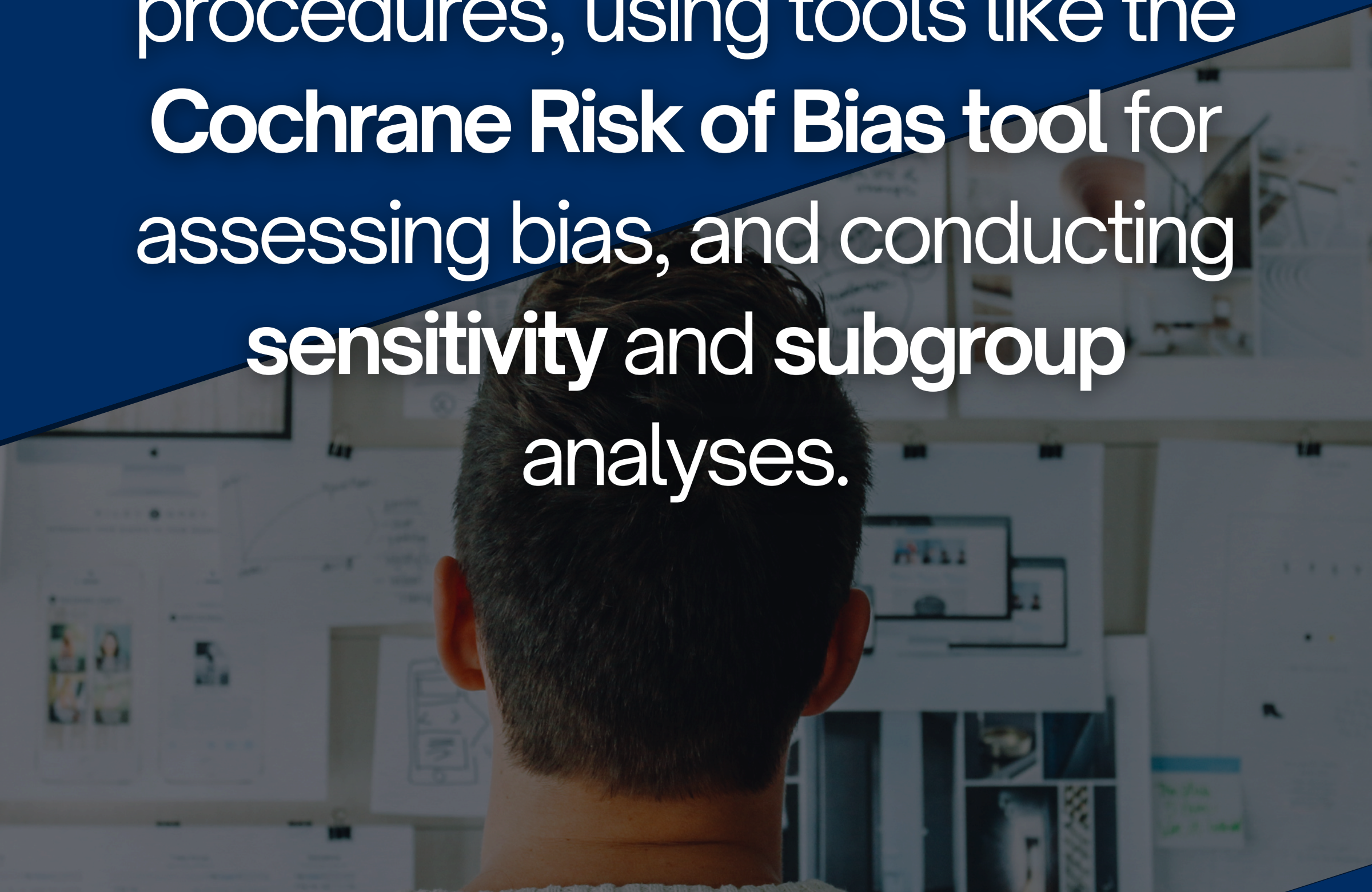




## MINIMIZING BIAS



Strategies include comprehensive search strategies to **identify** all relevant studies, clear **inclusion** criteria, standardized data extraction procedures, using tools like the **Cochrane Risk of Bias** tool for assessing bias, and conducting **sensitivity** and **subgroup** analyses.





# TRANSPARENCY



By implementing rigorous methodological practices and promoting **transparency** and accountability, we can enhance the **validity** and trustworthiness of research findings.





GET INVOLVED

# Want to know more?

- Check out the Cochrane Handbook
- Explore Cochrane Training as a member
- Follows us for being updated about EBM practice in the field of MS!



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