


Evidence In Practice
Webinar Series Lecture #6

No One's Perfect
How Flawed is Fatally Flawed?

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The University of Alberta respects the sovereignty, lands, histories, languages, knowledge systems, and cultures of First Nations, Métis and Inuit

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How Flawed is Fatally Flawed?

Beyond Major Issues
 ...
 We may never know!

Or

It depends!



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Fatal Flaws!

Surely.

- **fabrication** is making up results and recording or reporting them;
- **falsification** is manipulating research materials, equipment, or processes or changing or omitting data or results such that the research is not accurately represented in the research record

Possibly?

- **plagiarism** is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit

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Fatal Flaws!

Possibly.

- Unethical!
- Conflict of interest
- irrelevant for you
- **REALLY Suboptimal research methodology** (or unclear methodology)
 - Overestimate effects?
 - Underestimate effects?
 - Adequate effects estimates?
 - Unclear effect estimates?



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Newly trained critical appraisers are very critical!



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FATAL? It depends on the quality appraisal

Cochrane

- The overall risk of bias for the result is the **least favourable assessment across the domains of bias**.
- Both the proposed domain-level and overall risk-of-bias judgements can be overridden by the review authors, with justification.



Most papers!!!!



<https://training.cochrane.org/handbook/current/chapter-08>

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Quality of reporting
is not the same as
Quality of the study methods.



But both may limit your confidence in the reported results.

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Appraise

Relevance to your question

Ask if the the study is
about the right

- Patients?
- Interventions?
- Therapists?
- Clinical setting?
- Outcomes?

Research quality

Evaluate the risk of bias

1. Randomization
2. Deviations from the intended interventions (assignment / adhering)
3. Missing outcome data
4. Measurement of the outcome
5. Selection of the reported results

You need relevance and quality but it is **not** all or nothing.

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SUMMARY

Beyond the major fatal flaws which luckily are fairly rarely published

(**fabrication, falsification, conflict of interest, plagiarism?**)

Fatal flaws depend on your appraisal and your needs for specific **biased** or **irrelevant** results

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