

Do We Still Need **Randomized Controlled Trials**?

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Do We Still Need **Randomized Controlled Trials**?

Of course we do!

It's one thing to say that real-world data (RWD) studies are needed to supplement RCTs

It's quite another thing – in fact absurd – to suggest that RWD eliminates the need for RCTs

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Otherwise, we are back to **snake oil** promotions!



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Why We Still Need Randomized Controlled Trials

Methodological Considerations:

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Why We Still Need Randomized Controlled Trials

Methodological Considerations: Evidence Hierarchy

- Systematic Review and Meta Analysis (generally of RCTs)
- RCTs
- Everything else:
 - Cohort studies
 - Case control studies
- Even less evidence-based everything else:
 - Case series
 - Case reports
 - Expert opinion

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Why We Still Need Randomized Controlled Trials

Additional Methodological Considerations

- The best way to establish causal inference
- Allows for intent-to-treat (ITT) analysis
 - Those that don't use the drug are observed, as are discontinuers
 - Allows for comparison of ITT and per protocol
 - Only way to see the difference between ideal and actual effect of drug
- Are heavily scrutinized for ethical considerations

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Why We Still Need Randomized Controlled Trials

Transparency Arguments

- Transparency regarding what was proposed for analytic approach
 - More likely to present pre-specified hypotheses
 - Less prone to revised analysis to get to $p < 0.05$
- Transparency regarding inclusion/exclusion criteria

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Why We Still Need Randomized Controlled Trials

Practical and Pragmatic Considerations

- [Regulators](#) require RCTs
- [HTA bodies](#) require RCTs
- [Clinicians and clinical guideline developers](#) require RCTs
- Many [journal editors and reviewers](#) still are not comfortable with studies that include data on individuals with non-random assignment

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Why We Still Need Randomized Controlled Trials

Practical and Pragmatic Considerations

- Pharmaceutical companies get their best shot at demonstrating net benefit
 - Real-world concerns regarding drug safety can be identified and addressed before they become widespread
 - Real-world patient adherence may mask potential benefit
- Pharmaceutical Company Medical and R&D Departments require RCTs

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Why We Still Need Randomized Controlled Trials

Practical and Pragmatic Considerations

- The fact that RCTs can be designed poorly is not an argument against RCTs, it's an argument to do them well
- The fact that RCTs can be expensive is not an argument for abandoning RCTs, since undetected safety problems are a cost to human life

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