

Counterfactual Reasoning in Clinical Context

"What If" Scenarios

- **Alternative Treatments:** What if we chose treatment B instead of A?
- **Timing Variations:** What if intervention was earlier/later?
- **Diagnostic Paths:** What if initial diagnosis was different?
- **Risk Scenarios:** What if patient had different risk profile?

Example: Treatment Decision

Actual: Chose conservative management → symptom improvement in 2 weeks

Counterfactual 1: Surgery → faster recovery but higher risk

Counterfactual 2: Aggressive medication → potential side effects

Analysis: Conservative was appropriate given risk-benefit profile

Benefit: Exploring alternatives validates chosen approach and identifies improvements