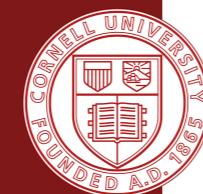


Conventional CM assumes away choice. My MTE approach puts choice back into the equation.



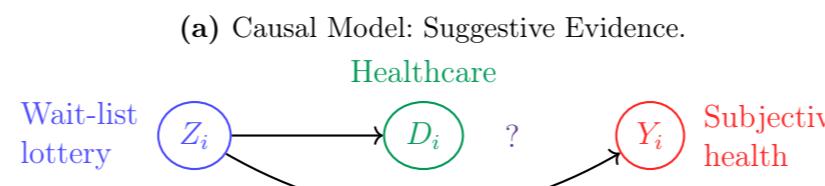
AUTHOR ■ SENAN HOGAN-HENNESSY

Causal Mediation in Natural Experiments

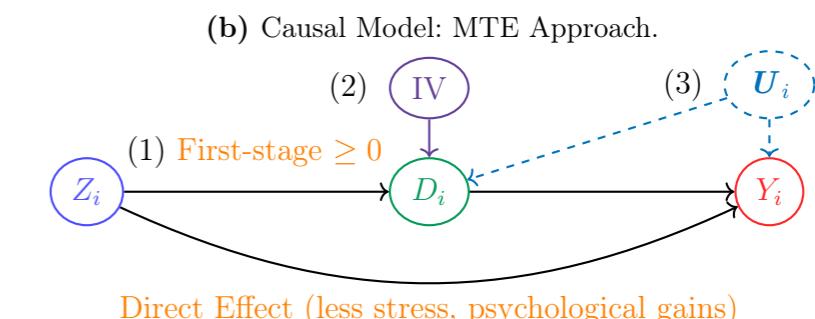
Research Question

- How can we identify mechanisms in natural experiments — when individuals freely choose a mediating mechanism?
Conventional CM breaks down when mediator choice is unconstrained, giving biased inference.
- Can we model the system to deliver unbiased CM estimates?
I develop a Marginal Treatment Effect (MTE) approach, treating a mediator as a choice shaped by incentives, not assuming it is random.
- What mechanisms explain the effects of access to socialised healthcare in the Oregon Health Insurance Experiment?
I compare conventional CM to my MTE approach estimating the role of increased healthcare take-up in the effect of new access to socialised health insurance.

Oregon Health Insurance Experiment (OHIE)



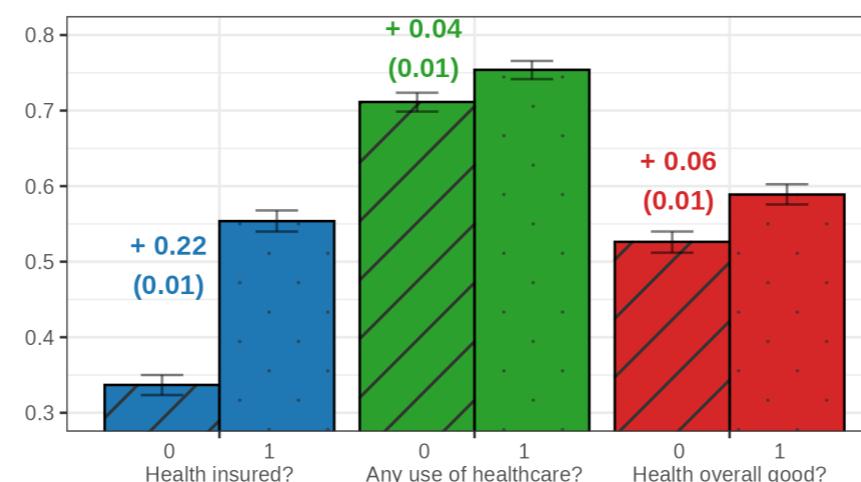
Suggestive evidence for mechanisms \implies necessary (not sufficient) evidence on healthcare as mediating mechanism.



Direct Effect (less stress, psychological gains)

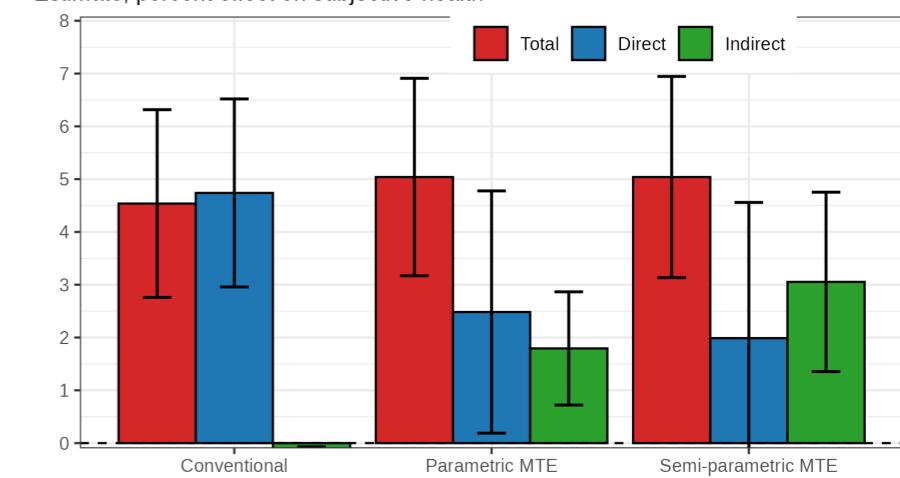
MTE model with assumptions (1) mediator monotonicity, (2) cost-shift IV, (3) relevant selection \implies sufficient evidence.

(a) Total Effects of the OHIE.
Mean Outcome, winning or losing the wait-list lottery.



- Suggestive evidence \rightarrow healthcare mediates OHIE gains
- Unknown percentage, and evidence is not sufficient.

(b) CM Analyses of Healthcare Take-up in the OHIE.
Estimate, percent effect on subjective health



- Conventional CM \rightarrow healthcare mediates $\approx 0\%$
- MTE-based CM \rightarrow healthcare mediates $\approx 20\text{--}80\%$.

