

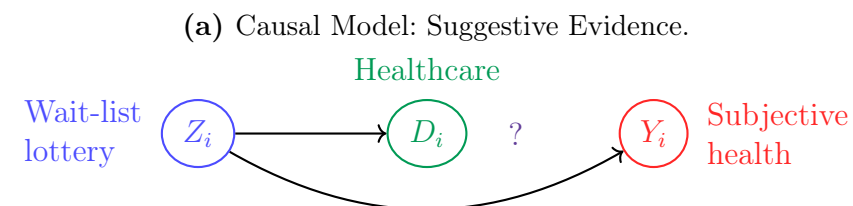
Conventional  
CM assumes  
away choice.  
My MTE  
approach puts  
choice back  
into the  
equation.

## Causal Mediation in Natural Experiments

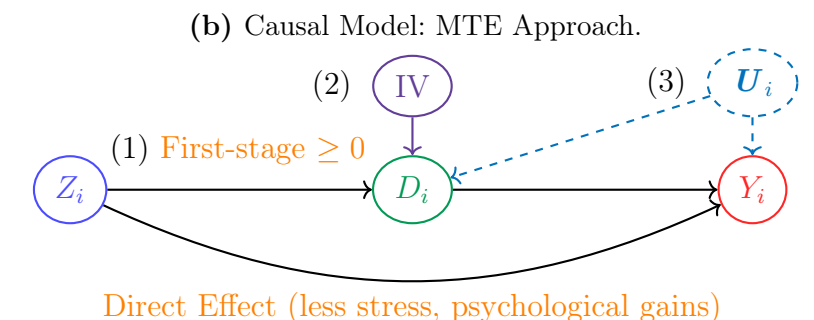
### Research Question

1. 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.*
2. 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.*
3. 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)

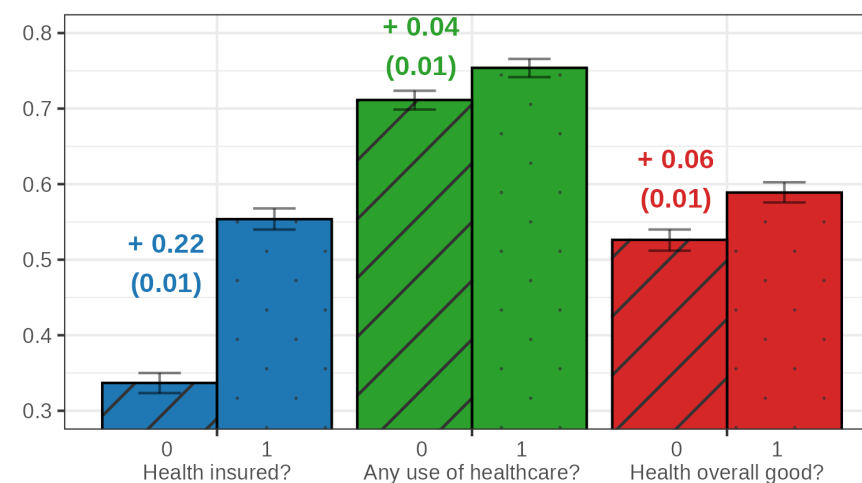


Suggestive evidence for mechanisms  $\Rightarrow$  necessary (not sufficient) evidence on healthcare as mediating mechanism.



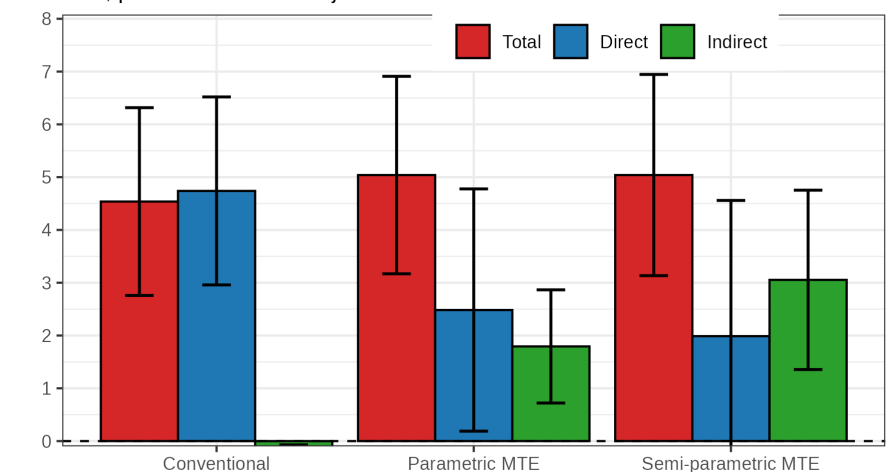
MTE model with assumptions (1) mediator monotonicity, (2) cost-shift IV, (3) relevant selection  $\Rightarrow$  sufficient evidence.

(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  $\approx 20-80\%$ .

