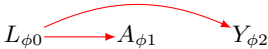
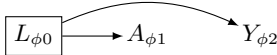
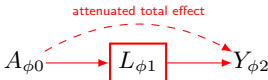
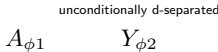


Report Multiple Causal Graphs When Cross-Sectional Structural Data Assumptions are Unclear

	Assumed Causation Scenarios	Confounding Threat	Control Strategy
1	L is a confounder: $A_{\phi 1}$ and $Y_{\phi 2}$ share a common cause $L_{\phi 0}$; confounding control strategy: condition on $\boxed{L_{\phi 0}}$ to block the open backdoor path.		
2	L is a mediator: $\boxed{L_{\phi 1}}$ blocks true causal association $A \rightarrow Y$.		

A denotes the treatment.

Y denotes the outcome.

U denotes an unmeasured confounder.

L denotes a measured confounder.

\boxed{L} **black box** denotes conditioning on variable L .

\rightarrow **black arrow** denotes an assumed causal path.

\rightarrow **red arrow** denotes a path of bias. (e.g.: where $L_0 \rightarrow A_1 \rightarrow Y_2$, the path of bias runs $A_1 \rightarrow L_0 \rightarrow Y_2$).

\boxed{L} **red box** denotes case when conditioning on L induces bias.

$X_{\phi t}$: textbf{time-indexed node asserted: relative chronology is assumed but not known.}

Cross-sectional data threat: incorrectly asserted timing $\boxed{L_{\phi 0}} \rightarrow A_{\phi 1} \rightarrow Y_{\phi 2}$ in Scenario 2 may bias $A \rightarrow Y$.