

Towards Standards for Causal Inference in Health Sciences Research

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1. Declare research as predictive OR causal (researchers answer questions below)

Does study attempt to:

Identify who is at greater risk for a disease state? ==> Predictive (e.g. machine learning)

Provide guidance for developing an intervention for a disease state? ==> Causal

==> Continue to step 2

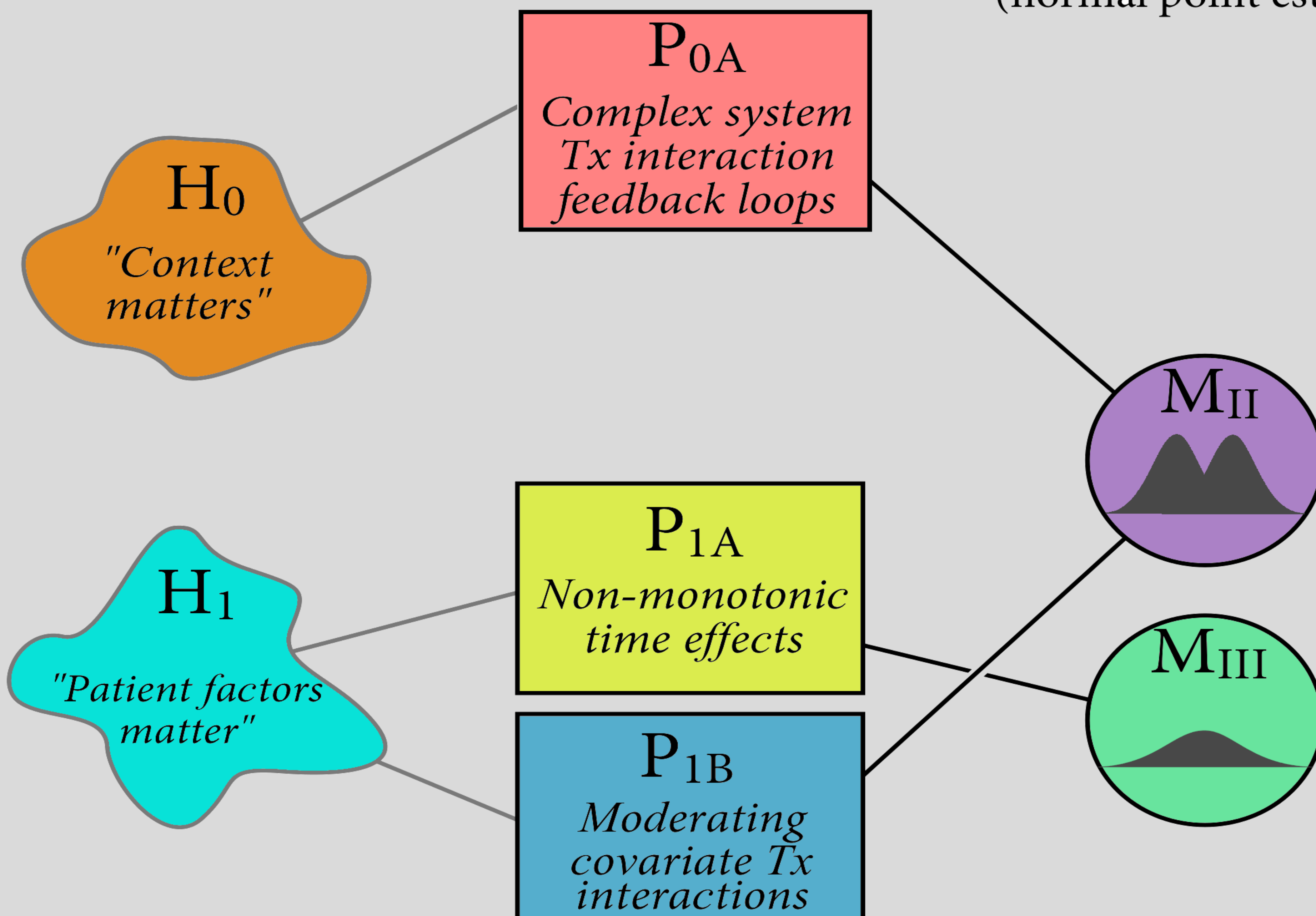
2. Distinguish hypothesis, from process, from model (example below)

Heterogeneity of Treatment Effects

Hypotheses

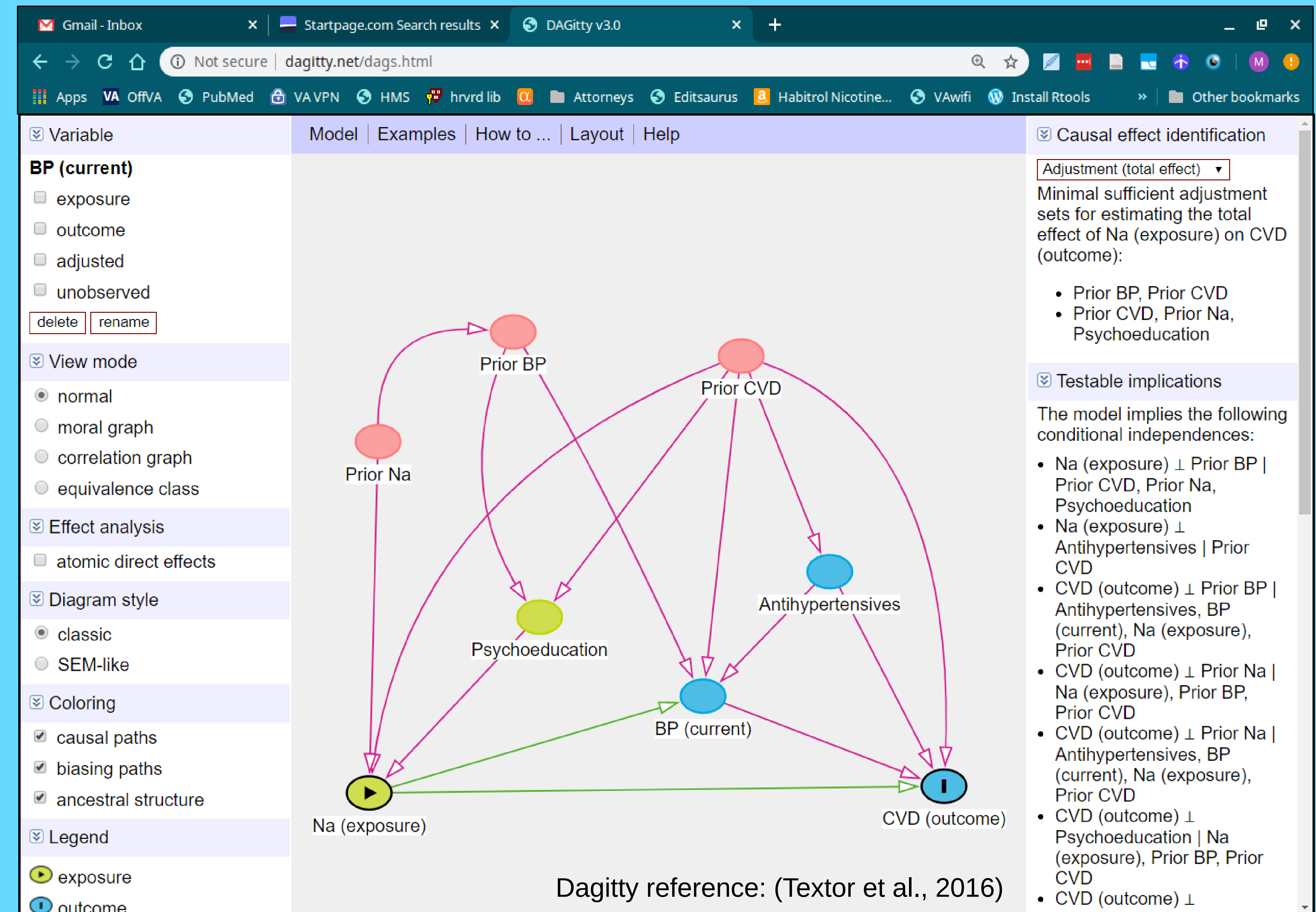
Process models

Statistical models (normal point estimates)



Adapted from: (McElreath, 2020)

3. Explicate causal structure with directed acyclic graphs (e.g. recommend implementation with dagitty.net)



Dagitty reference: (Textor et al., 2016)

4. Open access, open data, Open peer-review...open inference?

