Pragmatic Precision Psychiatry

A New Direction for Optimizing Treatment Selection

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Defining Terms

- Precision medicine
- Developing treatments versus selecting among available treatments

The Raw Material

- *Prognostic predictors* (identified in observational studies)
- *Prescriptive predictors* (identified in CER studies)

The Problem

- Prescriptive predictors are too weak to be of value individually
- Multivariate precision treatment rules can be developed, but require large samples
- Existing clinical trials are too small to be of value
- Too few prescriptive predictors are included across many different clinical trials to allow meta-analysis

The Proposed Way Forward

- Work with real-world observational samples to develop parallel prognostic models
- Use trial emulation methods to develop provisional prescriptive models
- Iterate between pragmatic trials and more refined observational studies for CQI
- Each of these has challenges

Using Observational Samples to Develop Prognostic Models

- How do we define the outcome?
- Where do we get the predictors?
- How do we develop optimal models?

Using Trial Emulation Methods to Develop Provisional Prognostic Models

- Baseline covariate balancing
- TMLE estimation and simulation

Iterative CQI

- Implementation practicalities
- Incremental refinement
- Fairness

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