Large-scale evaluation of treatment effect heterogeneity in hypertension

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Heterogeneity of treatment effect (HTE) is the non-random explainable variability in the direction and/or magnitude of treatment effect

Main goals:

• Estimation of treatment effects in clinically relevant patient subgroups
• Prediction of individual benefit (or harm) from treatment
• Aid stakeholders make informed decisions
The Predictive Approaches to Treatment effect Heterogeneity (PATH) Statement

Annals of Internal Medicine

The Predictive Approaches to Treatment effect Heterogeneity (PATH) Statement: Explanation and Elaboration

Annals of Internal Medicine
OHDSI framework for risk-based HTE

Prediction step

Estimation step
Application in hypertension treatment

• We compare ACE-inhibitors to beta blockers
• Databases: CCAE, MDCD, MDCR
• Main outcomes
  – Acute myocardial infarction
  – Hospitalization with heart failure
  – Stroke
• Safety outcomes:
  – Hypokalemia
  – Hyperkalemia
  – Hypotension
  – Angioedema
  – Cough
  – Abnormal weight gain
Results
Results
Results
Useful links

• R-package: RiskStratifiedEstimation
  https://github.com/OHDSI/RiskStratifiedEstimation

• Shiny application:
  https://data.ohdsi.org/AceBeta9Outcomes/

• Framework preprint:
Thank you

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