Identifying subgroups based on continuous measurements in individual patient data meta-analysis

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*Background*

Individual patient data meta-analysis (IPD-MA) is increasingly used to identify relevant subgrouping effects. Often linearity assumptions are made when examining subgroups based on continuous measurements. However, several more flexible methods exist.

*Objectives*

Our goal is to illustrate, critically review and compare state of the art methods on subgroups effects identification in IPD-MA, based on continuous measurements.

*Methods*

We reviewed META-STEPP, generalised additive mixed effects models, (multi-level) regression models involving fractional polynomials or splines and several tree-based approaches. We applied the methods above on two empirical examples: prescription of antibiotics in children with otitis media and anti-platelet treatment in secondary stroke prevention.

*Results*

We will provide treatment effect plots to visualize subgroup effects within and across studies.

*Conclusions*

We provide advantages and limitations of the aforementioned methods.

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