

NIHR CRSU

Complex Reviews Support Unit

Further Issues

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CRSU & Cochrane Workshop

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Statistical Heterogeneity

- Can try and explain it by adding covariates to models via meta-regression
- Otherwise quantify it and consider reporting of predictive intervals
 - range in which you would expect next study/realisation of treatment rather than focusing solely on the overall mean
- CRSU happy to give advice

Individual Patient Data (IPD)

- Desirable
- Can greatly improve power and reliability of patient level covariate (e.g. subgroup) analyses
- IPD models for pairwise meta-analysis and NMA possible
- IPD diagnostic test models evolving
- Often not possible to obtain IPD from all relevant studies
 - Methods to use IPD where available and summary data otherwise exist
- CRSU can help with all the above

Prognostic Reviews

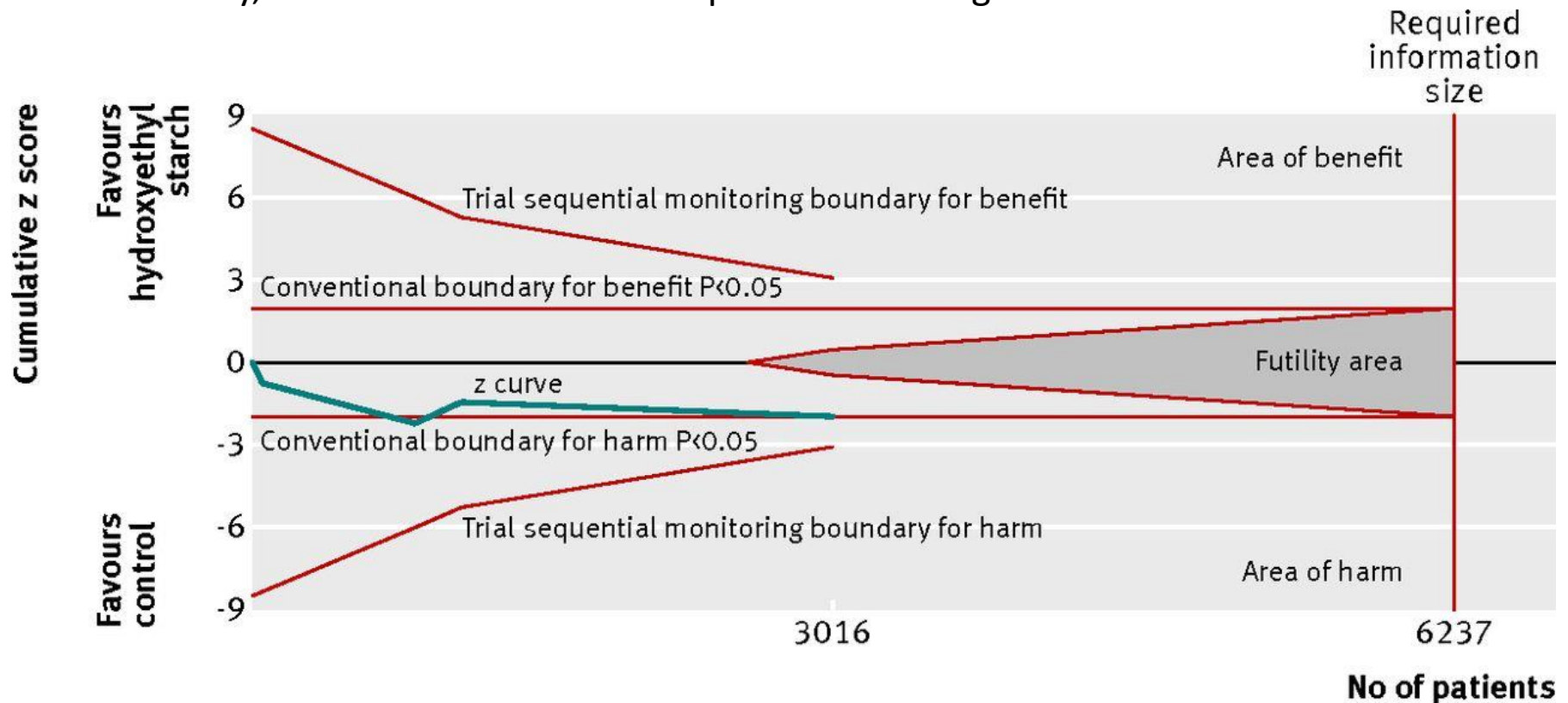
- First Cochrane pilots / exemplar reviews underway
- Under developed area
- Seek guidance from Cochrane Prognostic Review Methods Group in the first instance
- CRU has some, but not extensive, experience

Variable Quality of Studies

- I Believe it is the most difficult area of evidence synthesis
- Cochrane actively develop instruments to assess it
- Challenge is using the information in quantitative analyses
 - Look at individual components in regression/subgroup analyses(?)
- I get concerned when I see an assessment implies generally poor evidence but conclusions do not reflect this(!)

Trial Sequential Analysis (TSA)

- TSA used to adjust meta-analysis for multiple looks at the data when a m-a is updated
 - Similar to interim analysis in a single clinical trial
 - Crudely, the effect will be to make p-values less “significant”



- Cochrane Scientific Committee currently deciding how it should be used

Recommendations for Research

- Related to TSA is the issue of how a meta-analysis should inform the design of future studies
 - Including comparators & sample size
- Would you be comfortable with a £1 million trial going ahead that had 0 chance of changing the conclusion of an existing meta-analysis
 - When there is some heterogeneity this is very possible(!)
- Should Cochrane reviews place more emphasis here and play an active role in Evidence Based Research?
 - “Inform the future as well as summarise the past”