Trial based economic evaluation: prompt publication and mixed messages

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Timely and complete publication of economic evaluations alongside RCTs (work in progress)

Jo Thorn, Will Hollingworth, Sian Noble

Economic evaluations

- Publication bias – well known problem for clinical effectiveness results
- Are economic evaluations
  - as likely to be published?
  - published as promptly?
  - published in journals with equivalent impact factors?

Methods

- ISRCTN database: “cost” or “economic”
- Exclude where
  - unfinished or recently finished
  - no plan to conduct an economic evaluation
- Find clinical and economic articles for a random 100 trials (360 met inclusion criteria)
- Contact PIs of unpublished results

Preliminary results

Please email joanna.thorn@bristol.ac.uk for further details

PI responses

- Contacted 45 PIs – 34 responded (76%)
- 23 will not be published
- Variety of reasons given
  - Health economist left the group
  - Intervention was not effective
  - Ran out of time
  - Not interested in financial calculations

Preliminary conclusions

- Publication rate is poor
- Economic results are subject to longer delays than clinical results
- Economic results are published in journals with lower impact factors
- Trial registration is not a complete solution

Clinical versus economic design and interpretations of RCT results - Mixed messages?

Work in Progress

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Background

- Sample size formulas for cost-effectiveness have been available for many years - but may not be used in practice.
- Therefore recruitment may cease too soon or continue too long in relation to cost effectiveness
- It is often assumed that RCTs are underpowered on economic outcomes (QALY too crude, costs too variable or missing cost data)

Objectives

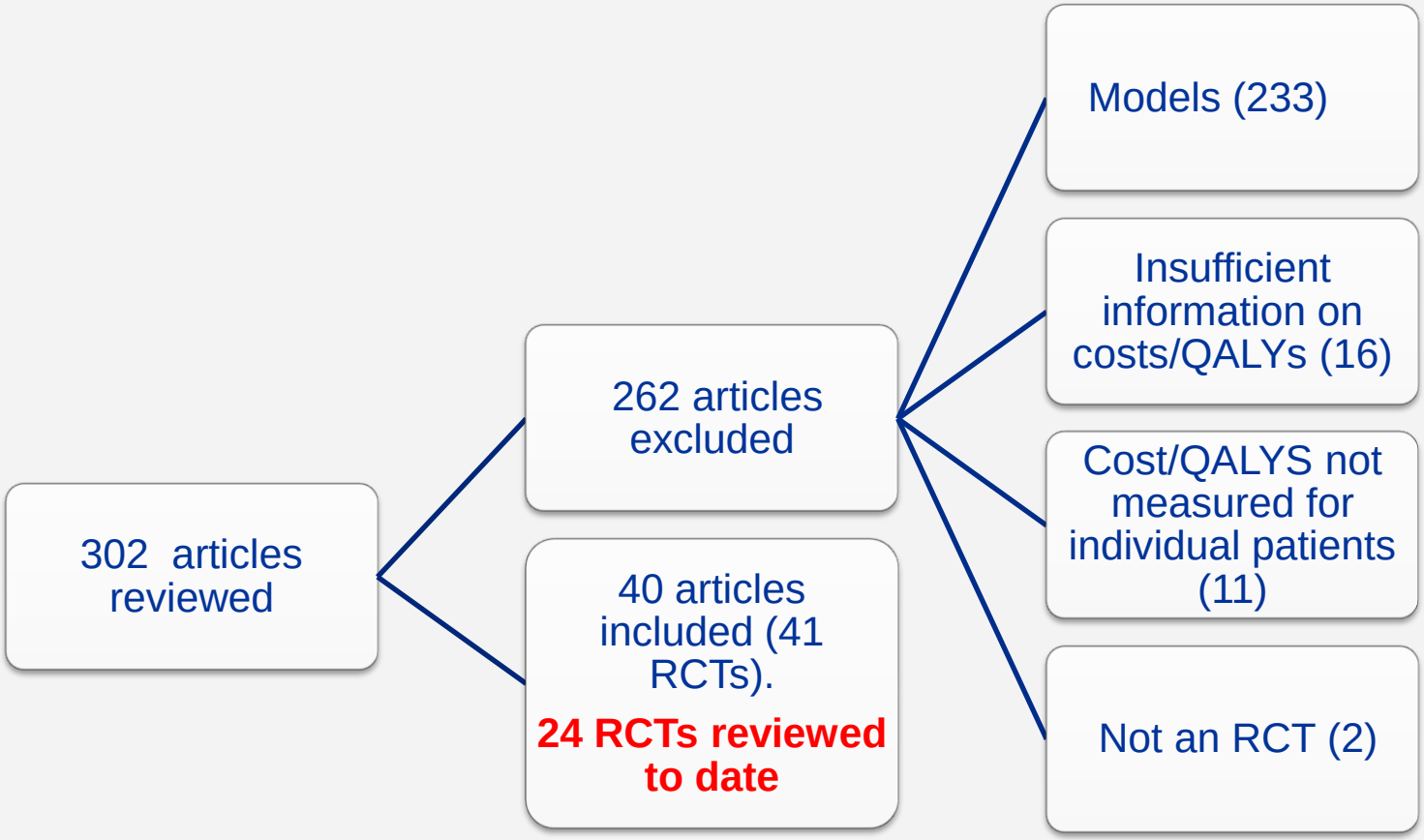
- Review of literature of cost per QALY analysis (CUAs) conducted alongside RCTs to determine:
  - Extent to which cost-effectiveness is considered in sample size calculations
  - The frequency with which economic conclusions conflict with clinical conclusions
  - Whether economic evaluations are underpowered and so more likely to come to **indeterminate** results

Methods 1 – Search strategy

- Searched NHS Economic Evaluation Database to identify RCTs using Cost per QALY Analysis
  - 717 articles in 293 journals identified.

  We selected:
  - Initially selected 4 high impact journals (BMJ, NEJM, Lancet, JAMA) and 5 high volume journals (Pharmacoecon, Value Health, Int J Technol Assess, Ann Intern Med, Med Res & Curr Opin)
  - 50% random sample of the remaining journals that published 3 or more CUAs

Methods 2 - Flow chart



Methods 3 – Data Extracted

- **Study Characteristics** e.g. year of publication, funding source, number of patients in each arm, sample size calculation
- **Outcome Data**:

  Primary clinical outcomes (SE, SD &CI)

  QALY gain (SE,SD &CI)

  Incremental costs (SE, SD & CI)
- **Interpretation of Data**:

  Costs and Outcome- categorised as definitely/probably/ probably not/ definitely not effective

  Cost per QALY- definitely/ probably/ probably not/definitely not efficient

Preliminary Key Findings:

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