Developing robust review protocols with increasingly diverse evidence

Issues in reviews of test accuracy

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Declaration of interest

• Co-convenor of Cochrane Screening and Diagnostic Test Methods Group
• Associate Editor of Cochrane Handbook for Systematic Reviews of Diagnostic Test Accuracy (DTA)
• Statistical Editor for Cochrane Bone, Joint and Muscle Trauma Group
• Editor
  – Cochrane DTA Editorial Team
  – Cochrane Infectious Diseases Group
Acknowledgements

The first ten years of Cochrane DTA reviews: Progress and common methodological challenges

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²Lots of different places, All over the world.
Background

• Cochrane DTA reviews first published in 2008

• Cochrane DTA Editorial Team (DTA-ET) support Cochrane Review Groups (CRGs) in evaluating submitted DTA Protocols and DTA Reviews
  – organising expert search, statistical and DTA methods peer review
  – providing methodological editorial guidance

• Prior to publication, all Cochrane DTA Protocols and Reviews must be signed off by both the DTA-ET and the CRG
Decisions by DTA editorial team

Protocols: Decisions made on first submission

No protocols accepted without revision, 49% of protocols require >1 revision

- 2009: 1 (Reject) 4 (Minor revision) 17 (Major revision) 21 (Withdrawn by CRG)
- 2010: 2 (Reject) 11 (Minor revision) 19 (Major revision) 21 (Withdrawn by CRG)
- 2011: 1 (Reject) 8 (Minor revision) 10 (Major revision) 21 (Withdrawn by CRG)
- 2012: 1 (Reject) 17 (Minor revision) 12 (Major revision) 17 (Withdrawn by CRG)
- 2013: 4 (Reject) 14 (Minor revision) 17 (Major revision) 17 (Withdrawn by CRG)
- 2014: 2 (Reject) 4 (Minor revision) 15 (Major revision) 15 (Withdrawn by CRG)
- 2015: 9 (Reject) 14 (Minor revision) 15 (Major revision) 14 (Withdrawn by CRG)
- 2016: 3 (Reject) 3 (Minor revision) 15 (Major revision) 3 (Withdrawn by CRG)
- 2017: 2 (Reject) 3 (Minor revision) 14 (Major revision) 3 (Withdrawn by CRG)
- 2018 (part): 4 (Reject) 4 (Minor revision) 15 (Major revision) 3 (Withdrawn by CRG)
## Issues identified by DTA editorial review

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Issues identified by DTA editorial review

- >25% protocols had issues with
  - question formulation
  - clinical pathway
  - reference standard
  - search strategies
  - quality assessment
  - analytical structure
  - investigation of heterogeneity
  - reporting style

- Issues have decreased by 25% for protocols over 10 years
Examples of issues identified

- **Clinical pathways** need to show role of the test, be clearly described
- **Reference standards** need to be clearly defined
- **Search** comments to add MESH terms, subheadings, avoid methodological filters are common; and searching sources with a non-English language focus
- **Quality assessment** need to provide review specific details, strategies to assess overall bias for each QUADAS-2 domain
- **Analytical structure** specifies what will be combined or analysed separately. Test thresholds and definitions for sensitivity analyses often need detail.
- **Test comparison** strategies and meta-analysis method required
- **Meta-analysis** rationale for methods (curves/points) often lacking
- **Investigation of heterogeneity** often lacking clear definitions of subgroups
Thanks to our many volunteers, past & present

- **DTA Editors Team A**: Ingrid Arevalo-Rodriguez, Clare Davenport, Mariska Leeflang (chair), Jo Leonardi-Bee, Bernd Richter, Marta Roque, Mia Schmidt-Hansen, Alex Sutton, Gautham Suresh, Karen Steingart, Yemisi Takwoingi, Brett Thombs, Gianni Virgilli, Stewart Walsh.

- **DTA Editors Team B**: Miriam Brazzelli, Jon Deeks (chair), Matthew Grainge, Sascha Koepke, Petra Macaskill, Susan Mallett, Bo Rud, Rob Scholten, Ann van den Bruel, Danielle van der Windt.

- **DTA Editors Emeritus**: Patrick Bossuyt, Paul Brocklehurst, Constantine Gatsonis, Peter Herbison, Lotty Hooft, Chris Hyde, Nuala Livingstone, Ben Mol, Hans Reitsma, Stefano Ricci, Maroeska Rovers, Arianne Verhagen, Tanya Walsh.

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