

**Project Title:** Development of an interactive website for outcome reporting bias research

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The website was developed as planned and registered under the following domain

<http://www.outcome-reporting-bias.org/>

Click on the link to view the website. The website went live July 1st 2016.

Specific grant objectives and what has been achieved:

1. To disseminate the key findings from a package of work completed on the selective reporting of outcomes and analyses.

Included on the website are several tabs that present the findings of all recent research into outcome reporting bias. Specifically we have included copies/references to recent papers, copies of recent presentations/posters and workshop slides. Any upcoming workshops, presentations and meetings on outcome reporting bias research are also highlighted.

The website also acknowledges known applications of outcome reporting research tools that have been developed by the team.

2. To update and make available via a website, the ORBIT matrix generator for missing outcome data from **trials** that have been included in a systematic review.

Funded by the Network grant, the lead applicant developed and presented a workshop at the 23<sup>rd</sup> Cochrane Colloquium in Vienna (2015).

*"Assessing and adjusting for outcome reporting bias in systematic reviews"*.

A mock-up of the ORBIT matrix generator was presented and participants were asked to comment on the usefulness of the tool as well as making suggestions for improvements. Participants found the tool useful for identifying missing data and revisions were made to the tool taking into account the comments received. Specifically, outcomes can now be separated into primary and secondary outcomes as well as harm outcomes (for which a separate outcome reporting bias assessment now exists). Participants can also now add in their outcome reporting bias assessments according to the 'ORBIT' classifications (available on the ORBIT toolkit of the website). Importantly the completed matrix is downloadable such that it can be included in research publications.

The matrix generator is available via the website: <http://ctrc.liv.ac.uk/ORBIT/> via the ORBIT toolkit tab.

3. To make available via a website, the Copas method for adjusting for outcome reporting bias within a systematic review.

This was by far the most challenging and novel aspect to the project. At the time of writing the application, the Copas method for adjusting for outcome reporting bias within

a systematic review was available for benefit outcomes only. In response to new work on outcome reporting bias in harm outcomes, members of the study team undertook additional (unplanned) methodological work to develop a related approach for harm outcomes.

This work has recently been submitted to Biostatistics and the Network has been acknowledged for their financial contribution.

*"Model-based sensitivity analysis for outcome reporting bias in the meta analysis of benefit and harm outcomes."*

The methods proposed in the publication are available for easy implementation on the website by non-methodologists (<http://www.outcome-reporting-bias.org/Home/Copas>). An example dataset is provided as a test case.

Users need to create the data input file using the instructions/template provided and then upload this file onto the website. The 'R' functions are then automatically invoked and the results returned.

4. To make available via a website, the ORBIT workshop slides for virtual learning purposes.

The workshop slides have been included on the website. See section on next steps for further details.

#### Next steps:

- 1) The website is currently driven by research undertaken by the 'ORBIT Team'. We will aim to incorporate relevant research in the field from other researchers. We would hope to transform the website into an international resource for all research in this field.
- 2) The Copas method in objective 3 is only currently implementable for binary outcome data – plans are to extend this to other data types.
- 3) From objective 4, the ORBIT workshop slides have been included (on the past events part of the website) but there are plans to produce a webinar under the current blank ORBIT workshop page under resources. The webinar will guide researchers through the ORBIT assessment process including the use of all the research tools available on the site. This is important as to ensure the correct use of the methodology (without assistance) but also is an 'elegant' way to upload the help onto the website, avoiding too much textual information. It should also be noted that users can contact the lead investigator for extra help via the website (this part is functional).
- 4) Regular bi-monthly updates to the website.
- 5) Dissemination of the website to wider research groups. Currently it has been distributed to the Cochrane Co-ordinating Editors and members of Cochrane Statistical Methods Group.

#### Google Analytics

Google analytics has been bolted on to the website. The website was only promoted for two weeks prior to submitting this report during the holiday period, and to date 20 users have visited the site and spent, on average, just under 15 minutes viewing the content. Due to the nature of this project, and the fact that the launch came close to the project close, we would happily provide the Network with regular updates on uptake and impact of the website in the future.