

TRIPOD-SR: An extension to reporting guidelines for systematic reviews of prediction model studies

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Introduction

Guidelines exist for reporting the development and validation of prediction models (TRIPOD), and for reporting systematic reviews (PRISMA). However, no specific guidance exists for reporting systematic reviews of prediction models which can have different aims, ranging from identifying models through to comparing predictive performance of models. Therefore, existing reporting guidelines require modification to be more suitable for systematic reviews of prediction model studies.

Objectives

To develop an extension to TRIPOD, specific to systematic reviews of prediction model studies.

Methods

Existing reporting guidelines were reviewed. Relevant guideline items were combined and assessed for suitability by two researchers, considering the different aims of systematic reviews: i) identification of prediction models within a broad clinical field, ii) identification of prediction models for a target population, iii) identification of models for a particular outcome, iv) assessing the performance of a particular model, and v) comparison of models (in terms of predictive performance). Item suitability and wording were discussed within the working group and a draft extension to TRIPOD was produced. An online Delphi survey was conducted, using researchers with experience in systematic review and prediction modelling to provide feedback on the proposed items.

Results

PRISMA and TRIPOD-Cluster (in development) were identified as the most relevant reporting guidelines. They contained many overlapping items; while PRISMA contained some items specific to systematic reviews, TRIPOD-IPD contained some items specific to prediction models. Items from both guidelines were combined, resulting in many items being merged and modified, while other items specific to model development or individual participant data were removed. Feedback from the Delphi survey was incorporated and the draft extension will be presented, welcoming feedback before a second Delphi survey.

Conclusions

TRIPOD-SR is an extension of existing reporting guidelines that is being developed to provide more tailored guidance for reporting systematic reviews of prediction models.

Keywords

Reporting guidelines, systematic reviews, prediction models