

# An instrument for evaluating searches for systematic reviews: The SRS-checklist

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## Introduction

The purpose of systematic reviews is to keep health care professionals up to date with the latest evidence in their field and guide clinical practice, and should therefore strive to identify all relevant evidence. Performing a systematic search of the literature is necessary to identify relevant studies and is the starting point for nearly all systematic reviews. The search strategy should be reproducible and visible to the readers in order for them to be able to judge the quality of the search and thereby the credibility of the results.

## Aim

To create a checklist for evaluating the reproducibility and quality of search strategies in systematic reviews, and to validate the checklist. Other checklists deal with methodological quality and the search strategy, but none go into detail regarding the documentation of the search strategies. We consider the search strategy of such vital importance to the credibility of the results that an evaluation instrument needs to address all important elements concerning both reproducibility and quality to avoid bias. We call our evaluation instrument the Systematic Review Search checklist or the SRS-checklist for short.

## Method

The SRS-checklist for evaluating search strategies in systematic reviews was compiled from several other lists (e.g. Cochrane Handbook, PRISMA, PRESS). Several elements were grouped and sometimes merged together and some were rephrased or removed completely. The checklist consists of 23 questions, equivalent to 23 binary variables, with nine pertaining to reproducibility and fourteen pertaining to the quality of the search strategy. All questions regarding reproducibility require information about the search to be explicitly stated or directly visible. Scores for the individual systematic reviews were calculated as two-dimensional, aggregated indicators of reproducibility and quality respectively. Each of the two indicators were calculated as a relative, rescaled index where 0 is fixed and the maximum score is 100. As a result, the two indicators are reported on a pseudo-similar scale despite variation in the number of elements in each. The checklist was validated through an empirical test of 100 random systematic reviews from the "Medicine, General & Internal" Web of Science category term published in 2013 against a reference of 25 Cochrane reviews.

## Results

The checklist strongly discerns between the reproducibility and quality of systematic reviews in the test sample and the Cochrane sample. The search strategies in the test sample had a mean reproducibility score of 51.9 and a mean quality score of 32.7, versus 82.2 and 68.6 respectively for the Cochrane sample. The documentation of search queries was found to be a decisive factor for the quality of systematic reviews, as was the inclusion of a search specialist.

## Conclusion

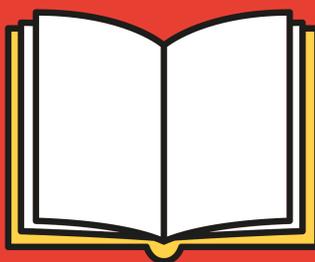
Authors conducting a systematic review should use the SRS-checklist for elaboration on documenting the search strategy. Furthermore, the SRS-checklist can be used as an evaluation instrument for scoring search strategies for systematic reviews which facilitates comparison between individual systematic reviews or between larger samples.

## Checklist

Scan the QR code or go to  
<http://bit.ly/checklistSRS>



Aggregated SRS-score for  
100 randomly selected  
systematic reviews from  
2013



**52:33**

(Percentage of reproducibility and quality)

Aggregated SRS-score for  
25 randomly selected  
Cochrane reviews from  
2013



**82:69**

(Percentage of reproducibility and quality)

Greater focus on reproducible and high quality search strategies



Reduce bias and give credibility to systematic reviews