

# Librarians can help address reporting concerns in the biomedical literature particularly, for systematic reviews – here's how!

CEC 6  
ICML + EAHIL 2017



CONSEJERÍA DE SALUD  
Agencia de Evaluación de Tecnologías  
Sanitarias de Andalucía (AETSA)



# Workshop leaders

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- Shona Kirtley, Senior Research Information Specialist, EQUATOR Network, University of Oxford. [shona.kirtley@csm.ox.ac.uk](mailto:shona.kirtley@csm.ox.ac.uk)

What are reporting guidelines and how can they help address deficiencies in reporting?

# Recap: Incomplete/unclear reporting

## What is missing from descriptions of treatment in trials and reviews?

Replicating non-pharmacological treatments in practice depends on how well they have been described in research studies, say **Paul Glasziou** and colleagues

Have you ever read a trial or review and wondered exactly how to carry out treatments such as a "behavioural intervention," "salt reduction," or "exercise programme"? Although CONSORT and related initiatives have encouraged the reporting of receiving numerous requests for additional details from doctors and patients, the author of a randomised trial on graded exercise for chronic fatigue syndrome<sup>8</sup> subsequently published a supplementary article with a more

Category	Intact (%)	Missing (%)
Adequacy Description	~75	~25
Intact	~95	~5
Missing	~75	~25

Exercise prescription: a case for standardised reporting

Clin Chem Lab Med 2012;50(3):411-413 © 2012 by Walter de Gruyter • Berlin • Boston, DOI 10.1515/cclm-2011-0904

## An appeal to medical journal editors: the need for a full description of laboratory methods and specimen handling in clinical study reports



RESEARCH ARTICLE  
**The Devil Is in the Details: Incomplete Reporting in Preclinical Animal Research**

Marc T. Avey<sup>1,2\*</sup>, David Moher<sup>1,3</sup>, Katrina J. Sullivan<sup>1</sup>, Dean Fergusson<sup>1</sup>, Gilly Griffin<sup>1</sup>, Jeremy M. Grimshaw<sup>1,4</sup>, Brian Hutton<sup>1,3</sup>, Manoj M. Lal<sup>1,7</sup>, Malcolm Macleod<sup>5</sup>, John Marshall<sup>6</sup>, Shirley H. J. Mei<sup>7</sup>, Michael Rudnicki<sup>7</sup>, Duncan J. Stewart<sup>7,8</sup>, Alexis F. Turgeon<sup>9,10</sup>, Lauralyn McIntyre<sup>1,11</sup>, Canadian Critical Care Translational Biology Gr

## Adequacy of Published Oncology Randomized Controlled Trials to Provide Therapeutic Details Needed for Clinical Application

**Jennifer M. Duff, Helen Leather, Edmund O. Walden, Kourtney D. LaPlant and Thomas J. George Jr**

## Reproducibility of Search Strategies Is Poor in Systematic Reviews Published in High-Impact Pediatrics, Cardiology and Surgery Journals: A Cross-Sectional Study

Jonathan B. Koffel , Melissa L. Rethlefsen

Published: September 26, 2016 • <http://dx.doi.org/10.1371/journal.pone.0163309>

## Non-compliance with randomised allocation and missing outcome data in randomised controlled trials evaluating surgical interventions: a systematic review

Termitope E. Adewuyi , Graeme MacLennan and Jonathan A. Cook

BMC Research Notes 2015 8:403 | DOI:10.1186/s13104-015-1364-9 | © Adewuyi et al. 2015

# Recap: Quality of reporting in systematic reviews

Volume 31 , Issue 2  
March/April 2016  
Pages 338–351

## Quality Assessment of Systematic Reviews on Oral Implants

Momen A. Atieh, BDS, MSc, DClinDent, PhD/Warwick J. Duncan, BDS, MDS,

Applicable or non-applicable: investigations of clinical heterogeneity in systematic reviews

Laura E. Chess and Joel J. Gagnier ✉

*BMC Medical Research Methodology* BMC series – open, inclusive and trusted 2016 16:19  
DOI: 10.1186/s12874-016-0121-7 | © Chess and Gagnier. 2016

## Compliance of Systematic Reviews in Plastic Surgery With the PRISMA Statement

Seon-Young Lee, BMedSc<sup>1</sup>; Harkiran Sagoo, BSc(Hons)<sup>2</sup>; Katharine Whitehurst, BSc(Hons)<sup>3</sup>; Georgina Wellstead, BSc(Hons)<sup>4</sup>; Alexander J. Fowler, BSc(Hons), MBBS<sup>5</sup>; Riaz A. Khan, BSc(Hons), MRCSEng, FHEA, FRSPH<sup>6</sup>; Dennis Orgill, MD, PhD<sup>7</sup>

*J Clin Epidemiol.* 2016 Jan 13. pii: S0895-4356(16)00039-1. doi: 10.1016/j.jclinepi.2016.01.008. [Epub ahead of print]

### Strong heterogeneity of outcome reporting in systematic reviews.

Sautenet B<sup>1</sup>, Contentin L<sup>2</sup>, Biqot A<sup>3</sup>, Giraudeau B<sup>4</sup>.

## Systematic reviews experience major limitations in reporting absolute effects

Pablo Alonso-Coello ✉, Alonso Carrasco-Labra, Romina Brignardello-Peterson, A. Akl, Robin W.M. Vernooij, Brad C. Johnston, Xin Sun, Matthias Briel, Jason A. Hanley, Carlos E. Granados, Alfonso Iorio, Affan Irfan, Laura Martínez García, Reem Alkhatib, Morera, Anna Selva, Ivan Solà, Andrea Juliana Sanabria, Kari A.O. Tikkinen, J. Zazueta, Yuning Zhang, Qi Zhou, Holger Schünemann, Gordon H. Guyatt

## Risk of Bias in Systematic Reviews of Non-Randomized Studies of Adverse Cardiovascular Effects of Thiazolidinediones and Cyclooxygenase-2 Inhibitors: Application of a New Cochrane Risk of Bias Tool

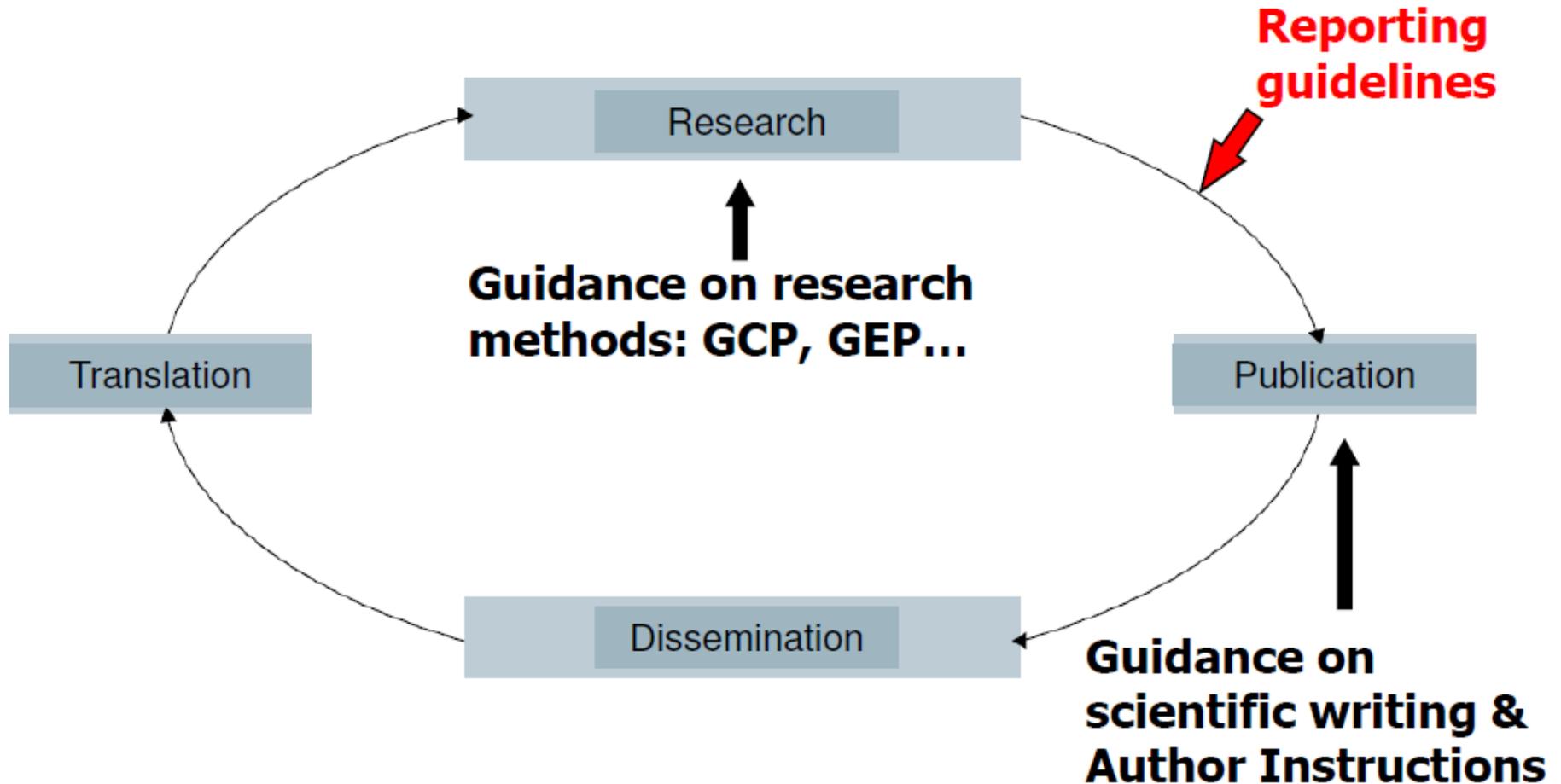
Anja Bilandzic, Tiffany Fitzpatrick, Laura Rosella, David Henry ✉

[dx.doi.org/10.1371/journal.pmed.1001987](https://doi.org/10.1371/journal.pmed.1001987)

## A third of systematic reviews changed or did not specify the primary outcome: A PROSPERO register study

Andrea C. Tricco<sup>a, b</sup>, ✉, Elise Cogo<sup>a</sup>, Matthew J. Page<sup>c</sup>, Julie Polisena<sup>d, e</sup>, Alison Booth<sup>f</sup>, Kerry Dwan<sup>g</sup>, Heather MacDonald<sup>a</sup>, Tammy J. Clifford<sup>d</sup>, Lesley A. Stewart<sup>f</sup>, Sharon E. Straus<sup>a, h</sup>, David Moher<sup>i</sup>

# How to improve reporting



# What are reporting guidelines?

- Statements that provide advice on how to report research methods and findings
- Specify a minimum set of items required for a clear and transparent account of what was done and what was found in a research study
- Typically take the form of a checklist, flow diagram or piece of explicit text
- Based on available evidence and reflect the consensus opinion of experts in a particular field
- Complement advice on scientific writing and journals' instructions to authors
- Some examples include:



# Example reporting guideline checklists



## CONSORT Statement extension for reporting abstracts of randomized controlled trials

This extension to the CONSORT Statement provides a minimum list of essential items, that authors should consider when reporting the main results of a randomized trial in any journal or conference abstract.

CONSORT for Abstract Checklist

[www.consort-statement.org](http://www.consort-statement.org)

Item	Description
Title	Identification of the study as randomized
Authors *	Contact details for the corresponding author
Trial design	Description of the trial design (e.g. parallel, cluster, non-inferiority)
Methods	
Participants	Eligibility criteria for participants and the settings where the data were collected
Interventions	Interventions intended for each group
Objective	Specific objective or hypothesis
Outcome	Clearly defined primary outcome for this report
Randomization	How participants were allocated to interventions
Blinding (masking)	Whether or not participants, care givers, and those assessing the outcomes were blinded to group assignment
Results	
Numbers randomized	Number of participants randomized to each group
Recruitment	Trial status
Numbers analysed	Number of participants analysed in each group
Outcome	For the primary outcome, a result for each group and the estimated effect size and its precision
Harms	Important adverse events or side effects
Conclusions	General interpretation of the results
Trial registration	Registration number and name of trial register
Funding	Source of funding



## PRISMA Statement 2009 – Reporting guideline for systematic reviews and meta-analyses

PRISMA stands for Preferred Reporting Items for Systematic reviews and Meta-Analyses. It is an evidence-based minimum set of standards for reporting systematic reviews and meta-analyses. It consists of a 27-item checklist and a flow diagram which depicts the flow of information through the different phases of a systematic review.

This guideline replaces the existing QUOROM Statement; journals and other organisations are encouraged to update their instructions and resources and refer authors to the new PRISMA guidance.

PRISMA 2009 Checklist

[www.prisma-statement.org](http://www.prisma-statement.org)

Section / topic	#	Checklist item	Reported on page #
<b>TITLE</b>			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	
<b>ABSTRACT</b>			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	
<b>INTRODUCTION</b>			
Rationale	3	Describe the rationale for the review in the context of what is already known.	
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	
<b>METHODS</b>			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	

# Cover a range of study types



## Reporting guidelines for main study types

<u>Randomised trials</u>	<u>CONSORT</u>	<u>Extensions</u>	<u>Other</u>
<u>Observational studies</u>	<u>STROBE</u>	<u>Extensions</u>	<u>Other</u>
<u>Systematic reviews</u>	<u>PRISMA</u>	<u>Extensions</u>	<u>Other</u>
<u>Case reports</u>	<u>CARE</u>	<u>Extensions</u>	<u>Other</u>
<u>Qualitative research</u>	<u>SRQR</u>	<u>COREQ</u>	<u>Other</u>
<u>Diagnostic / prognostic studies</u>	<u>STARD</u>	<u>TRIPOD</u>	<u>Other</u>
<u>Quality improvement studies</u>	<u>SQUIRE</u>		<u>Other</u>
<u>Economic evaluations</u>	<u>CHEERS</u>		<u>Other</u>
<u>Animal pre-clinical studies</u>	<u>ARRIVE</u>		<u>Other</u>
<u>Study protocols</u>	<u>SPIRIT</u>	<u>PRISMA-P</u>	<u>Other</u>
<u>Clinical practice guidelines</u>	<u>AGREE</u>	<u>RIGHT</u>	<u>Other</u>

[See all 360 reporting guidelines](#)

# Relevant to different sections of the paper/report

**Search for reporting guidelines**

Browse for reporting guidelines by selecting one or more of these drop-downs:

Study type:  and Clinical area:  and Section of report:

Or search with free text:

Displaying 60 reporting guidelines found.

Key reporting guidelines, shaded green, are displayed first. [Show the most recently](#)

**1** Best Practices in Data Analysis and Sharing in Neuroimaging using MRI

- Whole report
- Acknowledgements
- Appendix
- Biospecimen/bioresource information
- Conference paper/abstract
- Conflict of interest
- Data**
- Ethical issues (consent etc.)
- Figures/Graphs
- Harms/adverse effects/safety data
- Images
- Intervention (exposure)
- Narrative sections (discussion etc.)
- Procedure/Method
- Research recommendations
- Results
- Statistical methods and analyses
- Study characteristics (participants etc.)
- Terminology/definitions

# EQUATOR Network



**Enhancing the QUALity and  
Transparency Of health Research**

International initiative to improve the reliability and value of medical research literature by promoting transparent and accurate reporting.

Main focus:

- \* Raising awareness
- \* Provision of resources
- \* Education and training
- \* Research

Established due to growing evidence of serious deficiencies in research literature and its effect on the reliability and usability of research results.

Many reporting guidelines available but awareness and adherence still low.

# EQUATOR website: [www.equator-network.org](http://www.equator-network.org)



- Home
- Library
- Toolkits
- Courses & events
- News
- Blog
- About us
- Contact

## Essential resources for writing and publishing health research

### Library for health research reporting

The Library contains a comprehensive searchable database of reporting guidelines and also links to other resources relevant to research reporting.

- Search for reporting guidelines
- Not sure which reporting guideline to use?
- Reporting guidelines under development
- Visit the library for more resources

### Reporting guidelines for main study types

<a href="#">Randomised trials</a>	<a href="#">CONSORT</a>	<a href="#">Extensions</a>	<a href="#">Other</a>
<a href="#">Observational studies</a>	<a href="#">STROBE</a>	<a href="#">Extensions</a>	<a href="#">Other</a>
<a href="#">Systematic reviews</a>	<a href="#">PRISMA</a>	<a href="#">Extensions</a>	<a href="#">Other</a>
<a href="#">Case reports</a>	<a href="#">CARE</a>		<a href="#">Other</a>
<a href="#">Qualitative research</a>	<a href="#">SRQR</a>	<a href="#">COREQ</a>	<a href="#">Other</a>
<a href="#">Diagnostic / prognostic studies</a>	<a href="#">STARD</a>	<a href="#">TRIPOD</a>	<a href="#">Other</a>
<a href="#">Quality improvement studies</a>	<a href="#">SQUIRE</a>		<a href="#">Other</a>
<a href="#">Economic evaluations</a>	<a href="#">CHEERS</a>		<a href="#">Other</a>
<a href="#">Animal pre-clinical studies</a>	<a href="#">ARRIVE</a>		<a href="#">Other</a>
<a href="#">Study protocols</a>	<a href="#">SPIRIT</a>	<a href="#">PRISMA-P</a>	<a href="#">Other</a>

[See all 316 reporting guidelines](#)

### Toolkits

The EQUATOR Network works to improve the reliability and value of medical research literature by promoting transparent and accurate reporting of research studies.

Our Toolkits support different user groups, including:

- Authors**  
Information and resources for authors
- Editors**

### EQUATOR highlights

**30/03/2016 - EQUATOR and PAHO develop practical action plan for universities to support their scientists in responsible reporting**



On 15 March 2016, Dr Iveta Silmers, Deputy Director of the UK EQUATOR Centre gave the presentation: Research papers that make a difference: how to increase research value, reputation, and impact at the 4th University Internationalization Seminar held in Washington ... [Read More](#)

**23/03/2016 - Two great EQUATOR events in Oxford this summer**

EQUATOR will be at Evidence

### Search for reporting guidelines

Browse for reporting guidelines by selecting one or more of these drop-downs:

Study type:  and Clinical area:  and Section of report:

Or search with free text

[Start again](#) | [Help](#)

Displaying 316 reporting guidelines found.

Most recently added records are displayed first.

- [The Single-Case Reporting Guideline In BEhavioural Interventions \(SCRIBE\) 2016 Statement](#)
- [Consensus on Recording Deep Endometriosis Surgery: the CORDES statement](#)
- [Developing the Clarity and Openness in Reporting: E3-based \(CORE\) reference user manual for creation of clinical study reports in the era of clinical trial transparency](#)

### Have you remembered everything?

Forgetting important details can delay publication and stop your work being cited or replicated. Checklists, made by experts and tailored to different study designs, can help.

This tool will help you find the right checklist for your work from the EQUATOR library.

press ENTER

What reporting guidelines are available specifically for reporting systematic reviews?

# PRISMA Statement



**PRISMA**

TRANSPARENT REPORTING OF SYSTEMATIC REVIEWS AND META-ANALYSES

[www.prisma-statement.org](http://www.prisma-statement.org)

## Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement

David Moher , Alessandro Liberati, Jennifer Tetzlaff, Douglas G. Altman, The PRISMA Group 

Published: July 21, 2009 • <http://dx.doi.org/10.1371/journal.pmed.1000097>

## The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies That Evaluate Health Care Interventions: Explanation and Elaboration

Alessandro Liberati , Douglas G. Altman, Jennifer Tetzlaff, Cynthia Mulrow, Peter C. Gøtzsche, John P. A. Ioannidis, Mike Clarke, P. J. Devereaux, Jos Kleijnen, David Moher

Published: July 21, 2009 • <http://dx.doi.org/10.1371/journal.pmed.1000100>

# PRISMA checklist and flow diagram



## PRISMA Statement 2009 – Reporting guideline for systematic reviews and meta-analyses

PRISMA stands for Preferred Reporting Items for Systematic reviews and Meta-Analyses. It is an evidence-based minimum set of standards for reporting systematic reviews and meta-analyses. It consists of a 27-item checklist and a flow diagram which depicts the flow of information through the different phases of a systematic review.

This guideline replaces the existing QUOROM Statement; journals and other organisations are encouraged to update their instructions and resources and refer authors to the new PRISMA guidance.

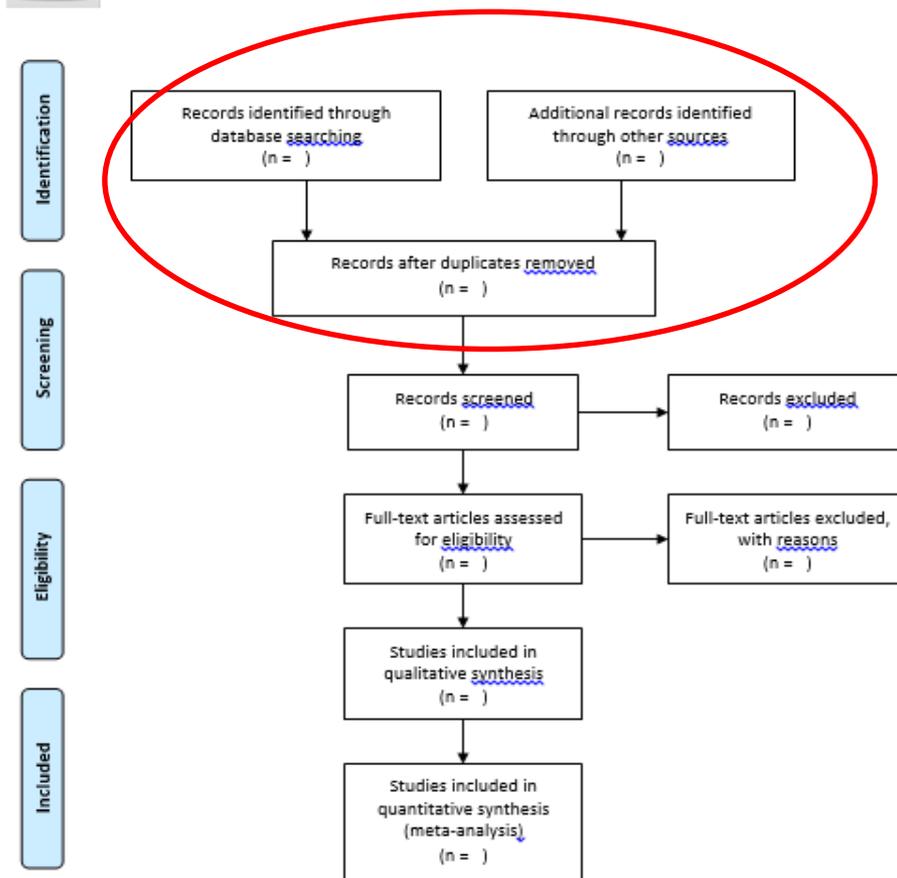
### PRISMA 2009 Checklist

[www.prisma-statement.org](http://www.prisma-statement.org)

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<b>ABSTRACT</b>			
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<b>INTRODUCTION</b>			
Rationale	3	Describe the rationale for the review in the context of what is already known.	
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	
<b>METHODS</b>			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	
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Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	



### PRISMA 2009 Flow Diagram



# PRISMA extensions

[PRISMA harms checklist: improving harms reporting in systematic reviews](#)

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[The PRISMA Extension Statement for Reporting of Systematic Reviews Incorporating Network Meta-analyses of Health Care Interventions: Checklist and Explanations](#)

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[Preferred Reporting Items for Systematic Review and Meta-Analyses of individual participant data: the PRISMA-IPD Statement](#)

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[Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols \(PRISMA-P\) 2015 statement](#)

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[PRISMA-Equity 2012 Extension: Reporting Guidelines for Systematic Reviews with a Focus on Health Equity](#)

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[PRISMA for Abstracts: Reporting Systematic Reviews in Journal and Conference Abstracts](#)

# PRISMA-P

**PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol\***

Section and topic	Item No	
<b>ADMINISTRATIVE INFORMATION</b>		
Title:		
Identification	1a	Identify
Update	1b	If the p
Registration	2	If regist
Authors:		
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors, provide physical mailing address of corresponding author
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments
Support:		
Sources	5a	Indicate sources of financial or other support for the review
Sponsor	5b	Provide name for the review funder and/or sponsor
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol
<b>INTRODUCTION</b>		
Rationale	6	Describe the rationale for the review in the context of what is already known
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparisons, outcomes, and study design
<b>METHODS</b>		
Eligibility criteria	8	
Information sources	9	

Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement

David Moher , Larissa Shamseer, Mike Clarke, Davina Ghera, Alessandro Liberati, Mark Petticrew, Paul Shekelle, Lesley A Stewart and PRISMA-P Group

*Systematic Reviews* 2015 | 4:1 | DOI: 10.1186/2046-4053-4-1 | © Moher et al.; licensee BioMed Central. 2015

Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation

*BMJ* 2015 ;349 doi: <http://dx.doi.org/10.1136/bmj.g7647> (Published 02 January 2015)  
Cite this as: *BMJ* 2015;349:g7647

# Reporting guidelines specifically for reporting systematic reviews

[A protocol format for the preparation, registration and publication of systematic reviews of animal intervention studies](#)

[A systematic review of systematic reviews and meta-analyses of animal experiments with guidelines for reporting](#)

[Systematic reviews and meta-analysis of preclinical studies: why perform them and how to appraise them critically](#)

[Collaborative Approach to Meta Analysis and Review of Animal Data from Experimental Studies \(CAMARADES\)](#)

[Finding What Works in Health Care: Standards for Systematic Reviews. Chapter 10. Systematic Reviews](#)

[Bayesian methods in health technology assessment: a review](#)

[Systematic Reviews. CRD's guidance for undertaking reviews in health care](#)

[RAMESES publication standards: meta-narrative reviews](#)

[The HuGENet™ HuGE Review Handbook, version 1.0. Guidelines for systematic reviews of gene disease association studies](#)

[RAMESES publication standards: realist syntheses](#)

[Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0](#)

[Meta-analysis of observational studies in epidemiology: a proposal for reporting. Meta-analysis Of Observational Studies in Epidemiology \(MOOSE\) group](#)

[Meta-analysis of individual participant data: rationale, conduct, and reporting](#)

# Systematic review reporting guidelines that include recommendations for literature search reporting: PRISMA checklist

## INTRODUCTION

Rationale	3	Describe the rationale for the review in the context of what is already known.
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).

## METHODS

Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.

[www.prisma-statement.org](http://www.prisma-statement.org)

# Systematic review reporting guidelines that include recommendations for literature search reporting: PRISMA-P checklist

INTRODUCTION		
Rationale	6	Describe the rationale for the review in the context of what is already known
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)
METHODS		
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated
Study records:		
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review

[www.prisma-statement.org/Extensions/Protocols.aspx](http://www.prisma-statement.org/Extensions/Protocols.aspx)

# Systematic review reporting guidelines that include recommendations for literature search reporting

## **Cochrane Collaboration**

- Handbook Chapter 6.6.2 Provides reporting recommendations for both the review and the review protocol:  
[http://handbook.cochrane.org/chapter\\_6/6\\_6\\_2\\_reporting\\_the\\_search\\_process\\_in\\_the\\_review.htm](http://handbook.cochrane.org/chapter_6/6_6_2_reporting_the_search_process_in_the_review.htm)
- Methodological expectations of Cochrane Intervention Reviews (MECIR): Standards for the conduct and reporting of new Cochrane Intervention Reviews. R6 provides recommendations for reporting the search in the abstract and R34-R39 for reporting the search in the methods section.  
<http://www.editorial-unit.cochrane.org/sites/editorial-unit.cochrane.org/files/uploads/1MECIR%20standards%20booklet%20V%202.pdf>

## **Institute of Medicine**

- Finding What Works in Health Care: Standards for Systematic Reviews. Standards for reporting the search outlined in Standard 5.1.  
[http://www.nationalacademies.org/hmd/~media/Files/Report%20Files/2011/Finding-What-Works-in-Health-Care-Standards-for-Systematic-Reviews/Standards%20for%20Systematic%20Review%202010%20Insert.pdf](http://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2011/Finding-What-Works-in-Health-Care-Standards-for-Systematic-Reviews/Standards%20for%20Systematic%20Review%202010%20Insert.pdf)

Examples of reporting guidelines specifically for reporting literature searches (but not necessarily for systematic reviews) include:

Atkinson KM, Koenka AC, Sanchez CE, Moshontz H, Cooper H. Reporting standards for literature searches and report inclusion criteria: making research syntheses more transparent and easy to replicate. *Research Synthesis Methods*. 2015;6(1): 87–95.

Niederstadt C, Droste S. Reporting and presenting information retrieval processes: the need for optimizing common practice in health technology assessment. *Int J Technol Assess Health Care*. 2010;26(4):450-457.

Booth A. "Brimful of STARLITE": toward standards for reporting literature searches. *J Med Libr Assoc*. 2006;94(4):421-429, e205.

Kable AK, Pich J, Maslin-Prothero SE. A structured approach to documenting a search strategy for publication: a 12 step guideline for authors. *Nurse Educ Today*. 2012;32(8):878-886.

# General reporting items for systematic review literature searches include:

- Details of all sources searched including databases, hand searches, citation searches, grey literature sources, websites, conference proceedings, contact with authors etc.
- Details of all search terms (MeSH and free-text), the fields that the terms were searched in, any search filters/hedges used, limits applied to the search e.g. date ranges or language or publication types, how the terms were combined etc.
- Copy of the entire search strategy for each database (to be included in the appendices)
- Date that the search was conducted on each database
- Dates of any update searches conducted for each database
- Details of the search platform used e.g. OVID or EbscoHost
- Details of the exact version of the database used e.g. Embase 1996 to 2016 Week 36
- The total number of results retrieved individually for each database, and combined before and after deduplication

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So why use reporting guidelines  
and what impact can their use  
have?

# Why use reporting guidelines?

Reporting guidelines are simply an aide memoire - a list of items deemed essential for a clear and transparent account of what was done and what was found in a research study

- They help to:
  - improve the accuracy, completeness and reproducibility of research reports/papers
  - ensure compliance with journal submission requirements
  - ensure research studies provide a more reliable basis for making clinical decisions or for inclusion in further research
  - ensure that research results can be transferred into practice more quickly
  - improve the quality of the research output of the department / institution / organisation

*You can help to improve not only the quality and subsequent usability of published health research but also help advance the global body of health knowledge ultimately leading to improved patient care!*

# Examples of Journal requirements

## Standards of reporting

[Back to top](#)

BioMed Central advocates complete and transparent reporting of biomedical and biological research. Please refer to the [Minimum standards of reporting checklist](#) when reporting your research (published in *BMC Biology*). Exact requirements may vary depending on the journal; please refer to the journal's instructions for authors. We also strongly recommend that authors refer to the minimum reporting guidelines for health research hosted by the [EQUATOR Network](#) when preparing their manuscript, and the [BioSharing Portal](#) for reporting checklists for biological and biomedical research, where applicable. Authors should adhere to these guidelines when drafting their manuscript, and peer reviewers will be asked to refer to these checklists when evaluating such studies.

Checklists are available for a number of study designs, including:

- Randomized controlled trials (CONSORT) and protocols (SPIRIT)
- Systematic reviews and meta-analyses (PRISMA) and protocols (PRISMA-P)
- Observational studies (STROBE)
- Case reports (CARE)
- Qualitative research (COREQ)
- Diagnostic/prognostic studies (STARD and TRIPOD)
- Economic evaluations (CHEERS)
- Pre-clinical animal studies (ARRIVE)

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### As supplemental files

- The original protocol for a clinical trial or, if the protocol has been published in an open access online journal, its reference and URL. We appreciate that studies sometimes deviate from protocols, but please explain any important deviations in the manuscript, particularly those about choice of outcomes and analyses or change in sample size.
- The original protocol for an observational study or systematic review, if available. We recommend that protocols for randomised trials are written using the [SPIRIT checklist](#).
- For a randomised controlled trial, the appropriate completed [CONSORT](#) checklist showing on which page of your manuscript each checklist item appears, the CONSORT-style structured abstract, and the CONSORT flowchart (CONSORT has several extension statements - for example, for cluster RCTs, pragmatic trials).
- For a randomised controlled trial, a completed [TIDieR checklist](#) - this helps to ensure that trial interventions are fully described in ways that are reproducible, usable by other clinicians, and clear enough for systematic reviewers and guideline writers.
- [PRISMA checklist](#) and flowchart for a systematic review or meta-analysis of randomised trials and other evaluation studies.
- [STARD](#) checklist and flowchart for a study of diagnostic accuracy.
- [STROBE](#) checklist for an observational study.  
Please use the STROBE extensions, where appropriate:
  - [RECORD](#): The REporting of studies Conducted using Observational Routinely-collected health Data (RECORD) Statement
  - [RDS](#): Strengthening the Reporting of Observational Studies in Epidemiology for Respondent-Driven Sampling Studies: 'STROBE-RDS' Statement
  - [ME](#): Strengthening the Reporting of OBservational studies in Epidemiology - Molecular Epidemiology (STROBE-ME)
  - [STREGA](#): Strengthening the REporting of Genetic Association Studies (S
- [GRIPS](#) for genetic risk prediction studies.
- [CHEERS](#) for an econo

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- Reports of trials must conform to [CONSORT 2010 guidelines](#), and should be submitted with their protocol
- All reports of randomised trials should include a section entitled Randomisation and masking, within their formatting guidelines for randomised trials.
- Cluster-randomised trials must be reported according to [CONSORT extended guidelines](#)
- Randomised trials that report harms must be described according to [extended CONSORT guidelines](#)
- Studies of diagnostic accuracy must be reported according to [STARD guidelines](#)
- Observational studies (cohort, case-control, or cross-sectional designs) must be reported according to their protocols
- We encourage the registration of all observational studies on a WHO-compliant registry (see [Lancet 2013](#))
- Genetic association studies must be reported according to [STREGA guidelines](#)
- Systematic reviews and meta-analyses must be reported according to [PRISMA guidelines](#)
- To find reporting guidelines see <http://www.equator-network.org>

## Annals of Internal Medicine

ESTABLISHED IN 1927 BY THE AMERICAN COLLEGE OF PHYSICIANS

Reporting guidelines	Follow relevant reporting recommendations. The <a href="#">EQUATOR</a> includes the following: <ul style="list-style-type: none"> <li>• <a href="#">PRISMA</a> reporting guideline for systematic reviews and meta-analysis</li> <li>• <a href="#">MOOSE</a> reporting guidelines for meta-analysis of observational studies</li> <li>• <a href="#">ENTREQ</a> reporting guideline for synthesis of qualitative research</li> </ul>
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# ICMJE

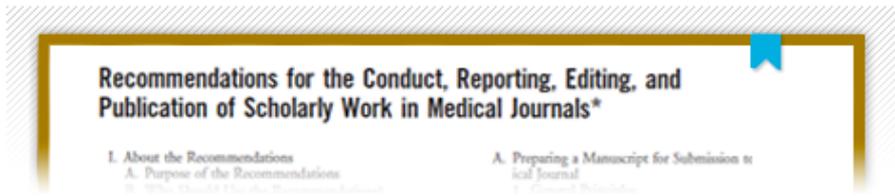


Recommendations

Conflicts of Interest

Journals  
Following the ICMJE Recommendations

## Recommendations



Read the Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly work in Medical Journals.

[www.icmje.org/icmje-recommendations.pdf](http://www.icmje.org/icmje-recommendations.pdf)

ted and sent for peer review simultaneously with the primary manuscript.

## 2. Reporting Guidelines

Reporting guidelines have been developed for different study designs; examples include CONSORT ([www.consort-statement.org](http://www.consort-statement.org)) for randomized trials, STROBE for observational studies (<http://strobe-statement.org/>), PRISMA for systematic reviews and meta-analyses (<http://prisma-statement.org/>), and STARD for studies of diagnostic accuracy ([www.stard-statement.org/](http://www.stard-statement.org/)). Journals are encouraged to ask authors to follow these guidelines because they help authors describe the study in enough detail for it to be evaluated by editors, reviewers, readers, and other researchers evaluating the medical literature. Authors of review manuscripts are encouraged to describe the methods used for locating, selecting, extracting, and synthesizing data; this is mandatory for systematic reviews. Good sources for reporting guidelines are the EQUATOR Network ([www.equator-network.org/home/](http://www.equator-network.org/home/)) and the NLM's Research Reporting Guidelines and Initiatives ([www.nlm.nih.gov/services/research\\_report\\_guide.html](http://www.nlm.nih.gov/services/research_report_guide.html)).

## 3. Manuscript Sections

The following are general requirements for reporting within sections of all study designs and manuscript for-

## Confl

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# Impact: UK Academy of Medical Sciences

## Reproducibility and the conduct of research



### Issues

## Possible strategies



Improving reproducibility will ensure that research is as efficient and productive as possible. This figure summarises aspects of the conduct of research that can cause irreproducible results, and potential strategies for counteracting poor practice in these areas. Overarching factors can further contribute to the causes of irreproducibility, but can also drive the implementation of specific measures to address these causes. The culture and environment in which research takes place is an important 'top-down' overarching factor. From a 'bottom-up' perspective, continuing education and training for researchers can raise awareness and disseminate good practice.

# Impact: HEFCE



RESEARCH POLICY | November 10th 2015

## **Research impact: learning lessons from the REF**

**Lesson 5: Researchers who deliver high-quality academic research also deliver high-quality impact**

# Impact

## European Heart Journal - Cardiovascular Imaging

Reporting standards in cardiac MRI, CT, and SPECT diagnostic accuracy studies: analysis of the impact of STARD criteria 

Edd N. Maclean, Ian S. Stone, Felix Ceelen, Xabier Garcia-Albeniz, Wieland H. Sommer, Steffen E. Petersen

DOI: <http://dx.doi.org/10.1093/ehjci/et277> 691-700 First published online: 23 January 2014

“The reporting standards of diagnostic accuracy studies in the field of non-invasive cardiac imaging are satisfactory at best and have **improved since the introduction of STARD**. Those journals that **advise authors to refer to STARD** have **significantly higher impact factors**, and authors should be encouraged that **journals of relatively high impact factors publish diagnostic accuracy studies of higher reporting quality.**”

## INTERNATIONAL JOURNAL OF SURGERY

Impact of the mandatory implementation of reporting guidelines on reporting quality in a surgical journal: A before and after study

[Riaz Ahmed Agha](#), [Alexander J. Fowler](#)  , [Chris Limb](#), [Katie Whitehurst](#), [Robert Coe](#), [Harkiran Sagoo](#), [Daniyal Jafree](#), [Charmilie Chandrakumar](#), [Buket Gundogan](#)

"...**STROBE compliance** following implementation of the policy, **increased by a statistically significant 12%** (68% to 77%,  $p=0.00018$ )...**CONSORT compliance increased (50% to 70%)** as did **PRISMA compliance (48% to 76%)**..."

## Calls for development of additional reporting guidelines for reviews:

A scoping review on the conduct and reporting of scoping reviews

[Andrea C. Tricco](#) , [Erin Lillie](#), [Wasifa Zarin](#), [Kelly O'Brien](#), [Heather Colquhoun](#), [Monika Kastner](#), [Danielle Levac](#), [Carmen Ng](#), [Jane Pearson Sharpe](#), [Katherine Wilson](#), [Meghan Kenny](#), [Rachel Warren](#), [Charlotte Wilson](#), [Henry T. Stelfox](#) and [Sharon E. Straus](#)

*BMC Medical Research Methodology* BMC series – open, inclusive and trusted 2016 16:15 |

DOI: [10.1186/s12874-016-0116-4](https://doi.org/10.1186/s12874-016-0116-4) | © Tricco et al. 2016

Conclusion: “...improvements in reporting and conduct are imperative. Further research on scoping review methodology is warranted, and in particular, **there is need for a guideline to standardize reporting.**”

# Impact: citations

RESEARCH ARTICLE

## Is Quality and Completeness of Reporting of Systematic Reviews and Meta-Analyses Published in High Impact Radiology Journals Associated with Citation Rates?

Christian B. van der Pol<sup>1</sup>, Matthew D. F. McInnes<sup>1,2\*</sup>, William Petrcich<sup>2</sup>, Adam S. Tunis<sup>1</sup>, Ramez Hanna<sup>1</sup>

**1** Department of Radiology, University of Ottawa, Ottawa, Ontario, Canada, **2** Clinical Epidemiology Program, Ottawa Hospital Research Institute, Ottawa, Ontario, Canada

\* [mmcinn@toh.on.ca](mailto:mmcinn@toh.on.ca)



### Abstract

### Conclusion

There is a positive correlation between the quality and the completeness of a reported SR or MA with citation rate which persists when adjusted for journal IF and journal 5-year IF.

 OPEN ACCESS

**Citation:** van der Pol CB, McInnes MDF, Petrcich W, Tunis AS, Hanna R (2015) Is Quality and Completeness of Reporting of Systematic Reviews