The EQUATOR Network

supporting writers to publish high-impact health research

Caroline Struthers, Education and Training Manager

Medcomms Networking Event

3 May 2017, Oxford

http://www.medcommsnetworking.com/

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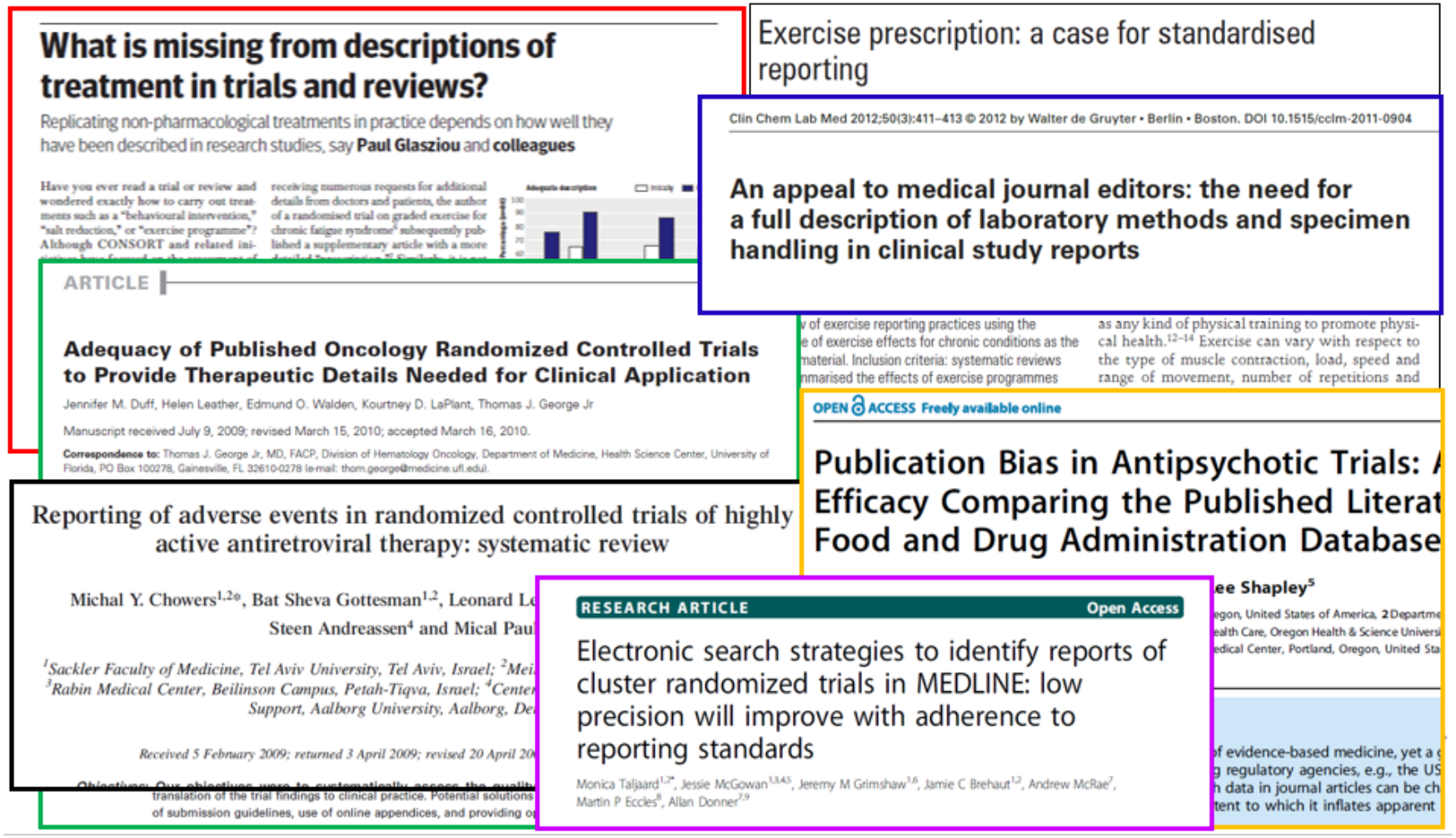
The EQUATOR Network

- Why? was EQUATOR established?
- What? is EQUATOR?
- How? do we achieve our mission?

Widespread deficiencies in research 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**

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

ARTICLE

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, Thomas J. George Jr

Manuscript received July 9, 2009; revised March 15, 2010; accepted March 16, 2010.

OPEN ACCESS Freely available online

Publication Bias in Antipsychotic Trials: Efficacy Comparing the Published Literature and Food and Drug Administration Database

Reporting of adverse events in randomized controlled trials of highly active antiretroviral therapy: systematic review

RESEARCH ARTICLE Open Access

Electronic search strategies to identify reports of cluster randomized trials in MEDLINE: low precision will improve with adherence to reporting standards

Monica Taljaard, Jessie McGowan, Jeremy M Grimshaw, Jamie C Brehaut, Andrew McRae, Martin P Eccles, Allan Donner

Guidance existed but was difficult to find and not used

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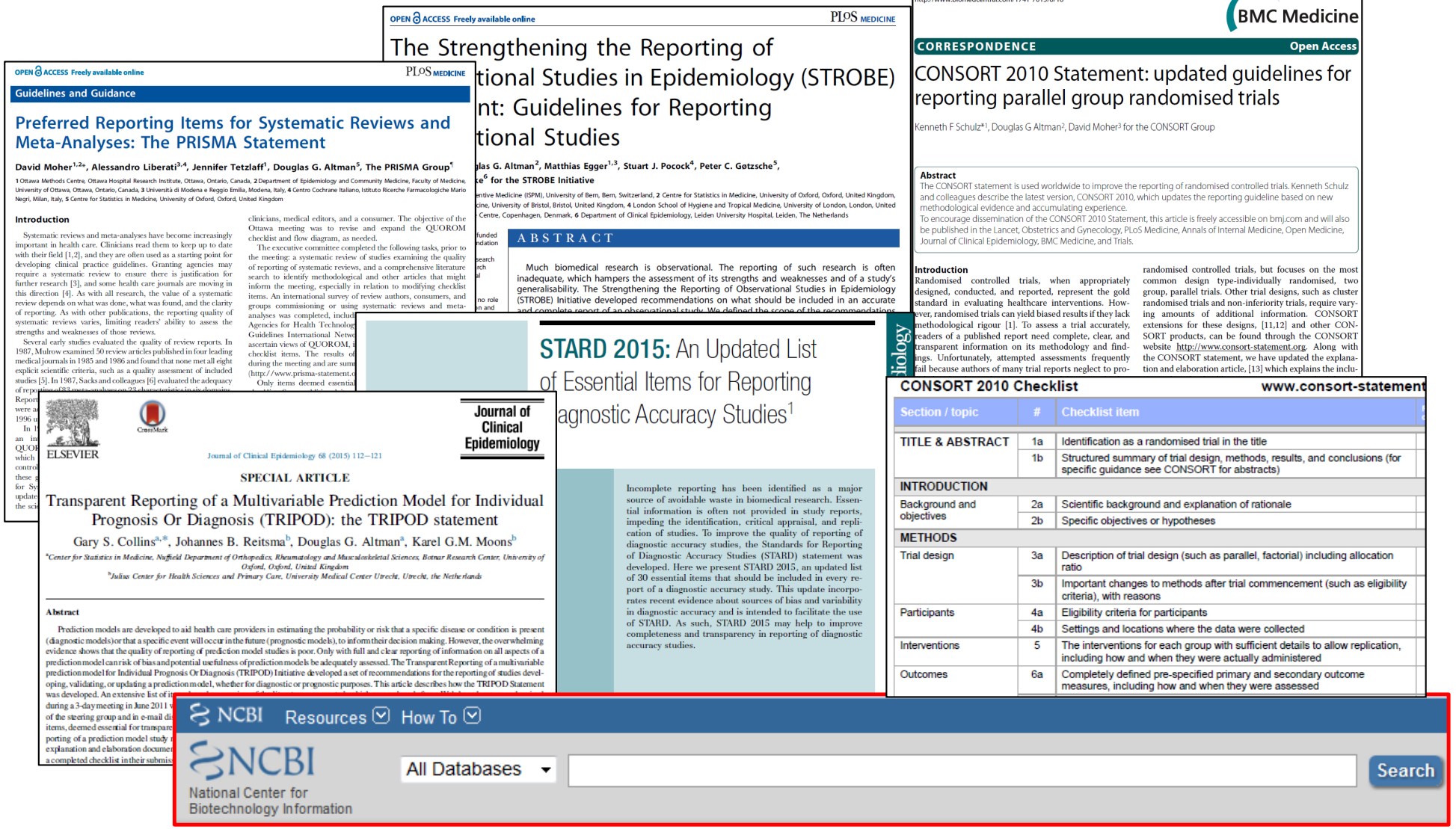

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Guidelines and Guidance

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

David Moher[1,2*], Alessandro Liberati[3,4], Jennifer Tetzlaff[1], Douglas G. Altman[5], The PRISMA Group[*]

1 Ottawa Methods Centre, Ottawa Hospital Research Institute, Ottawa, Ontario, Canada, 2 Department of Epidemiology and Community Medicine, Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada, 3 Università di Modena e Reggio Emilia, Modena, Italy, 4 Centro Cochrane Italiano, Istituto Ricerche Farmacologiche Mario Negri, Milan, Italy, 5 Centre for Statistics in Medicine, University of Oxford, Oxford, United Kingdom

Introduction

Systematic reviews and meta-analyses have become increasingly important in health care. Clinicians read them to keep up to date with their field [1,2], and they are often used as a starting point for developing clinical practice guidelines. Granting agencies may require a systematic review to ensure there is justification for further research [3], and some health care journals are moving in this direction [4]. As with all research, the value of a systematic review depends on what was done, what was found, and the clarity of reporting. As with other publications, the reporting quality of systematic reviews varies, limiting readers' ability to assess the strengths and weaknesses of those reviews.

Several early studies evaluated the quality of review reports. In 1987, Mulrow examined 50 review articles published in four leading medical journals in 1985 and 1986 and found that none met all eight explicit scientific criteria, such as a quality assessment of included studies [5]. In 1987, Sacks and colleagues [6] evaluated the adequacy

clinicians, medical editors, and a consumer. The objective of the Ottawa meeting was to revise and expand the QUOROM checklist and flow diagram, as needed.

The executive committee completed the following tasks, prior to the meeting: a systematic review of studies examining the quality of reporting of systematic reviews, and a comprehensive literature search to identify methodological and other articles that might inform the meeting, especially in relation to modifying checklist items. An international survey of review authors, consumers, and groups commissioning or using systematic reviews and meta-analyses was completed, includ

Agencies for Health Technolog

Guidelines International Netwo

ascertain views of QUOROM, i

checklist items. The results of

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(http://www.prisma-statement.o

Only items deemed essential

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The Strengthening the Reporting of tional Studies in Epidemiology (STROBE) nt: Guidelines for Reporting tional Studies

las G. Altman[2], Matthias Egger[1,3], Stuart J. Pocock[4], Peter C. Gøtzsche[5], e[6] for the STROBE Initiative

entive Medicine (ISPM), University of Bern, Bern, Switzerland, 2 Centre for Statistics in Medicine, University of Oxford, Oxford, United Kingdom, cine, University of Bristol, Bristol, United Kingdom, 4 London School of Hygiene and Tropical Medicine, University of London, London, United Centre, Copenhagen, Denmark, 6 Department of Clinical Epidemiology, Leiden University Hospital, Leiden, The Netherlands

funded ndation search rch al no role n and

ABSTRACT

Much biomedical research is observational. The reporting of such research is often inadequate, which hampers the assessment of its strengths and weaknesses and of a study's generalisability. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Initiative developed recommendations on what should be included in an accurate

Schulz et al. BMC Medicine 2010, 8:18
http://www.biomedcentral.com/1741-7015/8/18

BMC Medicine

CORRESPONDENCE Open Access

CONSORT 2010 Statement: updated guidelines for reporting parallel group randomised trials

Kenneth F Schulz*[1], Douglas G Altman[2], David Moher[3] for the CONSORT Group

Abstract

The CONSORT statement is used worldwide to improve the reporting of randomised controlled trials. Kenneth Schulz and colleagues describe the latest version, CONSORT 2010, which updates the reporting guideline based on new methodological evidence and accumulating experience.

To encourage dissemination of the CONSORT 2010 Statement, this article is freely accessible on bmj.com and will also be published in the Lancet, Obstetrics and Gynecology, PLoS Medicine, Annals of Internal Medicine, Open Medicine, Journal of Clinical Epidemiology, BMC Medicine, and Trials.

Introduction

Randomised controlled trials, when appropriately designed, conducted, and reported, represent the gold standard in evaluating healthcare interventions. However, randomised trials can yield biased results if they lack methodological rigour [1]. To assess a trial accurately, readers of a published report need complete, clear, and transparent information on its methodology and findings. Unfortunately, attempted assessments frequently fail because authors of many trial reports neglect to pro-

randomised controlled trials, but focuses on the most common design type-individually randomised, two group, parallel trials. Other trial designs, such as cluster randomised trials and non-inferiority trials, require varying amounts of additional information. CONSORT extensions for these designs, [11,12] and other CONSORT products, can be found through the CONSORT website http://www.consort-statement.org. Along with the CONSORT statement, we have updated the explanation and elaboration article, [13] which explains the inclu-

ELSEVIER CrossMark

Journal of Clinical Epidemiology

Journal of Clinical Epidemiology 68 (2015) 112–121

SPECIAL ARTICLE

Transparent Reporting of a Multivariable Prediction Model for Individual Prognosis Or Diagnosis (TRIPOD): the TRIPOD statement

Gary S. Collins[a,*], Johannes B. Reitsma[b], Douglas G. Altman[a], Karel G.M. Moons[b]

[a]Center for Statistics in Medicine, Nuffield Department of Orthopedics, Rheumatology and Musculoskeletal Sciences, Botnar Research Center, University of Oxford, Oxford, United Kingdom

[b]Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht, the Netherlands

Abstract

Prediction models are developed to aid health care providers in estimating the probability or risk that a specific disease or condition is present (diagnostic models) or that a specific event will occur in the future (prognostic models), to inform their decision making. However, the overwhelming evidence shows that the quality of reporting of prediction model studies is poor. Only with full and clear reporting of information on all aspects of a prediction model can risk of bias and potential usefulness of prediction models be adequately assessed. The Transparent Reporting of a multivariable prediction model for Individual Prognosis Or Diagnosis (TRIPOD) Initiative developed a set of recommendations for the reporting of studies developing, validating, or updating a prediction model, whether for diagnostic or prognostic purposes. This article describes how the TRIPOD Statement was developed. An extensive list of it

during a 3-day meeting in June 2011

of the steering group and in e-mail di

items, deemed essential for transpare

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a completed checklist in their submis

STARD 2015: An Updated List of Essential Items for Reporting agnostic Accuracy Studies[1]

iology

Incomplete reporting has been identified as a major source of avoidable waste in biomedical research. Essential information is often not provided in study reports, impeding the identification, critical appraisal, and replication of studies. To improve the quality of reporting of diagnostic accuracy studies, the Standards for Reporting of Diagnostic Accuracy Studies (STARD) statement was developed. Here we present STARD 2015, an updated list of 30 essential items that should be included in every report of a diagnostic accuracy study. This update incorporates recent evidence about sources of bias and variability in diagnostic accuracy and is intended to facilitate the use of STARD. As such, STARD 2015 may help to improve completeness and transparency in reporting of diagnostic accuracy studies.

CONSORT 2010 Checklist www.consort-statement

Section / topic	#	Checklist item
TITLE & ABSTRACT	1a	Identification as a randomised trial in the title
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)
INTRODUCTION		
Background and objectives	2a	Scientific background and explanation of rationale
	2b	Specific objectives or hypotheses
METHODS		
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons
Participants	4a	Eligibility criteria for participants
	4b	Settings and locations where the data were collected
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed

NCBI Resources How To

NCBI National Center for Biotechnology Information

All Databases

Search

What is the EQUATOR Network?

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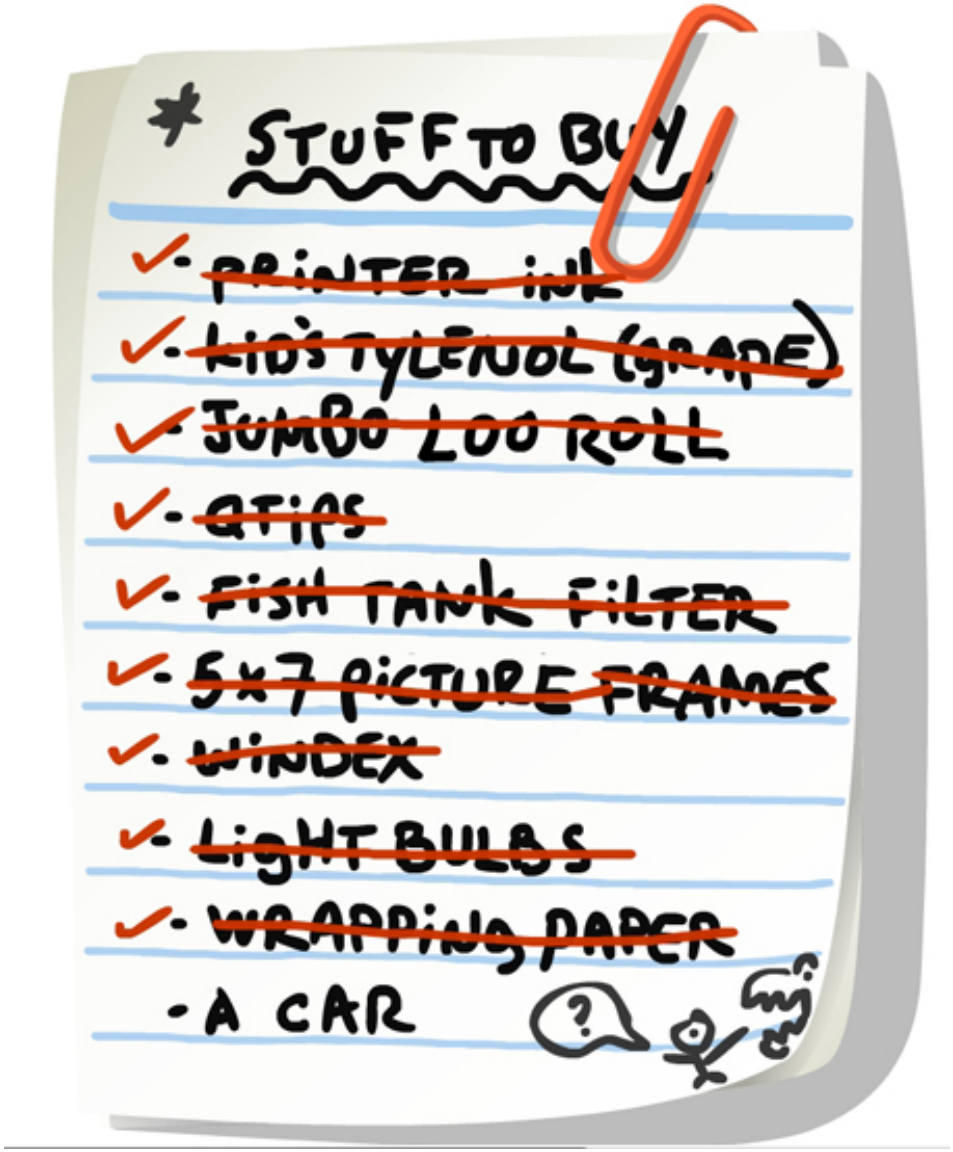
Enhancing the QUAlity and Transparency Of health Research

- Established by Prof Doug Altman in 2006
- An online "home" for **reporting guidelines** and other resources to support good reporting of health research
- **Recognised brand** representing honesty and integrity in research

Reporting guidelines

- 'Reminders' of scientific content
  - What you did
  - What you found
- Structure
  - Checklist, headings
  - Flow diagram
- Based on evidence and international consensus
  - Good examples



CONSORT checklist for randomised trials

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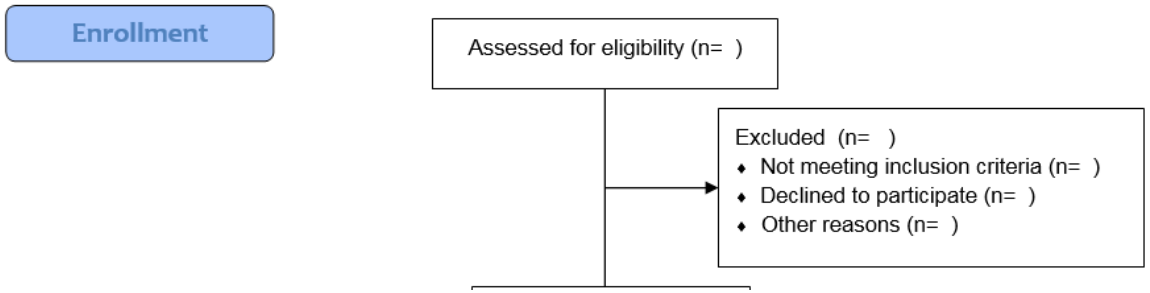
CONSORT 2010 checklist of information to include when reporting a randomised trial*

Section/Topic	Item No	Checklist item	Reported on page No
Title and abstract			
	1a	Identification as a randomised trial in the title	
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	
	2b	Specific objectives or hypotheses	
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	
Participants	4a	Eligibility criteria for participants	
	4b	Settings and locations where the data were collected	

CONSORT 2010 Flow Diagram



Most relevant to MedComms

- CONSORT + extensions
  - Abstracts
  - Non-inferiority, cluster
  - Harms
- SAMPL – statistical reporting
- Oncology, genetics + many other specialties
- GNOSIS (Phase 1 and 2 trials)
- Pharmacovigilance – case reports

One-stop shop

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Enhancing the QUAlity and Transparency Of health Research

EQUATOR resources in Portuguese | Spanish

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Your one-stop-shop for writing and publishing high-impact health research

find reporting guidelines | improve your writing | join our courses | run your own training course | enhance your peer review | implement guidelines

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

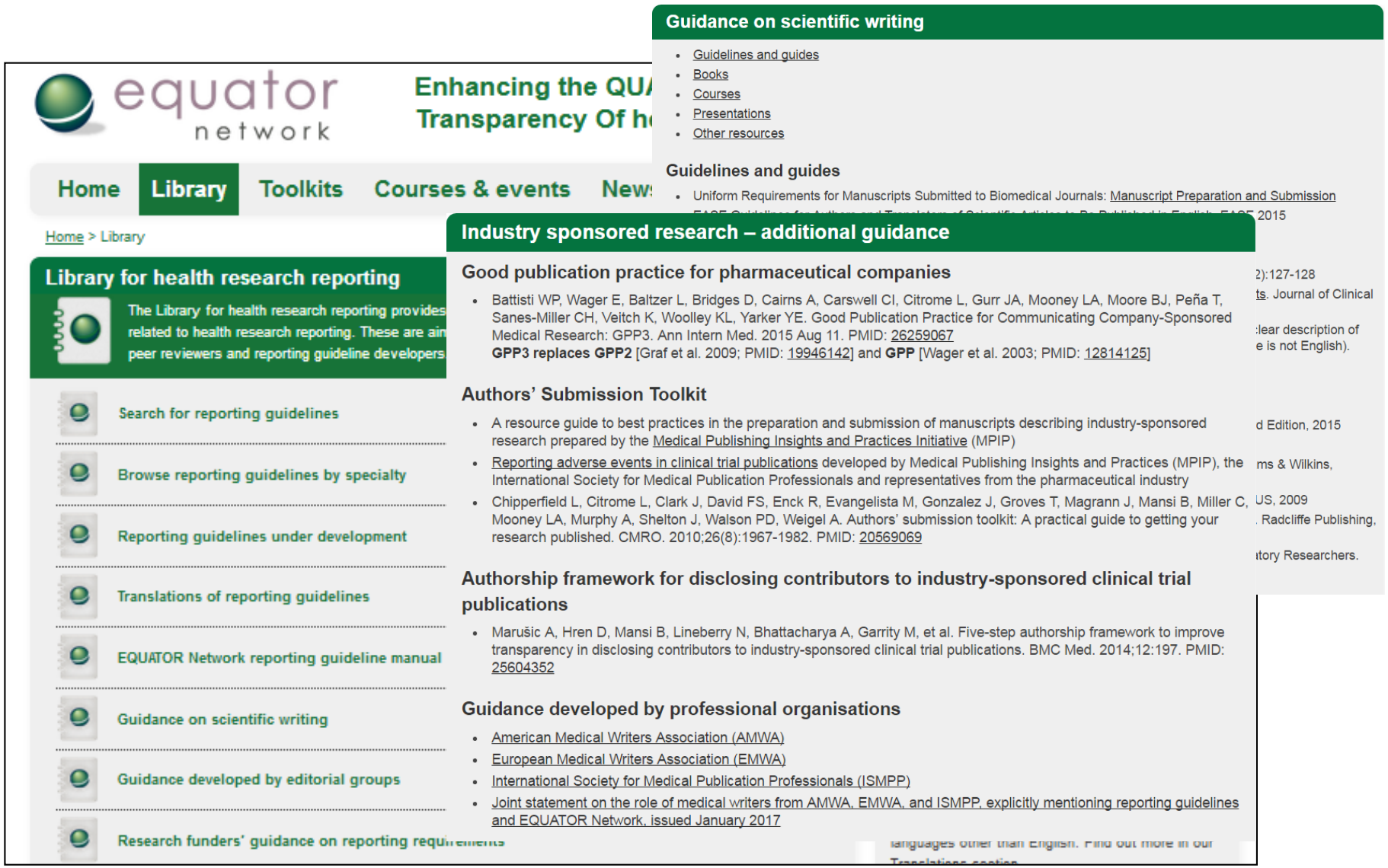
Reporting guidelines for main study types

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

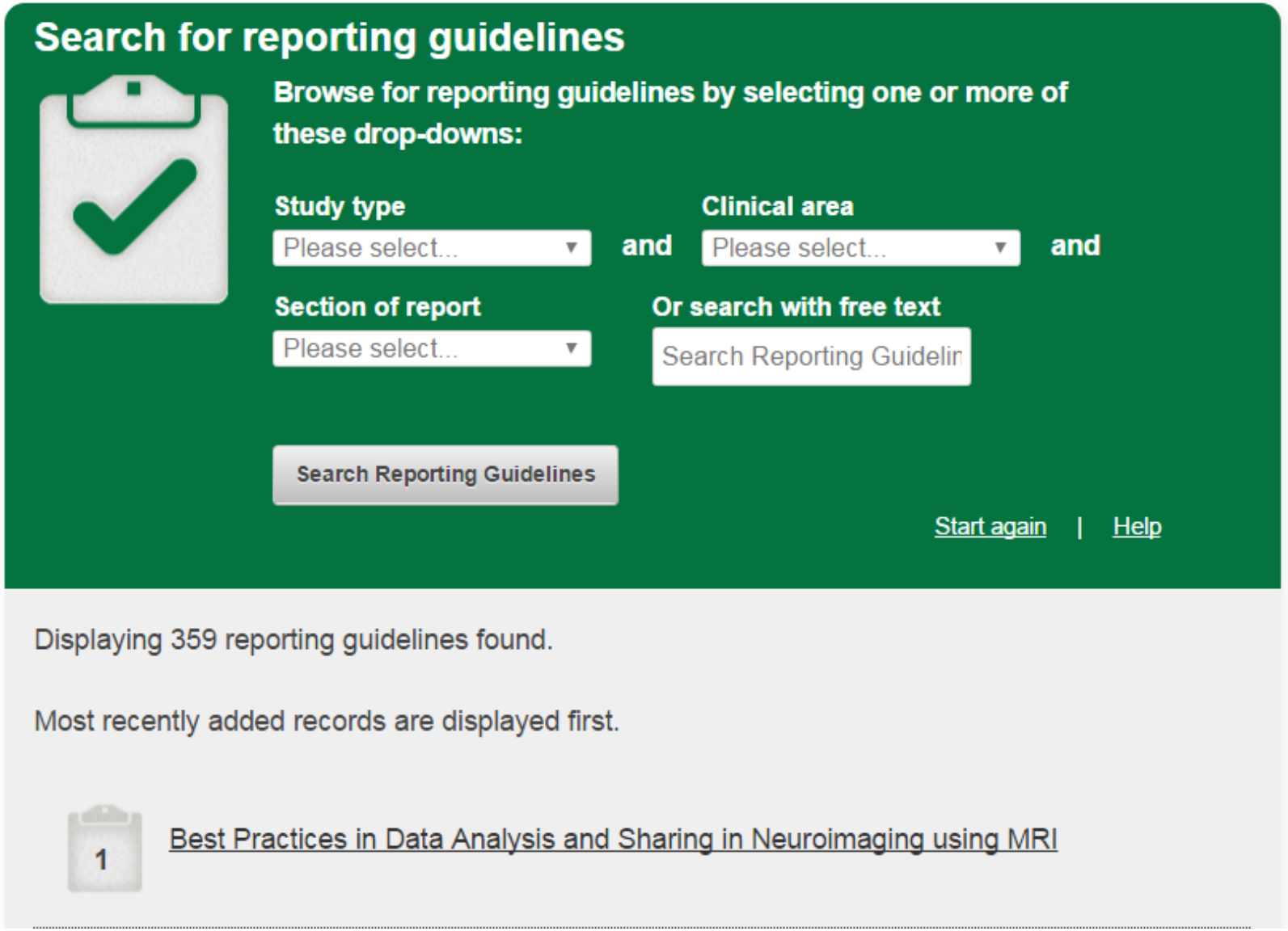
Visit our new browse reporting guidelines by specialty page

http://www.equator-network.org

Library for research reporting



Database of reporting guidelines



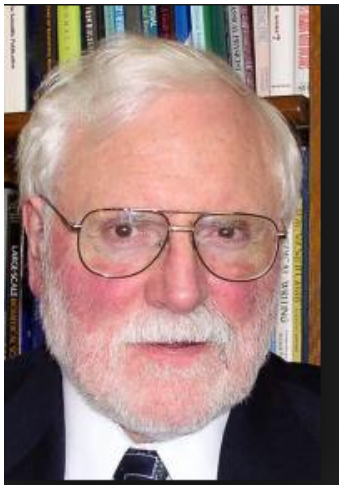
EQUATOR activities

- Raise awareness of the impact of poor reporting
- Highlight our tools and resources
- Engage with professional communities
- Provide training

EQUATOR Annual Lectures



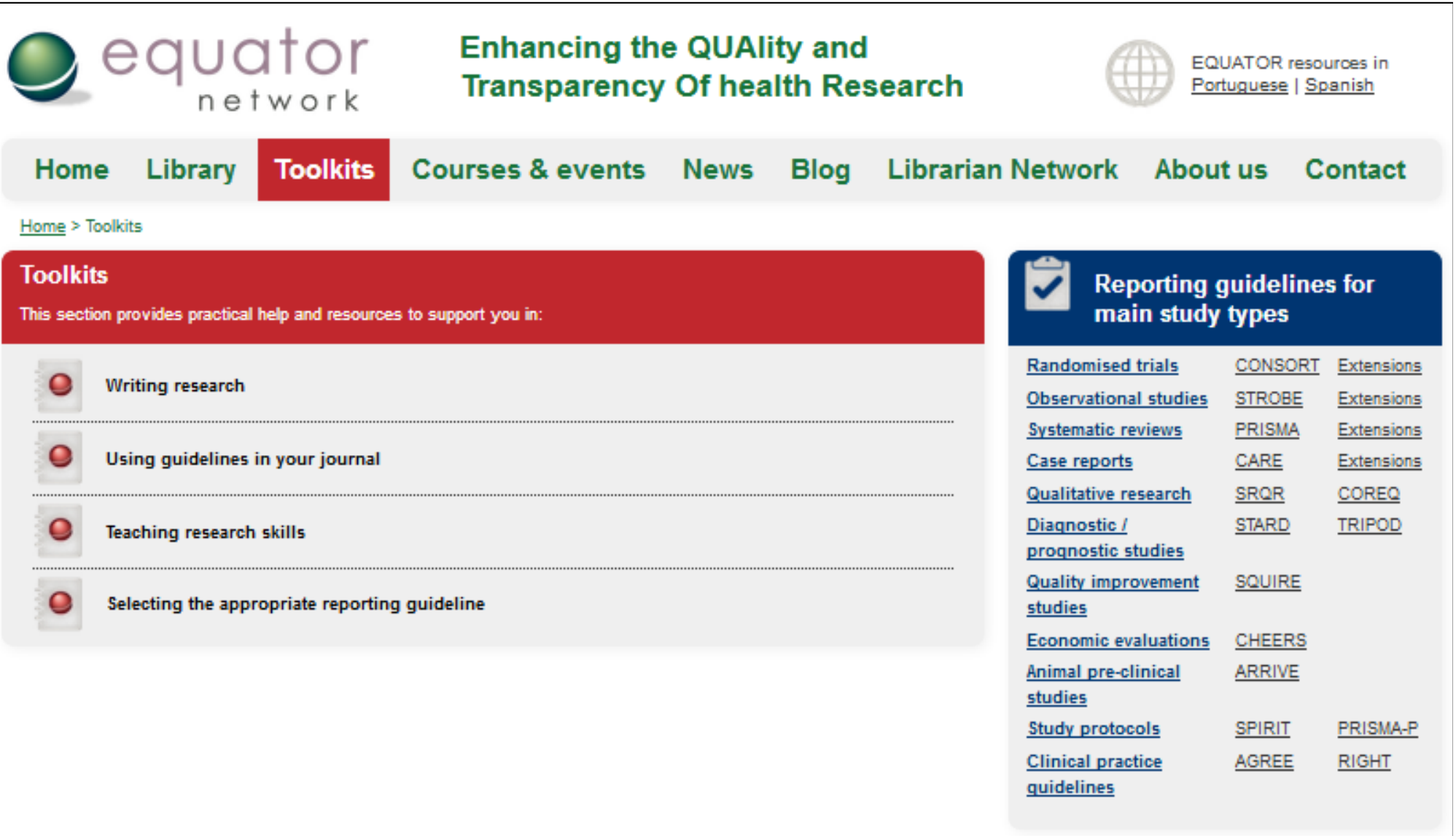





Prof Patrick Bossuyt

8th EQUATOR Annual Lecture 2017, Peer Review Congress, Chicago

EQUATOR toolkits



Toolkit for researchers and medical writers

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Home > Toolkits > How to write a great research paper using reporting guidelines

How to write a great research paper using reporting guidelines

Welcome to our toolkit for writing research!

Using the resources you find here will set you on the right road to writing a great research paper using reporting guidelines

When published, your article will start a new independent life. It will be read and critically appraised, and it may contribute to systematic reviews, inform clinical guidelines, and influence clinical practice.

Before you submit your paper to a journal, you need to consider whether the article will achieve its purpose:

- Will a Cochrane reviewer be able to scrutinise your study's methods to assess the risk of bias?
- Would another researcher be able to replicate your experiment?
- Can numerical results be extracted from your paper easily?
- Have you provided enough detail about your intervention to allow its use in clinical practice?

The resources in this toolkit will help you achieve a long and useful life for your article by reporting it in the best way possible.

- Find the right reporting guideline with the EQUATOR wizard
- Browse the EQUATOR library of reporting guidelines
- Read chapters from our textbook explaining why reporting guidelines are helpful
- Look at examples of good reporting
- Using COBWEB, an online tool for writing randomised controlled trial reports

Reporting guidelines for main study types

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

Education and training

> "It was an excellent workshop and I shared the main take-home messages with colleagues. It helped me a lot, even after years of this kind of thing, to put my thoughts in order."

Quote box Publication Schoo

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> "Thank you for the inspiration and energy that you have given me to go back home to my students and colleagues and tell them again and again about EQUATOR."

- Clinician, postdoc and student researchers
- Medical writers – agencies and pharma companies
- Humanitarian organisations
- Academic and healthcare leaders

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"It is difficult for me to think of any other single initiative on Research Methodology that has had a similar broad impact on research as EQUATOR.

The EQUATOR Network has become an indispensable resource for researchers (as authors of research papers across very diverse types of investigation), editors and peer reviewers for guidance on health research reporting and general issues relating to the responsible conduct and reporting of health research."

John P.A. Ioannidis, MD, DSc

Essay

Why Most Published Research Findings Are False

John P. A. Ioannidis

Thank you

Contact me to discuss opportunities for EQUATOR to provide tailored training for your staff

Caroline Struthers

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https://www.csm.ox.ac.uk/team/caroline-struthers