

Research papers that make a difference:

How to increase research value, reputation, ... and impact

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Outline



- Research output & impact
- University reputation & rankings
- Maximising the value of research & building strong research reputation for your institution
- *Will focus on health research but similar issues exist in other research fields*

Dr Iveta Simera

Lab scientist by training

Last 16 years in health related research & management:

- Systematic reviews
- Clinical practice guidelines
- Improving research publications – EQUATOR Network
- Teaching, training
- Research ethics
- Oxford NHS B REC

Parent of a student (and a future scientist)



Enhancing the QUALITY and Transparency Of health Research



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

Randomised trials	CONSORT	Extensions	Other
Observational studies	STROBE	Extensions	Other
Systematic reviews	PRISMA	Extensions	Other
Case reports	CARE		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

See all 294 reporting guidelines

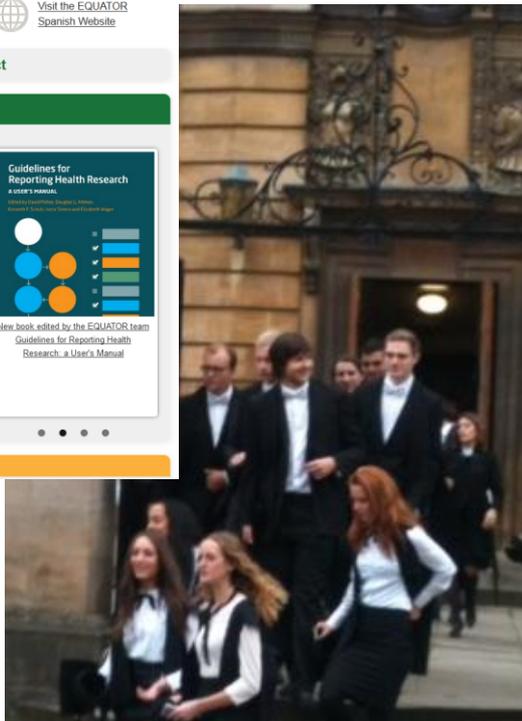


New book, edited by the EQUATOR team: Guidelines for Reporting Health Research: a User's Manual

Toolkits

EQUATOR highlights

News



Who is in the room? *

- Responsibility for (involvement in) health research
- Responsibility for influencing curriculum (course contents)
- Responsibility for recruiting students
- Responsibility for international development
- Other key role

Research output & Impact

The impact gap:

SOUTH AMERICA by the numbers

By Richard Van Noorden

The expanding economies of South America have led to a significant rise in scientific output over the past two decades, and research spending has increased in most countries. But given the region's share of the world's population and gross domestic product (GDP), publication rates still fall short of what would be expected. Research quality has not kept

pace with rising output, and the continent's research papers still struggle to attract citations from the rest of the world. There are huge inequalities across the region, too: Brazil dominates the publication record, for example, whereas Chile takes pole position in the patent landscape and Argentina scores highly in terms of the proportion of its population working in science.

THE PUBLISHING LANDSCAPE

South America has boosted its share of the world's research articles — but at 4%, it still underperforms slightly relative to its 5–6% share of world population and GDP.

NUMBER OF ARTICLES PUBLISHED IN ELSEVIER'S CITATION DATABASE SCOPUS IN 2013 (see 'The hidden continent' below)

BRAZIL: 46,306

In the past 20 years, Brazil's scientific output has risen by more than a factor of five, as its economy has almost tripled in terms of purchasing power. The country now accounts for more than two-thirds of South America's entire research output — although it is broadly similar to Argentina, Uruguay and Chile in terms of articles per capita.

VENEZUELA: 1,315

The only South American nation whose scientific output is declining: its publication tally fell by 29% between 2009 and 2013.

PERU: 1,044

Nearly three-quarters of Peru's articles involve collaborations with other countries. The most-cited articles include work on prevention of HIV, tuberculosis and lupus.

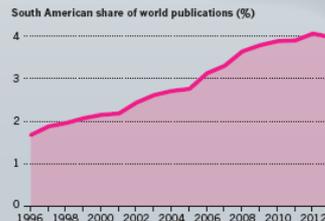
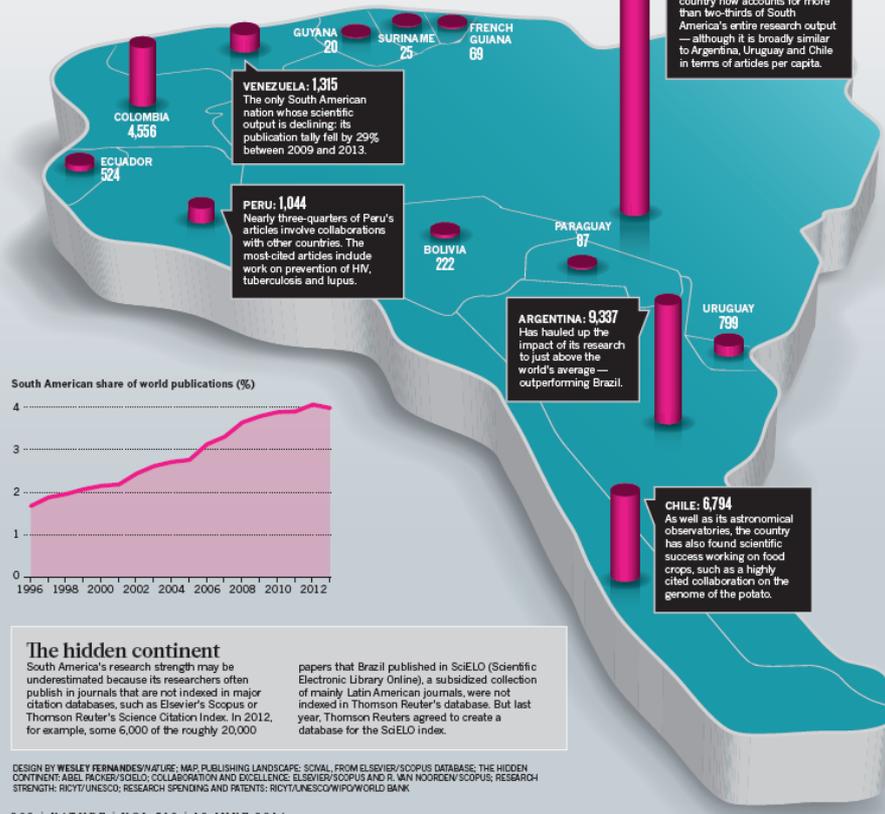
PARAGUAY: 87

ARGENTINA: 9,337
Has hauled up the impact of its research to just above the world's average — outperforming Brazil.

URUGUAY: 799

CHILE: 6,794

As well as its astronomical observatories, the country has also found scientific success working on food crops, such as a highly cited collaboration on the genome of the potato.



The hidden continent

South America's research strength may be underestimated because its researchers often publish in journals that are not indexed in major citation databases, such as Elsevier's Scopus or Thomson Reuter's Science Citation Index. In 2012, for example, some 6,000 of the roughly 20,000

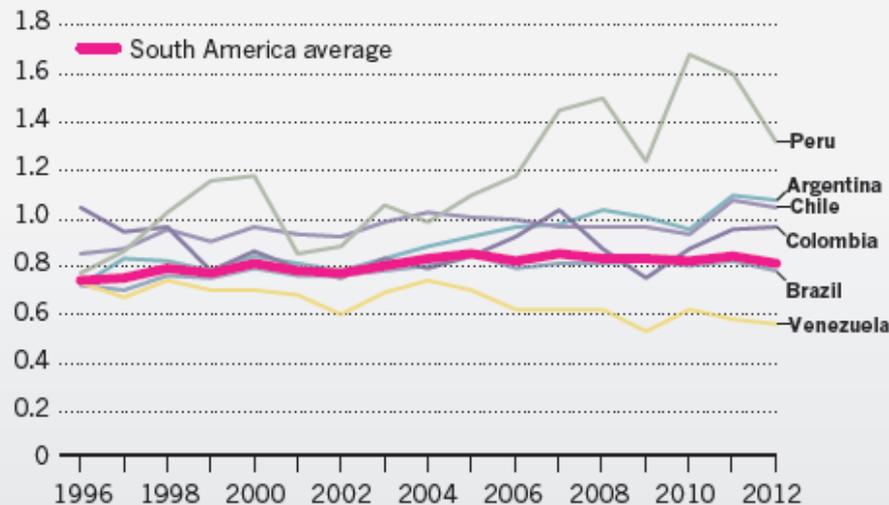
papers that Brazil published in SciELO (Scientific Electronic Library Online), a subsidized collection of mainly Latin American journals, were not indexed in Thomson Reuter's database. But last year, Thomson Reuters agreed to create a database for the SciELO index.

DESIGN BY WESLEY FERNANDES/NATURE; MAP, PUBLISHING LANDSCAPE, SCOPAL, FROM ELSEVIER/SCOPUS DATABASE; THE HIDDEN CONTINENT: ABEL PACKER/SCIENCE; COLLABORATION AND EXCELLENCE: ELSEVIER/SCOPUS AND R. VAN NOORDEN/SCOPUS; RESEARCH STRENGTH: RICHTY/UNESCO; RESEARCH SPENDING AND PATENTS: RICHTY/UNESCO/WWF/WORLD BANK

COLLABORATION AND EXCELLENCE

South America's scholarly impact remains relatively low — its citation rate last year was around 80% of the world's average (below). Peru's articles do best, largely because most are co-authored with scientists outside the continent. Indeed, the region's less-developed countries are generally more likely to collaborate beyond South America. In Brazil, less than one-quarter of its articles in 2008–12 involved such partnerships (right).

Citation impact weighted by research field (1 = world average)



RESEARCH STRENGTH

Brazil has more than 100,000 full-time researchers, single-handedly providing nearly two-thirds of South America's science personnel. But Argentina has the greatest proportion of researchers, with almost 3 scientists for every 1,000 workers.

Full-time equivalent researchers per 1,000 labour force



How do we measure research impact? *

- Numbers
 - Publications in high IF journals, citations, ...
- Change in our knowledge
 - Advancing our understanding
- Change in how we do things
 - Processes - how we work, produce goods, treat patients, ...
- Change in what happens
 - Outcomes – how many people we cured from a disease
- Impact on
 - Research, economy, society, ...

Impact of medical research



Laboratory research
Animal pre-clinical
research

Phase I, II trials

Phase III trials
Observational research

Phase IV / pragmatic trials
Outcomes research

Qualitative research, Diagnostic &
prognostic; economic analyses,
surveys

Research synthesis / Systematic reviews

Clinical guidelines

Policies

Example 1: Randomised trial

Features of Whey Protein Concentrate Supplementation in Children with Rapidly Progressive HIV Infection

by Y. F. Moreno,^a V. C. Sgarbieri,^b M. N. da Silva,^a AADC Toro,^a and M. M. S. Vilela^a

^aCenter for Investigation in Pediatrics (CIPED), Pediatrics Department, and ^bFood and Nutrition Department, Food Engineering School, State University of Campinas, São Paulo, Brazil

Summary

HIV infection is associated with subnormal GSH levels. An increase in glutathione levels has been observed in HIV-infected adults under oral whey protein supplementation. We studied the features associated with a whey protein concentrate supplementation in children with rapidly progressive AIDS. A prospective double-blind clinical trial was carried out for 4 months with 18 vertically HIV-infected children (1.98–6.37 years), under antiretroviral therapy, who had received whey protein, maltodextrin (placebo) or none. Erythrocyte glutathione concentration, T lymphocyte counts (CD4⁺ and CD8⁺) and occurrence of associated co-infections were evaluated. Wilcoxon's and Fischer's Exact tests were used to assess differences between whey protein-supplemented and control (placebo and non-supplemented) groups. A significant median increase of 16.14 mg/dl ($p = 0.018$) in erythrocyte glutathione levels was observed in the whey protein-supplemented group; the TCD4/CD8 lymphocyte ratio showed a non significant increase and lower occurrence of associated co-infections was also observed. In conclusion, whey protein concentrate supplementation can stimulate glutathione synthesis and, possibly, decrease the occurrence of associated co-infections.

Included in a systematic review

The screenshot shows the Cochrane Library website interface. At the top left is the Cochrane Library logo with the tagline 'Trusted evidence. Informed decisions. Better health.' To the right is a search bar with the placeholder text 'Search title, abstract, keyword' and a magnifying glass icon. Below the search bar are buttons for 'Browse' and 'Advanced Search'. A navigation menu below the search bar includes 'Cochrane Reviews', 'Trials', 'More Resources', 'About', and 'Help'. The main content area shows a search result for 'Nutritional interventions for reducing morbidity and mortality in people with HIV'. On the left side of the result, there are icons for PDF, Info, and References. The result itself includes a 'Review' button and an 'Intervention' button. Below the buttons, the authors are listed: Liesl Grobler, Nandi Siegfried, Marianne E Visser, Sarah SN Mahlangu, and Jimmy Volmink.

Cochrane Database of Systematic Reviews 2013, Issue 2. Art. No.: CD004536. DOI: 10.1002/14651858.CD004536.pub3.

The screenshot shows the cover of a WHO handbook. The title is 'Guidelines for an integrated approach to nutritional care of HIV-infected children (6 month-14 years) Preliminary version for country introduction'. The authors are listed as 'World Health Organization'. Below the title is a red cover image of the handbook. To the right of the cover image, there is a section for 'Publication details' which includes: 'Number of pages: 79 (Handbook), 15 (Guide for local adaptation), 32 (Chart booklet)', 'Publication date: 2009', 'Languages: English', and 'ISBN: 978 92 4 159752 4'. Below this is a 'Downloads' section with two options: 'Handbook pdf, 793kb' and 'Guide for local adaptation'.

Possibly to inform the update of the 2009 WHO guidelines



Systematic reviews



- **Key steps:**
 - Formulation of a clear question
 - Eligibility criteria for studies
 - Search for potentially relevant studies
 - Selection of studies into the review
 - Extraction of data
 - Assessment of methodological quality of included studies (risk of bias)
 - Synthesis of findings (possibly using meta-analysis)
 - Presentation of data and results
 - Interpretation and drawing conclusions

Assessing risk of bias

A critical element of a systematic review

- Risk of bias results from suboptimal methods
- Methods need to be reported well to allow assessment of risk of bias

METHODS – each aspect of the methods

	Done well	Done poorly	Not done
Fully reported (=reproducible)			
Ambiguously or incompletely reported			
Not reported			

Study	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)
Berneis 2000	?	?	-	?	?	?
Clark 2000	+	?	+	+	-	?
de Luis 2003	?	?	-	?	+	?
FANTA-KEMRI study 2011	+	+	-	?	-	?
Karsegard 2004	?	?	+	?	-	?
Keithley 2002	+	+	-	?	-	?
Moreno 2005	?	?	?	?	-	?
Rabeneck 1998	?	?	-	?	-	?
Rollins 2007	+	?	-	?	-	?
Schwenk 1999	?	+	-	?	?	?
Shabert 1999	+	?	+	+	-	?
Simpore 2005	?	?	-	?	+	?
Sudarsanam 2011	+	+	-	-	+	?
Yamani 2010	?	?	?	?	-	?



Example 2:

OPEN ACCESS Freely available online

 PLOS ONE

Characteristics of Randomized Trials Published in Latin America and the Caribbean According to Funding Source

Ludovic Reveiz^{1*}, Stephanie Sangalang¹, Demian Glujovsky², Carlos E. Pinzon³, Claudia Asenjo Lobos⁴, Marcela Cortes⁵, Martin Cañón⁶, Ariel Bardach², Xavier Bonfill⁷

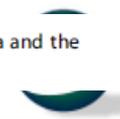
¹ Health Systems Based on Primary Health Care, Pan American Health Organization (PAHO), Washington D.C., United States of America, ² Argentine Cochrane Centre - Institute for Clinical Effectiveness and Health Policy (IECS), Buenos Aires, Argentina, ³ Instituto de Investigaciones, Fundación Universitaria Sanitas, Bogotá, Colombia, ⁴ Centro Rehabilitación Oral Avanzada e Implantología (CRAI) Universidad de Concepción (Centro Adherido Chileno de la Red Cochrane Iberoamericana), Santiago, Chile, ⁵ Chilean Branch of the Iberoamerican Cochrane Network, Universidad Católica de la Santísima Concepción, Santiago, Chile, ⁶ Facultad de Medicina, Fundación Universitaria Sanitas, Bogotá, Colombia, ⁷ Iberoamerican Cochrane Centre. Sant Pau Biomedical Research Institute (IIB-Sant Pau), The Biomedical Research Centre Network for Epidemiology and Public Health (CIBERESP) - Universitat Autònoma de Barcelona, Barcelona, Spain

Abstract

Introduction: Few studies have assessed the nature and quality of randomized controlled trials (RCTs) in Latin America and the Caribbean (LAC).

Methods and Findings: The aims of this systematic review are to evaluate the characteristics (including the risk of bias assessment) of RCT conducted in LAC according to funding source. A review of RCTs published in 2010 in which the author's

Citation: Reveiz L, Sangalang S, Glujovsky D, Pinzon CE, Asenjo Lobos C, et al. (2013) Characteristics of Randomized Trials Published in Latin America and the Caribbean According to Funding Source. PLoS ONE 8(2): e56410. doi:10.1371/journal.pone.0056410



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Key findings

- 526 RCTs published in 2010 conducted in LAC:
 - 369 (70%) from Brazil
- Researchers assessed strength of methodology in 162 Brazilian trials (where funding source was known)

	Risk of bias (n=162 RCTs)		
	Low	High	Unclear
Sequence generation	70	4	88
Allocation concealment	48	8	106
Blinding	73	13	76
Incomplete outcome data	124	12	26
Free of selective reporting	34	2	126
Other sources of bias	98	22	42

*Acknowledgement:
With grateful thanks to
Dr L. Reveiz, PAHO for
sharing his study raw data*

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

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"?

receiving numerous requests for additional details from doctors and patients, the author of a randomised trial on graded exercise for chronic fatigue syndrome¹ subsequently published a supplementary article with a more



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.

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

Michal Y. Chowers^{1,2*}, Bat Sheva Gottesman^{1,2}, Leonard L. Steen Andreassen⁴ and Mical Pau

¹Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; ²Meir ³Rabin Medical Center, Beilinson Campus, Petah-Tiqva, Israel; ⁴Center for Support, Aalborg University, Aalborg, Denmark

Received 5 February 2009; returned 3 April 2009; revised 20 April 2009

Objectives: Our objectives were to systematically assess the quality of translation of the trial findings to clinical practice. Potential solutions of submission guidelines, use of online appendices, and providing or

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

of exercise reporting practices using the level of exercise effects for chronic conditions as the material. Inclusion criteria: systematic reviews summarised the effects of exercise programmes

as any kind of physical training to promote physical health.¹²⁻¹⁴ Exercise can vary with respect to the type of muscle contraction, load, speed and range of movement, number of repetitions and

OPEN ACCESS Freely available online

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

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^{1,2*}, Jessie McGowan^{1,3,4,5}, Jeremy M Grimshaw^{1,6}, Jamie C Brehaut^{1,2}, Andrew McRae⁷, Martin P Eccles⁸, Allan Donner^{2,9}

Lee Shapley⁵

regon, United States of America, ²Department of Health Care, Oregon Health & Science University Medical Center, Portland, Oregon, United States

of evidence-based medicine, yet a growing number of regulatory agencies, e.g., the US Food and Drug Administration, require that data in journal articles can be checked against the source to which it inflates apparent

Unclear description & insufficient information about research **PREVENTS** us to

Assess research
quality,
reliability, and
relevance

Use research to
inform **policy,**
practice,
further
research

Creates massive
(but easily
avoidable
waste) instead
of value

Research under more scrutiny

- Systematic review development (research synthesis) highlighted problems



Research integrity, reproducibility, selective reporting, harmonising core outcomes, standardisation, data sharing, transparency,

- More 'research into research'

Focus on research

- Is my research published?
- Is my research published & useful & useable & reproducible?



Research can only have an impact if:

- It is reliable (well designed and well conducted)
- It is reported completely, accurately and timely
- Accessible, widely available
- Other factors (answering needed questions, ..)

University reputation & Rankings

QS World University Rankings



QS World University Rankings: Methodology

🕒 Friday, September 11, 2015 at 12am

640 shares



- <http://www.topuniversities.com/university-rankings-articles/world-university-rankings/qs-world-university-rankings-methodology>



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network

Top Universities - ranking

- 6 key indicators with different weighting :
 - **Academic reputation** (40%)
 - Employer reputation (10%)
 - Students to faculty ratio (20%)
 - **Citations per faculty** (20%)
 - International faculty ratio (5 %)
 - International student ratio (5%)

Supportive research environment:

- Provide resources
- Provide training
- Create 'right' culture

BRAZIL

**Reward quality
not quantity**

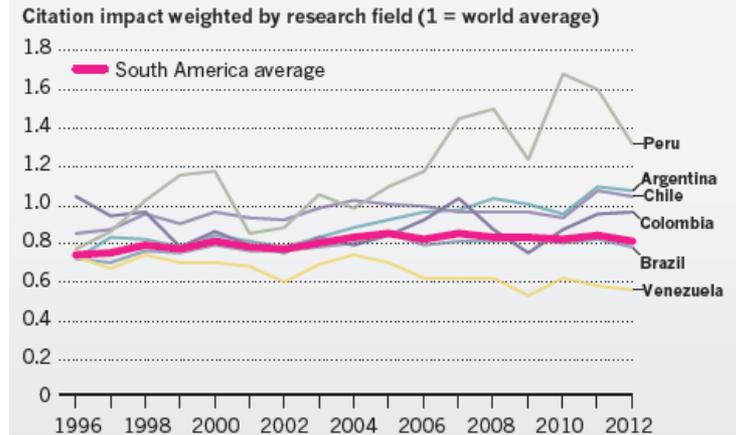
*Sidarta Ribeiro is director of the Brain
Institute at the Federal University of
Rio Grande do Norte, Brazil*

Publishing in leading journals

- Large range of journals with great reputation
- Key to the success
 - Good research
 - Well prepared manuscript
 - Well written
 - Well reported – no information missing or ambiguous

COLLABORATION AND EXCELLENCE

South America's scholarly impact remains relatively low — its citation rate last year was around 80% of the world's average (below). Peru's articles do best, largely because most are co-authored with scientists outside the continent. Indeed, the region's less-developed countries are generally more likely to collaborate beyond South America. In Brazil, less than one-quarter of its articles in 2008–12 involved such partnerships (right).

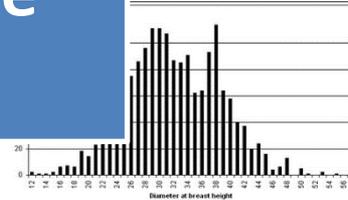


What to include in a research article?

Electronic patient-level dataset

Time	flow rate (FR)	dilution rate (D)	Specific perfusion rate (SPR)	Viable count (VC)	Viability	product concentration	Specific production rate of IgG1	Volumetric production rate
					%	g/L	pg/(cell·day)	g/L·day
					90	0.012	NA	NA
					77	0.008	NA	0.000
					73	0.008	0.0	0.000
					80	0.013	12.1	0.000
					87	0.019	9.3	0.000
					92	0.033	12.0	0.000
					95	0.035	5.5	0.009
					95	0.054	9.5	0.017
					97	0.073	7.2	0.026
					97	0.067	3.5	0.040
					97	0.115	7.8	0.069
					97	0.140	7.0	0.137
					96	0.127	5.6	0.179
					99	0.129	5.6	0.202
					98	0.139	5.8	0.238

Completed case report forms



Clinical study report

Study	Intervention	Main outcomes	Adverse effects
Lee (2009), Korea**	TC (80 min, 3 times weekly for 12 weeks, n=29) NR	(1) Pain (WOMAC) (2) Physical function (WOMAC) (3) Joint stiffness (WOMAC) (4) Total WOMAC score	No serious AE: minor muscle soreness, pain in foot and knee (n=3)
Song (2005), Korea**	TC (80 min, 3 times weekly for 12 weeks, n=22) Sun-style (12 forms) 104; 9.2	(1) Pain (VAS) (2) Physical function (WOMAC) (3) Joint stiffness (WOMAC)	Minor muscle soreness pain in foot and knee (NR)
Song (2009), Korea**	TC (80 min, twice weekly for the first 3 weeks and once weekly for the rest for 6 months, n=30) Waiting list (n=15) Routine care (n=21)	(1) Pain (WOMAC) (2) Physical function (WOMAC) (3) Joint stiffness (WOMAC) (4) Total WOMAC score (5) Quality of Life (SF-36)	Increased knee pain (TC: 1); cancer (TC: 1); contact 1

Reporting guidelines

Trials

RESEARCH Open Access

Increasing follow-up questionnaire response rates in a randomized controlled trial of telehealth for depression: three embedded controlled studies

Louka Edwards¹, Chris Salisbury¹, Kimberley Harrop¹, Alexis Kotze¹, Katy Garner¹ and Alan A. Montgomery^{1*}

Abstract

Background: Attrition is problematic in trials, and may be exacerbated in longer studies, telehealth trials and participants with depression. These features of the Healthcare Study Advance notifications, including a photograph and using action-oriented email subject lines might increase response rates, but require further investigation. We examined the effectiveness of these interventions in three embedded healthcare studies.

Methods: Based in different trial sites, participants with depression were alternately allocated to be pre-called or not with their 12-month follow-up questionnaire (Study 1), undressed to receive a research team photograph or not with their 12-month questionnaire (Study 2), and undressed to receive an action-oriented (ACTION) (ACTION) or standard (Questionnaire reminder) 12-month email reminder (Study 3). Participants could complete online or postal questionnaires, and responded up to five questionnaires. The primary outcome was completion of the Patient Health Questionnaire (PHQ-9). Secondary outcome measures were the number of reminders and time to questionnaire completion.

Results: Of a total of 659 healthcare depression participants, 190, 261 and 121 participants were included in Studies 1-3 respectively (95, 138 and 115 respectively). Outcome completion was 79% across studies, with no differences between trial arms (Study 1: OR 0.88, 95% CI 0.67-1.16; Study 2: OR 0.84, 95% CI 0.62-1.16; Study 3: OR 0.53, 95% CI 0.19-1.46). Pre-called participants were less likely to require a reminder (48.4% vs 62.1%, OR 0.61, 95% CI 0.2-1.76), required fewer reminders (adjusted difference in means -0.62, 95% CI -1.13 to -0.10), and completed follow-up quicker (median 8 vs 15 days, HR 1.31, 95% CI 1.00-1.82) than control subjects. There were no significant between-group differences in Studies 2 or 3.

Conclusions: Email response rates in this trial were high, with no further improvement from these interventions. While the photograph and email interventions were ineffective, pre-calling participants reduced time to completion. This strategy might be helpful when the timing of study completion is important. Researchers considered a substantial benefit from the reduction in reminders with pre-calling, despite no overall decrease in net effort after accounting for pre-notification.

Trial registration: Current Clinical Trials (NCTN1477341)

Keywords: Depression, Email reminders, Embedded study, Photograph, Pre-notification, Recruitment, Response rates, Retention, Telehealth, Trials

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Reporting guidelines

- 'Reminders' of scientific content
 - Methodology
 - Clinical / Research related focus
- Form:
 - Structured text, checklist
 - Move towards e-templates / writing tools
- Most internationally accepted RGs
 - Based on evidence
 - Consensus of relevant stakeholders (multidisciplinary group)
- Can be viewed as 'social innovation' – by scientists & users



Reporting guidelines



Reporting guidelines for main study types

Randomised trials	CONSORT
Observational studies	STROBE
Systematic reviews	PRISMA
Case reports	CARE
Qualitative research	SRQR
Diagnostic / prognostic studies	STARD
Quality improvement studies	SQUIRE
Economic evaluations	CHEERS
Animal pre-clinical studies	ARRIVE
Study protocols	SPIRIT

[See all 297 reporting guidelines](#)

CONSORT 2010 Checklist

www.consort-statement.org

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
	6b	Any changes to trial outcomes after the trial commenced, with reasons
Sample size	7a	How sample size was determined
	7b	When applicable, explanation of any interim analyses and stopping guidelines
Randomisation		
Sequence generation	8a	Method used to generate the random allocation sequence
	8b	Type of randomisation; details of any restriction (such as blocking and block size)
Allocation concealment	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal

Journals increasingly require adherence to reporting guidelines

	Full Journal Title	Total Cites	Journal Impact Factor ▼
1	NEW ENGLAND JOURNAL OF MEDICINE	268,652	55.873
2	LANCET	185,361	45.217
3	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	126,479	35.289
4	ANNALS OF INTERNAL MEDICINE	48,356	17.810
5	BMJ-British Medical Journal	89,031	17.445
6	ARCHIVES OF INTERNAL MEDICINE	38,021	17.333
7	PLOS MEDICINE	18,649	14.429
8	JAMA Internal Medicine	2,934	13.116
9	BMC Medicine	5,708	7.356
10	Journal of Cachexia Sarcopenia and Muscle	713	7.315

Yes – all reporting guidelines for the main study design

Link to EQUATOR resources

Types of article and manuscript requirements

Please ensure that anything you submit to *The Lancet* follows the guidelines provided for each article type. For instruction on how to format the text of your paper, including tables, figures, panels, and references, please see our [Formatting guidelines](#).

Red section (Articles and Clinical pictures)

Articles

- *The Lancet* prioritises reports of original research that are likely to change clinical practice or thinking about a disease ([Lancet 2000; 356: 2–4](#))
- We offer fast-track peer review and publication of randomised controlled trials that we judge of importance to practice or research (see [Fast-track publication](#))
- We invite submission of all clinical trials, whether phase 1, 2, 3, or 4 (see [Lancet 2006; 368: 827–28](#)). For phase 1 trials, we especially encourage those of a novel substance for a novel indication, if there is a strong or unexpected beneficial or adverse response, or a novel mechanism of action
- We encourage researchers to enrol women and ethnic groups into clinical trials of all phases, and to plan to analyse data by sex and by race
- Systematic reviews of randomised trials about diseases that have a major effect on human health also might warrant rapid peer review and publication
- Global public-health and health-policy research are other areas of interest to *The Lancet*
- We require the registration of all interventional trials, whether early or late phase, in a primary register that participates in [WHO's International Clinical Trial Registry Platform](#) (see [Lancet 2007; 369: 1909–11](#)). We also encourage full public disclosure of the minimum 20-item trial registration dataset at the time of registration and before recruitment of the first participant (see [Lancet 2006; 367: 1631–35](#)). The registry must be independent of for-profit interest
- Reports of trials must conform to [CONSORT 2010 guidelines](#), and should be submitted with their protocols
- All reports of randomised trials should include a section entitled Randomisation and masking, within the Methods section. Please refer to *The Lancet's* [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 the [STROBE statement](#), and should be submitted with their protocols
- We encourage the registration of all observational studies on a WHO-compliant registry (see [Lancet 2010; 375: 348](#))
- 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>

Most biomedical journal follow ICMJE



Enter search terms

Recommendations

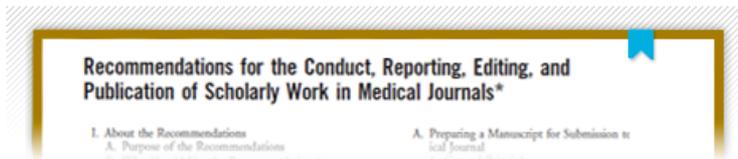
Conflicts of Interest

Journals
Following the ICMJE Recommendations

About ICMJE

News & Editorials

Recommendations



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

Conflicts of Interest



Use the **ICMJE Form** for Disclosure of Potential Conflicts of Interest to generate a disclosure statement for your manuscript.

2. Reporting Guidelines

Reporting guidelines have been developed for different study designs; examples include [CONSORT](#) for randomized trials, [STROBE](#) for observational studies, [PRISMA](#) for systematic reviews and meta-analyses, and [STARD](#) for studies of diagnostic accuracy. 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](#) and the [NLM's Research Reporting Guidelines and Initiatives](#).

International collaborations

- New requirements of 'local' research funders - important for international collaborations to be aware of these initiatives

- UK example

Reproducibility and reliability of biomedical research

The Academy of Medical Sciences held a symposium in April 2015 to explore the challenges and opportunities for improving the reproducibility and reliability of biomedical research in the UK. The report was published in October 2015.

Status
Launched
Ongoing

Reproducibility and reliability of biomedical research: improving research practice

Symposium | [Steering committee](#)

The Academy of Medical Sciences, jointly with the BBSRC, MRC and Wellcome Trust, held a symposium on 1-2 April 2015 to explore the challenges and opportunities for improving the reproducibility and reliability of biomedical research in the UK.

Downloads

[Reproducibility and reliability of biomedical research: improving research practice](#)

[Download](#)

[Research reproducibility: joint statement, October 2015](#)

[Download](#)



Reproducibility and the conduct of research



Data dredging
Also known as p-hacking, this involves repeatedly searching a dataset or trying alternative analyses until a 'significant' result is found.



Omitting null results
When scientists or journals decide not to publish studies unless results are statistically significant.



Underpowered study
Statistical power is the ability of an analysis to detect an effect, if the effect exists – an underpowered study is too small to reliably indicate whether or not an effect exists.

Issues



Errors
Technical errors may exist within a study, such as misidentified reagents or computational errors.



Underspecified methods
A study may be very robust, but its methods not shared with other scientists in enough detail, so others cannot precisely replicate it.



Weak experimental design
A study may have one or more methodological flaws that mean it is unlikely to produce reliable or valid results.

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.

Possible strategies

<p>Open data Openly sharing results and the underlying data with other scientists.</p>	
<p>Pre-registration Publicly registering the protocol before a study is conducted.</p>	
<p>Collaboration Working with other research groups, both formally and informally.</p>	
<p>Automation Finding technological ways of standardising practices, thereby reducing the opportunity for human error.</p>	
<p>Open methods Publicly publishing the detail of a study protocol.</p>	
<p>Post-publication review Continuing discussion of a study in a public forum after it has been published (most are reviewed before publication).</p>	
<p>Reporting guidelines Guidelines and checklists that help researchers meet certain criteria when publishing studies.</p>	

Figure taken from the report of the symposium, 'Reproducibility and reliability of biomedical research', organised by the Academy of Medical Sciences, BBSRC, MRC and Wellcome Trust in April 2015. The full report is available from <http://www.acmedsci.ac.uk/researchreproducibility>.

Research impact: learning lessons from the REF

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

<http://blog.hefce.ac.uk/2015/11/10/research-impact-learning-lessons-from-the-ref/>

RESEARCH ARTICLE

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

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.



Abstract

Purpose

The purpose of this study is to determine whether study quality and completeness of reporting of systematic reviews (SR) and meta-analyses (MA) published in high impact factor (IF) radiology journals is associated with citation rates.

OPEN ACCESS

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

**Maximising the value of
research**

&

**Building strong research
reputation**

- What we do and how it can help your researchers, students and organisation as a whole
- What you can consider doing

In 2006 we set up EQUATOR

- Enhancing the **QUALity** and **Transparency** Of health **Research**
- **We foster best practices & standards**
- Immediate goal
 - To support better publication of research for health through the **use of reporting guidelines**
 - Well documented shortcomings
 - A large number of reporting guidelines that are not routinely used
- Longer term goal
 - Through improved reporting of current studies improve the quality of future research

EQUATOR Network

Steering group



UK EQUATOR Centre



Since 2014 French EQUATOR Centre



Canadian EQUATOR Centre



Where do we want to make a difference?

EQUATOR core programme

- Raise **awareness**
 - Problems resulting from inadequate reporting
 - Existence of helpful resources / tools
- Provide **resources**
 - Ensure people have easy access to reliable, up-to-date resources
- Develop an education and **training** programme
 - Improve people's research reporting skills



EQUATOR online resources

www.equator-network.org



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



EQUATOR resources in
[Portuguese](#) | [Spanish](#)

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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

Randomised trials	CONSORT	Extensions	Other
Observational studies	STROBE	Extensions	Other
Systematic reviews	PRISMA	Extensions	Other
Case reports	CARE		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

[See all 298 reporting guidelines](#)



Organização
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Organização
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ESCRITÓRIO REGIONAL PARA AS
Américas

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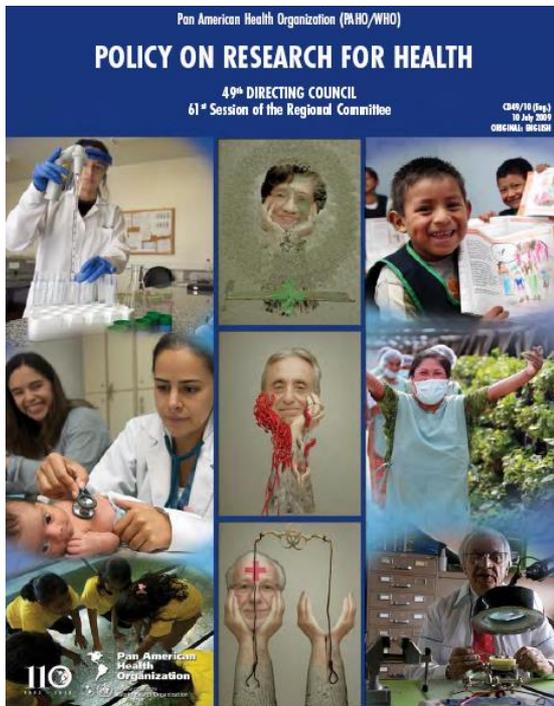
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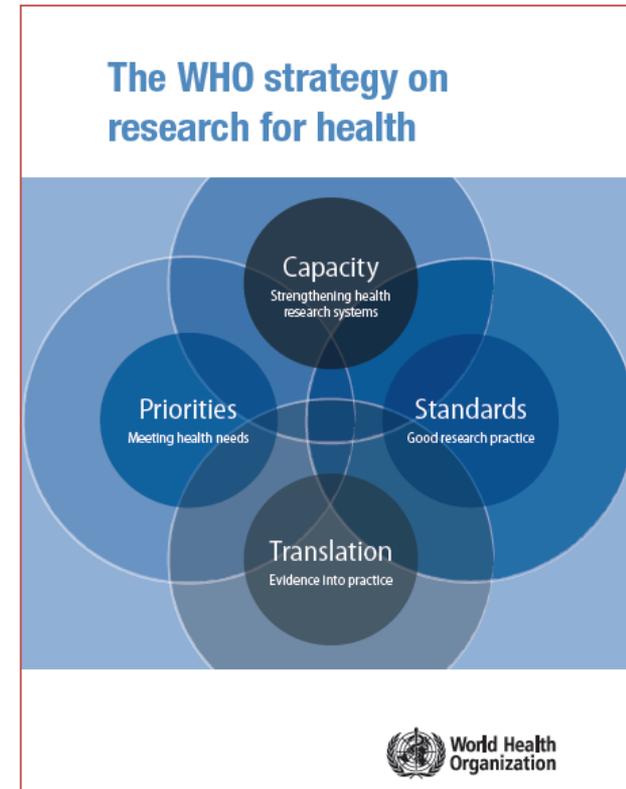
EQUATOR – PAHO collaboration

- Adequate reporting of health research, the development of research reporting standards, improving competencies of and support for human resources involved in research, among other things, are central to leading policies on research for health



Policy on Research for Health (Americas) CD49/10 2009

63rd WHA. WHO Strategy on Research for Health 2010





PAHO's Policy on Research for Health



**Pan American
Health
Organization**

Regional Office of the
World Health Organization

Six objectives

1. Promote the generation of relevant, ethical, and quality research.
2. Strengthen research governance and promote the definition of research agendas.
3. Improve competencies of and support for human resources involved in research.
4. Seek efficiencies and enhanced impact and appropriation of research through effective and strategic alliances, collaboration, and the building of public trust and engagement in research.
5. Foster best practices and enhanced standards for research.
6. Promote the dissemination and utilization of research findings.

EQUATOR – PAHO collaboration

- **Memorandum of understanding, 2010**
 - Support the Policy on Research for Health of the Americas by raising the standards in the reporting
- **First projects carried under the memorandum**
 - EQUATOR website and main reporting guidelines translated to Spanish
 - Promotion of reporting guidelines in Latin America and the Caribbean; awareness raising
 - Dissemination and promotion of new guidelines (PAJPH)
- **Other projects**
 - Further development of Spanish / Portuguese resources
 - Series of webinars on research reporting and reporting guidelines, workshop for journal editors
 - Librarians' Network
 - Integration with scholarships (e.g. OAS, Grupo Coimbra de Universidades Brasileiras) and other capacity development programs



Bem-vindo às páginas em português do site EQUATOR Network

Essas páginas foram elaboradas em colaboração com a Organização Pan-Americana da Saúde (OPAS/ OMS), com quem estamos trabalhando para promover relatos responsáveis de pesquisa em saúde, principalmente nas Américas. Aqui, define-se relato de pesquisa como todo e qualquer documento proveniente de pesquisa científica na área de saúde; especialmente artigos científicos.

Os recursos relacionados abaixo foram traduzidos para o português (não considerando a base de dados de diretrizes para relatos).

Biblioteca para relatos de pesquisa em saúde

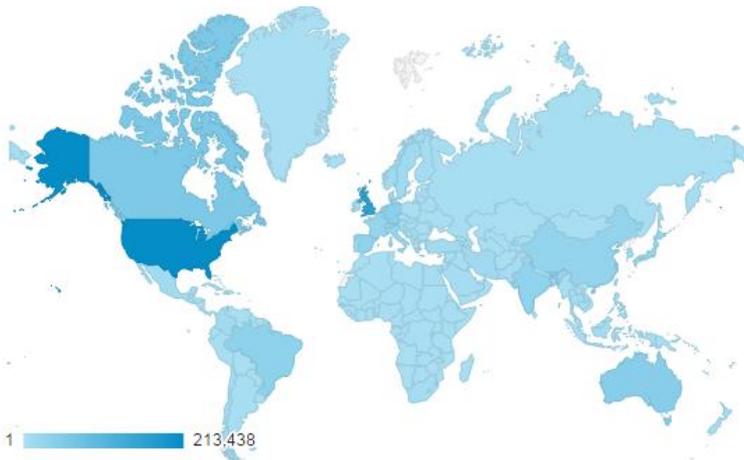
A Biblioteca para relatos de pesquisa em saúde oferece uma compilação atualizada das diretrizes e documentos de política relacionados a esses relatos destinados principalmente a autores de artigos de pesquisa, editores de periódicos, revisores e desenvolvedores de diretrizes para relatos.

- [Busca de diretrizes para relatos](#)
- [Diretrizes para relatos em formulação](#)
- [Traduções de diretrizes para relatos](#)
- [Orientação sobre redação científica](#)
- [Diretrizes formuladas por grupos editoriais](#)
- [Orientação dos financiadores de pesquisa sobre requisitos para relatos](#)
- [Pesquisa patrocinada pela indústria: orientação adicional](#)
- [Ética na pesquisa e publicação e diretrizes de boas práticas](#)
- [Links](#)
- [Ajuda](#)
- [Sobre a biblioteca](#)

Awareness raising and resource uptake



- **1,042,900** users from **230** countries



From **0** to **35,000**
users per month

Easy access to reporting guidelines

88,000

of you used this table on our homepage to find a

reporting guideline

Reporting guidelines for main study types

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

[See all 284 reporting guidelines](#)

 equator
network

In 2015



Improving people's skills through our education activities



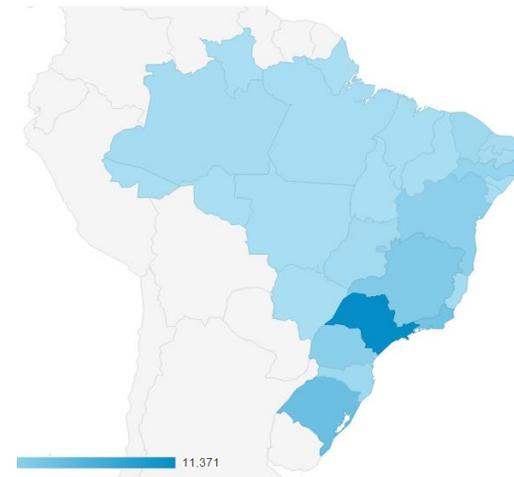
- **4** international conferences
- **9** workshops for journal editors
- **16** courses for researchers & students
- **+++** talks, presentations, webinars



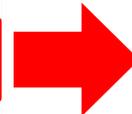
EQUATOR uptake in Brazil



- Accessed our resources in Eng
- Attended our courses



	1,042,851 % of Total: 100.00% (1,042,851)
1. United States	213,438 (20.47%)
2. United Kingdom	160,751 (15.41%)
3. Canada	57,579 (5.52%)
4. Australia	44,504 (4.27%)
5. Germany	38,679 (3.71%)
6. Brazil	35,035 (3.36%)
7. Spain	33,393 (3.20%)
8. Netherlands	32,510 (3.12%)
9. India	31,197 (2.99%)
10. China	28,388 (2.72%)



1. State of Sao Paulo	11,371 (32.46%)
2. State of Rio Grande do Sul	4,418 (12.61%)
3. State of Rio de Janeiro	3,834 (10.94%)
4. State of Minas Gerais	2,734 (7.80%)
5. State of Parana	2,144 (6.12%)
6. State of Bahia	2,056 (5.87%)
7. Federal District	1,723 (4.92%)
8. State of Pernambuco	1,391 (3.97%)
9. State of Santa Catarina	894 (2.55%)
10. State of Ceara	785 (2.24%)

EQUATOR in Brazil – WCRI 2015, Rio

- High prominence to issues of responsible reporting of research studies



HOME BACKGROUND ORGANIZING COMMITTEE ADVISORY BOARD SPEAKERS PROGRAM VENUE REGISTRATION CALL FOR PROPOSALS FOR CONTRIBUTORS EDUCATION TRACK POSTERS IN THE NEWS CONTACT US PLENARIES

1st WCRI Lisbon 2007 2nd WCRI Singapore 2010 3rd WCRI Montreal 2013

4th World Conference on Research Integrity

BRAZIL, RIO DE JANEIRO
May 31-June 3, 2015

"Like other institutions, the institution of science has developed an elaborate system for allocating rewards to those who variously live up to its norms... The evolution of this system has been the work of centuries, and it will of course never be finished."
Robert K. Merton, 1957

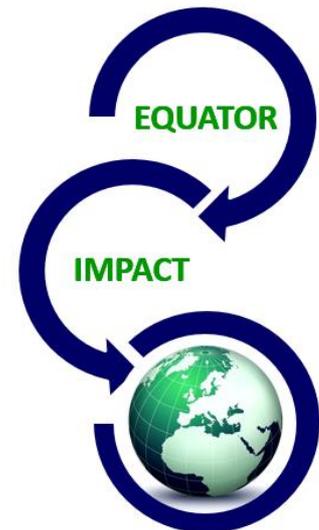
4th WORLD CONFERENCE ON RESEARCH INTEGRITY

Research Rewards and Integrity:
Improving Systems to Promote Responsible Research

The Organizing Committee thank all contributors and attendees for making the 4WCRI a successful and memorable event!
The 5WCRI will be in Amsterdam, in 2017, <http://www.wcri2017.org/>

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EQUATOR in Brazil

Transparent reporting of studies relevant to physical therapy practice

Como e
prática

Leonardo C

Abstract

Background: The therapy practice and results. More guidelines that v design and meth "statements". Di the main mission others, the CON reviews and meth to reporting of a is mandatory. Th possible quality

Keywords: phys

Resumo

Contextualizaçã são diretamente à transparência

ao redor do mundo têm feito tentativas bem sucedidas para resolver esse problema por meio da criação de diretrizes que auxiliam os pesquisadores não apenas na preparação dos manuscritos, mas também garantem que detalhes importantes relacionados ao

The use of these statements can benefit authors, journal reviewers and readers of physical therapy journals. From the author's perspective, these statements have the potential to ease the writing of manuscripts as these minimum set of recommendations are likely to guarantee that all relevant aspects of research design will be covered. Journal reviewers can use the statements to check if all necessary information from submitted articles was presented or not, which can guide their decision to accept the manuscript, or provide feedback to the author on how to improve their manuscript. Finally and most importantly, from the reader's point of view, articles that are written based on the recommendations from these statements are easier to interpret and appraise, and ultimately, they will help readers to make better decisions in clinical practice.

Review

Use of guidelines to improve the quality and transparency of reporting oral health research



Rafael Sarkis-Onofre^{1,2}, Maximiliano Sérgio Cenci³, Flávio Fernando Demarco^{4,5,6}, Christopher D. Lynch⁷, Padhraig S. Fleming⁸, Tatiana Pereira-Cenci⁹, David Moher¹⁰

¹Graduate Program in Dentistry, Federal University of Pelotas, Rua Gonçalves Chaves, 457, Pelotas, RS 96205-900, Brazil
²Learning & Scholarship, School of Dentistry, College of Biomedical and Life Sciences, Cardiff University, Health Park, Cardiff, CF14 4XV, UK
³Barts and The London School of Medicine and Dentistry, Institute of Dentistry, Queen Mary University of London, New Road, E1 2BA London, UK
⁴Clinical Epidemiology Program, Ottawa Hospital Research Institute, 725 Parkdale Avenue, Ottawa, ON K1Y 4G5, Canada
⁵Post-Graduate Program in Epidemiology, Federal University of Pelotas, Rua M.M. Cavalcini, 1160, Pelotas, RS 96205-200, Brazil
⁶Department of Epidemiology and Community Medicine, University of Ottawa, 451 Smyth Road, Ottawa, ON K3H 8M5, Canada



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Cad. Saúde Pública vol.27 n.10 Rio de Janeiro Oct. 2011

<http://dx.doi.org/10.1590/S0102-311X2011001000001>

EDITORIAL

La mejora de la calidad y transparencia en la investigación en salud puede conducir a mejoras en la toma de decisiones sobre políticas de salud pública: ayuda de la red EQUATOR

Gilberto Kac¹; Allison Hirst²

¹Instituto de Nutrição, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brasil. kacetal@gmail.com

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<http://dx.doi.org/10.5935/0004-2749.20140017>

EDITORIAL

Endorsement of reporting guidelines is our next step

O endosso das diretrizes de publicação é o nosso próximo passo

Rodrigo Pessoa Cavalcanti Lira¹

¹Departamento de Oftalmologia, Universidade Federal de Pernambuco (UFPE), Recife, PE, Brazil. Departamento de Oftalmologia, Universidade Estadual de Campinas (UNICAMP), Campinas, SP, Brazil.

Training means learning to follow rules, experience is recognizing exceptions⁽¹⁾. Unfortunately the latter is provided exclusively by the time, however initiatives such as the EQUATOR (Enhancing the Quality And Transparency Of health Research) Network and its reporting guidelines may help with the former. The purpose of this international initiative (launched in June 2008) is to improve the value and reliability of the research literature by reporting⁽²⁾.

Why should we support high standards in research reporting?

- Moral imperative
- Widespread benefits
 - Individuals (researchers, clinicians, policy makers, patients)
 - Institutions – universities
 - Strong international research & education reputation

Accurate, complete and transparent reporting should be a norm

- How to achieve this?
 - Leadership and influence at every level
 - Clearly defined policies, requirements and expectations
 - Provision of tools, standards, and other resources
 - Education, training, advocacy and examples
 - Motivation and incentives
 - Application of safeguards and checks
- Collaboration of all key stakeholders
 - Researchers, research organisations, sponsors and regulators
 - Journals (editors, peer reviewers, publishers)
 - Other organisations (higher education, IRBs, REC, development and intergovernmental agencies, ...)

**“Without accessible and usable reports,
research cannot help patients and their
clinicians.”**

*Chalmers I. & Glasziou P. Avoidable waste in the
production and reporting of research evidence. Lancet 2009*

www.equator-network.org

iveta.simera@csm.ox.ac.uk





equator
network

REPORTING GUIDELINES AND OTHER RESOURCES



DR MICHAEL SCHLUSSEL
MEDICAL STATISTICIAN,
UNIVERSITY OF OXFORD

https://www.youtube.com/watch?v=z9a_ub_n484&list=PL6hS8Moik7ku2Luc8YDsZfDzNkEv08Kow&index=2