The importance of clarity, transparency, and accuracy in research publications

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Research and publication

- **Medical research should advance scientific knowledge and – directly or indirectly – lead to improvements in treatment or prevention of disease**
- **If research is not published it might as well not have been done**
- **A research report is usually the only tangible evidence that the study was done**

The purpose of a research article

- **Scientific manuscripts should present sufficient data so that the reader can fully evaluate the new information and reach his or her own conclusions about results**
  - Assess reliability and relevance

- **We need research we can rely on**
  - Good reporting is an essential part of good research

Obligation

"In return for the altruism and trust that make clinical research possible, the research enterprise has an obligation to conduct research ethically and to report it honestly." (i.e. transparently and completely)

[International Committee of Medical Journal Editors, 2004]

What should be reported?

Methods

- **"Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results."**

  [International Committee of Medical Journal Editors]

- **Same principle should extend to all study methods**
- **Allow repetition (in principle) if desired**

Results

- **Main findings (corresponding to pre-specified plan)**
- **Should not be misleading**

What do we mean by poor reporting?

Mainly

- **Key information is missing, incomplete or ambiguous**
  - Methods
  - Results

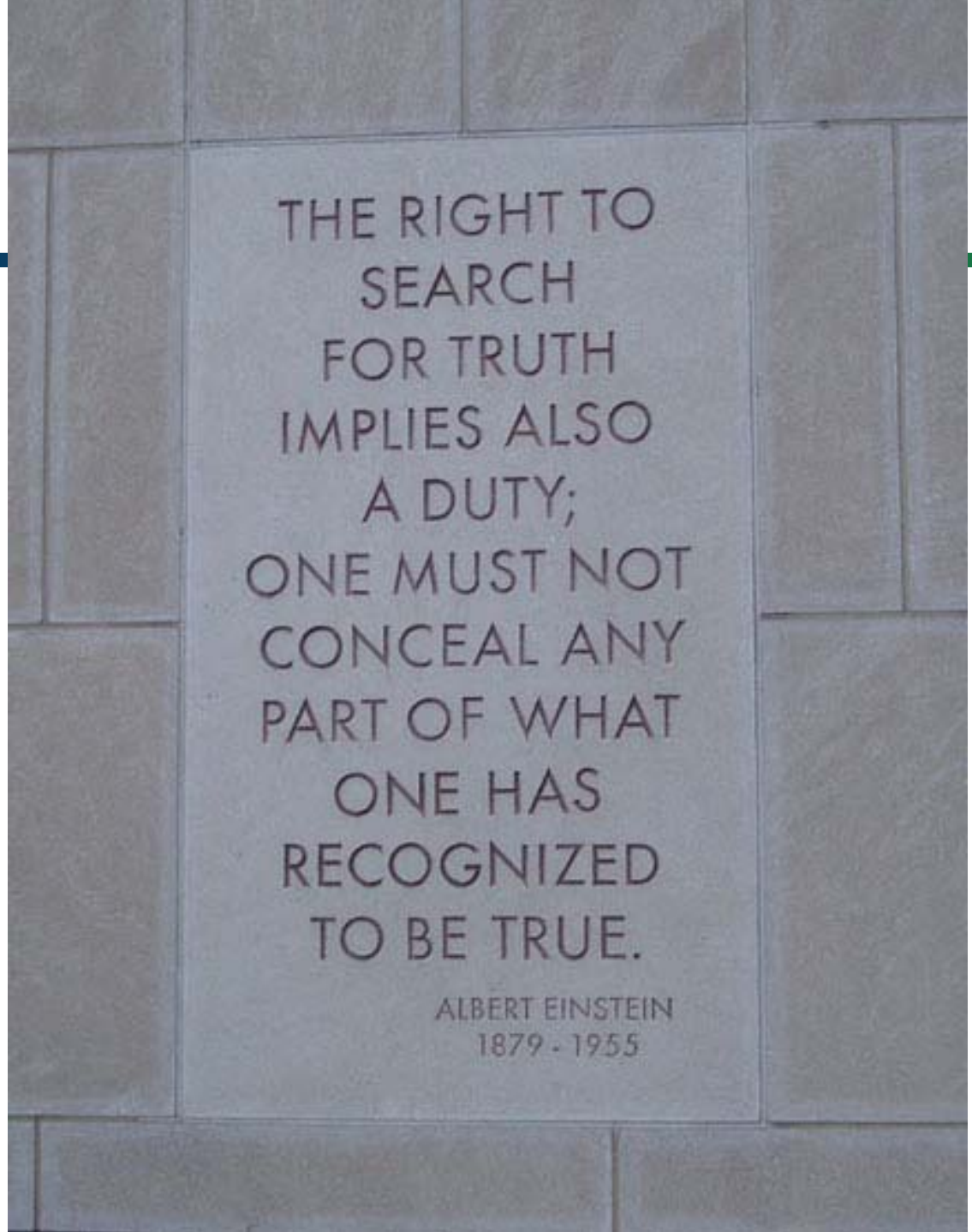
Also

- **Selective reporting**
  - Whole or part of study
- **Misleading interpretation**
- **etc**

Why is clear and transparent reporting important?

- **"If reporting is inadequate—namely, information is missing, incomplete, or ambiguous—assumptions have to be made, and, as a result, important findings could be missed and not acted upon.**
- **Alternatively, false outcomes might be identified and used in practice."**

[Needleman et al, *J Dent Res* 2008]


THE RIGHT TO
SEARCH
FOR TRUTH
IMPLIES ALSO
A DUTY;
ONE MUST NOT
CONCEAL ANY
PART OF WHAT
ONE HAS
RECOGNIZED
TO BE TRUE.
ALBERT EINSTEIN
1879 - 1955

Evidence of poor reporting

- **There is considerable evidence that many published articles omit vital information**
  - Many reviews of published research articles

- **We cannot tell exactly how the research was done**

“Because the authors failed to elaborate on the methodology used, as an interested reader I struggled to figure out what and how things were done.”

[Mulcahy DM. Are subcutaneous transmitters better than intracoelomic? The relevance of reporting methodology to interpreting results. *Wildlife Society Bulletin* 2006;34:884-9.]

Reporting of research

[Long et al, *J Manipulative Physiol Ther* 2004]

73 articles in 13 chiropractic journals

- **21 % lacked description of the study design**
- **77 % did not provide a sample size justification**
- **26 % reported inappropriate descriptive statistics**
- **26 % reported conclusions not supported by the results**

- **Hundreds of similar studies**

GUEST EDITORIAL

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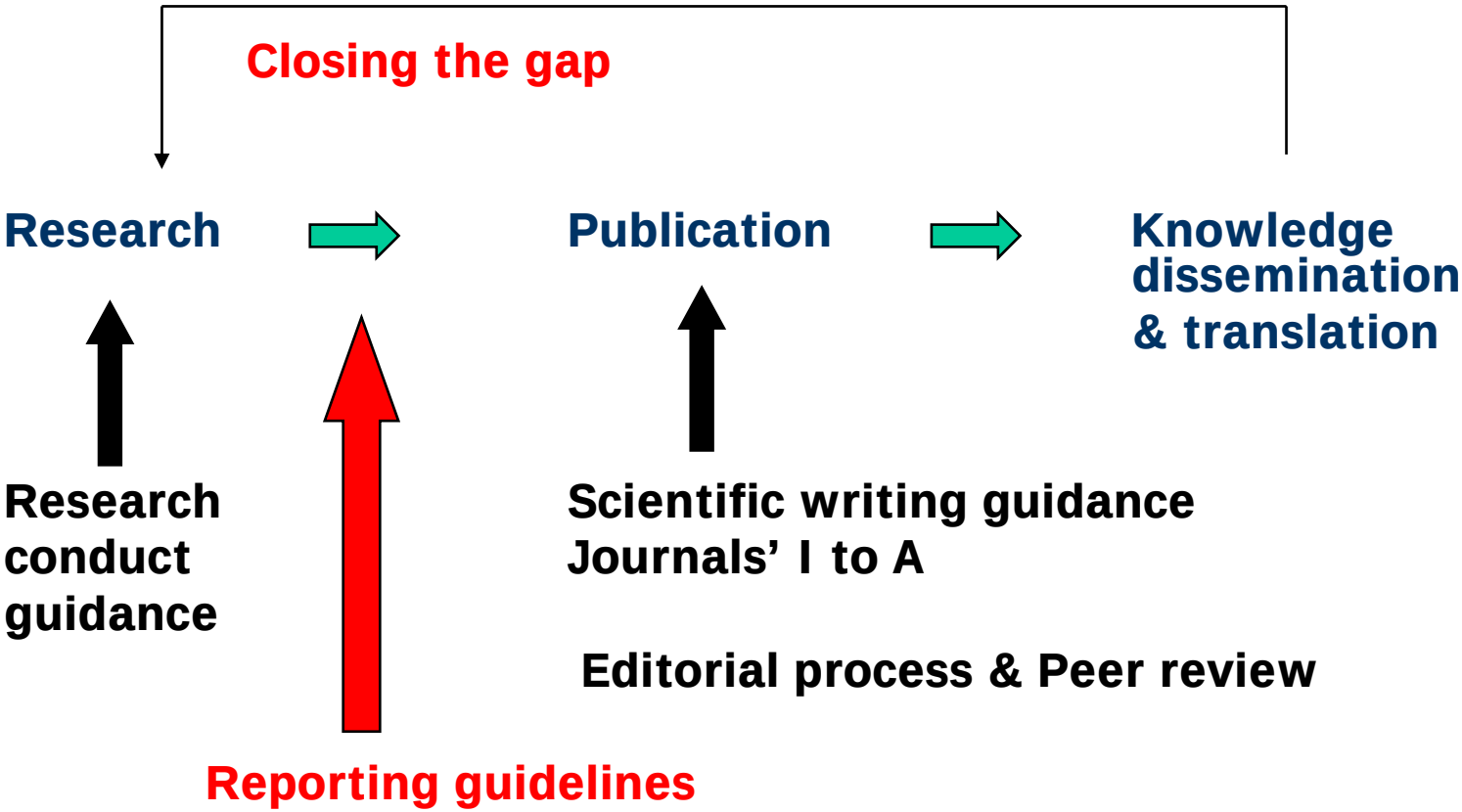
Improving the Clarity and Transparency of Reporting Health Research: a Shared Obligation and Responsibility

"Improved reporting quality would be a major advance in biomedical research, offering the potential to accelerate advances in healthcare… This should be a shared obligation and responsibility."

Impact of poor reporting

- **Cumulative published evidence is misleading**
  - Biased results
  - Methodological weaknesses may not be apparent
- **Adverse effects on**
  - Other researchers
  - Clinicians
  - Patients
- **Cannot assess a body of evidence**
  - Systematic review authors should comment on impact of poor reporting

What can be done to improve the reliability of research reports?



Reporting guidelines (RG)

- **RG 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, reflecting in particular issues that might introduce bias into the research**

- **Evidence-based & reflect consensus opinion**

- **Benefits of using RG:**
  - Improved accuracy and transparency of publications
  - Easier appraisal of reports for research quality and relevance
  - Improved efficiency of literature searching

Contact us
Your comments, questions and ideas are welcome

EQUATOR Network

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Resources for reporting health research studies

uOttawa

fhi Family Health International

CANCER RESEARCH UK

NHS

Welcome to the CONSORT Statement Website

CONSORT, which stands for Consolidated Standards of Reporting Trials, encompasses various initiatives developed by the CONSORT Group to alleviate the problems arising from inadequate reporting of randomized controlled trials (RCTs).

The main product of CONSORT is the CONSORT Statement, which is an evidence-based, minimum set of recommendations for reporting RCTs. It offers a standard way for authors to prepare reports of trial findings, facilitating their complete and transparent reporting, and aiding their critical appraisal and interpretation.

The CONSORT Statement comprises a 22-item checklist and a flow diagram, along with some brief descriptive text. The checklist items focus on reporting how the trial was designed, analyzed, and interpreted; the flow diagram displays the progress of all participants through the trial. The Statement has been translated into several languages.

Considered an evolving document, the CONSORT Statement is subject to periodic changes as new evidence emerges. **This website contains the current definitive version of the CONSORT Statement** and up-to-date information on extensions.

The CONSORT "Explanation and Elaboration" document explains and illustrates the principles underlying the CONSORT Statement. We strongly recommended that it is used in conjunction with the CONSORT Statement.

In addition, Extensions of the CONSORT Statement have been developed to give additional guidance for RCTs with specific designs, data and interventions.

The CONSORT Statement is endorsed by prominent general medical journals, many specialty medical journals, and leading editorial organizations.

CONSORT is part of a broader effort, to improve the reporting of different types of health research, and

News

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Register now for an EQUATOR Network workshop and the 2nd Annual Lecture in Vancouver, September 2009 (prior to the 6th Peer Review Congress).
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EQUATOR Network news Feb 2009

" EQUATOR Network at the Peer Review Congress " Other EQUATOR events in 2009 " New EQUATOR Research Fellow " EQUATOR website news " New reporting guidelines published " Papers of interest
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Now published: CONSORT for pragmatic trials

The CONSORT Group is pleased to announce the publication of a new extension to the CONSORT Statement for reporting of pragmatic randomized controlled trials.
Read more

Read more news stories

Rationale for checklist items

- **Minimum set of essential items**
  - Necessary to evaluate the study
  - Evidence-based, whenever possible

- **The information is critical to assessing the reliability of a study**
  - perhaps combined with evidence that this key information is often omitted

  or

  - There is evidence that not reporting it is associated with bias

Key aspects of reporting guidelines

- **Guidance not requirements**
  - Journals may enforce adherence
- **For authors, editors, and readers**
- **<u>Not</u> methodological quality**

  "Accurate and transparent reporting is like turning the light on before you clean up a room: It doesn't clean it for you but does tell you where the problems are."

  [Frank Davidoff, *Ann Intern Med* 2000]
- **Adherence does not guarantee a high quality study!**

Good reporting is not an optional extra: it is an essential component of doing good research

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