

How to Check the Credibility of Medical Literature

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Checking the credibility of medical literature professionals use is vital. Recent exposes concerning scientific misconduct touching highly respected journals mean professionals must be on guard.

Checking on the credibility of medical literature includes the use of basic principles as articulated by the Health on the Net Foundation; the use of indexing tools in the National Library of Medicine (NLM) databases; and the careful checking of companies or concerns mentioned in acknowledgments in articles.

Principles

The Health on the Net Foundation is a not-for-profit Swiss organization formed in 1995 and sponsored by the Geneva Ministry of Health, the Geneva University Hospital, and the Swiss Institute of Bioinformatics. Its mission is to guide people to useful and reliable medical and health information.

The Foundation, on its web site <http://www.hon.ch/>, lists eight principles (and specific guidelines for each one) it uses in deciding whether to allow a web site to use its logo. These principles create a useful and practical list of criteria professionals can use in evaluating any medical information, even though the Foundation's focus is online medical information. They are as follows:

Authority: Do the data come from medically trained and qualified persons? If not, are the data from nonexperts identified?

Complementarity: Are the data designed to complement data from the medical professionals people already consult?

Confidentiality: Does the site respect individual patients' identity and health data that may be disclosed on the site?

Attribution: Clear references, full citations, hypertext links, and dates when pages are updated or modified satisfy this principle.

Justifiability: Appropriate and balanced discussion of claims or promises made in the resource is present.

Transparency of authorship: The authors, webmaster(s), and other concerned individuals are available through contact addresses and electronic-mail addresses.

Transparency of sponsorship: The supporters--both commercial and non-commercial--are identified clearly.

Honesty in advertising and editorial policy: There is clear differentiation between advertising/promotional material and straight editorial matter.

Each of these principles has a series of guidelines that are available (by hypertext link) on the Health on the Net web site.

MEDLINE Indexing

The National Library of Medicine's MEDLINE databases, available at <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>, offer some indexing tools that can help discover problems with retrieved data. All of these tools are available on the NLM site, but not on all of the private vendors' retrieval systems that load NLM databases.

In many cases, private vendors do not load all indexes or make all features of MEDLINE available on their systems. The documentation for the vendor's version of MEDLINE will (sometimes) tell you what features are available. In many cases, no one will know what features are loaded except subject specialists or executive-level technical-support people so the professional in search of guidance here must be persistent and focused in approach.

MEDLINE handles information challenges depending on whether they are errata (singular: erratum), retractions, duplicates, corrected and republished articles, or comments.

Errata include all kinds and types of errors along with references to corrections, changes, emendations, and corrigenda (printers' errors). They are indexed as a publication type (PUBLISHED ERRATUM) and in the EIN (erratum in) field; use a field search technique for all of these searches.

Retractions are made for pervasive error or unsubstantiated or irreproducible data. NLM policy does not differentiate between retractions for honest error or retractions for scientific misconduct or plagiarism. They are indexed as the publication type RETRACTED PUBLICATION and in the RIN (retraction in) field with a link to the notice of retraction.

Duplicates are indexed as the publication type DUPLICATE PUBLICATION.

Corrected and republished articles are indexed as a publication type (CORRECTED AND REPUBLISHED ARTICLE) with a link to the original source and in the RPI (republished in) field and the RPF (republished from) field.

Comments include substantive articles, letters to the editor, notices, updates, and other information. These are indexed in the CON (comment on) field or in the CIN (comment in) field.

Check Acknowledgments

Often, the authors of the article will acknowledge support for research. It is worth considering whether the focus of the article substantiates a position that the sponsor wishes established, and to ask what commercial or other significance that position or connection raises. Will the application of principles in this article create a market for a drug, procedure, or other medical product or service?

With the answers to these questions and considerations, the professional has a basis to judge the credibility of medical data.