

A Report on the Evaluation of Criteria Sets for Assessing Health Web Sites

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Introduction

In 2003 Health Improvement Institute (Institute) began a research project conducted collaboratively with Consumer WebWatch. Its purpose is to enable consumers to become informed users of Internet health information sites (referred to as health websites). The project consists of a number of phases, to culminate in independent ratings of health websites. The objective of Phase-I is to develop a consumer-friendly rating system, based on basic principles and past efforts to develop evaluation criteria. Phase-I includes:

Search for previous evaluations of health websites

- Identify existing criteria sets to

Describe criteria used or suggested for use in evaluating health websites

Evaluate the consumer-friendliness of identified criteria sets.

This report describes the results of our search for and analysis and evaluation of criteria sets intended to assess the “reliability” or “credibility” of health websites.

Methods

We describe methods as follows:

Search to identify criteria sets

Analysis of criteria in sets within the project’s scope

Evaluation of criteria sets’ utility

Search to identify criteria sets:

In January and February 2003, we conducted World Wide Web (WWW) and literature searches to identify criteria sets that are used to evaluate the credibility of websites that offer health information.

We:

Defined the purpose and scope of the search to identify criteria of relevance

- Searched websites

Used various search engines (Google, MSN, Webcrawler, and, Yahoo) and search terms (health website evaluation criteria, website evaluation criteria, website evaluation)

For each website search, evaluated the first 100 results. Each website was assigned an initial grade based on its description; a final grade, based on a review of website contents.

Followed links on websites judged to be relevant

- Searched the medical literature

Searched Medline (the on-line reference search of the National Library of Medicine) and other sites using the same or similar terms used for website searches

Evaluated the relevance of retrieved articles, first based on the title of the article; then, for articles retrieved as relevant, the content of the article

- Checked and retrieved the references of relevant articles

Found through searches

Found serendipitously

On hand at the start of the project

Through these searches we identified:

Articles that were reports of health website evaluation criteria or relevant evaluations of health websites

151 criteria sets (125 websites and 26 articles) among the approximately 411 websites URLs and 60 citations identified.

We included a criteria set in our final data set if it was used specifically for evaluating health information on websites or if the criteria set contained elements that may be used to evaluate health information on websites. We judged 22 (20 websites and 2 articles) of the 151 criteria sets to be directly relevant to the comprehensive evaluation of health websites; 7 were a derivative of another criteria set [1]. See table 1

Analysis of criteria

In order to describe criteria in sets within the projects' scope, we developed a set of meta-criteria. To construct this set, we:

Developed a conceptual framework

Reviewed the criteria in the 22 sets to be analyzed

Developed a logical structure to array them

Arrayed criteria in sets according to this structure

- Elaborated the structure within this context to include criteria that might reasonably be contained within criteria sets to be analyzed.

To describe criteria used or suggested for use in evaluating health websites, we:

Parsed the criteria expressed in the 22 criteria sets. This step was necessary because authors often provided narratives or made conjoint statements (for example, "this....and....that")

Coded these criteria elements according to our meta-criteria, which encompassed every criterion in all 22 criteria sets.

- Reprinted criteria sets from our database to check

The accuracy of captured statements by comparing database records to the original criteria sets.

We had correctly classified headings, definitions, and elaboration's of criteria that appeared in criteria sets to distinguish them from criteria.

Reported criteria according to meta-criteria set codes in order to check the accuracy, specificity, and consistency of coding (updated the meta-criteria set and recoded records accordingly).

- Counted the number of times a specific meta-criterion appeared in criteria sets.

The meta-criteria had 9 domains, and a total of 115 criteria elements (appendix 1 provides a detailed description of the meta-criteria):

Content relevance

Content accessibility

Content selection

Content validity

Content interchange

Site transparency

Links

Quality assurance

Safeguards.

Evaluation of criteria sets' utility

To evaluate the utility of identified criteria sets to consumers and their consumer-friendliness, we:

Developed a basic set of evaluation criteria, consisting of 22 criteria elements organized into 6

domains. See appendix 2 for the set of evaluation criteria.

Asked 2 project staff members to rate independently the identified criteria sets using these evaluation criteria: each criterion was scored “met,” “not met” or “partially met.”

Compared ratings.

Resolved any differences in ratings by asking a third project staff to determine the final rating.

Checked the logical consistency of ratings, and resolved any inconsistencies by examining individual ratings.

Tabulated evaluation results.

Results

Findings of analysis of criteria

Our search yielded 22 criteria sets within the project’s scope. These 22 criteria sets contained 466 criteria elements for assessing health websites. Table 2 shows the “density” of criteria, i.e., the number of criteria elements in each domain as a percentage of the total of all criteria elements contained within all 22 criteria sets. Almost two-thirds of criteria addressed content validity (27%), content accessibility (19%), and site transparency or credibility (17%). Table 3 lists the top 10 most frequent specific criteria (which appeared in almost half or more of the 22 criteria sets). Table 4 shows the number of criteria sets containing each of the 115 meta-criteria elements.

Findings of evaluations of criteria sets utility

None of the 22 criteria sets examined met all of our evaluation criteria; 4 sets met 5 of 6 evaluation criteria. See table 5. Three-quarters of the criteria sets defined their purpose clearly, but only 18% in operational terms; none reported reliability testing. See table 6. Only one-quarter of the criteria sets evaluated stated they were intended for use by consumers. Of these sets, we rated 40% (2 sets: [2,3]) as being consumer-friendly. One of these sets [3] met all of our top-level evaluation criteria except reported reliability testing.

Discussion

We identified one study that had evaluated the quality of health websites related to asthma. The authors used the HON code as the basis for their evaluation [4]. They found that:

16% of the health websites examined met HON code criteria (principles)

Of the websites that displayed the HON code logo (signifying that they subscribed to the principles), 38% actually complied with HON code principles [5].

We identified 22 criteria sets for assessing the “reliability” or “credibility” of health websites. They contained from 8 to 37 criteria. Most criteria pertained to content validity or accessibility or website transparency or credibility, including the currency of information. None of the 22 criteria sets met all 6 of our evaluation criteria. The most telling failures were lack of testing, lack of consumer-friendliness, and failure to define criteria in operational terms (virtually precluding their use to produce reliable ratings of health websites). Only one of the criteria sets was developed for use, and none was usable, by consumers.

There are no criteria sets (assessment tools) that are readily usable by consumers to assess health

websites. Moreover, there are none that are readily usable by professionals to assess reliably health websites. In the next phase of the project, the Institute intends to develop, test, and apply such a tool to produce independent ratings of health websites. The Institute welcomes participation in this process. In the meantime, consumers may want to judge the "quality" of health websites based on a few consumer-friendly criteria. The website should be easy-to-use, and it should disclose at least the following information:

Sponsorship — who owns/operates (pays) for it (to rule-out obvious potential conflicts of interest)

Purpose/scope — the website's purpose and the scope of information presented (to judge the extent to which it matches the consumer's interests)

Audience — for whom the information is intended, and its intended use (in this instance, it should be for consumers and the specified use of information should match the site visitor's reason for searching for information)

Currency — when the website and/or webpage was last updated (and that should be recently)

Source/credentials — for "facts" (articles), the source of the information, a description of authors' credentials, and, preferably, a link to the source.

The work described in this report builds on that started in 1997 when the Institute held a workshop on the quality of health information on the Internet [6].

References/footnotes

- 1 Silberg W, Lundberg G, Musacchio R. Assessing, Controlling, and Assuring the Quality of Medical Information on the Internet: Caveat Lector et Viewor — Let the Reader and Viewer Beware. *JAMA* 1997; 277:1244-1245.
- 2 Criteria for Assessing the Quality of Health Information on the Internet – Policy paper. hitiweb.mitretek.org/docs/policy.html.
- 3 NetScoring: Criteria to assess the quality of Health Internet information. www.chu-rouen.fr/netscoring/netscoringeng.html.
- 4 HON Code of Conduct (HON code) for medical and health websites. www.hon.ch/HONcode/Conduct.html.
- 5 Croft D, Peterson M. An evaluation of the Quality and Contents of Asthma Education on the World Wide Web. *Chest* 2002; 121:1301-1307.
- 6 Goldschmidt PG, Liao J (eds). The quality of health information on the Internet: Report of a workshop. Bethesda, MD: Health Improvement Institute, 1997.

Table 1: Websites and articles evaluated

URL (20)	Organization
www.webfeetguides.com/criteria_WFforHealth.html	Web Feet
www.asc.upenn.edu/courses/comm240/medsitecriteria.html	University of Pennsylvania
www.meddean.luc.edu/library/WEBEVAL.htm	Loyola University – Health Sciences Library
www.hon.ch/HONcode/Conduct.html	Health On the Net Foundation
www.nlm.gov/gmr/publish/eval.html	National Network of Libraries of Medicine
www.ihealthcaregroup.com/rheumatologyguide/criteria.htm	Internet Health Care Group
www.sph.emory.edu/WELLNESS/instrument.html	Rollins School of Public Health
hitiweb.mitretek.org/docs/policy.html	Mitretek Systems
www.nursingworld.org/ojin/infocol/info_1.htm	Kent State University
atlas.ici.ro/ehto/medinf99/papers/criteria_for_evaluating_the_qual.htm	Medical Informatics Team Projects
europa.eu.int/information_society/eeurope/ehealth/quality/draft_guidelines/index_en.htm	Information Society- European Commission
www.chu-rouen.fr/netscoring/netscoringeng.html	Centrale Paris
www.umanitoba.ca/libraries/units/health/help/ihp/evaluate.shtml	University of Manitoba- Health Sciences Libraries
www-personal.umich.edu/%7Epfa/pro/courses/WebEvalNew.pdf	University of Michigan
www.uic.edu/depts/lib/lhsu/resources/guides/web-evaluation.shtml	LHSU-Library of the Health Sciences-Urbana
www.library.dal.ca/kellogg/internet/evaluate.htm	Dal Libraries Kellogg library
www.nyu.edu/education/hepr/resources/online/adq.pdf	Department of Health and Nutrition Sciences
www2.auckland.ac.nz/lbr/instruct/evaluate.htm	University of Auckland Library
www.ourbodiesourselves.org/eval.htm	Boston Women's Health Collective
www.canadian-health-network.ca/html/help/checklist1.html	CHN (Canadian Health Network)
Articles (2)	
Silberg W, Lundberg G, Musacchio R. Assessing, Controlling, and Assuring the Quality of Medical Information on the Internet: Caveat Lector et Viewor — Let the Reader and Viewer Beware. JAMA 1997; 277:1244-1245.	
Nicoll, Leslie H. Quick and Effective Website Evaluation. Lippincott's Case Management 2001; 6(5):220-221	

Table 2: Density of website assessment criteria

Code	Meta-Criteria Domain	Number	Percent
1.0	Content relevance	56	12.0%
2.0	Content accessibility	90	19.3%
3.0	Content selection	34	7.3%
4.0	Content validity	128	27.5%
5.0	Content interchange	10	2.2%
6.0	Site transparency/credibility	78	16.7%
7.0	Links	35	7.5%
8.0	Quality assurance	9	1.9%
9.0	Safeguards	26	5.6%
	Total	466	100.0%

Note: The percentages shown above are the number of criteria elements in all 22 criteria sets in the specified domain divided by the total number of criteria elements (i.e., 466), expressed as a percentage, that is, “criteria density.” Our meta-criteria set lists 9 domains and 115 criteria elements.

Table 3: Top-10 specific health website assessment criteria

Code	Criteria Description	Number	Percent
6.1	Does the site say who owns or pays for or created it?	17	77%
3.2	Conflict of interest, bias, disclosure of sponsorship, funding sources	14	64%
2.2	Navigability, logical organization	13	59%
6.6.3	Does the site indicate when it was last updated?	13	59%
1.1	Purpose/Mission/Scope: Does site state its purpose?	12	55%
1.2	Audience: Does the site state its intended audience?	12	55%
4.2.2	Author's credentials	12	55%
4.4	For reports of facts does site give source of specific information?	12	55%
3.1	Editorial policy, site evaluation process, peer review process	10	46%
7.1	Does the site link to other sites as sources of health information?	10	46%
9.3	Disclaimers, privacy policy, sponsorship, advertising policy	10	46%

Total number of criteria sets = 22

Table 4: Number of criteria sets containing a meta-criterion

Code	Criteria Description	Number	Percent (%)
1	Content relevance	1	5
1.1	Purpose/Mission/Scope: Does site state its purpose?	12	55
1.1.1	Does the mission statement convey purpose & scope of website?	3	14
1.1.2	Scope: Does the site state its scope?	1	5
1.1.3	Objective/Goals: Does the site state its objective?	4	18
1.1.4	Does the site indicate the title/subject of site?	1	5
1.2	Audience: Does the site state its intended audience?	12	55
1.3	Relevance: Can one tell easily if what's on site is relevant to search purpose	7	32
1.4	Breadth & depth, Coverage, Uniqueness	6	27
1.4.1	Is the information unique or can it be found elsewhere?	7	32
1.5	Site consists only of links (I.e. no substantive information)?	2	9
1.9	Content, NEC	0	0
2	Content accessibility	7	32
2.1	Comprehensibility: Is site prepared at a level useful to intended audience?	9	41
2.1.1	Is it comprehensible by average consumer?	0	0
2.2	Navigability, logical organization	13	59
2.2.1	Is the information needed to use the eval checklist easily accessible on site?	0	0
2.2.2	Is site content easily accessible?	8	36
2.2.3	Is the site easily navigable?	6	27
2.2.4	Does it contain a search engine?	5	23
2.2.5	Is website designed in a user-friendly manner?	4	18
2.2.6	Is there a site index, table of contents?	3	14
2.3	Does site organize information in a consumer-friendly way?	6	27
2.4	Readability: Is text, graphics, video etc consumer-friendly?	7	32

2.4.1	Does site contain (useful) images?	1	5
2.4.2	Is site available in text only mode?	3	14
2.4.3	If user can't access images, etc, is information still "complete" (useful)?	1	5
2.5	Downloadability	7	32
2.6	Are there conditions to accessing content?	3	14
2.6.1	Is there a fee to access content?	2	9
2.6.2	Does the user have to register?	0	0
2.6.3	Does accessing content require acceptance of cookies?	0	0
2.7	Presentation of website: Is it appealing?	5	23
2.9	Content accessibility, NEC	0	0
3	Content selection/editorial policy	2	9
3.1	Editorial policy, site evaluation process, peer review process	10	46
3.1.1	Was search strategy adequate to the site's purpose?	0	0
3.1.2	Was the selection method adequate to the site's purpose?	0	0
3.2	Conflict of interest, bias, disclosure of sponsorship, funding sources	14	64
3.2.1	Does the site provide a conflict of interest policy?	2	9
3.2.2	Does site report any relationship between authors of content & owner, etc	4	18
3.9	Content selection, NEC	2	9
4	Content validity	12	55
4.1	Does site differentiate between essays/commentaries/opinions/facts?	4	18
4.1.1	Is the information/content thorough and detailed?	1	5

Code	Criteria Description	Number	Percent (%)
4.1.2	Is the information accurate?	7	32
4.2	Does site give author's information for opinions/reports of facts?	9	41
4.2.1	Author's name	6	27
4.2.2	Author's credentials	12	55
4.3	Does site indicate the date the opinion was written/last updated?	1	5
4.4	For reports of facts does site give source of specific information?	12	55
4.4.1	Link to the source?	1	5
4.4.2	Authors of the source	9	41
4.4.3	Date source information was generated or date the report was published	8	36
4.4.4	Date information was posted on the site	4	18
4.4.5	Bibliography/resource list	3	14
4.4.6	Type of source	2	9
4.5	Does site indicate whether or not it has evaluated specific information?	7	32
4.5.1	If so, does the site describe how the specific information was evaluated?	2	9
4.5.2	Are the methods adequate to their purpose?	0	0
4.6	Does the site state the evidence grade of specific information?	9	41
4.6.1	If so, does the site describe how the evidence grade was assessed?	0	0
4.6.2	Are the methods adequate to their purpose?	0	0
4.7	Does site indicate limitations on applicability of specific information?	8	36
4.8	Does site state whether or not it carries advertising?	3	14
4.8.1	Does site distinguish between advertising and content?	3	14

4.8.2	Does it provide its advertising policy?	3	14
4.8.3	Is its advertising policy appropriate for consumers?	1	5
4.9	Content validity, NEC	1	5
5	Content interchange	2	9
5.1	Is there a way for consumers to request additional information?	6	27
5.2	Does site offer decision support technology?	1	5
5.2.1	If so, does site describe the expert system used for this purpose?	0	0
5.2.2	Are specific caveats given regarding the system's use?	0	0
5.2.3	Does site describe how the DST was developed and validated?	0	0
5.2.4	When was the DST last updated and/or validated?	0	0
5.3	If site offers exchange of information between consumers and health professionals, does the site describe their credentials?	1	5
5.3.1	Is it obvious to the consumers when they are interacting with a professional?	0	0
5.9	Content interchange, NEC	0	0
6	Site transparency/credibility	6	27
6.1	Does the site say who owns or pays for or created it?	17	77
6.1.1	Does it list a physical location, tel number, contact person etc?	1	5
6.2	Does the site say who runs it?	2	9
6.2.1	Does it list a physical location, tel number, contact person etc?	0	0
6.3	Does the site provide email address for the webmaster?	5	23
6.4	Does the site describe the sponsor's purpose or business?	1	5
6.5	Does the site disclose sources of financing of the sponsoring organization?	7	32
6.6	Currency	10	46
6.6.1	When was the site first created?	3	14

Code	Criteria Description	Number	Percent (%)
6.6.2	How frequently or often is the site/site content updated?	5	23
6.6.3	Does the site indicate when it was last updated?	13	59
6.6.4	Does the site indicate date until which the content/information is valid?	3	14
6.7	Is the site essential "complete"?	1	5
6.8	If site is moderated, is moderator's identity disclosed?	0	0
6.8.1	Are credentials, affiliations, etc of the moderator disclosed?	1	5
6.8.2	Is method used to select moderator disclosed?	1	5
6.9	Site transparency, NEC	2	9
7	Links	3	14
7.1	Does the site link to other sites as sources of health information?	10	46
7.2	Does the site indicate whether or not it has evaluated adequacy of sites?	6	27
7.2.1	If so, does the site describe the basis for such evaluation?	1	5
7.3	Does the site provide appropriate descriptions, disclosures etc about links?	2	9
7.4	Are consumers alerted when they leave the site?	3	14
7.5	Does the site report its policy for periodically checking integrity of links?	8	36
7.6	Does the website contain email links to the authors of the content?	2	9
7.9	Links, NEC	0	0
8	Quality assurance	0	0

8.1	Does the site describe any quality management or QA/QI process?	0	0
8.1.1	Does QA/QI include accessibility?	0	0
8.1.2	Relevance?	0	0
8.1.3	Content selection, validity, and/or interchange?	0	0
8.1.4	Transparency/credibility?	2	9
8.1.5	Links?	0	0
8.1.6	Safeguards?	0	0
8.2	If so, are QA/QI processes adequate to their purpose?	0	0
8.3	Does the site permit easy feedback from consumers?	7	32
8.9	QA/QI, NEC	0	0
9	Safeguards	0	0
9.1	Does site display terms & conditions of use of the website?	2	9
9.2	Does site display its privacy or confidentiality policy?	8	36
9.2.1	Is it adequate to the task of informing consumers of what info is captured etc?	5	23
9.3	Disclaimers, privacy policy, sponsorship, advertising policy	10	46
9.3.1	Are they adequate to the task of informing consumers on limitations?	1	5
9.9	Safeguards, NEC	0	0

Table 5: Website criteria sets meeting main evaluation criteria

Criteria Met	Number	Percent
All (6)	0	0%
5	4	18%
4	1	5%
3	7	32%
2	6	27%
1	4	18%
0	0	0%
Total	22	100%

Table 6: Health website criteria sets meeting evaluation criteria

Code	Evaluation Criterion	Number Meeting	Percent Meeting
1.0	Is purpose of criteria set defined clearly?	17	77%
1.1	Is purpose defined operationally?	4	18%
1.2	Is criteria set's scope (operational range/limit) described?	5	23%
2.0	Is intended user of criteria set (tool) specified?	9	41%
2.1	Does intended user include consumers?	5	23%
3.0	Is criteria set sufficiently comprehensive for purpose?	15	68%
3.1	Is context/basis of criteria (that constitute set) described?	10	46%

3.2	Do criteria encompass all essential dimensions/concepts?	2	9%
4.0	Are criteria (in set) defined in operational terms?	6	27%
4.1	Are applicable terms defined operationally?	6	27%
4.2	Are criteria clear, unambiguous, etc?	5	23%
4.3	Is scoring of individual criteria described clearly?	3	14%
4.4	Is use (e.g., aggregation) of criteria scores explained clearly?	3	14%
5.0	Has reliability/validity of criteria set (tool) been tested?	0	0%
5.1	Is test design adequate/appropriate for criteria purpose?	0	0%
5.1.1	With info given, could another person replicate test?	0	0%
5.2	Did test include intended users of criteria set (tool)?	0	0%
5.2.1	Did test include consumers?	0	0%
5.3	Were sources of variation in test results appraised?	0	0%
5.4	Were test results analyzed appropriately?	0	0%
6.0	Is criteria set (tool) user-friendly (forms, instructions, etc)?	14	64%
6.1	Is it consumer-friendly?	13	59%

Appendix 1: Meta -Criteria

- 1.0 Content Relevance
 - 1.1 Purpose/Mission/Scope: Does the site state its purpose? If yes: Is it to provide information on health topics to consumers?
 - 1.1.1 Is the mission stated? Does the mission statement convey purpose & scope of website?
 - 1.1.1 Scope: Does the site state its scope?
 - 1.1.2 Objective/Goals: Does the site state its objective?
 - 1.1.3 Does the site indicate the title/subject of site?
 - 1.2 Audience: Does the site state its intended audience?
 - 1.3 Relevance: Can one tell easily if what's on the site is relevant to one's search purpose?
 - 1.4 Breadth and depth, Coverage, Completeness, Uniqueness
 - 1.4.1 Is the information unique or can it be found elsewhere?
 - 1.5 Site consists only of links (i.e. no substantive information)?
 - 1.6 Content relevance, NEC
- 2.0 Content accessibility, presentation, design:
 - 2.1 Comprehensibility: Is the site prepared at a level that is useful to the intended audience?
 - 2.1.1 Or, failing any statement about intended audience, is it comprehensible by the average consumer? Note: Consumers will be likely able to assess whether or not they can comprehend content (the materials on the site).
 - 2.2 Navigability, logical organization:
 - 2.2.1 Is the information needed to use the evaluation checklist easily accessible on the site?
 - 2.2.1 Is site content easily accessible? E.g., doesn't require plug-ins
 - 2.2.2 Is the site easily navigable?
 - 2.2.3 Does it contain a search engine (when such is necessary to access easily the site's content)?
 - 2.2.4 Is website designed in a user-friendly manner?
 - 2.2.5 Is there a site index, table of contents?
 - 2.3 Does the site organize information in a consumer-friendly way, e.g., by health topic (e.g., cures for breast cancer), rather than simply providing research reports that the consumer has to search?
 - 2.4 Readability: Is text, graphics, video etc consumer-friendly (readable)?
 - 2.4.1 Does site contain (useful) images?
 - 2.4.2 Is site available in text only mode?
 - 2.4.3 If user can't access images, etc, is information still "complete" (useful)?
 - 2.5 Downloadability
 - 2.6 Are there conditions to accessing content?
 - 2.6.1 Is there a fee to access content?
 - 2.6.2 Does the user have to register?
 - 2.6.3 Does accessing content require acceptance of cookies
 - 2.7 Presentation of website: Is it appealing?
 - 2.9 Content accessibility, NEC

- 3.0 Content selection/editorial policy (an important aspect of evaluating potential bias).
 - 3.1 Editorial policy, site evaluation process, peer review process: Does the site describe how it searched for and selected the information displayed from the universe of information that exists? Note: This concept might be captured by “editorial policy.”
 - 3.1.1 Was the search strategy adequate to the site’s purpose? If no, purpose stated, was it reasonable? Does the site display or communicate search results?
 - 3.1.2 Was the selection method adequate to the site’s purpose? If no, purpose stated, was it reasonable? Does the site display or communicate selection results?
 - Note: A consumer-oriented rating system would need to assess these aspects of the website. A critical issue is sponsors’ or advertisers’ participation in these processes.
 - 3.2 Conflict of interest, bias, disclosure of sponsorship, funding sources
 - 3.2.1 Does the site provide a conflict of interest policy?
 - 3.2.2 Specifically, does site report any relationship between authors of content and the owner, sponsor, or operator of the website?
 - 3.9 Content selection, NEC

- 4.0 Content validity/accuracy
 - 4.1 Does the site differentiate clearly between (or it's obvious what are) essays/ commentaries/ "opinions" and reports/ information/ "facts?"
 - 4.1.1 Is the information/content thorough and detailed?
 - 4.1.2 Is the information accurate?
 - 4.2 Does the site give the authors' information for "opinions" and/or reports of "facts" ("articles" presented on the website)
 - 4.2.1 Author’s name
 - 4.2.2 Author’s credentials (qualifications and experience)
 - 4.3 Does the site indicate the date the "opinion" or report of "facts" was written or last updated?
 - 4.4 For reports of "facts" (articles), does the site give the source of specific information it is communicating? For each source referenced, does the citation to the source give all of the following information (regardless of whether or not there is a link, to promote user-friendliness):
 - 4.4.1 Link to the source (best practice, whether on- or off-site)? Enough information to obtain it?
 - 4.4.2 Authors of the source
 - 4.4.3 Date the source information was generated or the date the report containing the referenced information was published.
 - 4.4.4 Date information was posted on the site
 - 4.4.5 Bibliography/resource list
 - 4.4.6 Type of source e.g. government, educational institution etc Note: Specific information refers to a statement that is the equivalent of, eg, "this treatment has been shown to cure breast cancer."
 - 4.5 Does the site indicate whether or not it has evaluated specific information (source) before displaying it on the website?
 - 4.5.1 If so, does the site describe how the specific information was evaluated?
 - 4.5.2 Are the methods adequate to their purpose?
 - 4.6 Does the site state the evidence grade of specific information?

- 4.6.1 If so, does the site describe how the evidence grade was assessed?
- 4.6.2 Are the methods adequate to their purpose?
Note: Evidence grade refers to the likely validity of the information for its purpose based on an assessment of the type of research study that produced it, and, better yet, an assessment of the study, e.g., based on assessing the research report (the adequacy of methods in relation to reported findings)
- 4.7 Does the site indicate the generalizability or limitations on applicability of specific information, or provide similar assistance to consumers in its use for some spectrum of purposes?
- 4.8 Does the site state whether or not it carries advertising (if not obvious that it does)?
 - 4.8.1 If the site carries advertising, does the site clearly distinguish between advertising and content?
 - 4.8.2 Does it provide its advertising policy?
 - 4.8.3 Is its advertising policy appropriate for consumers (eg, doesn't accept advertisement for products with dubious claims of effectiveness)? Note: The term "advertising" includes any payment for display of (or link to) content.
- 4.9 Content validity, NEC

- 5.0 Content interchange, interactivity
 - 5.1 Is there a way for consumers to request additional information? Does the site state how long it usually takes for the inquiry to be answered? Note: This is useful mostly for rating websites.
 - 5.2 Does the site offer decision support technology (a way that consumers can access information specific to their needs or concerns), such as, eg, a consumer self-assessment tool?
 - 5.2.1 If so, does the site describe the expert system used for this purpose? Is the system adequate for its purpose?
 - 5.2.2 Are specific caveats given regarding the system's use (eg, consumer must give honest information if results are to be meaningful) and limitation of relevant information?
 - 5.2.3 Does the site describe how the DST was developed and validated? If so, was the method sufficient to validate the DST?
 - 5.2.4 When was the DST last updated and/or validated?
 - 5.3 If the site offers exchange of information between consumers and health professionals, does the site describe their credentials (qualifications, experience, etc). Does the site indicate whether or not it has verified their credentials? If so, were the methods appropriate?
 - 5.3.1 Is it obvious to the consumers when they are (and are not) interacting with a specific health professional (whose credentials have been described)?
- 5.9 Content interchange, NEC

- 6.0 Site transparency/credibility/currency
 - 6.1 Does the site say who owns or pays for (sponsors) or created it?
 - 6.1.1 Does it list a physical location, telephone number, contact person, etc?
 - 6.2 Does the site say who runs it (if not the sponsor)?
 - 6.1.2 Does it list a physical location, telephone number, contact person, etc?
 - 6.3 Does the site provide the email address (or other contact information) for the

- webmaster (or other contact at the sponsoring organization)?
- 6.4 Does the site describe the sponsor's purpose or business?
- 6.5 Does the site disclose sources of financing of the sponsoring organization? Of the operating organization?
- 6.6 Currency
 - 6.6.1 When was the site first created?
 - 6.6.2 How frequently or often is the site/site content updated?
 - 6.6.3 Does the site indicate when it was last updated? Better yet, when specific sections were last updated?
 - 6.6.4 Does the site indicate date until which the content/information is valid?
- 6.7 Is the site essential "complete" (no or few "under-construction" banners)?
- 6.8 If site is moderated, is moderator's identity disclosed?
 - 6.8.1 Are credentials, affiliations, etc of the moderator disclosed?
 - 6.8.2 Is method used to select moderator disclosed?
- 6.9 Site transparency, NEC

- 7.0 Links
 - 7.1 Does the site link to other sites as sources of health information? If so, does it state the basis for displaying links (eg, its linkage policy)?
 - 7.2 Does the site indicate whether or not it has evaluated the adequacy of sites to which it displays links for additional health information?
 - 7.2.1 If so, does the site describe the basis for such evaluation? Subsidiary questions: Are the methods adequate to their purpose?
 - 7.3 Does the site provide appropriate descriptions, disclosures, and disclaimers about links?
 - 7.4 Are consumers alerted when they leave the site (eg, to go to a linked site)? E.g., does the site differentiate internal from external hyperlinks?
 - 7.5 Does the site report its policy for periodically checking the integrity of links (and removing non-functioning) links?
 - 7.6 Does the website contain email links to the authors of the content?

- 8.0 QA/QI
 - 8.1 Does the site describe any quality management or QA/QI process?
 - 8.1.1 Does QA/QI include accessibility?
 - 8.1.2 Relevance
 - 8.1.3 Content selection, validity, and/or interchange?
 - 8.1.4 Transparency/credibility?
 - 8.1.5 Links?
 - 8.1.6 Safeguards?
 - 8.2 If so, are QA/QI processes adequate to their purpose?
 - 8.3 Does the site permit easy feedback from consumers, including registration of complaints and compliments?

- 9.0 Safeguards
 - 9.1 Does the site display terms and conditions of use of the website (including, when applicable, services offered through the website), including users' rights? Are they appropriate?

- 9.2 Does the site display its privacy or confidentiality policy?
 - 9.2.1 Is it adequate to the task of informing consumers appropriately of what information is captured about their visit or request for information and what happens to it subsequently (including, eg, its use to promote products and services)? Note: This information is useful in rating websites (or including in search engines or browser filters), but it may not be useful to consumers because by the time they land on the site it may be too late.
- 9.3 Disclaimers, privacy policy, transparency or sponsorship, advertising policy: Does the site display disclaimers on use of the information it contains or communicates?
 - 9.3.1 Are they adequate to the task of informing consumers appropriately on general limitations of use of the information (content) displayed on the website?
- 9.9 Safeguards, NEC

Appendix 2: Health website quality assessment criteria set evaluation form

Assessor: Date: Criteria set: ID: Is criteria set intended for use by consumers?

Yes No Can't tell

Instructions

Read through each criteria set (and any ancillary materials provided or referenced).

Score the criteria set on each of the following evaluation criteria.

- If a criteria set fails to meet

X.0 criterion, it automatically fails to meet all subsidiary evaluation criteria

All subsidiary criteria (eg, 1.1), it fails the domain criterion (eg, 1.0).

Y =Yes, N =No, P =Partial (some applicable terms defined operationally; others not); if can't tell,

=No.

- After answering Y/N/P to each evaluation criterion, determine

If set meets some/all criteria in domain; if only 1 (eg, 2.0), always "yes"

If it meets all evaluation domains; "yes," only if all domains ="yes."

Evaluation criterion

Met? Yes/No/Partial

- | | | |
|-------|--|--|
| 1.0 | Is purpose of criteria set defined clearly? Y N P | |
| 1.1 | Is purpose defined operationally? e.g., to permit assessment of reliability/validity of criteria set Y N P | |
| 1 | Is criteria set's scope (operational range/limit) described? Y N P | |
| 2 | Is intended user of criteria set (tool) specified? Y N P | |
| | | |
| 1 | Does intended user include consumers? Y N P | |
| 2 | Is criteria set sufficiently comprehensive for purpose? Y N P | |
| | | |
| 3.1 | Is context/basis of criteria (that constitute set) described? Y N P | |
| 1 | Do criteria encompass all essential dimensions/concepts? Y N P | |
| 2 | Are criteria (in set) defined in operational terms? Y N P | |
| | | |
| 4.1 | Are applicable terms defined operationally? Y N P | |
| 4.2 | Are criteria clear, unambiguous, etc? Y N P | |
| 4.3 | Is scoring of individual criteria described clearly? Y N P | |
| 1 | Is use (eg, aggregation) of criteria scores explained clearly? Y N P | |
| 2 | Has reliability/validity of criteria set (tool) been tested? Y N P | |
| | | |
| 5.1 | Is test design adequate/appropriate for criteria purpose? Y N P | |
| 5.1.1 | With info given, could another person replicate test? Y N P | |
| 5.2 | Did test include intended users of criteria set (tool) Y N P | |
| 5.2.1 | Did test include consumers? Y N P | |
| 5.3 | Were sources of variation in test results appraised? Y N P | |
| 1 | Were test results analyzed appropriately? Y N P | |
| 2 | Is criteria set (tool) user-friendly (forms, instructions, etc)? Y N P | |
| | | |
| 6.1 | Is it consumer-friendly? Y N P | |

Meets Some criteria All criteria Other assessment

- | | | | | |
|---|------------------------------|-----------------------------|------------------------------|-----------------------------|
| 1 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

5 Yes No Yes No

6 Yes No Yes No All Yes No Yes No Comments Attached

None c:\hiicu\criteval\19apr03