http://dx.doi.org/10.2106/JBJS.N.01189

Appendix

Information Quality Assessment Instruments

DISCERN

DISCERN aims to provide a reproducible instrument to assess the quality of written patient information about treatment choices. A panel of specialist consultants, general practitioners, a health journalist, and self-help group members designed it. DISCERN has sixteen questions addressing the clarity, balance, and content of the information in any given publication and grades them from 1 to 5 (Table II). The first eight questions address reliability, the next seven questions focus on treatment information, and the last question asks the user to grade overall quality. The DISCERN instrument was validated by twenty-eight independent health information providers and self-help group members.

A major advantage of DISCERN is that it is a step-by-step checklist that information consumers may use themselves when reading online health material, and it has been shown to be a valid indicator of evidence-based web site quality when used by consumers[41]. However, that study by Griffiths and Christensen also pointed out that individual consumers are unlikely to invest the time required to use DISCERN solely for their own purposes; other authors have noted that consumers must also take the time to understand the quality criteria behind the questionnaire and must be able to interpret the score value[79]. Nonetheless, DISCERN receives continued use by research teams evaluating online material. The DISCERN handbook provides little guidance on interpreting total DISCERN scores, and, to date, to our knowledge, no definitive subdivision of the DISCERN score has been formally agreed upon and published[80]. Weil et al.[37] omitted the final question regarding the readers' impression of overall quality to obtain a minimum score of 16 and a maximum score of 75. Thus, DISCERN scores may be categorized as follows: excellent is denoted by scores of 63 to 75 points, good is denoted by scores of 51 to 62 points, fair is denoted by scores of 39 to 50 points, poor is denoted by scores of 27 to 38 points, and very poor is denoted by scores of 16 to 26 points[37].

JAMA Benchmark Criteria

The JAMA benchmark uses four core standards to evaluate web sites: authorship, attribution, disclosure, and currency. The exact definitions of the JAMA criteria are available in the 1997 paper by Silberg et al.[35]. The JAMA benchmark is the most streamlined of the quality assessment tools, allowing the evaluator to quickly discredit web sites that lack the most basic components of information transparency and reliability. By the same fashion, the JAMA benchmark is a relatively simplistic model for evaluating online material and cannot be expected to perform as comprehensive an assessment as other, more sophisticated models. Studies that use the JAMA benchmark often quote the mean JAMA score along with its standard deviation and may or may not comment on noteworthy trends within the scope of reviewed material, for example, "only two sites fulfilled all the JAMA benchmark criteria and therefore obtained the maximum score." It is therefore perhaps unsurprising that we identified no articles that relied solely on the JAMA criteria to assess information quality.

HONcode

First developed in 1995 by a panel of experts in medical informatics and telemedicine, the HONcode is now broadly recognized as an ethical code for medical web sites. Sites that comply with this code of conduct and meet the necessary standards are permitted to display the HONcode seal on their web site.

HONcode certification is based on eight principles outlined in Table IV and is freely available to view online[81]. It is free to apply for and obtain HONcode certification and, since August 2014, a fee has been charged for renewal of certification "depending on the type and popularity of the website"[82].

The principle of having a trustworthy, recognizable accreditation symbol is attractive as it removes the burden of evaluating individual sites from the consumer. However, this process has proven to be problematic, with some authors reporting that it is simply unrealistic to police the use of any quality seal, and others have concluded that attempts to provide quality logos may even be counterproductive[83-85]. Since its establishment, the Health On the Net Foundation has evolved in response to these challenges. The HONcode seal now updates in real time to respond to any violation of the HONcode principles and, if the transgressing web site does not make satisfactory modifications or, indeed, does not drop the logo if the site has never been certified, the Health On the Net Foundation will demand removal of the seal. In the circumstance in which the seal is not removed, the Health On the Net Foundation states that it will take "the necessary legal action"[86].

Although a real-time seal is an improvement, it does not address all issues with the HONcode seal and substantial challenges remain, particularly in the area of fraudulent use of the seal. The HONcode seal still relies on the consumers actually clicking on the link to confirm that the seal is valid. When consumers find an invalid link or, alternatively, a web site that displays the seal but no longer abides by the HONcode principles, the consumers must alert the Health On the Net Foundation via an online complaints service. Further, it is also worth noting that the Health On the Net Foundation declares on its web site that it "is not responsible for, nor can it control, any aspect of the web pages other than its own"[86]. There appears to be a dichotomy here. Health On the Net reviews web sites before certifying a web site and demands removal of the HONcode seal if standards fall, yet also claims that it is not in any way responsible for and does not control the quality of information. On its web site, the HONcode further elaborates: "HON cannot guarantee the accuracy of medical information presented by a site and its completeness at any given time, but possession of the HONcode seal allows a site to demonstrate its intention to contribute to quality medical information through the publishment of objective and transparent information."

This apparent contradiction has been branded as confusing to consumers and may result in consumers erroneously mistaking the HONcode seal as an award and relying on it as an indicator of assessed information[83]. Despite its flaws, the HONcode remains the oldest and most widely used "kitemarking" seal available for online information and, as worded by the Health On the Net Foundation, the "uncontested leader in its field"[83].

PageRank

Google developed an algorithm in 2002 (PageRank) designed to determine the relative importance of any given web page. This was accomplished by counting the number and quality of the links to a page to determine the importance of a web page[40]. Using a Google toolbar within a web browser, it was possible to display the PageRank. However, modern browsers now incorporate a search engine facility within the address bar and Google's own Chrome browser (launched in 2008) never offered this PageRank feature. Google has since stated that it does not plan to update the PageRank service for old browser users, favoring the more recently developed Google Panda (which incorporates the PageRank as one of its many variables when evaluating the quality of a web page). It therefore appears that PageRank and the Google Toolbar have been consigned to history. Although Google Panda continues to account for the importance of inbound links to a web site, it does not offer an equivalent quality score to the public.

LIDA

LIDA was developed by Minervation, which is an offspring company of Oxford University established in 2002[87]. The LIDA tool was developed in 2007 and is freely available online[39]. LIDA evaluates web sites based on three main criteria, namely accessibility, usability, and reliability, giving a total score of up to 168 points. The accessibility of a web site is based on the HTML and metadata incorporated within a given web site. An automated service available online processes these metadata for the user and delivers an accessibility score. Usability and reliability are graded by the reader using a forty-one-question checklist marking scheme.

By measuring accessibility, LIDA has a unique advantage over other quality instruments. It is important for the reader to understand that "accessibility" is a quite technical term that evaluates how easily a site is reached by any given web user. The authors of LIDA have stated that accurate accessibility values are best achieved when the user completes the accessibility checklist manually rather than using computer-generated values. Evaluation of the accessibility criteria is a process beyond most lay persons, as it requires skills such as the ability to judge the absence or presence of outdated computer code[88]. Furthermore, LIDA is by far the most labor-intensive of all of the quality assessment instruments. Although LIDA has been validated and has been subsequently used by other researchers in the literature, until recently there had been limited uptake by orthopaedic researchers. However, this may be about to change, with one 2014 study using LIDA to examine online pediatric information on the AAOS and POSNA web sites[30].

Flesch-Kincaid Grade Level and Flesch Reading Ease Score

The Flesch-Kincaid grade level (FKGL) is a modified version of the earlier Flesch Reading Ease Score (FRES). The FRES generated a score from 100 (very easy to read) to 0 (unreadable) and was first published in 1948. Flesch then further developed his scoring system the following year. *The Art of Readable Writing* provided a table with which the FRES may be determined[89]. This table converts the FRES to the equivalent reading requirements expected at a given grade in an American school. This process was then simplified to a single formula, the FKGL, by the U.S. Navy in the 1970s and subsequently used to evaluate the reading difficulty of its technical manuals[44]. Today, the FKGL may be generated online and is also available in Microsoft Word, making it easily accessible to vast numbers of researchers.

http://dx.doi.org/10.2106/JBJS.N.01189

TABLE E-1 All Identified Literature That Evaluated Online Orthopaedic Information*

Reference	Methods†	Quality‡	Readability	Journal	General Conclusions
General orthopaedics					
Patel[90] (2015)	Sarcomas; no search engines; 72 sites; reviewers not stated	Not evaluated	FRES; SMOG; Dale-Chall	*Am J Orthop*	No web site had a readability score of ≤7 (expected readability of children in grade 7 of American schools); study showed combined score of multiple readability tests including those listed here; mean readability score was 11.4
Eltorai[71] (2015)	Patient information on the AAOS web site; no search engines; 1 site (250 articles); reviewers not stated	Not evaluated	FKGL	*Clin Orthop Relat Res*	3% of articles at FKGL of ≤6
O'Neill[62] (2014)	Elective orthopaedics (total hip replacement, total knee replacement, anterior cruciate ligament [ACL] reconstruction); Google, Yahoo, Bing; 225 sites; reviewers not stated	Original; LIDA	FRES; FKGL	*Acta Orthop Belg*	14% of sites at FKGL of ≤6; mean quality score of 70% for original and 69 for LIDA score
Polishchuk[24] (2012)	Patient materials from the AAOS, AAHKS, and 3 other practitioner web sites; no search engines; 5 sites (212 articles); 2 reviewers	Not evaluated§	FKGL	*J Arthroplasty*	2% articles at FKGL of ≤6; 18% articles at FKGL of ≤8
Starman[54] (2010)	Common orthopaedic sports injuries; Google, Yahoo; 154 sites; 3 reviewers	Original	Not evaluated	*JBJSAm*	Of 154 sites, 29% (44) were high quality
Sabharwal[25] (2008)	Patient education materials available on AAOS web site; no search engines; 1 site (426 articles); 1 reviewer	Not evaluated	FKGL	*Clin Orthop Relat Res*	Of 426 articles, 2% (10) had FKGL of ≤6
Spine					
Elhassan[38] (2015)	Discectomy; Google, Yahoo, Bing; 53 sites; 2 reviewers	DISCERN; JAMA; original	Not evaluated	*Spine (Phila Pa)*	Mean score of 38 for DISCERN, 2 for JAMA, and 11 for original (max. 20)
Agarwal[26] (2014)	Spinal cord injury institution's web sites; no search engines; 10 sites (104 sections); reviewers not stated	Not evaluated	FRES; FKGL	*Spine (Phila Pa)*	Of 104 sections, 3.8% (4) had FKGL of ≤6
Weil[37] (2014)	Elective cervical spine surgery information; Google, Yahoo; 97 sites; 2 lay reviewers	DISCERN	Original (2 lay persons)	*World Neurosurg*	Of 97 sites, 10% (10) were good quality
Sullivan[55] (2014)	Vertebroplasty; Google, Yahoo, Bing; 105 sites; reviewers not stated	Original	Not evaluated	*Clin Orthop Relat Res*	Of 105 sites, 13% (14) were high quality
Feller[64] (2012)	Lumbar spinal stenosis; Google; 50 sites; 2 reviewers	Original	Not evaluated	*Med Health R I*	Of 50 sites, 44% (22) were high quality
Nason[56] (2012)	Scoliosis; Google, Yahoo, Lycos, AOL, Alta Vista; 41 sites; 2 reviewers	JAMA; DISCERN; original[91]	Not evaluated	*Spine (Phila Pa)*	Of 41 sites, 12% (5) were high quality
Hendrick[66] (2012)	Acute lower back pain; Google; 22 sites; 2 reviewers	Original	FKGL	*Man Ther*	Mean quality score (designed by authors) of 40%; of 22 sites, 14% (3) had FKGL of ≤6
Qureshi[75] (2012)	Cervical artificial disc replacement devices; Google, Yahoo, MSN; 150 sites; reviewers not stated	Not evaluated	Not evaluated	*Spine (Phila Pa)*	Of 150 sites, 52% (78) referenced peer-reviewed articles and 35% (52) described potential risks
Morr[65] (2010)	Cervical disc herniation; Google, Yahoo, Lycos, MSN, AOL; 50 sites; 3 reviewers (orthopaedic	Original[91]	Not evaluated	*Spine J*	Of 50 sites, 6% (3) were high quality

	surgeons)				
Vives[27] (2009)	Recognized American spinal authority web sites (NASS/AAOS) and 8 practitioner web sites; no search engines; 11 sites; reviewers not stated	Not evaluated	FKGL	*Spine (Phila Pa)*	2.5% (3/121) had FKGL of ≤6
Garcia[70] (2009)	Lumbar artificial disc replacement; Google, Yahoo, MSN; 105 sites; 3 reviewers	Original[95]	Not evaluated	*J Spinal Disord Tech*	Of 105 sites, 11% (12) referenced peer-reviewed articles and 28% (29) described potential risks
Mathur[91] (2005)	Scoliosis; MSN, Yahoo, Google, Lycos, AltaVista; 50 sites; 3 reviewers	Original	Not evaluated	*Spine (Phila Pa)*	Of 50 sites, 6% (3) were high quality (measured as accuracy)
Greene[92] (2005)	Lumbar disc herniation; MSN, AOL, Yahoo, Google, AskJeeves; 169 sites; 1 reviewer	Original	Not evaluated	*Spine (Phila Pa)*	Of 169 sites, 9.5% (16) were high quality
Butler[78] (2003)	Back pain; AltaVista, Direct Hit, Infoseek, Northern Light, Snap, Yahoo; 60 sites; 1 reviewer	Original	Not evaluated	*Spine (Phila Pa)*	3% (2/60) obtained a score of >19/38 (high quality)
Li[93] (2005)	Back pain; AltaVista, Infoseek, Lycos, Yahoo, Magellan; 74 sites; 2 reviewers	Original	Not evaluated	*Spine (Phila Pa)*	Of 74 sites, 12.2% (9) were high quality
Hip					
Mohan[94] (2015)	Direct anterior approach to hip; Google, Yahoo, Bing; 150 sites; reviewers not stated	Original	Not evaluated	*J Arthroplasty*	Of 150 sites, 29% (43) referenced peer-reviewed articles and 35% (52) described potential risks
Nassiri[57] (2014)	Total hip replacement; Google, Yahoo, Bing; 52 sites; 1 reviewer	DISCERN; JAMA	Not evaluated	*J Arthroplasty*	15.4% (8/52) scored excellent (DISCERN score); 4% (2/52) fulfilled all JAMA criteria
Lee[49] (2014)	Femoroacetabular impingement; Google, Yahoo, Bing, Ask; 100 sites; 3 reviewers	Original	Not evaluated	*Arthroscopy*	Of 100 sites, 16% (16) were excellent quality, 18% (18) were high quality
Saithna[73] (2008)	Hip resurfacing; Google; 30 sites; 1 reviewer	DISCERN; JAMA	Not evaluated	*Surgeon*	20% (6/30) of web sites were high quality; (DISCERN); 33% (10/30) web sites fulfilled all JAMA criteria
Kwong[76] (2006)	Hip resurfacing; 5 search engines; 40 sites; 2 reviewers	Original	Not evaluated	*Hip Int*	Of 40 sites, 10% (4) were high quality
Labovitch[95] (2006)	Minimally invasive hip arthroplasty; Google, MSN, Yahoo; 150 sites; reviewers not stated	Original	Not evaluated	*J Arthroplasty*	Of 150 sites, 6% (9) referenced peer-reviewed articles and 13% (20) described potential risks
Klein[96] (2005)	Minimally invasive hip arthroplasty; no search engines (The Hip Society members' sites); 94 sites; reviewers not stated	Original	Not evaluated	*Clin Orthop Relat Res*	Of 94 sites, 0% (0) referenced peer-reviewed articles and 20% (19) described potential risks
Knee					
Gosselin[67] (2013)	Sex differences in ACL injuries; Google, Yahoo, Bing; 35 sites; 2 reviewers	Original	FKGL; FRES	*Knee*	Mean quality of content score was 42% (42/100); 91% of web sites had FKGL of >8
Bruce-Brand[58] (2013)	ACL reconstruction; Google, Bing, Yahoo, Ask; 45 sites; reviewers not stated	JAMA; DISCERN; original	Not evaluated	*Arthroscopy*	Of 45 sites, 8.9% (4) were high quality (DISCERN) and 22% (10) fulfilled JAMA criteria; mean quality score was 49% (12.3/25) (original)
Meena[97] (2013)	Minimally invasive total knee arthroplasty; Google, MSN, Yahoo; 150 sites; reviewers not stated	Original[95]	Not evaluated	*J Orthop Surg (Hong Kong)*	Of 150 sites, 3% (4) referenced peer-reviewed articles and 25% (37) outlined potential risks
Duncan[98] (2013)	ACL reconstruction; Google, Yahoo, Bing, Ask; 200 sites; 3 reviewers	Original	Not evaluated	*Arthroscopy*	Of 200 sites, 26% (52) referenced peer-reviewed articles and 30% (60) outlined potential complications
Sambandam[77] (2007)	Knee arthroscopy; Copernic, Mamma, Google, AltaVista, Yahoo, MedHunt, HealthFinder; 70 sites; 2 reviewers	Original	Not evaluated	*Arthroscopy*	Of 70 sites, 11% (8) provided adequate information and 1.4% (1) met all requirements

Callaghan[99] (2006)	Minimally invasive surgery and computer-assisted orthopaedic surgery from Knee Society members; Google, Yahoo, Excite; 92 sites; reviewers not stated	Original	Not evaluated	*Clin Orthop Relat Res*	Of 30 sites that addressed minimally invasive surgery, 0% (0) referenced peer-reviewed data and 30% (9) outlined potential risks
Lower limb					
Elliott[59] (2015)	Total ankle replacement; Yahoo, Google, Bing; 105 sites; reviewers not stated	Original	Not evaluated	*J Foot Ankle Surg*	19% of sites were excellent quality; 16% of sites were high quality
Sheppard[72] (2014)	Readability of online foot and ankle patient education materials including AAOS and AOFAS; no search engines; 14 sites; reviewers not stated	Not evaluated	FRES; FKGL; SMOG	*Foot Ankle Int*	Study showed combined score of multiple readability tests including those listed here; mean readability grade of 10
Chong[104] (2013)	Hallux valgus; Google, Yahoo, MSN; 42 sites; 3 reviewers	DISCERN	Not evaluated	*Foot Ankle Int*	Of 42 sites, 5% (2) were high quality and 19% (8) were good quality
Smith[50] (2012)	10 common foot and ankle diagnoses; Google, Yahoo; 136 sites; 4 reviewers	Original (Soot[110])	Not evaluated	*Foot Ankle Surg*	Mean score of 49.7% for content score#
Bluman[28] (2009)	Readability of patient materials on AOFAS; search engines not available; 1 site (77 articles); 1 reviewer	Not evaluated	FKGL	*Foot Ankle Int*	Of 77 articles, 20.8% (16) had FKGL of ≤6
Moshirfar[74] (2004)	Plantar fasciitis; Yahoo, MSN, Lycos; 152 sites; 3 reviewers	Original	Not evaluated	*Clin Orthop Relat Res*	Mean quality score of 38% (3.8/10)
Groot[17] (2001)	Ankle sprain; meta-search engine incorporating 13 most commonly used engines; 36 sites; 1 reviewer	Original	Not evaluated	*Injury*	Of 36 sites, 2.8% (1) were high quality
Upper limb					
Kelly[60] (2015)	Carpal tunnel syndrome, trigger finger, and Dupuytren disease; search engines not named; 25 sites; reviewers not stated	DISCERN; JAMA	Not evaluated	*J Plast Reconstr Aesthet Surg*	DISCERN#: 36 for carpal tunnel, 44 for Dupuytren disease, and 32 for trigger finger; JAMA#: 1.6 for carpal tunnel, 1.9 for Dupuytren disease, and 1.0 for trigger finger
Garcia[51] (2014)	Shoulder instability; Google, Yahoo, Bing; 82 sites; 3 reviewers	Original	FKGL	*JBJS*	Mean quality score of 38%; mean FKGL of 11
Dalton[48] (2015)	Rotator cuff tears; Google, Yahoo, Bing, AOL, Ask; 59 sites; 2 reviewers	DISCERN; JAMA	FKGL; FRE; GFI	*J Shoulder Elbow Surg*	Mean scores: 36 for DISCERN, 1.7 for JAMA, 51 for FRES, 8.1 for FKGL, and 9 for GFI
Kamal[52] (2014)	Carpometacarpal arthritis; Google, Bing; 27 sites; 4 reviewers	Original	FKGL	*R I Med J*	Mean score of 46% for quality score and 9.9 for FKGL
Lutsky[68] (2013)	Carpal tunnel syndrome; Google, Yahoo, Bing, AOL, Ask; 65 sites; 2 reviewers	Original (Soot[110])	Not evaluated	*Orthopedics*	Mean quality score of 53.8% (53.8/100)#
Heap[69] (2015)	De Quervain tendinitis; Google, Bing, Yahoo; 84 sites; 3 reviewers	Original	FKGL	*Hand*	Mean quality score of 69% (20.7/30); 5.4% (4/74) had FKGL of ≤6
Dy[14] (2012)	Lateral epicondylitis; Google, Yahoo, Bing; 75 sites; 3 reviewers	Original (Mathur[91] and Morr[65])	FKGL	*Hand*	Mean quality score of 39.7% (11.9/30); 0% (0/75) had FKGL of ≤6
Dy[15] (2012)	Distal radial fractures; Google, Yahoo, Bing; 70 sites; 3 reviewers	Original	FKGL	*J Hand Surg*	Mean quality score of 40% (12/30); 7% (5/70) had FKGL of ≤6
Wang[29] (2009)	Readability of ASSH and AAOS hand and wrist information; search engines not available; 2 sites (83 articles); 1 reviewer	Not evaluated	FKGL; Dale-Chall	*J Hand Surg Am*	AAOS: 0% (0/34) had FKGL of ≤6 and the mean Dale-Chall grade was 8.8; ASSH: 0% (0/49) had FKGL ≤6 and the mean Dale-Chall grade was 10.8

Sproule[100] (2003)	Carpal tunnel release, Dupuytren release, and trigger finger release; Google, Yahoo, MSN; 172 sites; 2 reviewers	Original	Not evaluated	*Hand Surg*	Of 172 sites, 18.6% (32) were highly commendable
Beredjiklian[101] (2000)	Carpal tunnel syndrome; Yahoo, MSN, Netscape, Go, Lycos; 175 sites; 2 reviewers	Original (method described by Soot[110])	Not evaluated	*JBJSAm*	Mean quality score of 28.4% (28.4/100)
Pediatrics					
Feghhi[30] (2014)	Online pediatric orthopaedic information; no search engines; 2 sites (AAOS, POSNA); 6 reviewers	LIDA	FKGL	*JBJSAm*	POSNA§: 66% accessibility, 72% usability, 87% reliability; AAOS§: 78% accessibility, 84% usability, 87% reliability; overall FKGL of 8.8
Wellburn[63] (2013)	Idiopathic scoliosis; no search engines (sites recommended by U.K. National Health Service [NHS] consultants); 7 sites; 3 reviewers	DISCERN	Not evaluated	*Spine (Phila Pa)*	Overall poor quality; no web site had a score of >50/80 (62.5%)
Nassiri[61] (2015)	Legg-Calvé-Perthes disease; Google, Yahoo, Bing; 45 sites; reviewers not stated	DISCERN; JAMA; original	Not evaluated	*J Pediatr Orthop*	DISCERN: 13% of web sites were of excellent quality; JAMA: 20% had maximum scores; original: mean quality score 16 of possible 25
Winship[53] (2014)	10 common pediatric orthopaedic diagnoses; Google, Yahoo; 98 sites; 3 reviewers	Original	Not evaluated	*J Pediatr Orthop*	Of 98 sites, 15.3% (15) were high quality; mean quality score of 62.4% (62.4/100)
Fabricant[16] (2013)	Developmental dysplasia of the hip; Google, Yahoo, Bing; 63 sites; 3 reviewers	Original	FKGL	*J Pediatr Orthop*	Mean quality score of 62.7% (18.8/30); 1.6% (1/63) had FKGL of ≤6
Badarudeen[102] (2008)	Readability of AAOS and POSNA online patient education materials; no search engines; 2 sites (57 articles); reviewers not stated	Not evaluated	FKGL	*JBJSAm*	Of 57 articles, 1.8% (1) had FKGL of ≤6
Aslam[103] (2005)	Talipes equinovarus; 5 search engines not identified; 150 sites; 2 reviewers	Original (Soot[110])	Not evaluated	*J Pediatr Orthop B*	When terms were searched, the mean quality scores were 12% (12/100) for "club foot" and 26% (26/100) for "clubfoot"

*FRES = Flesch Reading Ease Score, SMOG = Simple Measure of Gobbledygook readability grade, FKGL = Flesch Kincaid Grade Level, AAHKS = American Association of Hip and Knee Surgeons, NASS = North American Spine Society, AOFAS = American Orthopaedic Foot & Ankle Society, GFI = Gunning-Fog Index, and ASSH = American Society for Surgery of the Hand. †The methods are given as the subject, the search engines, the number of sites, and the number of reviewers. ‡Original denotes the original scoring system devised by the authors. §The mean score was quoted. #The proportion of web sites with high content scores was not reported.