Digital Tool Evaluation Checklist

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Digital health is broadly defined and includes health-related social media, mobile health, health information technology, wearable devices, telehealth and telemedicine, personalized medicine, and internet-based health information and has evolved rapidly over the last 25 years. Despite the growing number of applications and sources of health care information, developing methodologies to perform timely, cost-effective, and robust evaluations of digital tools are insufficient to meet the need. This lack of evidence-based and researched assessment of digital health information remains a challenge in providing credible resources and data to healthcare consumers, thereby hindering wider adoption.

Online health information is unregulated and is highly variable in quality and accuracy. Therefore, determining digital health credibility and reliable information sources is a considerable challenge for users, such as patients and providers. Over half of the adult population in the United States does not possess adequate health literacy (Skiba, 2018). Compounding this issue, a growing number of individuals use online health information to guide health care decisions, either for themselves or on behalf of another individual. Developing efficient, easy-to-use, obtain, and effective methods to evaluate digital health is crucial to disseminate accurate information to the consumer.

Importance of Evaluating Digital Tools

False, misleading, or inaccurate information found during internet searches, mobile applications, or social media regarding signs and symptoms of health conditions or diseases, potential treatments and medications, vaccines, diets, and cosmetic procedures are influencing consumers of health information to make choices that could have dangerous consequences for their health and well-being (Office of the U.S. Surgeon General, 2021). This type of information

can spread through communities and within groups of acquaintances or families, cause actual harm to well-meaning individuals, waste healthcare provider time and resources to dispel misinformation, and clog healthcare institutions with the aftermath of adherence to dangerous disinformation.

Criteria for Evaluating Digital Tools

Credibility

Credibility within digital health platforms encompasses many facets to determine accurate, safe, and knowledgeable health care information. Credibility standards for an evaluation checklist of digital tools include the type of author, peer review, publisher bona fides, web address, payer source and sponsorship, and purpose (Medical Library Association [MLA], n.d.).

First, an identifiable source of information must be apparent and preferably by medical professionals, known government health agencies, or established and appraised medical institutions (University of California San Francisco, n.d.). Good examples of credible authors are the National Library of Health, the U.S. Department of Health and Human Services, the Centers for Disease Control and Prevention, and the Centers for Medicare and Medicaid Services (MLA, n.d.). These agencies publish accurate information through smaller agencies, journals, newsletters, websites, affiliated institutions, and mobile applications.

Second, credibility is maximized if the digital tool utilizes peer review by reliable medical professionals for healthcare information output and is available to review. Along with peer review, credibility is enhanced if the author, publisher, and panel of peer review contact information are readily available within the digital tool for transparency.

The endings of website addresses are indicative of credible sources of information. A web address that ends with ‘.edu’ is associated with an institution of higher education affiliated with the United States and is usually four-year postsecondary educational organizations. A '.gov' ending indicates the website belongs to a governmental organization or agency. A ‘.org’ ending typically is affiliated with non-profit organizations such as the American Heart Association and many local health department websites. An ending of '.com' can be a breeding ground for misinformation as this is typically affiliated with for-profit organizations. The organization paying for the website content may have financial gain motives, so the advertised information may be inaccurate or harmful (American Academy of Family Physicians, 2022).

Digital healthcare tools can be costly to operate and need a source of revenue to sustain function and viability. This source of funding should be clearly stated or readily available to review. Knowing sponsorships and payer sources is essential to establish credibility, transparency, respect, and dependability for the digital tool. Also, if the tool has a list of advisory board members or consultants to review healthcare material and content, then this lends credibility to the digital tool.

The digital tool’s purpose can help evaluate the integrity and trustworthiness of healthcare content. This information can sometimes be found in the ‘about this site’ or ‘about us’ section of the digital tool. Even legitimate sites sell healthcare products and services, but this action can potentially damage the reputation of the source of information (University of California San Francisco, n.d.). Unbiased and independent sources of health information are more likely to be credible.

Accuracy

Healthcare information that is evidence-based and supported by research from scientific studies is more accurate and trustworthy than expert opinion. Accuracy is legitimized if the information is from a randomized controlled trial, is found in a credible medical journal, is widely cited, and few limitations are discussed. Additionally, if the information is from a secondary source such as a website, news article, social media post, or medical opinion, the accuracy of the information may be compromised due to the interpretation of the data or individual opinion.

Medical information and research should have references listed in the digital tool, which lends accuracy and transparency to the digital data.

Healthcare information should be supported by facts, not opinions, with the original source of information listed and verified. Information presented must be factual, easy to understand, and disseminated. Also, accuracy is probable if other credible sources confirm the information (MLA, n.d.)

Another accuracy indicator is digital tool policies that govern content linked through other information sites. Digital tools that do not provide links to other sites control the accuracy of information located by consumers looking for healthcare guidance and trustworthy information (American Academy of Family Physicians, 2022).

Timeliness

Changes in healthcare research, knowledge, treatments, and medications are constantly evolving. Due to these constant changes, healthcare information sought by providers and patients must be current and reviewed within the last one to two years (American Academy of Family

Physicians, 2022). Published, reviewed, and copyrighted dates should be easily identified, and research used to develop content should also be current.

User Information and Privacy

Because websites, social media, and mobile applications routinely track usage, consumers of healthcare data should look for subscriptions and memberships to these digital tools. Some collect membership dues or user fees to provide selected information for the user. These fees may allow the digital tool to collect personal information about the user, which can be sold to other entities. If user information is obtained, the digital tool should explain exactly how that information is utilized (Office of the U.S. Surgeon General, 2021). Privacy policies and clauses should also be clearly stated and outline measures to protect the privacy of the user.

The site owner should include contact information to assist with problems, feedback, and questions. Also, terms of service policies should be apparent for online discussion groups or other interactive services.

Warnings of Inferior Digital Tools

Ruling out non-credible digital tools may be a more straightforward approach to disseminating reliable healthcare information. Warnings of inaccurate information include anonymous information, acknowledged or apparent conflicts of interest, biased information identified as opinion, outdated information, and claims of miraculous or secret cures, myths, or rumors. Additionally, if the grammar is poor with misspelled words and is the sole work of an individual offering advice, coping skills, or alternative treatments based on experience and not scientifically founded, then suspicions are warranted on the validity of the digital tool.

Below is a simple checklist based on a review of the literature to assist consumers when choosing digital tools for healthcare information.

Evaluation Checklist of Digital Tools

Table 1

Digital Tool Evaluation Checklist

Criteria included for Credible Digital Tool	**Yes**	**No**
Author(s) Identified		
Peer Reviewed		
Publisher Contact Information		
Web Address Ending (.edu, .org, .gov) *		
Payer source/Sponsorship		
Advisory Board or Consultants Visible		
Purpose of Information		
Evidenced-based		
References Listed		
Material verified by credible sources		
Link policies		
Factual data, not opinion		
Information dated within the last two years		
No usage fees		
Not selling products or services		
Site owner contact information		
Privacy measures/policies/clauses		
Terms of service policies if interactive		
*Credible Sources National Library of Health U.S. Department of Health and Human Services and affiliates Centers for Disease Control and Prevention Centers for Medicare and Medicaid		

How to Use the Evaluation Checklist

Consumers of healthcare information can use the checklist as a guide when reviewing digital data. Ratings and scoring were not included in the checklist development due to a lack of comparison data and the author's level of expertise. However, the checklist can help educate users on credible criteria and warning signs when searching for healthcare information in the digital age.

References

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