



Website Language Accessibility Checklist: A Tool for Assessing the Multilingual Accessibility of Health Websites


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ABSTRACT

Multilingualism is essential for digital health communication, yet there is no comprehensive tool to assess the multilingual accessibility of health websites. This study addresses this gap by developing the Website Language Accessibility Checklist (WLAC) through a three-phase mixed-methods approach. A systematic literature review of 53 studies from Web of Science, PubMed, and CINAHL Complete identified existing criteria, which were coded through thematic analysis and validated using inter-coder reliability ($\kappa = 0.89$). These preliminary criteria were refined by testing on 20 health websites to ensure usability and clarity. The final checklist comprises 10 criteria across two dimensions—availability and accessibility—offering an innovative framework for assessing the multilingual accessibility of health websites. This tool standardizes terminology, provides clear operational definitions, and offers practical guidance for healthcare organizations, web developers, and policymakers to enhance multilingual accessibility on digital health platforms.

KEYWORDS

Assessment Tool, Digital Health Communication, Language Accessibility, Multilingual Accessibility, Website Evaluation

INTRODUCTION

In the digital age, healthcare systems increasingly rely on online platforms to disseminate information (Canny et al., 2023; Jacobson et al., 2022; Whitehead et al., 2023). Among these platforms, websites remain a primary source of health information for most individuals (Finney Rutten et al., 2019; Wang et al., 2021; Ni et al., 2024). Ensuring multilingual accessibility on health websites is not merely a matter of convenience but a core component of equitable and effective healthcare delivery in linguistically diverse societies.

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Multilingual Accessibility, Digital Health, and Health Equity

Scholars have long emphasized the role of online multilingual accessibility in promoting health equity. Some frame it as a social determinant of health equity, arguing that health providers must ensure that information is accessible to culturally and linguistically diverse populations—particularly ethnic minorities and migrants—to reduce disparities in healthcare access (Legido-Quigley et al., 2019; Jacobson et al., 2022; Tensmeyer et al., 2022; Stewart et al., 2023). Others highlight its contribution to health literacy, asserting that multilingual health websites enhance health literacy and patient education across diverse demographic groups (Murray et al., 2022; Dahshan et al., 2023). Research also links multilingual accessibility to improved long-term patient outcomes, regardless of their races (Brennan et al., 2023; Kim et al., 2024). This need is especially critical in nations with multiple official languages—such as Canada, India, and South Africa—where health websites should be constructed using all officially recognized languages.

The rise of digital health and the concept of digital determinants of health further reinforce the importance of multilingual accessibility, necessitating an interplay between the design, implementation, and use of technology, and broader social determinants of health (Chidambaram et al., 2024). Studies on health informatics further identify language as a significant factor affecting the accessibility and acceptance of digital health technologies. Barriers include limited English proficiency and the absence of native-language options, while effective mitigation strategies involve offering plain language, multimedia content, and first-language accessibility (Whitehead et al., 2023).

Digital inclusion, a key factor in reducing health disparities (Qureshi et al., 2024), is closely tied to access to information in one's preferred language. When digital health platforms are not multilingually accessible, they risk exacerbating existing health inequities, particularly for populations with limited proficiency in the dominant language (Sieck et al., 2021).

Multilingual Accessibility and Website Usability

Beyond equity concerns, multilingual accessibility directly impacts website usability and user experience. Recent studies stress that digital health platforms should prioritize user-centric design, ensuring that interfaces are intuitive and accessible to diverse populations (Nagrath et al., 2023). Research shows that multilingual users face significant challenges on digital platforms, ranging from the unavailability of preferred languages (Alon & Krtalić, 2024), low readability (Miraz et al., 2016; Akgül, 2021), and poor translation quality (Zhyvotovska, 2021; Ahrens & Elias, 2023). Multilingual accessibility, including ease of navigation, is critical to ensuring a seamless experience for users with diverse linguistic backgrounds (Miraz et al., 2016; Whitehead et al., 2023).

Scholars further emphasize that multilingual user experience extends beyond basic translation. For instance, Zhyvotovska (2021) argues that multilingual usability also involves thoughtful technology design. Similarly, Miraz et al. (2016) identify user interface (UI) design challenges for multilingual users of BBC websites, including frustrating language-switching interfaces, unclear graphics, and inadequate automated translation tools.

While general usability guidelines like Nielsen's (1994) 10 Heuristics provide a broad framework for UI evaluation, they lack specificity for the multilingual context (Kim et al., 2023; Miraz et al., 2016). To address this gap, Kim et al. (2023) developed six Multilingual Usability Heuristics to complement Nielsen's framework, which emphasize key principles such as making multilingual options easily discoverable and ensuring accurate, consistent translations.

However, these frameworks have limitations: Miraz et al.'s (2016) study focuses on general UI design rather than specific accessibility metrics. Zhyvotovska (2021) provides qualitative insights but does not provide a structured set of actionable recommendations, while Kim et al.'s (2023) framework emphasizes multilingual discoverability but overlooks practical accessibility measures, such as navigation depth or the clarity of language selection icons. These gaps limit the ability of existing frameworks to holistically evaluate how accessible a website is to multilingual users, particularly in ensuring both technical availability and user-centric accessibility.

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