

Designing inclusive and accessible patient materials

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INTRODUCTION

- If we are to explore the role of patients as collaborators in, or recipients of, medical content, we should be creating resources with them in mind
- Web Content Accessibility Guidelines (WCAG) 2.1 covers a wide range of recommendations for making web content more accessible to people with different abilities
- Following these guidelines will make content more accessible to a wider range of people with disabilities, including accommodations for blindness and low vision, deafness and hearing loss, limited movement, speech disabilities, photosensitivity, and combinations of these, as well as some accommodation for learning disabilities and cognitive limitations
- Publications professionals should design online materials with accessibility in mind to assist in the success of their educational objectives

Accessibility considers a wide range of disabilities, including visual, auditory, physical, speech, cognitive, language, learning, and neurologic

Visual disabilities can range from mild or moderate vision loss in 1 or both eyes to substantial or complete loss of vision in both eyes. Some people experience reduced or lack of sensitivity to certain colors, or color blindness, as well as sensitivity to brightness

Auditory disabilities include mild-to-moderate hearing impairment in 1 or both ears. Even partial loss or difficulty can be problematic in regard to audio content

Physical or “motor” disabilities are weakness and limitations of muscle control. These include involuntary movements (eg, tremors), lack of coordination, paralysis, limitations of sensation, joint disorders (eg, arthritis), pain that impedes movement, and missing limbs

Cognitive, learning, and neurologic disabilities involve neurologic disorders as well as behavioral and mental health disorders (eg, attention-deficit/hyperactivity disorder, memory impairments, perceptual disabilities) that can affect how well someone processes and comprehends information

Speech disabilities include the inability to produce speech that is recognizable by other people or software. For instance, the volume or clarity of speech could make recognition difficult

OBJECTIVES

- Patient materials are commonly developed without full consideration of populations with sensory, speech, cognitive, or motor limitations
- To gauge the effectiveness of existing patient communications through this lens, we conducted a comprehensive assessment of the accessibility of medical-led patient resources on pharmaceutical and journal websites, aligning with the WCAG

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METHODS

Our audit examined

21 patient-facing materials

sponsored by 14 pharmaceutical companies

across 4 publisher domains

Amgen • AstraZeneca • Bayer • BioMarin
Boehringer Ingelheim • Eisai • Genentech
Gilead • Janssen • Novartis • Novo Nordisk
Pfizer • Sumitomo • UCB

encompassing

plain language summaries

patient support materials in a variety of multimedia formats

caregiver support materials

patient websites

spanning 7 therapeutic areas

Neurology
Dermatology
Cardiology
Multiple
Osteoarthritis
Hematology
Oncology
Immunotherapy

with meticulous evaluation against WCAG 2.1 AA standards for media, markup, design, forms, and navigation

RESULTS

PDFs

- Globally, PDF resources exhibited a notable lack of adherence to accessibility guidelines, marked by the absence of tags, titles, and alternative text
- Structural shortcomings posed challenges for effective use by screen readers, which often are used by people with visual impairments
- Universally, PDF educational resources failed 33.33% of total accessibility checklist items across all categories
- Plain language summary PDFs observed the most failures on alternative text checklist items, while they had fewer issues with forms

PDF accessibility issues/Total # possible issues

PDF type: Educational (n=3) Plain language summary (n=8)

Category	Educational (n=3)	Plain language summary (n=8)
Document issues	33%	36%
Page content	33%	36%
Forms	33%	13%
Alternate text	33%	45%
Tables	33%	33%
Lists	33%	33%
Headings	33%	33%

PDFs should be accessible to people with disabilities who rely on assistive technology to read and interact with online content. However, they can succumb to a variety of issues:

- Document issues include PDFs that are image only, not adequately tagged, or do not have a set language and title or logical reading order
- Page content issues include inadequate or nonexistent tagging, which does not allow the content to be tabbed through in the correct order
- Form fields must be tagged and have appropriate descriptions
- Alternate text must be supplied as an alternative for any images or graphics
- Tables and lists must be tagged correctly and have regularity
- Headings must be nested appropriately

Webpages

- Landing pages presented a multitude of accessibility issues, including color contrast errors, which can create challenges for those with visual disabilities
- Pervasive keyboard accessibility issues impeded smooth navigation for screen readers
- Instances of missing alternative text, nondescriptive links, and contrast issues were prevalent, with only 1 resource demonstrating minimal accessibility concerns

Websites that failed accessibility criteria

Mobility disability issue Visual disability issue

Category	Percentage
Keyboard accessible	50.0%
Visible focus	50.0%
Alternative text	50.0%
Color contrast/ Use of color	50.0%
Descriptive link text	37.5%

A website must be fully accessible using only a keyboard

All nontext content must have a text alternative that serves the equivalent purpose

Text and images of text must have sufficient color contrast to the background

Color cannot be used as the only visual means of conveying information

When an interactive element (link, button, form field, selectable element, etc) receives focus, a visual indicator should show so the user can see what element they are currently on

Videos

- All videos were devoid of captions or transcripts, which are necessary in guidelines for users with hearing impairments

Videos that failed accessibility criteria (n=4)

Category	Percentage
Missing transcript	100%
Missing closed caption	100%
Missing audio description	100%

If a website includes multimedia, such as a movie or video, some people will be unable to perceive (or will have difficulty perceiving) the visuals and/or audio. For instance, if a video has no captions and important information is being presented auditorily, deaf users will be unable to perceive the same information as a hearing user. By providing alternatives, web content authors improve accessibility for a wide range of individuals with and without disabilities

CONCLUSIONS

- 1

A global prevalence of accessibility issues in patient resources, particularly affecting those with visual disabilities, was identified
- 2

Key recommendations include upskilling on accessibility guidelines and developing content with inclusivity in mind, ensuring successful storytelling for diverse audiences