

24 People with Disabilities

Traditional Media: Progress and Setbacks

More than 54 million Americans have disabilities; 35 million of them have severe disabilities.¹ Among Americans aged 65 and above, more than half have a disability, and nearly 37 percent have a severe disability.² About 15 percent of the population, or 34.5 million people, have hearing trouble, and 11 percent, or 25.2 million experience vision trouble.³ The incidence of hearing trouble increases significantly with age, occurring in up to 27.8 percent of Americans ages 65 to 74, and 42.7 percent of those over 75.⁴ Similarly, 14.3 percent of those between 65 and 74 have vision disabilities, as do 21.1 percent of individuals over 75.⁵

Newspapers/Printed Media

For most of the 20th century, the blind and visually impaired had little access to newspapers and other forms of printed media. In 1969, Radio Reading Services, a group of nonprofit enterprises, started enlisting volunteers to read newspapers and other printed materials over FM subcarriers called subsidiary communications authorizations (SCAs).⁶ In the 1990s, this service grew into a broader program called Audio Information Services, which, in addition to these FM channels, has used the secondary audio program (SAP)—auxiliary audio channels on stereo TVs, telephones, and the Internet—for distribution of these audio materials.⁷ In 1995, Newsline, a radio reading service

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run by the National Federation of the Blind, began making *USA Today*, the *Chicago Tribune*, and *The New York Times* available to people with vision loss by having these publications read aloud using a digitally synthesized voice over the telephone. NFB-Newsline now offers telephone access to over 300 newspapers, as well as an email service that transmits newspaper text in a computer format that is accessible to “screen readers” that convert text to speech.⁸

Unfortunately, while these services exist in various localities, there are huge gaps in their nationwide coverage. Most have threadbare budgets and are locally run, operated by universities, public radio stations, library systems, and nonprofit organizations.⁹ In recent years, the transition from analog to digital radio and television has threatened the avail-

ability of Radio Reading Services and other forms of Audio Information Services. To begin with, efforts to increase power for poorly received high-definition (HD) radio signals have been interfering with SCA broadcasts over analog channels (SCAs used by reading services operating at 67kHz are marginally harmed, while those operating at 92kHz are rendered useless for analog transmission).¹⁰ In addition, various radio reading services are reporting difficulty migrating to digital forms of radio because they have not been able to convince their FM main-channel hosts to carry their services over digital audio broadcasting radio stations, despite the greater bandwidth available to these stations.¹¹ According to those in the Audio Information Service field, the resistance seems to stem from two sources: confusion on the part of the digital channels over the copyright protections afforded materials that are translated from text to voice; and concerns by those channels about the use of profanity and vulgarity during on-air broadcasts, because reading services do not typically edit or censor the printed pages read aloud for listeners. As a result, at present, Audio Information Service providers report that only one or two radio reading services are being provided on digital radio subcarriers.¹²

Similarly, audio materials are less likely than before to be distributed via TV transmissions. Although these services originally used the SAP channel on analog television sets, they were eventually pushed off to make room for Spanish translations and, to a limited extent, video description.¹³ After the transition to digital TV, providers of these

services report that matters worsened because, like their digital radio counterparts, few stations were willing to give up the bandwidth needed to keep these services on the air.¹⁴

Television

It was not until the 1970s that people who were deaf and hard of hearing got access to national nightly news television programs, and not until the 1990s that such access was expanded to include local news programming. One of the first breakthroughs came in 1973, when PBS, working with WGBH/The Caption Center in Boston, began airing an open-captioned version of the *ABC Evening News* in three cities. As a result of pressure from the deaf community, distribution of the programming expanded to 190 stations the following year, though the show aired at 11 p.m., not at the dinner hour when the rest of the country was viewing it.¹⁵ Closed captioning (which gives individual users the option to turn captions on and off) on television programming finally began in the 1980s, when the three major broadcast networks (ABC, NBC, and CBS) and PBS began airing some of their primetime programming with captions, supported in part by U.S. Department of Education grants. The Television Decoder Circuitry Act of 1990 required that all television sets with screens larger than thirteen inches have the capability to decode closed captions.¹⁶ In 1997 the FCC set up benchmarks for video programming distributors¹⁷ (broadcast, cable, and satellite providers) to closed caption an increasing number of hours of English- and Spanish-language programming over a 14-year period.¹⁸

At this time, *all* new, non-exempt English- and Spanish-language programming must be closed-captioned.¹⁹ In 2011, the Twenty-First Century Communications and Video Accessibility Act (CVAA)²⁰ added a mandate for all television programs containing closed captions to retain those captions when re-shown on the Internet.²¹

Yet some disability advocates suggest that there are still problems. For instance, many stations generate captions for locally produced live news programs by using the text in the teleprompters.²² Because teleprompter scripts are prepared in advance, the captions upon which they rely can miss live field interviews or late-breaking news stories.²³ In addition, many new Internet-based services offering monthly rental packages for movies and other programming do not routinely closed caption all of their offerings. The CVAA does not address Internet-originated programming or any other type of programming not first shown on television.

Emergencies present a special problem. While FCC rules require information about emergencies to be visually accessible to people who are deaf and hard of hearing, information that breaks into regularly scheduled television programming and is provided in “news flashes” that crawl along the bottom of the screen need only be accompanied by an aural tone to alert those who are blind or visually impaired to find another media source for the announcement.²⁴ Because these alerts contain critical emergency information about urgent situations—such as instructions for emergency response, the path of a dangerous hurricane or tornado, and evacuation orders—some consumers have argued that people who are blind or visually impaired are at risk of life and property loss.²⁵ The CVAA addressed this gap by requiring all televised emergency information to be accessible to this population.²⁶

Access to television by people who are blind or visually impaired got its start when, in 2000, the FCC required a limited amount of video description, a service that adds audio narratives to fill the natural pauses of a program, by the top four commercial television broadcast networks and non-broadcast video programming distributors in the largest markets.²⁷ These rules were overturned by a federal court of appeals in 2002 for lack of Commission authority,²⁸ but have since been revived through a clear grant of authority by Congress to the FCC in the CVAA.²⁹ The new legislation also requires TV sets and other video programming devices to offer interfaces that allow people who cannot adequately see on-screen menus to receive audio prompts to help them select programming, change channels, and activate other controls.³⁰ Finally, the CVAA is the first federal law to require, if achievable, that programming guides and menus on navigation devices such as converter boxes be made accessible to people who are blind and visually impaired.³¹

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Radio

New technologies may soon break new ground by making radio accessible to persons who are deaf and severely hard of hearing. On election night in 2008, NPR Labs, a nonprofit broadcast technology research and development center affiliated with National Public Radio, demonstrated a new captioned radio technology via its Internet radio channels in Boston, Maryland, Washington D.C., Denver, and Phoenix.³² NPR Labs has also developed a car dashboard that provides passengers with real-time captioning of the audio being broadcast over the radio.³³

NPR Labs has also developed the Personalized Audio Information Service (PAIS), which can direct standard radio HD receivers to proactively alert listeners to emergency messages, such as dangerous weather warnings.³⁴ For example, plans are in place for the PAIS receivers to incorporate “wake up on alert” signaling, as well as automatic storage of emergency messages for replay on command. This system is in its testing phase.

New Media: New Opportunities, New Gaps

Digital media hold great potential for people with disabilities for this simple reason: digital text is not inherently visual, audible, or tactile, but rather may be rendered in many different formats, including large print, speech, video, and Braille. Digital technology can make it much easier to share information in multiple, or “redundant,” formats, so it is far more likely that an online user can get text when audio is presented and audio when visual information is presented. People with mobility disabilities may also benefit, as voice dictation and on-screen keyboards can eliminate the need to physically flip through pages or type.

Many websites offer material in both audio and visual formats but, crucially, even when they do not, new technologies, such as screen readers, can make sites accessible to people who are blind or visually impaired. This technology, which has been around since the 1980s, can translate written text into audio. There also is technology available that makes it possible for deaf-blind people to read Internet text through a Braille terminal connected to a screen reader. Such adaptive technologies have enabled many people with disabilities to become early adopters of

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digital and IP-based technologies. For example, the Coalition of Organizations for Accessible Technology (COAT), consisting of over 300 local and national disability organizations, has come to rely on new media (a hosted website, Facebook, Twitter, email groups, etc.) to distribute, receive, and share information. These delivery methods for news and information have allowed for an unprecedented level of interactivity by COAT members and other individuals with disabilities.³⁵

But while many websites are screen-readable, many are not—or they have subsets of content that are not. For people with disabilities to fully benefit from the web, content needs to be coded in ways that are compatible with assistive technologies. If a link to an article is depicted only graphically, without an accompanying text label or “alt tag” that can be voiced by a screen reader, then its content is effectively inaccessible to a web surfer who is blind. Similarly, if an article on a web page lacks organi-

zational structure, such as section and article headings, it can become impossible for an assistive technology user to find the main content amidst surrounding, extraneous information, such as advertising or external links.

An October 2009 survey of 665 screen reader users suggests that web content is becoming more accessible, but the data is mixed: 46.3 percent said that web content had become more accessible; 33.3 percent thought its accessibility had not changed; and 20.4 percent believed it had become less accessible.³⁶ A little more than 8 percent found social-media sites to be “very accessible”; almost 53 percent found them “somewhat accessible”; and nearly 20 percent found that they were “somewhat inaccessible.”³⁷ More than 35 percent of respondents found that flash technology, a popular way of streaming video, was very unlikely to be accessible, and 27.1 percent found that flash was somewhat unlikely to be accessible.³⁸ The most problematic sites were those requiring CAPTCHA (images presenting text used to verify that the user is human).³⁹

In a survey of 1,121 screen reader users, conducted between December 2008 and January 2009, news sites ranked fifth among the 10-most-avoided types of websites due to accessibility issues.⁴⁰

Newspaper and magazine sites—as well as the websites of news and entertainment shows—often create extra video clips that are available online only. More often than not, the video content on these sites is not accessible via closed captioning or via video description. Such barriers are compounded when the controls used to operate the video players, typically embedded in their web pages, are also not accessible to people with low or no vision.

These and other problems can be avoided if media sites comply with standards developed by the World Wide Web Consortium (W3C), including the Web Content Accessibility Guidelines and the Authoring Tool Accessibility Guidelines, which specify features that web creation software should have in order to produce accessible content.⁴¹ When followed, these guidelines enable people who are blind to receive synthesized speech output using text-to-speech technology to get access to email, website content, SMS messages, and just about anything on the Internet that is in text.

People with disabilities seeking to obtain news and information via their mobile smartphone also confront difficulties. Section 255 of the Communications Act requires telecommunications equipment and services to be usable by people with disabilities to the extent it is readily achievable to make them so.⁴² This requires manufacturers and service providers to identify accessibility barriers and ensure the usability and compatibility of equipment and services throughout their product design, development, and fabrication processes. For example, where visual information is necessary to use a phone, manufacturers are supposed to make it possible for people who are visually impaired to hear audio prompts.

But while section 255 covers telecommunications and interconnected voice over IP (voice communications over the Internet), its implementation has been erratic. Consumers complain that most mobile phones remain inaccessible to people who are visually impaired unless they also have expensive software, such as TALKS or Mobile Speak.⁴³ The CVAA includes measures to improve accountability and enforcement of section 255. In addition, it expands accessibility protections to advanced communication services on the Internet, including non-interconnected voice over IP (voice communications over the Internet that do not connect to the public switched telephone network), email, and instant messaging, as well as the products (such as smartphones) that are used to take advantage of those services.⁴⁴

Although some e-Readers have a text-to-speech feature that could be a boon to people who are blind or visually impaired, the way these products were initially designed made it difficult for individuals who do not have sight to find and turn on this feature. After the blind community raised objections, manufacturers reconfigured them with audible prompts, enlarged type, and tactile bumps to make them more accessible to people unable to see the controls.⁴⁵

As noted above, new legislation will address some of the accessibility problems that exist in new media,⁴⁶ and commercial and nonprofit sectors are developing technologies to help, too. In 2009, Google began providing tools for adding computer-generated closed captions to videos posted on YouTube.⁴⁷ Those tools have made it easier to automatically add (and time stamp) closed captions on videos. Some researchers are also exploring ways for people with disabilities to use applications in “the cloud” (i.e. hosted on the Internet at large rather than stored on a particular device), which might make it possible for people with disabilities to use screen readers even when they are not at their own computer.⁴⁸

What about Americans with other physical disabilities? As towns set up Internet hot spots in parks, libraries, and schools, it is not clear how many will be accessible to people in wheelchairs or with other disabilities, despite the Americans with Disabilities Act’s requirements that they be so equipped.⁴⁹ It is also unclear whether libraries and schools are providing material in accessible formats or offering sufficient digital literacy training to people with disabilities. This may be of particular concern to late-deafened adults and those with degenerative blindness who did not receive an education in assistive technologies during their childhood.

In short, there remain significant barriers to new media for people with disabilities. In the past, new technologies have tended to neglect this community until developers and manufacturers were forced to respond through compliance with statutes or regulations. There is evidence that new media technology may have inherent advantages that make it more disability friendly—if policymakers continue to address accessibility issues and companies incorporate accessible features into the designs of their products.

While TV news has closed captions, online video content often does not.