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Recommendations for Creating Inclusive Visual Communication During a Pandemic

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Recommendations for Creating Inclusive Visual Communication During a Pandemic

Abstract

SARS-CoV-2 (COVID-19) has fundamentally changed the way we live and communicate in 2020. In the United States, public health messaging, particularly infographics, continues to accompany now familiar phrases like “wash your hands,” “socially distance,” and “flatten the curve.” This messaging often falls short of inclusivity, accessibility, and diversity. In this article, we advocate for creating and sharing public health infographics that adhere to accessibility and metadata standards as well as inclusive design best practices. Libraries are uniquely positioned, along with other community centers, to create and disseminate public health information, especially in times of crisis. Whether designing their own visual communication or reusing messaging from elsewhere, librarians can incorporate social justice measures into their visual communication by incorporating best practices for intentional, strategic, and inclusive public health visual information.

This article has undergone a double-blind peer review process.

Keywords

image management, digital curation, advocacy, collaboration, metadata, embedded metadata, usability, accessibility, COVID-19, inclusion, infographics, public health, visual communication

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Introduction

The first case of SARS-CoV-2 (COVID-19) in the United States (U.S.) was recorded in January 2020.¹ By March, the World Health Organization declared COVID-19 a global pandemic, and the U.S. was beginning to educate the public about its risks. Organizations like the U.S. Centers for Disease Control and Prevention (CDC) created and disseminated multimedia messaging, in particular infographics, to accompany now familiar phrases like “wash your hands,” “socially distance,” and “flatten the curve.” This messaging frequently fell short of inclusivity, however, especially in regards to accessibility and diversity.² Because vision disability is one of the top 10 disabilities among adults 18 years and older and one of the most prevalent disabling conditions among children,³ it is imperative that visual communication adheres to accessibility standards. Moreover, the CDC published a report on the pandemic, which stated: “There is increasing evidence that some racial and ethnic minority groups are being disproportionately affected by COVID-19,” including becoming sick and dying.⁴ Critical messaging must be created with diverse populations in mind, including (but not limited to) representations of different races, ethnicities, and abilities.

Public health communication during a pandemic is fraught with challenges – especially with a new, rapidly transmitted disease like COVID-19. As the pandemic continues to expose inequities in American society, one of the challenges for libraries is to share and/or produce accessible public health visual communication that centers social justice issues. Messages may become outdated as we learn more about the disease, and rushed communications may prioritize content over design, leaving some of the most at-risk members of the community vulnerable. As community hubs, libraries are poised to create and disseminate information in collaboration with their communities, especially as the risk of future pandemics increases.⁵ Whether creating their own community-specific messaging or reusing messaging from elsewhere, it is crucial that librarians use intentional public health visual communication that focuses on inclusive design.

Infographics and Visual Communication

Historically, infographics and visual communication have played a vital role during epidemics and pandemics.⁶ Some even argue that graphic design can save lives.⁷ Admittedly, there are pros and cons of infographics, as Jesse Ringer summarizes. Effective infographics can keep

¹Michelle L. Holshue, Chas DeBolt, Scott Lindquist, Kathy H. Lofy, John Wiesman, Hollianne Bruce, Christopher Spitters, et al, “First Case of 2019 Novel Coronavirus in the United States,” *The New England Journal of Medicine* 382 (2020), <https://www.doi.org/10.1056/NEJMoa2001191>.

²C. Airhihenbuwa, J. Iwelunmor, D. Munodawafa, C. Ford, T. Oni, C. Agyemang, C. Mota, et al., “Culture Matters in Communicating the Global Response to COVID-19,” *Preventing Chronic Disease* 17 (2020), <http://dx.doi.org/10.5888/pcd17.200245>.

³“Fast Facts of Common Eye Disorders,” Vision Health Initiative, Centers for Disease Control and Prevention, last reviewed June 9, 2020, <https://www.cdc.gov/visionhealth/basics/ced/fastfacts.htm>.

⁴“Health Equity Considerations and Racial and Ethnic Minority Groups,” Coronavirus Disease 2019, Centers for Disease Control and Prevention, updated July 24, 2020, <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html>.

⁵Walter Dodds, “Disease Now and Potential Future Pandemics,” in *The World's Worst Problems*, (Springer Nature, 2019), 42, http://doi.org/10.1007/978-3-030-30410-2_4.

⁶Murray Dick and The MIT Press Reader, “How Data Visualization During Public Health Crises Has Saved Lives for Centuries,” *Time*, August 26, 2020, <https://time.com/5883299/data-visualization-history/>.

⁷Rebecca Green, “COVID-19: How Graphic Design Can Help Save Lives,” UNSW Sydney Newsroom, March 26, 2020, <https://newsroom.unsw.edu.au/news/art-architecture-design/covid-19-how-graphic-design-can-help-save-lives.>; Sarah Spohn, “Why Infographics and Other Visual Content Are Saving Lives from COVID-19,” *The Content Strategies*, June 30, 2020, <https://contently.com/2020/06/30/visual-content-infographics-covid-19/>.

readers' attention and communicate more to a reader than an article.⁸ Drawbacks include being overwhelming if there is too much information, potentially hard to read (especially on mobile devices), and challenging to update as information changes.⁹ However, well-designed infographics are eye-catching and shareable, and some newer infographics have interactive components, such as dropdown menus, videos, quizzes, and embedded 360-degree views.¹⁰ A challenge for all infographics, but especially interactive infographics, is ensuring accessibility, both from a disability justice lens and from a digital preservation standpoint. For high-stakes messaging like public health, best practice dictates that professionals design for both print and digital spaces, including social media,¹¹ since digital materials are frequently printed out as well as shared online.

Although creating infographics is a fairly well-established practice in libraries,¹² to date, most libraries and similar institutions have not had to develop public health communications. While writing this article, we did not do an exhaustive survey of library public health infographics. We do not believe that the lack of public health infographics created by libraries represents a lack of effort on the part of libraries, but rather that this type of public health communication, the uncertainty, and rapidly changing circumstances are new for most of us. Early in the pandemic, we found ourselves dissatisfied with popular public health imagery, some of which was reproduced in our own libraries. In response, we wanted to call attention to best practices for inclusive design. As challenging as making accessible infographics can be, librarians have an ethical and legal duty to be as inclusive as possible. During the writing of this article, we found it challenging to find exemplary COVID-19 digital images that met both accessibility and inclusive design best practices. Though imperfect, each example included here serves as an opportunity for librarians to rethink public health visual communication.

Considering Accessible Visual Communication During a Pandemic

Even without prior knowledge of accessibility standards, people often intuitively know when designs work and when they do not. Donald A. Norman, famous for inventing the term "user experience" in the 1990s,¹³ explains: "Well-designed objects are easy to interpret and understand," whereas "poorly designed objects can be difficult and frustrating."¹⁴ For instance, "[we] push doors that are meant to be pulled, pull doors that should be pushed, and walk into doors that should be slid."¹⁵ With some standardization and attention to user experience, doors could become far less frustrating. This relatable example of an everyday occurrence – where design confuses instead of clarifies – illustrates how attention to accessibility and usability matters.

Translating these principles to graphic design, famed design scholar Edward Tufte emphasizes simplicity and clarity, allowing the audience to make informed decisions about what they see.¹⁶ Visual media should be concise and straightforward in their communication. Visuals should

⁸Jesse Ringer, "Infographics: Pros and Cons for Your Content Strategy – Updated for 2020," *Method + Metric*, June 5, 2020, <https://methodandmetric.com/blog/pros-cons-of-infographics/>.

⁹Ibid.

¹⁰Ibid.

¹¹A. Chan, C. P. Nickson, J. W. Rudolph, A. Lee, and G. M. Joynt, "Social Media for Rapid Knowledge Dissemination: Early Experience from the COVID-19 Pandemic," *Anaesthesia*, 2020, <https://doi.org/10.1111/anae.15057>.

¹²Beverley E. Crane, *Infographics: A Practical Guide for Librarians* (Lanham, Maryland: Rowman & Littlefield, 2016).; Mayank Yuvaraj, "Infographics: Tools for Designing, Visualizing Data and Storytelling in Libraries," *Library Hi Tech News* 34, no. 5 (2017): 6-9, <https://doi:10.1108/LHTN-01-2017-0004>.

¹³Cliff Kuang and Robert Fabricant, *User Friendly: How the Hidden Rules of Design Are Changing the Way We Live, Work, and Play* (New York: Farrar, Strauss and Giroux Books, 2019), 22.

¹⁴Donald A. Norman, *The Design of Everyday Things* (Philadelphia: Basic Books, 2002), 2.

¹⁵Ibid, 3.

¹⁶Edward R. Tufte, *Envisioning Information*, (Cheshire, CT: Graphics Press, 1990).

also be high contrast and avoid white text, especially over images. If imagery is included, the images should be simple and recede into the background. Creators should ensure they use colors safe for people with vision impairments and can check their color palette against freely available tools (e.g., materialpalette.com, colorsafe.co, WebAIM Contrast Checker). Images designed to be shared should have a variety of file types available that meet accessibility standards so users can choose the file type most appropriate to their needs. Through intentional and inclusive design, librarians can strive for better accessibility.

As one component of social justice, accessibility is also a critical factor that affects whether a design is understood or read by millions. Accessibility in this context means that people of all abilities can access information. Legally, librarians should be aware of the civil rights provisions afforded under the Americans with Disabilities Act (ADA), passed in 1990, to ensure people with disabilities can fully participate in society. Title III of the ADA “mandates that public accommodation must be provided to disabled persons to allow for the ‘full and equal enjoyment’ of the related privileges, goods, services, advantages, and accommodations as those provided to able-bodied persons.”¹⁷ Accessibility is often neglected as an aspect of inclusion, and this oversight is even more critical during a pandemic. As Jimmy Innes, chief executive of Action on Disability and Development International, notes: “People with disabilities are disproportionately affected by the impacts of COVID-19 and are disproportionately left out of the response to COVID-19.”¹⁸ Within librarianship, Karina Hagelin argues that a critical component of ensuring an inclusive future includes elevating disability rights.¹⁹

Websites are not expressly included in Title III language, but since 2017, the U.S. Department of Justice has been interpreting them as public spaces subject to the same responsibilities as physical locations.²⁰ The following year in 2018, the World Wide Web Consortium (W3C) developed the Web Content Accessibility Guidelines (WCAG) version 2.1 – which are broadly considered best practices for website accessibility – to include non-text content such as video and images. During this time, there was a dramatic rise in website accessibility lawsuits,²¹ demonstrating a trend towards a more equitable and accessible internet, a trend that libraries should heed. Yoon, Dols, Hulscher, and Newberry examined the usability of library websites and concluded that even if library websites met the most basic technical requirements of accessibility, they still lacked the necessary information architecture for screen-readers to work well, meaning that “screen-reader users are effectively excluded from the target audience for library services.”²² Likewise, researchers who longitudinally examined eight Ivy League university libraries found that while library

¹⁷Jonathan M. Turner and Susan K. Ross, “Website Accessibility – Americans with Disabilities Act Impact,” *The National Law Review* 9, no. 39 (2019). www.natlawreview.com/article/website-accessibility-americans-disabilities-act-impact.

¹⁸Rebecca Root, “How to Ensure a Disability-Inclusive Response to COVID-19,” *Devex*, May 7, 2020, <https://www.devex.com/news/how-to-ensure-a-disability-inclusive-response-to-covid-19-97134>.

¹⁹Tobi Hines and Matt Ryan, “Creating an Inclusive Library,” *My Kind of Mann at Mann Library*, February 2020, <https://soundcloud.com/mykindofmann/creating-an-inclusive-library>, 50:01.

²⁰“Americans with Disabilities Act Title III Regulations,” Department of Justice, January 17, 2017, https://www.ada.gov/regs2010/titleIII_2010/titleIII_2010_regulations.htm.

²¹Kristina M. Launey and Minh N. Vu, “The Curve Has Flattened for Federal Website Accessibility Lawsuits,” ADA Title III, April 29, 2020, www.adatitleiii.com/2020/04/the-curve-has-flattened-for-federal-website-accessibility-lawsuits/.

²²Kyunghye Yoon, Rachel Dols, Laura Hulscher, and Tara Newberry, “An Exploratory Study of Library Website Accessibility for Visually Impaired Users,” *Library and Information Science Research* 38, no. 3 (2016): 220, <https://doi.org/10.1016/j.lisr.2016.08.006>.

homepage accessibility had improved over time, "there is [still] much to be done if accessibility is to be realized for everyone."²³

While there are many aspects of website accessibility, in this article, we focus on accessible images themselves. Image accessibility is mostly covered in the “perceivable” category. For an online image to be accessible, it needs to have alternative (alt) text. Alt text is a text description encoded with the image that can be accessed by screen-readers (assistive software). Alt text is also available when the image is not visible, for example, in low-bandwidth situations. It “serves the equivalent purpose” as the image,²⁴ meaning that alt text should address the essence of the image or make explicit the work the image is doing.

Figure 1 is an example of an organization making an image accessible on Twitter via alt-text. There are two tweets: the first tweet is a non-screen readable image followed by a tweet with the alt



Figure 1: Example of Alt Text on Twitter (@RainbowYOUTH, March 19, 2020).

text describing the image. Typically, encoded alt text is invisible; however, in this case, the creator has replied to the image with alt text, which makes the function of alt text more apparent to people who do not use a screen-reader. It reads: “Text on a White, Orange and Green background with an image of a White, Orange and Green rainbow and a green i, the symbol for information. the text says ‘Important financial information relating to COVID-19 in Aotearoa’.” This image is a good example of descriptive alt text because it identifies the shapes and colors and explains the key symbol.

There are additional considerations for adding text to accompanying images. For best accessibility, users should be able to manipulate text to suit their needs, so text should not be in an image format.²⁵ Additionally, color alone should not be used to convey information since not everyone perceives color.²⁶ The contrast between the background color and text should be a high enough ratio to optimize visibility.²⁷ Further page design considerations (e.g., navigation, element placement and size, scalability) should be made for those who experience vision acuity challenges,

whether through glaucoma, diabetic retinopathy, or some other vision impairment.²⁸

²³Wenfan Yang, Bin Zhao, Yan Quan Liu, and Arlene Bielefield, "Are Ivy League Library Website Homepages Accessible?" *Information Technology and Libraries* 39, no. 2 (2020): 17, <http://dx.doi.org/10.6017/ital.v39i2.11577>.

²⁴“Web Content Accessibility Guidelines (WCAG) 2.1,” World Wide Web Consortium, June 5, 2018, <https://www.w3.org/TR/WCAG21/>.

²⁵“Understanding Success Criterion 1.4.5: Images of Text,” Web Content Accessibility Guidelines (WCAG) 2.1, World Wide Web Consortium, June 5, 2018, <https://www.w3.org/WAI/WCAG21/Understanding/images-of-text.html>.

²⁶“Understanding Success Criterion 1.4.1: Use of Color,” Web Content Accessibility Guidelines (WCAG) 2.1, World Wide Web Consortium, June 5, 2018, <https://www.w3.org/WAI/WCAG21/Understanding/use-of-color.html>.

²⁷“Understanding Success Criterion 1.4.6: Contrast (Enhanced),” Web Content Accessibility Guidelines (WCAG) 2.1, World Wide Web Consortium, June 5, 2018, <https://www.w3.org/WAI/WCAG21/Understanding/use-of-color.html>.

²⁸Graeme Fulton, “Accessibility Basics: Designing for Visual Impairment,” *Envato Tuts+*, December 3, 2017, <https://webdesign.tutsplus.com/articles/accessibility-basics-designing-for-visual-impairment--cms-27634>.

Metadata as an Imperative Consideration During Crisis

Given how our understanding of COVID-19 has changed, it is vital that pandemic-related visual information contains robust embedded metadata to help librarians make decisions about the quality of that information. The Visual Resources Association has been at the forefront of best practices for metadata standards for visual works. Within the last ten years, it has also advocated for creating and managing embedded metadata during an image's lifecycle.²⁹ Maintaining metadata over an image's lifecycle can feel overwhelming, especially once an image is shared across the internet and social media, but embedding metadata will save a lot of future effort. Metadata can either be bound up with a digital file or created alongside it (e.g., text or XML files, captions). Embedded metadata is less likely to become lost as it travels across the internet, social media, and image management systems because it is bound up with the image itself. Increasingly, librarians and image managers are embracing embedded metadata as a method for keeping information an integral part of an image. Some metadata is automatically generated (timestamps for creation, modification, and access), but libraries may opt to manage larger content streams through image management software like AdobeBridge. Image managers can choose to download an extensible metadata (XMP) panel³⁰ for use with Adobe software, developed by the embedded metadata working group of the Visual Resources Association (VRA). These XMP panels come equipped with VRA Core, the metadata standard for describing visual works created by the VRA and recognized as best practice by the Library of Congress.³¹ Adhering to this standard at the outset of image creation will ensure that images are easily disseminated across systems and maintained over time, as VRA Core can be crosswalked to other data standards used by libraries and archives. Any public health visual communication that utilizes VRA Core allows for enhanced accessibility, maintenance, and comprehension across an image's lifecycle.

VRA Core dictates that basic image metadata should include the title of an item, its creator (e.g., artist, designer, publisher), and the date of its creation. Infographics should adhere to this as well. Some images will have multiple creators, and it is important to note them in the file's metadata. Best practice ensures that any change to an image is described in the metadata, and some of this might be captured automatically by software products. If changes are not automatically captured, it is vital to make sure that they are described, such as whether an image file was converted from one format to another and the date that it was updated, reviewed, or disseminated (and where). Metadata should also include the date of creation and any subsequent dates of note, such as access, editing, digitization, or dissemination. It should give its specifications, such as the item's original file format (e.g., jpeg, tiff, pdf) and any subsequent changes to it, as well as technical parameters (e.g., pixel dimensions and size).

Enhanced metadata includes alt text and subject descriptions (e.g., Library of Congress Subject Headings), as well as standardized terms (e.g., Getty Thesaurus of Geographic Names) to indicate the location of the image's creation and whether that has since changed. For example, it would be important to note if an image was created by one unit in the library or through a partnership external to the library but transferred at a certain point to an institutional repository. Any critical provenance information or any unique techniques, media, and materials might also be noted. Creating and maintaining this metadata will ensure that both librarians and users understand and use the images for years to come.

²⁹"Embedded Metadata," *Visual Resources Association Bulletin*, <https://online.vraweb.org/index.php/vrab/catalog/category/embedmetadata>.

³⁰See "VRA Core Tools," https://core.vraweb.org/vracore_tools.html.

³¹"VRA Core," Library of Congress, February 15, 2018, <https://loc.gov/standards/vracore/>.

Best Practices for Inclusive Communication

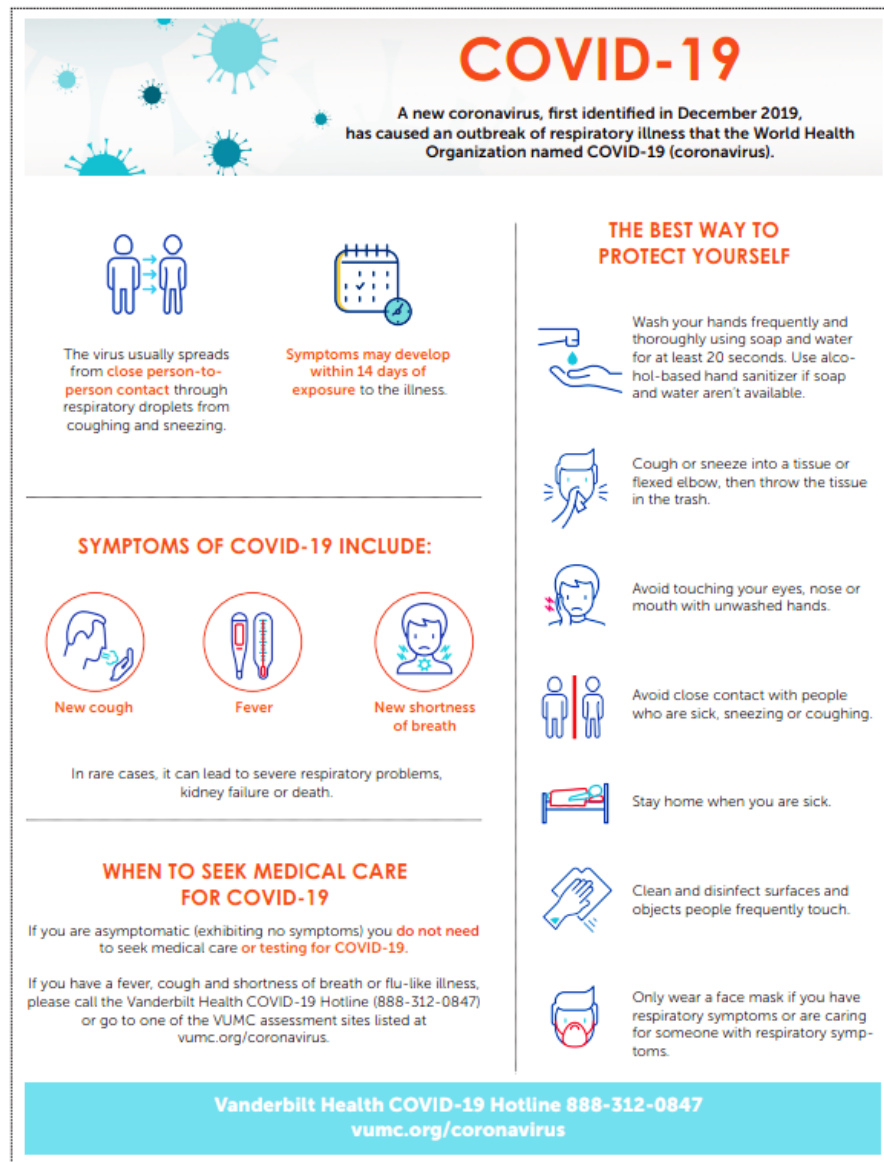
The infographic created by Vanderbilt University Medical Center (Fig. 2) provides a reasonably good example of inclusive and accessible communication. It uses black text on a white background, optimizing contrast; icons are simple and consistent with the accompanying language.³² The now widely recognized visualization of the COVID-19 virus, created by CDC medical illustrators Dan Higgins and Alissa Eckert,³³ is used to reinforce the heading. The entire graphic works visually through a systematic grid structure, allowing the eye to travel left to right, down columns and rows, without distracting colors, patterns, or layers of images.³⁴ Plenty of white space differentiates the sections of the infographic so that none of the components are crowded. A simple color palette is used throughout (red, light blue, and dark blue), with red text and font size highlighting essential takeaways.

While adhering to many accessibility guidelines, the image has a couple of issues, according to the Adobe Acrobat accessibility checker. First, the images in the PDF are nonessential (they do not give any new information) but have not been so marked. Any nonessential images should be marked as decorative in the alt text so that screen-reader software knows to ignore them. Otherwise, the screen-reader software will identify each image, potentially confusing readers. Second, the reading order is not specified, which means that the screen-reader does not know how to read the sections of the text. This example shows it can be challenging to create images that adhere to both accessibility and inclusive design best practices.

³²Creative Bloq Staff, "10 Golden Rules for Digital Icons," *Creative Bloq Art and Design Inspiration Net Magazine*, January 8, 2014, <https://www.creativebloq.com/netmag/10-golden-rules-digital-icons-11410286>.

³³Marcus Fairs, "Iconic Covid-19 Images Designed to Create 'a Feeling of Alarm' Says CDC Medical Illustrator Dan Higgins," *Dezeen Magazine*, May 14, 2020, <https://www.dezeen.com/2020/05/14/covid-19-images-coronavirus-cdc-medical-illustrator-dan-higgins/>.

³⁴Arash Bal, "Icon Design – Best Practices," *Allurive*, January 6, 2017, <https://medium.com/allurive/designing-icons-at-24-px-a783aa7b23cd>.



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Figure 2: Vanderbilt University Medical Center, “What You Should Know about COVID-19 (Infographic),” Coronavirus (COVID-19) Information for Employees and Patients, May 20, 2020, <https://web.archive.org/web/20200526194641/https://www.vumc.org/coronavirus/what-you-should-know-about-covid-19-infographic>.

Designing Visual Communication for Inclusion During a Pandemic

In addition to designing for accessibility and usability, tools and best practices have been established in partnership with communities of color to assist designers with creating inclusive imagery. For example, the professional association for designers, the American Institute of Graphic Arts (AIGA), has been compiling resources centered around diversity and inclusion initiatives since 1991. The initiative AIGA Design for Good "sustains designers playing a catalytic role through

community projects that create positive social impact."³⁵ Another professional resource for designers is Iconfinder, a repository of icons used by designers. One 2019 Iconfinder report concluded that "diversity matters to customers" and "issues surrounding diversity in icon design" remain.³⁶ The report provides alternative icons that are diverse and inclusive for a range of uses, such as representing health care professionals across platforms,³⁷ and stresses the importance of creating and using gender-neutral icons.

Figure 3 is an example of visual media that uses race and gender-neutral icons in its endeavors to be more inclusive. Created by the city of Albuquerque, New Mexico, it applies many of



Figure 3: City of Albuquerque, "Take Care of Your Vulnerable Loved Ones," Last Modified April 6, 2020, <https://web.archive.org/web/20200528173429/http://documents.cabq.gov/emergency-management/covid-19/all-graphics/instagram-covid19-vulnerable-cabq-english.jpg>.

the design concepts Figure 2 employs: a limited primary color palette, plenty of space to maximize comprehension, high-contrast colors for premium visibility, and concise communication. The alt text of the image reads, "Take Care of Your Vulnerable Loved Ones by washing your hands frequently, calling to check on your neighbors, and staying home if you are sick." Significantly, it also extends inclusive messaging through standardized icons widely recognizable in everyday signage.³⁸ The designers follow inclusive design best practices by breaking down more complex ideas into simple and consistent geometric shapes³⁹ and adhering to standardized signage, such as that used for transit. One of the ongoing debates in the design field has been how best to represent non-binary and transgender individuals without adding stereotypical features. Designers have sometimes opted for including more female attributes, but this has been found to have the opposite effect: a study found that increasing feminizing iconography "actually heightens the likelihood that people will reference a man when asked to describe a typical person."⁴⁰ By designing figures in as neutral a way as possible, this particular design allows viewers to more easily read themselves into the image, thereby including a great many more identities than might be accommodated by any one design.

Figure 3 is an example of visual media that uses race and gender-neutral icons in its endeavors to be more inclusive. Created by the city of Albuquerque, New Mexico, it applies many of the design concepts Figure 2 employs: a limited primary color palette, plenty of space to maximize comprehension, high-contrast colors for premium visibility, and concise communication. The alt text of the image reads, "Take Care of Your Vulnerable Loved Ones by washing your hands frequently, calling to check on your neighbors, and staying home if you are sick." Significantly, it also extends inclusive messaging through standardized icons widely recognizable in everyday signage.³⁸ The designers follow inclusive design best practices by breaking down more complex ideas into simple and consistent geometric shapes³⁹ and adhering to standardized signage, such as that used for transit. One of the ongoing debates in the design field has been how best to represent non-binary and transgender individuals without adding stereotypical features. Designers have sometimes opted for including more female attributes, but this has been found to have the opposite effect: a study found that increasing feminizing iconography "actually

³⁵"Design for Good," American Institute of Graphic Arts, 2020, <https://www.aiga.org/design-for-good>.

³⁶Monica Matei, "Iconfinder Design Report Q1 2019," *The Iconfinder Blog*, *Iconfinder*, January 3, 2019, <https://blog.iconfinder.com/iconfinder-designer-report-q1-2019-22b7c6b4d2ca>.

³⁷Matei, "Iconfinder."

³⁸Michelle, "Design Better Avatars," UX Collective, May 1, 2017, <https://uxdesign.cc/design-avatars-that-make-sense-and-be-more-inclusive-in-the-process-d4dd6a486ea6>.

³⁹Bal, "Icon Design."

⁴⁰A. H. Bailey and M. LaFrance, "Anonymously male: Social media avatar icons are implicitly male and resistant to change," *Cyberpsychology: Journal of Psychosocial Research on Cyberspace* 10 (4), <https://doi.org/10.5817/CP2016-4-8>, cited in Michelle, "Design."

Another way Figure 3 strives for diversity and inclusion is in its translation into several of the languages spoken within the city and state, notably Spanish and Navajo (Diné).⁴¹ According to the U.S. American Community Survey, 36% of people living in New Mexico ages five and older spoke a language other than English at home, with 28.6% speaking Spanish and 3.32% speaking Navajo, the most commonly spoken language of the various Indigenous languages represented in the state.⁴² Some of the racial and ethnic minorities most affected by the COVID-19 pandemic are Latinos, Hispanic Americans, and Indigenous peoples (particularly Navajo Nation), so the City of Albuquerque's efforts to reach these populations is notable.

Concluding Thoughts for Transforming Public Health Visual Communication for Libraries

In the early days of the pandemic, public health and safety messaging needed to be simple, fast, and easy to act on. Messages like "stay home" seemed to work. But as the U.S. continues to grapple with COVID-19, communication needs to evolve to address the complexities of the months ahead.⁴³ Visual communication should be intentionally designed and planned at the outset to be as inclusive as possible, with media created in collaboration with specific communities and taking into account various contexts and technologies.

One way libraries can help their communities follow pandemic best practices is by creating intentionally inclusive, strategic visual communication (with tools such as Canva, Piktochart, Infogram, Venngage, and Adobe Spark), ideally with a range of images that also centers populations disproportionately affected by the virus. United Nations Secretary-General António Guterres urged governments "to place people with disabilities at the center of COVID-19 response and recovery efforts and to consult and engage people with disabilities."⁴⁴ While the current U.S. government is not necessarily following this advice, community centers like libraries can. Neil Foote, president of the board for the National Black Public Relations Society, wrote, "Now is the time to allow COVID-19 to serve as a tool for us to strengthen our resolve around the importance of diversity, equity, and inclusion."⁴⁵ Designing and using more inclusive imagery is an excellent first step. Seeking partnerships with a range of communities often misrepresented or poorly represented (LGBTQ+ groups, religious peoples such as Muslim, Sikh, Buddhist, and Jewish groups, Indigenous communities, communities of color, people with disabilities, the elderly, and people of different body types) makes it more likely the messaging will be positively received. Taking these recommendations into account ensures that librarians incorporate social justice measures into their visual communication, providing an opportunity for libraries to be dedicated centers for their communities.

⁴¹See Spanish version: <http://documents.cabq.gov/emergency-management/covid-19/all-graphics/instagram-covid19-vulnerable-cabq-spanish.jpg>; and Navajo version: <http://documents.cabq.gov/emergency-management/covid-19/all-graphics/instagram-covid19-vulnerable-cabq-dine.jpg>.

⁴²United States Census Bureau, "Table 2: Detailed languages spoken at home and ability to speak English for the population 5 years and over for states: 2009-2013," *Detailed Languages Spoken at Home and Ability to Speak English for the Population 5 Years and Over: 2009-2013*, October 2015, <https://www.census.gov/data/tables/2013/demo/2009-2013-lang-tables.html>.

⁴³Emily Oster, "The 'Just Stay Home' Message Will Backfire," *The Atlantic*, May 14, 2020, <https://www.theatlantic.com/ideas/archive/2020/05/just-stay-home-message-will-backfire/611623/>.

⁴⁴António Guterres, "We have a unique opportunity to design and implement more inclusive and accessible societies," *United Nations COVID-19 Response*, May 6, 2020, <https://www.un.org/en/coronavirus/we-have-unique-opportunity-design-and-implement-more-inclusive-and-accessible-societies>.

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