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Concerns on healthcare access, utilization, and safety due to COVID-19 among American adults with vision loss



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ABSTRACT

Background: Limited studies have indicated that Americans with vision loss are differentially impacted by COVID-19.

Objective: We examined concerns with healthcare and safety among Americans with vision loss during the early phase of the pandemic (April 2020).

Methods: The Flatten Inaccessibility Survey assessed the impact of COVID-19 on healthcare (pharmacy access, maintenance of eyecare regimen, caregiver access, and resource denial) and safety (social distancing, clean surfaces, and touching public signage) concerns among Americans with low vision or who were blind. Multivariable logistic regression was used to determine associations between respondent characteristics and each concern.

Results: A total of 1921 adults responded to the survey, of whom 65% were blind and 35% had low vision. Most respondents were female (63%) and white (74%). Respondents with additional disabilities/comorbidities were more likely to report healthcare access concerns (pharmacy access, eyecare regimen, caregiver access, and ventilator access) and safety concerns (social distance, clean surfaces, and touching signage) than those with vision loss alone. In addition, females, those identifying as “other” gender, older individuals, and people with adult onset of vision impairment were more likely to experience COVID-19–related concerns and challenges related to healthcare and overall safety.

Conclusion: These results suggest that while Americans with vision loss have been differentially impacted by COVID-19, adults with vision loss and additional disabilities/comorbidities are more likely to have concerns with healthcare and safety than those with vision loss alone.

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Globally, more than 165 million cases of severe acute respiratory syndrome coronavirus-2 (SARS-COV 2), also known as COVID-19, have been reported.¹ Over 4.4 million people have died due to the virus, as of August 24th, 2021, since it was declared a pandemic by the World Health Organization (WHO) in March 2020.²

COVID-19 has disproportionately affected individuals from racial and ethnic minority groups, older adults, and people with disabilities.^{3,4,5,6,7} Data also suggest that, as compared to people

without vision loss, adults with low vision or who are blind may be at an increased risk of COVID-19,⁶ due to healthcare rationing, challenges around access to healthcare, and barriers to communication and technology during the pandemic. A recent qualitative study on the effects of the COVID-19 pandemic on American adults with disabilities reiterated the disparities faced by the disability community as a whole and shed light on how the challenges differed according to different subtypes of disability.⁸

The American Foundation for the Blind (AFB), in collaboration with partnering organizations and companies, planned and implemented the Flatten Inaccessibility Survey,⁹ which aimed to understand how the COVID-19 pandemic impacted the lives of

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adults with low vision and who are blind in the United States (US). The resulting data were intended to provide evidence and recommendations for shaping the pandemic response for stakeholders, policymakers, industry leaders, and organizations. Utilizing data from the healthcare section of the Flatten Inaccessibility Survey, we sought to understand if characteristics such as age, gender, race, and presence of additional disability/chronic conditions were associated with concerns with accessing and utilizing healthcare and with safety during the pandemic.

Materials and methods

The Flatten Inaccessibility Survey was conducted between April 3rd and 13th, 2020. This survey was administered online and was advertised primarily through social media and emails to members belonging to the 16 different collaborating organizations and companies.⁹ The survey was checked for accessibility using Job Access with Speech (JAWS; Freedom Scientific Inc., Clearwater, FL), NonVisual Desktop Access (NVDA), and VoiceOver prior to deployment. Respondents consented to take part in the survey if they confirmed they were aged 18 years or over and had a vision impairment.

The survey contained 11 sections with 171 questions in total. The healthcare and safety section, one of the 11 sections, began with the respondents first answering the following question: “Do you have any concerns about healthcare as a result of the COVID-19 pandemic?” Respondents who answered “Yes, and I will answer questions about my healthcare concerns” then answered 17 questions under the healthcare section (Appendix 1). If respondents answered “Yes, but I do not want to answer questions about my healthcare concerns,” they were excluded from our analytic sample. Respondents who answered “No, I have no concerns about my healthcare” were included in our analytic sample and categorized as having no pandemic-related healthcare and safety concerns.

This study focused on 7 of the 17 questions from the healthcare and safety section that we deemed pertinent to vision impairment and the pandemic and were categorized into either (1) concerns with healthcare access and utilization or (2) safety-related concerns. We picked the 7 questions a priori, based on our initial study hypothesis that participants with vision loss and additional disabilities may have expressed more concerns regarding healthcare access and safety due to the COVID-19 pandemic. The following four questions under “Concerns on healthcare access and utilization” were examined: (a) “I am concerned that I am not able to get to the pharmacy to get needed healthcare supplies/prescriptions” (Pharmacy access); (b) “I am concerned that I will not be able to maintain my eyecare regimen during the COVID-19 pandemic” (Eyecare concern); (c) “I am concerned that if I am hospitalized with COVID-19, that I will not be allowed to have a caregiver with me who would normally assist me with accessibility issues in a hospital setting” (Caregiver access); (d) “I am concerned that if I need care due to COVID-19 I will be denied access to care, such as a ventilator, because of my visual impairment” (Ventilator access). We also examined the following three questions under “Concerns on safety measures”: (a) “I am concerned because I am unsure how to maintain appropriate social distance (staying 6 feet apart from others) in public as I do not know how close others are to me” (Social distancing concern); (b) “I am concerned about my ability to adequately clean surfaces, such as kitchen counters, doorknobs, or light switches” (Clean surfaces concern); (c) “I am concerned about touching things in public such as elevator panels, self-serve kiosks, or restroom doors to check signage” (Touching signage concern).

Respondents who answered with “strongly agree” or “agree” to each question were categorized as having the respective concern, while those who responded with “strongly disagree”, “disagree”,

and “neither agree nor disagree” and those who answered “No, I have no concerns about my healthcare” from the first healthcare question were all categorized as not having a concern.

Analyses examined how these concerns differed across five variables: (1) gender (male, female, and others), (2) race (white and others), (3) age of respondents (18–24, 25–34, 35–44, 45–54, 55–64, 65–74, ≥75 years), (4) age of onset of vision impairment (categorized as congenital: <2 years, childhood onset: 2–18 years, and adult onset: >18 years), and (5) additional disabilities/comorbidities (yes/no) under which the respondents were asked the following question: “Do you have an additional disability or underlying health condition in addition to your blindness or low vision?”

The demographics were examined among the entire sample, as well as across four subsets of respondents who (1) reported concerns and were willing to answer the healthcare and safety section, (2) reported concerns but were not willing to answer the questions, (3) did not have a healthcare and safety concern, and (4) did not mark a response to the healthcare and safety concern question. Chi-square tests were performed to examine subgroup differences in sociodemographic characteristics. Multivariable logistic regression models were used to determine the odds and 95% confidence intervals (CIs) of reporting each concern, after adjusting for potential confounders. Regression models were adjusted for age, gender, race, age of onset of vision impairment, and presence or absence of additional disability/comorbidities. Statistical analysis was performed using Stata 16 software (StataCorp. 2019. *Stata Statistical Software: Release 16*. College Station, TX: StataCorp LLC).

Results

There were a total of 1921 respondents to the Flatten Inaccessibility Survey, of whom 65% were blind and 35% had low vision. The majority were female (63%) and white (74%), 58% reported congenital vision impairment, 14% and 25% reported childhood and

Table 1
Characteristics of the flatten inaccessibility Survey respondents (Total sample).

Characteristics	Total sample (n = 1921)
<i>Gender</i>	
Male	667 (35%)
Female	1202 (63%)
Other	28 (1%)
Total ^a	1897
<i>Race</i>	
White	1425 (74%)
Others	434 (23%)
Total ^a	1859
<i>Age of respondents, years</i>	
18–24	135 (7%)
25–34	311 (16%)
35–44	317 (17%)
45–54	325 (17%)
55–64	372 (19%)
65–74	354 (18%)
75 & older	81 (4%)
Total ^a	1895
<i>Age of onset of VI^b</i>	
Congenital (<2 years)	1117 (58%)
Childhood (2–18 years)	268 (14%)
Adult (>18 years)	489 (25%)
Total ^a	1874
<i>Additional disability/comorbid condition</i>	
No	1064 (55%)
Yes	796 (41%)
Total ^a	1860

^a Total n does not include missing data.

^b VI – vision impairment.

adulthood onset of vision impairment, respectively, and 41% reported additional disabilities/comorbidities (Table 1). Among respondents reporting additional disabilities/comorbidities, the most commonly reported disabilities were hearing impairment (n = 179, 22%) and mobility disability (131, 16%) and the most commonly reported comorbid conditions were nervous system disorders (n = 207, 26%) and diabetes (n = 193, 24%) (e-supplement 1).

Among the total sample of 1921 respondents, 180 (9%) had a healthcare concern but did not respond to the healthcare and safety section and were therefore excluded from our analyses, 686 (36%) indicated they did not have any healthcare and safety concerns, 45 (2%) did not mark a response to the healthcare and safety concern question, and 1010 (53%) reported a healthcare and safety concern (Fig. 1). Among respondents with and without a healthcare and safety concern, the majorities were female (68% and 57%, respectively) and white (77% and 78%, respectively). There were differences by gender, age, age of onset of vision impairment, and additional disability/comorbidities (chi-square tests; p < 0.05 for all) among respondents who (1) had a concern and answered the healthcare and safety section, (2) did not have a healthcare concern, (3) had a concern but were not willing to respond to the healthcare and safety section, and (4) did not record a response to the healthcare and safety question (missing responses). There were no differences across these categories by race (e-supplement 2).

Healthcare access and utilization

Of the respondents who answered each concern statement, 51% reported concerns with pharmacy access, 54% with their eyecare regimen, 61% with caregiver access, and 52% with ventilator access (Fig. 2). The majority of respondents who reported each concern had additional disabilities/comorbidities (i.e., in addition to vision impairment); 54% of respondents who reported concerns with pharmacy access, 57% with eyecare regimen concerns, 53% with caregiver access concerns, and 51% with ventilator access concerns had additional disabilities/comorbidities (Fig. 3).

In fully adjusted regression analyses examining concerns with healthcare access and utilization (Table 2), females had 1.4-fold greater odds (95% CI = 1.09–1.78) and respondents identifying as “other” gender had 2.6-fold greater odds (95% CI = 1.12–5.94) of

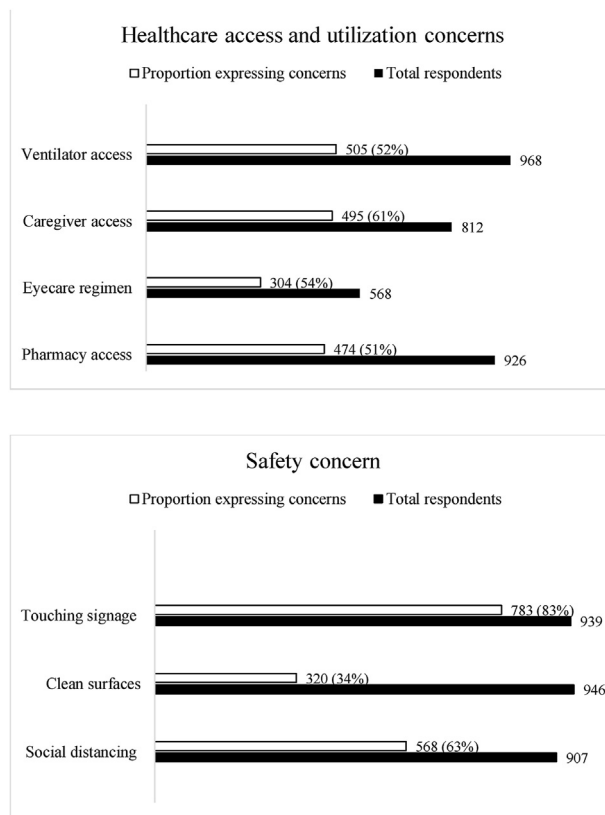


Fig. 2. Proportion of Flatten Inaccessibility Survey respondents reporting concerns with healthcare and safety during COVID-19 pandemic.

reporting pharmacy access concerns than males. Respondents who reported additional disabilities/comorbidities also had greater odds (odds ratio [OR] = 1.9; 95% CI = 1.47–2.33) of reporting pharmacy access concerns than those who had no additional disabilities/comorbidities. However, respondents' race, age, and age of onset of vision impairment were not associated with pharmacy access concerns. Additionally, females (OR = 1.4; 95% CI = 1.06–1.93) and

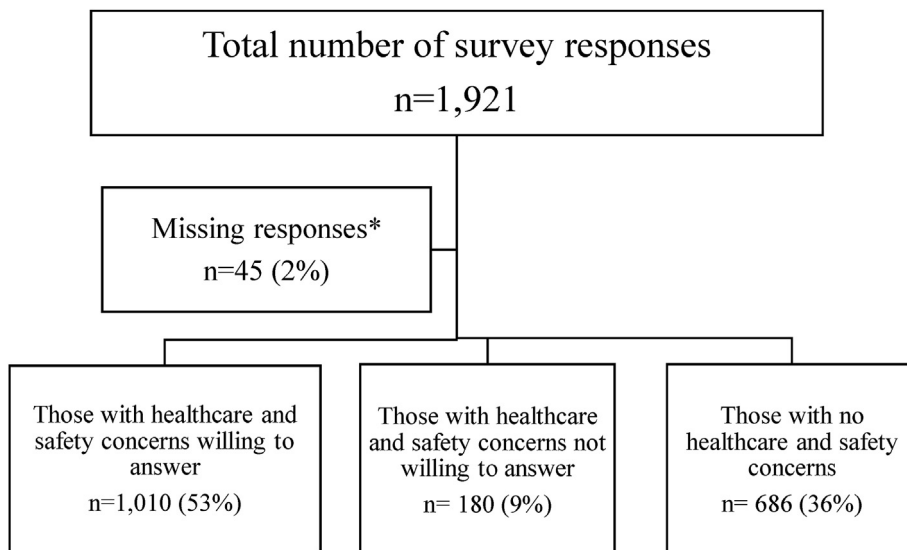


Fig. 1. Flowchart of the number of survey responses to the healthcare and safety section. * Corresponds to the number of respondents who did not mark a response to the healthcare and safety concern question.

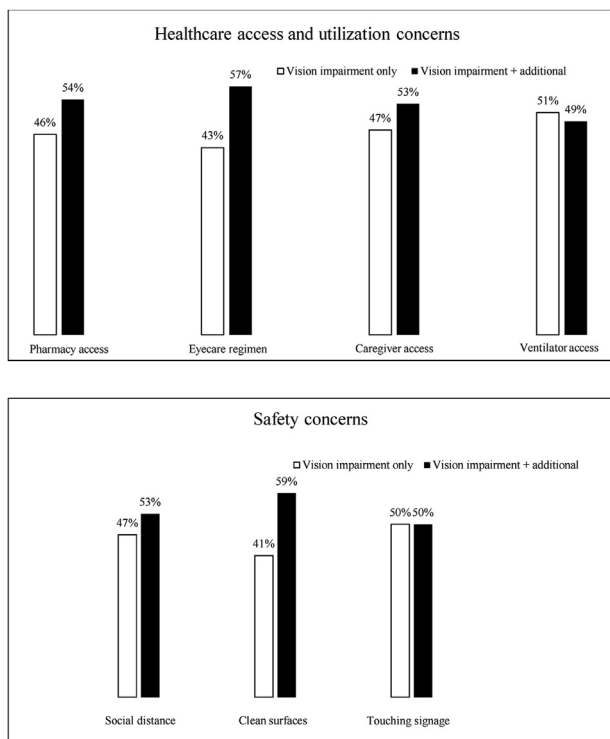


Fig. 3. Proportions of the Flatten Inaccessibility Survey respondents with vision impairment only and those with additional disability/comorbidities reporting concerns with healthcare and safety during the COVID-19 pandemic.

respondents identifying as “other” gender were more likely to (OR = 3.1 95% CI = 1.10–8.58) report eyecare regimen concerns than males. Respondents with adult-onset vision impairment (OR = 1.6, 95% CI = 1.12, 2.48) and those who reported additional disabilities/comorbidities (OR = 1.9, 95% CI = 1.42–2.48) also had greater odds of reporting eyecare regimen concerns than those with congenital

vision impairments and those who had no additional disabilities/comorbidities, respectively. However, respondents’ race, age, and childhood-onset vision impairment were not associated with eyecare regimen concerns.

For caregiver access, the following age categories of respondents were at increased odds of reporting concerns: persons aged 25–34 years (OR = 2.1, 95% CI = 1.17–3.85), 45–54 years (OR = 2.0, 95% CI = 1.13–3.71), 55–64 years (OR = 2.0, 95% CI = 1.09–3.56), and 65–74 years (OR = 1.9, 95% CI = 1.05–3.47) as compared to those aged 18–25 years. Respondents with both childhood-onset (OR = 1.7, 95% CI = 1.25–2.40) and adult-onset vision impairment (OR = 1.4, 95% CI = 1.06–1.87) were at greater odds of reporting concerns with caregiver access than those with congenital vision impairments. Respondents who reported additional disabilities/comorbidities were twice as likely (OR = 2.0; 95% CI = 1.59–2.52) to report caregiver access concerns as compared to those who had no additional disabilities/comorbidities. However, respondents’ gender, race, age 35–44 years, and age over 75 years were not associated with caregiver access concerns.

For concerns on being denied access to care, such as a ventilator, females (OR = 1.5; 95% CI = 1.17–1.91) and respondents identifying as “other” gender (OR = 3.5; 95% CI = 1.49–8.06) were more likely to report concerns than males. Respondents aged 25–34 years (OR = 2.1, 95% CI = 1.20–3.64), 35–44 years (OR = 1.9, 95% CI = 1.13–3.44), and 55–64 years (OR = 1.9, 95% CI = 1.09–3.29) were all more likely to report this concern than those aged 18–25 years. Respondents who reported additional disabilities/comorbidities had 40% greater odds (95% CI = 1.14–1.78) than those who had no additional disabilities/comorbidities to report ventilator access concerns. However, respondents’ race, age 45–54 years, age 65 years and over, and age of onset of vision impairment were not associated with concerns regarding being denied access to care.

Thus, females and those identifying as “other” gender expressed concerns with pharmacy access, eyecare regimen, and concerns being denied access to care. Respondents with adult-onset vision impairment expressed eyecare regimen concerns, while those with both childhood- and adult-onset vision impairment had concerns regarding caregiver access. Respondents in the older age group

Table 2
Regression model on healthcare access and utilization.

Variable	Reference	Pharmacy access (n = 474) ^b		Eyecare regimen (n = 304) ^b		Caregiver access (n = 495) ^b		Ventilator access (n = 505) ^b	
		Odds ratio (OR)	95% CI	Odds ratio (OR)	95% CI	Odds ratio (OR)	95% CI	Odds ratio (OR)	95% CI
Gender									
Female	Male	1.4**	1.09, 1.78	1.4*	1.06, 1.93	1.2	0.94, 1.53	1.5***	1.17, 1.91
Other		2.6*	1.12, 5.94	3.1*	1.10, 8.58	1.8	0.72, 4.67	3.5***	1.49, 8.06
Race									
Others including black	White	1.2	0.93, 1.60	1.3	0.95, 1.81	1.1	0.79, 1.39	1.3	0.98, 1.66
Age of respondents									
25–34 years	18–24 years	1.4	0.81, 2.48	1.2	0.61, 2.42	2.1*	1.17, 3.85	2.1**	1.20, 3.64
35–44 years		1.5	0.86, 2.60	1.4	0.71, 2.75	1.7	0.91, 3.01	1.9*	1.13, 3.44
45–54 years		1.5	0.88, 2.66	1.3	0.66, 2.57	2.0*	1.13, 3.71	1.6	0.93, 2.85
55–64 years		1.5	0.84, 2.53	1.3	0.68, 2.63	2.0*	1.09, 3.56	1.9*	1.09, 3.29
65–74 years		1.3	0.74, 2.25	1	0.51, 2.02	1.9*	1.05, 3.47	1.3	0.74, 2.28
>75 years		0.7	0.31, 1.59	1.1	0.46, 2.59	0.8	0.36, 2.00	0.6	0.26, 1.50
Age of onset of VI^a/Blindness									
Childhood	Congenital	1.2	0.85, 1.63	1.2	0.79, 1.83	1.7***	1.25, 2.40	1.1	0.80, 1.53
Adult		0.9	0.74, 1.31	1.6**	1.12, 2.18	1.4*	1.06, 1.87	0.9	0.67, 1.18
Additional disability/comorbid condition									
Yes	No	1.9***	1.47, 2.33	1.9***	1.42, 2.48	2.0***	1.59, 2.52	1.4**	1.14, 1.78

*p value < 0.05.

**p value < 0.01.

***p value < 0.001.

CI, confidence interval.

Bold indicates significance less than 0.05. The single, double and triple asterisks then indicate the levels of significance- .05, .01, and .001, respectively.

^a VI – vision impairment.

^b n under each concern statement denotes the sample size of respondents who reported a concern.

category reported concerns on caregiver access and on being denied access to care. People with additional disabilities/comorbidities reported concerns on all healthcare access and utilization statements.

Safety concerns

Of the respondents who answered each concern statement, 63% reported concerns with social distancing, 34% with clean surfaces, and 83% with touching things in public such as signage (Fig. 2). The majority of respondents who reported each concern had additional disabilities/comorbidities (i.e., in addition to vision impairment); 53% of respondents who reported concerns with social distancing and 59% with clean surfaces concerns reported additional disabilities/comorbidities. However, an equal proportion of respondents with vision impairment alone and those with additional disabilities/comorbidities reported concerns regarding touching things in public such as signage (50% vs 50%) (Fig. 3).

In fully adjusted regression analyses examining concerns with social distancing (Table 3), females (OR = 1.6, 95% CI = 1.28–2.04) and respondents who reported additional disabilities/comorbidities (OR = 1.9, 95% CI = 1.56–2.44) had greater odds of reporting this concern than males and those who had no additional disabilities/comorbidities, respectively. However, respondents' race, those identifying as "other" gender, age, and age of onset of vision impairment were not associated with social distancing concerns. For concerns regarding maintaining clean surfaces, respondents aged 25–34 years were at 2.2-fold greater odds (95% CI = 1.09–4.48) of reporting concerns than those aged 18–24 years. Respondents with adult-onset vision impairment (OR = 1.8, 95% CI = 1.31–2.43) and those who reported additional disabilities/comorbidities (OR = 2.2, 95% CI = 1.65–2.81) also had greater odds of reporting this concern than those with congenital vision impairment and those who had no additional disabilities/comorbidities, respectively. However, respondents' gender, race, age over 35 years, and childhood-onset vision impairment were not associated with concerns regarding clean surfaces.

Table 3
Regression model on safety concerns.

Variable	Reference	Social distance concern (n = 568) ^b		Clean surfaces (n = 320) ^b		Touching signage (n = 783) ^b	
		Odds ratio (OR)	95% CI	Odds ratio (OR)	95% CI	Odds ratio (OR)	95% CI
<i>Gender</i>							
Female	Male	1.6***	1.28, 2.04	0.9	0.75, 1.30	1.6***	1.28, 1.98
Other		2.3	0.99, 5.27	1.8	0.76, 4.49	3.7**	1.41, 9.77
<i>Race</i>							
Others including black	White	0.9	0.70, 1.20	0.8	0.59, 1.13	1.01	0.78, 1.30
<i>Age of respondents</i>							
25–34 years	18–24 years	1.4	0.83, 2.27	2.2*	1.09, 4.48	1.8*	1.08, 2.92
35–44 years		1.1	0.65, 1.81	1.4	0.68, 2.91	1.5	0.90, 2.44
45–54 years		1.2	0.73, 2.01	1.3	0.62, 2.62	1.7*	1.07, 2.86
55–64 years		1.2	0.74, 2.03	1.6	0.77, 3.17	2.1**	1.27, 3.39
65–74 years		0.9	0.57, 1.59	1.5	0.72, 2.99	1.6*	1.00, 2.69
>75 years		0.3	0.12, 0.68	0.9	0.38, 2.47	0.7	0.32, 1.37
<i>Age of onset of VI^a/blindness</i>							
Childhood	Congenital	1.0	0.74, 1.43	0.7	0.50, 1.19	1.35	0.99, 1.85
Adult		0.9	0.68, 1.19	1.8***	1.31, 2.43	1.1	0.90, 1.54
<i>Additional disability/comorbid conditions</i>							
Yes	No	1.9***	1.56, 2.44	2.2***	1.65, 2.81	1.8***	1.44, 2.20

*p value < 0.05.

**p value < 0.01.

***p value < 0.001.

CI, confidence interval.

Bold indicates significance less than 0.05. The single, double and triple asterisks then indicate the levels of significance- .05, .01, and .001, respectively.

^a VI – vision impairment.

^b n under each concern statement denotes the sample size of respondents who reported a concern.

For concerns regarding touching objects in public, females were 60% at greater odds (95% CI = 1.28–1.98) and those identifying as "other" gender were 3.7-fold at greater odds (95% CI = 1.41–9.77) of reporting concerns than males. Respondents aged 25–34 years (OR = 1.8, 95% CI = 1.08–2.92), 45–54 years (OR = 1.7, 95% CI = 1.07–2.86), 55–64 years (OR = 2.1, 95% CI = 1.27–3.39), and 65–74 years (OR = 1.6, 95% CI = 1.00–2.69) were all at greater odds of reporting this concern than those aged 18–24 years. Respondents who reported additional disabilities/comorbidities were 80% at greater odds (95% CI = 1.44–2.20) than those who had no additional disabilities/comorbidities to report concerns regarding touching things in public such as signage. However, respondents' race, age 35–44 years, age 75 and over, and age of onset of vision impairment were not associated with concerns regarding touching objects in public.

Thus, females reported concerns with social distancing, while females and those identifying as "other" gender reported concerns regarding touching things in public. Respondents with adult-onset vision impairment expressed concerns regarding maintaining clean surfaces. Respondents in the older age group category reported concerns regarding touching things in public and maintaining clean surfaces. People with additional disabilities/comorbidities reported concerns on all safety-related concern statements.

Discussion

The results from this study suggest that among a sample of American adults with low vision or who are blind, females, those identifying as "other" gender, older individuals, people with adult onset of vision impairment, and those with additional disabilities/comorbidities were more likely to experience COVID-19–related concerns and challenges related to healthcare and overall safety. Given the lack of quantitative data among adults with disabilities during the pandemic, our findings help provide meaningful insights into the challenges faced by adults with vision loss.

Our results found that, as compared to men, women had 40%–60% greater odds of reporting concerns with visiting the pharmacy,

maintaining their eyecare regimen, being denied access to care, and regarding their ability to maintain appropriate social distancing and having to touch signage in public. A commentary by Wenham et al. sheds light on how women are affected more during pandemics than men.¹⁰ Women with disabilities have been facing barriers to reproductive, maternal, chronic, and mental health services for decades. These barriers increased multifold during crisis in the past such as the Ebola and Zika virus outbreaks.^{11,12} In addition, women with low vision and/or who are blind have reported barriers specific to them, including lack of assistance accessing health services such as reproductive health, challenges reaching hospitals or clinics, and difficulties reading labels on medication bottles and providing information to the pharmacy for refills.^{13,14} Even though some of these barriers are not gender-specific, women with vision impairments have reported greater concerns with healthcare access than men and this was also noted in our analysis.

Prior studies have also found that transgender and nonbinary individuals who were disabled experienced higher odds of healthcare victimization and higher avoidance of care due to fear of discrimination than those who identify as males/females.^{15–17} Even though transgender and nonbinary respondents were only 1% of our survey sample, it is imperative to take into account their experiences during the early periods of the pandemic and use this information to compare it to the changes in their own experiences as the pandemic progressed.

Older adults have a higher prevalence of disabilities than their younger counterparts; approximately 2 in 5 adults aged 65 years and older in the US have one or more disabilities. However, compared to people with other types of disabilities (such as mobility, hearing, and intellectual), people with a visual impairment aged 18–64 years had the lowest prevalence of health insurance coverage, a usual healthcare provider, and a healthcare need that was unmet.¹⁸ This could explain the findings in our study that indicated that a greater percentage of middle-aged individuals with vision loss had concerns regarding caregiver access, concerns on being denied care, and concerns about touching signage in public than Americans aged 18–24 years.

Our study also found that respondents who had adult-onset vision impairment reported more concerns regarding healthcare access and safety than those who were congenitally blind or visually impaired. The longer duration of vision impairment and adaptation to it and its consequences among people who experience congenital vision loss is higher than those who become visually impaired or blind after the age of 18 years, making them feel more vulnerable during a crisis which we believe contributes to our findings.¹⁹

We also found that respondents who reported additional disabilities and comorbid conditions were more likely to report concerns around healthcare access, utilization, and safety than those with vision impairment only. Prior reports indicate that people with disabilities may be at a higher risk of morbidity and mortality due to the COVID-19 pandemic,⁶ particularly for those living in congregate settings,²⁰ and due to a higher probability of having underlying chronic conditions.²¹ A scoping review of health risks and consequences of COVID-19 infection for people with disabilities found that along with associated comorbidities, poorer outcomes for people with disability were due to difficulty in communicating the infection symptoms as well as from restricted or delayed access to public health information and life-saving healthcare.²² Perception of discrimination, limited access to healthcare, marginalization, lack of information, fear of worsening disability and chronic conditions, fear of hospitalization, and withdrawal of formal and informal functional support are some of the possible factors that could contribute to the concerns reported by this group of respondents in our analysis. Prior data from the Health and

Retirement Study concluded that individual with dual sensory impairment (DSI) who have both visual and hearing impairment perceived higher everyday discrimination than those with either visual impairment or hearing impairment alone.²³ Nationally representative data from the National Health Interview Survey (NHIS) found that people with DSI were less likely to be employed than people with no sensory impairment.²⁴ American adults who had chronic health conditions (hypertension, respiratory disorders, and multimorbidity) and visual impairment were at a higher risk of hospitalizations and use of emergency department care than healthy individuals.²⁵

Strengths and limitations

Overall, our study deepens our understanding of the experiences of adults with vision loss during the early stages of the pandemic in the US. A strength of this study is that it was created with a focus on accessibility, ensuring screen reader compatibility, and the respondents were offered multiple options ensuring adequate response. However, the results should be interpreted with caution considering their limitations. Due to the cross-sectional nature of the survey design, we only have data at the start of the pandemic and do not have information on any changes people may have experienced as the pandemic progressed. The survey was also self-reported, which makes it prone to recall bias. Our sample was limited to respondents who were blind or had low vision, and we do not have data on the experiences of those without vision impairments and therefore no control group to compare experiences. In our analyses, we did not find any racial differences in experiencing COVID-19–related healthcare/safety concerns and challenges. However, since our survey respondents were predominantly white, racial differences need to be explored further in the future in a more representative sample. While the survey was administered online through an accessible platform, it did not capture the experiences of individuals who did not have the access or ability to use a computer, tablet, or a smartphone, and thus, our findings are not representative of all adults with vision impairment. Adults with low vision and who are blind that volunteered to participate in this study may or may not have been more connected to health services, and the findings may not be generalizable to all adults with low vision/who are blind.

Despite these limitations, results from this survey provide important and meaningful insight into how the pandemic impacted adults with vision loss during the early stages of the COVID-19 outbreak. These data can therefore be useful to inform policymakers on an appropriate pandemic response tailored to their needs. This is especially relevant since there has been a lack of quantitative data describing the experiences of people with disabilities during public health emergencies in the past, which has resulted in a lack of accessible and inclusive planning, preparation, and execution.^{26,27} Identifying and eliminating barriers to healthcare access for people with disabilities should be top priority for policymakers. There must be strong national legislation and policies that protect those with disabilities and provide them with equitable and affordable care that is easily accessible. For example, the WHO's disability considerations during the COVID-19 outbreak urged organizations to address all attitudinal, physical, and financial barriers to healthcare and develop and disseminate information regarding COVID-19 health services in an accessible manner to those with disabilities and their caregivers.²⁸

Conclusion

Results from this study highlight the unique challenges in healthcare access and utilization and personal safety during the

COVID-19 pandemic among American adults with low vision or who are blind. These concerns bring to the forefront the systemic challenges faced by this group and elevate how a global crisis such as the COVID-19 pandemic can magnify inequities for people with vision impairments. These results underscore the need for policy-makers, organizations, and stakeholders to develop strategies and response planning that meets the needs of people with vision loss.

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Presentation

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Disclaimer

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the American Foundation for the Blind.

Conflicts of interest

None of the authors have any proprietary interests or conflicts of interest related to this submission.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.dhjo.2022.101277>.

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