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Unpreparedness and uncertainty: a qualitative study of African American experiences during COVID-19 pandemic

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ABSTRACT

During disasters, vulnerable populations are disproportionately affected. COVID-19 disproportionately affected African American (AA) families, increasing their risk for COVID-19 morbidity and mortality. The pandemic also exacerbated existing negative milieu such as economic opportunity and access to social and healthcare services. We explored AA families' experiences of indirect pandemic effects. Data were collected through semi-structured in-depth telephone interviews with 11 AA parent/grandparents of school-aged child (5–17 years). Line-by-line coding and thematic analysis were used to analyze and interpret the data. Three emergent themes highlighted the salient indirect effects of COVID-19 pandemic on AA families: (i) access to healthcare, (ii) access to food, and (iii) disaster unpreparedness. Participants expressed frustration with virtual healthcare services and inability to schedule in-person hospital appointments for health conditions unrelated to COVID-19. Lack of food products in stores and limited financial resources due to pandemic-related job layoffs were important food insecurity factors discussed. Unpreparedness on the part of institutions, state, and the nation, created heightened perceptions of vulnerability. Given the social vulnerability spectrum in the U.S., pandemic planning approaches that promote equity are critical if public officials are to develop effective adaptation, mitigation, response, and recovery plans that mobilize and serve diverse populations.

Introduction

Infectious disease outbreaks can pose diverse health, social and economic challenges associated with the spread of the disease as well as unintended consequences related to mitigation efforts (Chun et al. 2020; Fallon et al. 2020). The COVID-19 outbreak has had significant global economic effects (Biddle et al. 2020; Bierman et al. 2021). While various mitigation efforts were taken to slow down or prevent the spread of the virus, (e.g. physical and social distancing, closure of businesses and schools, and restriction of travel) and protect the population from getting sick, there has been unintended socioeconomic consequences: economic recession, job losses, reductions in working hours/income, food insecurity; and high levels of anxiety, stress, intimate partner violence and suicide rates (BBC 2020; Salari et al. 2020; Sheek-Hussein, Abu-Zidan, and Stip 2021; Singer 2020; Waxman 2020).

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The COVID-19 outbreak and the resultant economic recession, increased the number of unemployed Americans by more than 14 million, from 6.2 million in February to 20.5 million in May 2020 (Kochhar 2020). Individuals with low socioeconomic status prior to the pandemic were the hardest hit (Ettman et al. 2021). Food insecurity was linked with lower pre-pandemic income status. Families with pre-pandemic income below the federal poverty range reported higher levels of food insecurity compared to families with higher pre-pandemic incomes (Waxman 2020).

Research suggests that these secondary impacts of public health emergencies, including pandemics, can have long-term indirect adverse effects on the health and well-being of those affected (Lock et al. 2012; Raker, Zacher, and Lowe 2020). COVID-19 experiences showed that communities with lower socioeconomic status bore a greater burden of adverse outcomes from the virus due to factors within the social milieu of these populations including overcrowded working and living conditions, and reduced access to health care resources (Martinez-Juarez et al. 2020).

Indirect pandemic effects on African American populations

Disparities in COVID-19 infection and death rates between minority populations and White Americans, and in the economic impact of the pandemic on these population groups, were exacerbated by underlying social inequities overlayed by structural racism (Ismail et al. 2021). Racial and ethnic minorities disproportionately bore the burden of morbidity and mortality from pandemic direct effects, and a greater burden of the indirect effects due pre-pandemic lower socioeconomic status.

Forty-four percent of African Americans (AA) reported job loss of at least one adult in a household in April 2020, compared to 38 percent of White adults (Lopez, Rainie, and Budiman 2020). Further, nonwhite working-age adults reported higher rates of unemployment than White adults (Fairlie, Couch, and Xu 2020). Using an expanded measure for unemployment that accounts for individuals who are temporarily laid off from work, Fairlie et al. (2020) found significant disparities in unemployment rates with AA recording a rate of 31.8 percent, compared to 23.5 percent for Whites (Fairlie et al. 2020). This finding suggests that the economic impacts of COVID-19 fell disproportionately on AA relative to Whites. Evidence suggests that White bank account owners had three times more pre-pandemic savings than AA at lower socioeconomic status and thus a significantly lower level of savings before the pandemic. This lack of a financial buffer further compromised the ability of AAs to withstand the health and economic burden of the pandemic (Farrell et al. 2020).

Due to this socioeconomic positioning and the effect on access to necessary resources, stay at home mandates may be particularly challenging for AA populations who are more likely to work in essential services or frontline jobs increasing the risk of physical and mental health issues (Sheek-Hussein et al. 2021). In a U.S. study, non-Hispanic Black and Hispanic participants reportedly experienced disproportionate levels of eviction, rent and mortgage delinquency, and utility bill payment delays during the pandemic with low socioeconomic status individuals experiencing even worse outcomes (Chun et al. 2020). AA respondents were 1.4 times more likely to delay paying rent or mortgage and 1.7 times more likely to owe on utility bills compared to Whites (Chun et al. 2020). These disparities explain the increased risk of exposure to COVID-19 infection among minority groups and hence higher levels of hospitalizations and mortality(Centers for Disease Control and Prevention 2021).

Even though these disparate effects of pandemics on racial and ethnic minorities were anticipated, preparedness efforts were poorly deployed (Alberti, Lantz, and Wilkins 2020). As noted by Alberti, the social vulnerability index—which was developed by the Centers for Disease Control and Prevention (CDC) to create a more equitable landscape for pandemic response—was not incorporated into the COVID-19 responses which contributed to the disparities observed in COVID-19 effects (Alberti et al. 2020). In their seminal study, Blumenshine et al. highlighted

exposure to the virus, susceptibility of contracting the disease and receiving treatment after exposure as three specific aspects to anticipate adverse pandemic effects due to underlying disparities in this population (Blumenshine et al. 2008). This study, even though foundational to national efforts for ensuring equitable pandemic influenza preparedness, did not consider disparities in experiences and impact of indirect pandemic effects.

Examining the effect of these multiple intersecting factors within the AA context and the magnitude on experiences of indirect pandemic effects is imperative to foster resilience, strengthen post-pandemic recovery and inform future pandemic planning. Our paper reports on pandemic preparedness experiences of AA families during the COVID-19 pandemic. Using a pilot qualitative exploratory study, we highlight the need for approaches that center disparities in resource-based preparedness such as access to food and water, health care, financial resources etc. Equity must be infused into efforts that examine and address the indirect effects of a pandemic. Specifically, it highlights the nuanced experiences on resource-based preparedness and suggests opportunities for developing culturally-responsive strategies for emergency preparedness in AA households.

Methods

Study design and setting

The study protocol was approved by the institutional review board of the institution of the lead author. Methods utilized in this study were described elsewhere (Anakwe et al. 2021). Eleven AA families with at least one child currently between the ages of 5 and 17 years were recruited through the local health department (LHD) in a rural community in the U.S. Midwest. A LHD representative informed potential participants of the study and instructed those interested in the study to share their contact information with the research team. One of the researchers, the lead author, contacted potential participants to brief them on the purpose of the study, obtain verbal consent, and schedule a telephone interview. Participants received no incentive for participation. A description of study participants was provided in Table 1.

Data collection

Data was collected from April to June 2020 through semi-structured interviews which ranged from 30 to 60 minutes in duration. The semi-structured interview guide consisted of nine questions that broadly examined AA families' awareness of COVID-19 and the strategies they were using to cope with the pandemic. All interviews were conducted by the lead author and audio recorded. Recordings were transcribed verbatim by a professional transcriber. Sample questions were provided in Table 2.

Data analysis

A thematic analysis (Braun and Clarke 2006) was used to analyze qualitative interview data. Data analysis was performed by two researchers (AA and WM). Following professional transcription, the two researchers immersed themselves in the data and initially reviewed the first four interview transcripts independently and later together. The immersion process involved actively reading and discussing these selected transcripts to understand the depth and context of the content before developing a coding scheme (Braun and Clarke 2006; Yin 2015). The development of the coding scheme started with identifying experiences within the following three areas of study: health access, food access and disaster preparedness. Inductive analysis identified new themes and expanded on subthemes related to these three primary pandemic experience dimensions.

Table 1. Demographic characteristics of study participants.

Characteristics	Study population *n* (%)
Total population	11
Median age, years	43.5
Educational status (25+)[a]	
High School	2 (16.7)
Some college	7 (58.3)
College or more	3 (25.0)
Role	
Mother	7 (63.6)
Father	1 (9.1)
Grandmother	2 (18.2)
Couple	1 (9.1)
Union status	
Married	1 (9.1)
Separated/Divorced/widowed	4 (36.4)
Not married	1 (9.1)
Never married	5 (45.4)
Change in income	
Increased	1 (9.2)
Reduced	5 (45.4)
Stayed the same	5 (45.4)
Number of children 5–17 years old	
None[b]	1 (9.1)
1	3 (27.3)
2	4 (36.4)
3	1 (9.1)
4	2 (18.1)
Age of parent (categories)	
25–35 Years	2 (18.2)
36–45 Years	2 (18.2)
46 Years or more	7 (63.6)
Age of children	11 (9.0, 16.0)
Median (interquartile range)	

Notes: [a]$n = 12$ to account for the education status of the couple.
[b]Had two children in the household (24 and 3 years old). Not included in study findings.
As published in Anakwe et al. (2021).

Following data immersion, the two researchers developed a coding scheme, and one researcher reviewed the rest of the interviews to code the data based on the coding scheme. The two researchers reviewed the coded transcripts together to verify complete and reliable coding and resolve areas of disagreement. Areas of disagreement were discussed during meetings until resolved. Interrater reliability of 84% was achieved. Transcripts and codes were subsequently entered into Dedoose software (Salmona, Lieber, and Kaczynski 2019; Yin 2015) for further analysis.

Findings

Emerging themes

Emerging themes from the individual interviews that highlighted AA experiences of the indirect effects of the COVID-19 pandemic were classified into three major categories: (i) access to healthcare, (ii) access to food, and (iii) pandemic unpreparedness.

Access to health care

Many factors, such as education, income, housing, and wealth, are intertwined and collectively influence people's health and quality-of-life in different ways. Beyond access to health care for those who may have been exposed to the virus, participants discussed access to health during the

Table 2. Semi-structured interview guide for community health workers.

Interview questions
1. When you think about COVID-19, what comes to mind? a. How did you hear about COVID-19? b. What was your reaction to lockdown, sheltering in place and social distancing?
2. What has been your experience sheltering-in-place? a. Can you give me an example of the worst experience you have had as a family?
3. What has been your engagement experience with your family? a. Can you explain some of the activities you have adapted as a family? b. What has been the challenges/barriers implementing the activities with your school-age children
4. What has been your experience utilizing shared resources? a. How has your children participated in this sharing?
5. What has been your experience of connectedness with your family? a. Explain the ways in which sheltering in place has impacted your family
6. When you think about coping during this pandemic, what comes to mind? a. If you were o share one or two examples of successful coping strategies you have used as family, what would those be? b. If some strategies were not success, why were they not successful
7. What are your thoughts on engaging your children during this season? a. What can be done? b. What could have been done?

As published in Anakwe et al. (2021).

pandemic in terms of (i) access to routine medications and care, and (ii) scheduling of hospital appointments for other health conditions than COVID-19 related ones.

Access to routine medications and care. Changes and uncertainty surrounding COVID-19 made it difficult for vulnerable populations to make sure they had access to needed medications. Following the stay-at-home mandates due to COVID-19, the CDC encouraged everyone who needed continued access to prescription medications, particularly those at higher risk, e.g. older adults and those living with severe underlying health conditions, to ensure that they would have access to their medications during the stay home mandates. Many participants appreciated that they were able to get their prescriptions refilled.

> The good thing about it is if you had medication, you know, they fill your prescriptions. So, my grandson has asthma so they supplied us with a lot of medicines. They keep his medications filled and so he just takes his medications and stuff like he normally does. (034)

> … she (*participant's wife*) takes medicines so we still get prescriptions through Kilgore's and different things like that so that hasn't really changed a lot as far as the medications and stuff that she takes, but other than that most of us are pretty healthy. (038)

> I have blood pressure medications and Walgreens was still available. So, we haven't really had any challenges and we knew we weren't exposed to anything because we weren't out. So, our experience with healthcare, I think it's only because we haven't needed anything during this time. (037)

In the face of increasing COVID-19 cases and deaths, healthcare providers quickly adopted virtualized treatment approaches that obviate the need for in-person/physical meetings between

patients and care providers. Participants reflected on their perceptions and experiences on how this shift impacted their access to health care. Families reported mixed feelings about the utility of this service to meet their routine health care needs. Some participants felt that telehealth was particularly useful "We have gotten telehealth. When I was sick, I was able to video with my primary care provider and get the script that I needed, get the order needed to get the COVID test, and I've done video psych sessions as well, so I've still been able to get what I needed through telehealth," (039). However, many others did not echo similar sentiments.

Acknowledging the efforts that were made to pivot to online services, one participant felt that online healthcare services diminished the quality of care (i.e., did not provide the same value/utility/benefit) for her autistic child, as in-person experiences did,

> I won't say it's a terrible experience cause it's not but for him and kind of all of the things that he does need and requires, it's not the same. It's not as beneficial. … so, he had applied behavioral analysis to twice a week and now it's like the Zoom meeting once a week. The behavioral analysis classes that he was in were four hours, twice a week, and now it's maybe like 45 minutes to an hour once a week, and it's not one on one. It's over the phone. You know, it's just not as beneficial at all. (033)

Another participant also expressed dissatisfaction with virtual healthcare services and said,

> Well, I had a doctor's appointment by phone. I just checked in with him and I guess it's just on the honor system, cause they can't really, check your blood pressure or your sugar levels or your weight or anything like that so, I just kind of had a self-report to him, what I was noticing with my own health. (040)

Scheduling hospital appointments. Beyond virtual health care access, participants expressed frustration with health care services, especially not having access to their health service providers when in-person visits became necessary. One participant expressed, "I missed my appointment, cause I couldn't get down there and they were not open, right now my kids don't have medication" (032). Many participants felt that they were not able to schedule appointments and meet with their healthcare providers due to social distancing orders. This was even more concerning for participants who had emergent conditions that required immediate in-person attention. As one participant noted, " … a lot of people had to get set back on surgeries or going to their regular doctors' appointments" (034). These delays led participants to either reschedule these appointments, cancel them all together or seek alternative sources of care. Another participant expressed,

> He's had a couple of appointments that we've had to reschedule [U] so, it's been different. That's about all I can say. It's been kind of rough because we've had to put off some things. So, it's not been great but we're making it. He has a follow up with the young lady that diagnosed him once every six months or so. We had to push that one back, which that wasn't real fun because we did do a couple of things with her. So, it's been interesting. (033)

Lack of access to healthcare providers drives patients to the internet. Because of the challenges with accessing health care resources due in part to fear of contracting the virus, some participants explained that they relied more on the internet to search for information and service/care about health matters. One participant said,

> And so I did go to Wal-Mart and get my, well, I made an appointment, and it's not until the 3rd. So, I was thinking about getting that eye exam and sending the eye examination out on the internet, you know, to whatever eye glass place, and get me some glasses because I need some new glasses. … I was getting ready to get some food out of the freezer and it hit my toe and I just knew I broke my toe. I couldn't go to the doctor, so I just worked on my foot myself. That's what I do. If I'm not feeling well. I look up whatever I need to look up, and do the same with my granddaughter. I tell her to be careful, I say "because we can't go to the doctor." (036)

This participant highlighted a trend in which consumers/patients are using the internet to not only find out information about their own health but also to carry out self-diagnosis and purchase health-related products and services.

Some of these perceptions to stay away from hospital settings may have been informed by participants experiences of in-person visits—either from contracting the virus (i.e., experiencing a direct effect of the pandemic) or managing other underlying health conditions that can increase susceptibility to the virus. A participant who had experienced direct effects of COVID-19 and attended in-person visits felt that the health care systems' preparedness efforts were lacking particularly in providing emotional support. This issue created *feelings of being compromised and isolated at the hospital* which compromised psychological health. Comparing when she was in quarantine at home to when hospitalized due to COVID-19, she explained

> (When I was home)—they called all the time. The phone constantly ringing. If it wasn't a local health department County public nurse it was the University. If it wasn't the University then it was my boss checking on me. It was like my phone was constantly ringing, people checking on me. But once I got in the hospital I felt more alone than I ever could be, and I understood that. They were nice, they met my needs, but you could see they were trying to get out of that room as fast as they could and I was just lonely. At least when I was in quarantine at home I at least seen somebody. But in the hospital, I wouldn't wish that on my worst enemy. I felt like I was in a hole. The five days that I was there, I wasn't all right mentally until they wheeled me out of that hospital and I was just getting my praise on, thank you Jesus, I could not get out of there fast enough (041)

Along the same vein, another participant who needed in-person management of their chronic conditions also explained how unclear instructions and practices at hospitals during the early weeks of COVID-19 compromised the health of many putting patients at risk of infection from COVID-19. He explained,

> We went to University Hospital, they had everybody going in one entrance … .they didn't have masks on and we just felt compromised, and I blasted them on social media and we was like we will not be back to this mother f … .! Excuse my language. And she said like "You know what, I'll just delay whatever, I'm just gonna deal with what I deal with and I'll go and visit them after we know it's safe or we'll go to local county hospital or we'll go somewhere else where we feel like they're paying attention to social distancing." … But it was not good. We felt compromised and so, you know, that's kind of the norm when it comes to the health stuff for a lot of the people that I talk to. If you not dying, and even if you're dying, you know, you might not want to come here (laughs) because you could be compromised. (038)

Food access

Food insecurity is experienced in greater proportion by Black (1 in 5) and Native American individuals (1 in 3) due to a number of factors, including structural racism and discrimination. Many people who have been most impacted by the pandemic were food insecure or at risk of food insecurity before COVID-19 and continued to face greater hardship since COVID-19.

Food availability and food choices. Participants expressed mixed feelings on food availability during COVID-19 with some saying, "we never ran out and never had a place to where we was low on food or whatever … I always try to go out and keep buying a little bit at a time, a little here, a little there just keep up on our stock of food." (034). Although participants were appreciative of the fact that they had not gone hungry as a result of the pandemic, they expressed frustrations with not getting some specific food or grocery items due to high demand triggered by the pandemic. One participant said,

> Well, we haven't been hungry, I know that. I have enough food in my home. But it's kind of hard to actually stock up on some things when the grocery stores themselves are limited. So, there's been a lot of times where I've wanted to stock up on things but, you know, it wasn't available. So, you had to kind of just make do with what you have. (031)

Further, although food insecurity is understood as the lack of access to sufficient food because of limited financial resources, during the early phases of COVID-19, AAs experienced food insecurity on two levels—lack of food products in the store due to panic buying and hoarding, and limited financial resources due to job layoffs associated with the pandemic.

> So initially when everything was going on, you would go to the stores and there would be nothing, like all the bread would be gone, milk would be gone, you know. And with him (son), he's very specific in what he eats so that's been, that was kind of a challenge at the beginning … his diet is extremely limited so that was really scary initially cause when I got to go I'd get there and there'd be things that he eats that would just be gone … … And then when my hours got reduced at work before I was able to get put on unemployment, it, there were days that I wasn't, we had to stretch some things out like quite a bit just because Mommy wasn't gonna get paid until the next week so we had to just stretch what we had. (033)

> Going to the store and seeing the shelves empty and going there and not having some milk for my kids in the morning. And that's about the worst that can happen, and I can't find Lysol, you can't find hand sanitizer and if you do find it, it's like this little bottle that's like four bucks and you're not really making any money but you gotta have hand sanitizer and you just can't be out here with nothing (032)

Disasters can change people's health behaviors especially around eating when food choices get limited. Participants explained that due to food scarcity in the stores, they were forced to adjust their diets to suit what was available, especially consuming less healthy diets.

> We try to be very mindful of the food that we do eat so for over two years I, me and the girls, were not eating meat so we were very intentional … Like we were trying to stock up on, like meat we don't (eat) beef or pork really, we just eat turkey, chicken, and so we were trying to like stock up on that. … We just hit a couple of stores. It was like Hy-Vee, Wal-Mart and we just got what we could, but I think now if like any time we see it, it's like just grab what we can because when we want it, it won't be there … I would like to say that it's forced us to continue our health conscious journey, but I feel like all that went out the window and so the foods we've eaten over this time are very heavy on the comfort side and not as mindful on the nutrition side. And then it's like things we would have avoided, we're eating those things because that's what's in stock. (037)

Food stamps. Although food assistance programs such as SNAP and WIC have been in existence for decades, COVID-19 put their ability to deliver during a pandemic to the test. For many participants, the programs were slow to respond to their needs. Business closures denied many families access to the needed support as one participant pointed out, "Having things shut down where I need to, you know, go to public aid offices, you know, with food stamps or whatever, you can't get them on the phone, you can't get them in." (032) However, participants also acknowledged that necessary steps were eventually taken and SNAP and WIC benefits were accessible,

> Luckily, they've given us a little bit of a boost so, we were approved for food stamps so, we're getting a pretty decent amount now, but initially it wasn't that good. So, everything was kind of scary as far as how we're gonna get, how I'm gonna feed him, what's even available to my kid that doesn't hardly eat anything. Yeah, it was a little scary for a while there. (033)

> So, I think it was the third Wednesday of the month I go to the Health Department and I, they may have, you know, some [U] that I can, that I can use for food. So, I have food. I can get food. I just don't go to the doctor. (036)

Participants further highlighted a niche of food insecurity that single female-headed households may face even at higher brackets of income because of their children's reduced access to school lunches and the need to lean into other government assistant programs that they may not qualify for. As one participant noted:

> Yeah. Well, because I'm a single mom, you know, even though I have a Master's degree and I have a professional job I'm salaried and all that I still, I don't qualify for food stamps but I did qualify for free and reduced lunch so, you know, since I only had to pay the school, a small amount of money, well, it's not really small, it still was a stretch for me but way less than what I spend to feed them at home, you know, it's really hit my pocketbook. (040)

Disaster preparedness

Overall, participants felt the nation and communities were not prepared to deal with COVID-19. This was striking to most participants because the U.S. could have paid more attention to the virus when it was first announced in China and prepare to protect the population. One participant expressed,

> I think about how unprepared we were for it, and I think we could have been better prepared if we had better things in place to implement when it finally did make it here, and that's neither here nor there now. Like the schools could have maybe started preparing in case we needed to shelter in place and things like that so we, maybe starting to structure how lessons were taught and things like that that might have prepared them a little more for how things will be if they have to stay at home. Hopefully we will learn something from this moving forward so that we can have some strategies in place to minimize the number of deaths and the number of people who contract the disease … (039).

Participants not only acknowledged the interconnectedness between the social determinants of health and inadequate preparation for the pandemic. They also emphasized that by not addressing these systemic issues, Black families from disadvantaged backgrounds were further burdened by the pandemic. One participant said,

> I looked at the neighborhood I grew up in in St. Louis, it's 99% Black at the schools and the only other 1% is Hispanic. It's a hundred percent poverty rate and I'm looking at the school and be like who's learning at this school. They don't have computers, the families are poor, they don't have WiFi, it's damned near third class or third world inside of a metropolis with a high density. And so I was looking at this and I was like, wow, those families they don't, they're not learning anything right now. They're not connected online, ain't got no cell phone, no app. Now if they got a flip phone but they ain't got no smart phones, you know, if they got a smart phone, it's a neighborhood smart phone and they share it but now it's dangerous. (038)

Despite global acknowledgement of the larger systemic issues with preparing for and addressing indirect pandemic effects, participants recognized current limitations in emergency preparedness and proposed avenues to promote a culture of preparedness among black families. According to some participants, given the growing population of social media users particularly among young people, ways to educate families through advertising on social media streaming platforms should be explored. One participant said, social media "is not used much but that is a wonderful place to educate Black families and just families in general because that's where they are." (038) and another stated, "I feel like having access to the internet should have already been in place regardless of the pandemic or not because not everything can get done on a school day … and everyone doesn't have a cell phone or everyone doesn't have internet at home." (039)

Along these lines, participants emphasized the need to support a culture of preparedness in their community. Specifically, participants spoke to the need for a culture of preparedness that goes beyond experiencing the direct effects of the pandemic. Thinking in terms of indirect effects, participants spoke to the greater ramifications that they had not considered (i.e., prior to the pandemic) including owning firearms to protect themselves from robbery which they thought could be a consequence of increased poverty from job losses and loss of income. As one participant said;

> Like if this were to happen again, I don't want us to be caught off guard. So, we had never really bought toilet paper until we needed it, which that's what it should be, but maybe we should have a little supply that we're getting over the course of time that, so we're not like running to the store with everyone else. Like bottled water, I want to keep. Canned goods, we've never been big on canned goods but maybe we should have those things because you just don't know … . I want our family to be safe. We also never had a gun in the home, … , we live in a secluded area kind of and so now we do, and just thinking about, you know, what wasn't okay with me before now we have to give more thought to. So now we have a weapon in the home. … But we just have to do things and think about things differently. So it's like a list of things that I'm, I'm thinking of. I want us to be better prepared and I want us to just be in a better place if any of this were to happen again (037)

Discussion and implications

This study was exploratory and examined the pandemic preparedness experiences of AA household heads during the COVID-19 pandemic. Key findings highlighted access to health care and food as emphasis areas to pay attention to when planning indirect mitigation pandemic efforts. The finding emphasized the need for more intentional approaches to address the management of health conditions that need in-person access to health resources and ensure safe, timely and reliable supply of food and medicine in time of crises.

Food insecurity and socioeconomic statuses are inextricably linked. Our study suggests that although some families had a preparedness culture prior to the pandemic, most families—which were single-headed female households—experienced some form of food insecurity. These families also struggled to balance the cost of family needs especially in providing food versus non-pharmaceutical interventions recommended to protect against contracting the virus. As noted by Zamboni et al., female-headed Black families are less likely to fulfill resource-based preparedness (e.g. food and water stockpiles, carry-on emergency kits and financial resources for evacuation etc.) (Zamboni and Martin 2020). These food insecurity experiences among participants stemmed from loss of income, lack of access to school meals and navigating food stamps. The current study findings are consistent with the literature on social vulnerability, and food access (Dubowitz et al. 2021; Hake et al. 2020). In the light of future pandemic planning, our study highlights the need for a national plan that provides food safety nets for vulnerable families.

Given COVID-19 experiences and the role of community organizations in providing food to their communities (Morello 2021), intentional partnerships between governments and community organizations, that center on food access as a mechanism to elevate community resilience, are needed. Food choice should also be considered an important indicator of food access and security. Ability to purchase food online can increase access to a wider variety of foods and increase food choice. Acknowledging consumers shifting preference to purchasing food online underscores digital access as a central resource in tackling food security, (George and Tomer 2021). The digital divide—as observed elsewhere (Anakwe et al. 2021), if not addressed in AA communities, can become an additional determinant of health that will hinder resilience in future pandemics.

Participants in this study had mixed perceptions on the value of telehealth and receiving health care virtually. As the rapid shift to telemedicine continues to be advocated for, this study suggests that this mode of health care delivery should not be a one-size-fits all. This model may not be suitable for specific populations with unique health care needs including those requiring in-person access for their health management and families with children with behavioral health needs. This finding supports previous findings by Chang et al. (2021) which showed that disparities in access to and utilization of telehealth services is dependent on the socioeconomic characteristics of the populations served. Particularly, racial and ethnic minority populations who are more likely to belong to high social vulnerability groups are less likely to have access to telehealth (Chang et al. 2021). Further, Chang and colleagues noted that providers serving this population were more likely to defer to telephone services (i.e., without video capturing options) to provide care, limiting the range of health services providers can offer. This telephone-only option, as suggested by our study participants, diminished their quality of care. Disparities in access can continue to impact the health of this population especially as reliance on telehealth becomes more common place. Our study suggests a need to better equip AA families with tools to equitably meet their health needs.

Although pandemic/influenza preparedness planning is not a new concept, equitably addressing the needs of vulnerable populations in the U.S. was poor on the whole (Alberti et al. 2020). This study demonstrates that when pandemics happen, families should be targeted as an independent pandemic response unit. Consistent with previous research, it further highlights that pandemic preparedness and experiences within Black families is nuanced and often occurs on a spectrum (with some experiencing more negative effects than others)—suggesting the need for

localized, culturally sensitive mitigation efforts (Fothergill, Maestas, and Darlington 1999; Zamboni and Martin 2020).

This knowledge should be factored into interventions and pandemic planning efforts. While top-down approaches continue to be used in pandemic preparedness response, the COVID-19 experience has highlighted the need for more bottom-up approaches. This project emphasized the need to foster pandemic preparedness at the family and community levels. Findings from our study call for a need to equip these families and their communities with tools to foster self-reliance including access to trusted digital resources and a need to empower community members to provide emergency care. Families and communities of color should be part of the planning process to target resources and develop interventions that benefit them directly including ensuring access to health care and food during crises.

Necessity is said to be the mother of invention. Our study suggests that participants became resourceful in managing their health for themselves when they could not access their health care providers. While many turned to the internet for health information and products, others either endured discomforts from injuries and/or forfeited health care all together. This lack of access to health providers can have greater ramifications for the health of this population. Black families bear a disproportionate burden of underlying chronic conditions that not only predispose them to adverse effects from the virus, but when these conditions are not managed effectively (through regular medical checks, access to routine medications etc.) it can decrease their years of potential life expectancy.

Despite these challenges, opportunities for future pandemic planning and preparedness have emerged including the need to promote self-reliance within the AA population by equipping them with the technical know-how to cater to their health needs. There may also be opportunities to invest in and create health champions within these communities who can provide timely, trusted information to families in need of emergency health care during pandemics. Health champions, who will act as trusted members of society, can reach and interact with AA populations where they congregate, e.g., churches, barber shops, and community recreational facilities, on a regular basis and during pandemic.

Finally, for families that have health conditions that require physical interactions with providers, there is a need to identify how these resources should be tailored to these families during pandemics. These tools will remain valuable procedures for engaging in in-person health care as the health care landscape evolves. For future pandemics, the health care system needs to be primed to go beyond providing routine medications to administering care for emergent conditions or other health conditions that require in-person management. Coordinated approaches to care that involve health departments, community partners and hospitals are needed to ensure end-to-end holistic population health management.

Limitations and areas for future research

This study is not without limitations. Given the global experience of the COVID-19 pandemic, our study sample size, relative to the U.S. African American population, is small. However, our study was exploratory in nature and focused on exploring the experiences of an AA community in the rural Midwest, the sample size meets this objective. It is however limited in its generalizability to other populations—AAs in general, the broader American society and/or the global Black population. The qualitative approach to examine the nuances in experiences of pandemic preparedness adds much needed insight to the broader research literature that addresses disparities and equity in experiences of indirect pandemic effects.

Our findings do not paint a comforting picture of existing pandemic preparedness efforts for vulnerable populations. Although COVID-19 was initially thought to be an equal opportunity public health emergency, research and experience have shown that some populations are

inherently more vulnerable to its adverse effects than others. Thus, there is need for more research within vulnerable populations that investigates the supports these populations need to adapt, mitigate, respond and recover from influenza-related pandemics. One area for future research could include applying the equity matrix (Ismail et al. 2021) to examining and planning for future pandemics

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Ethical approval

Ethical approval was granted by the Saint Louis University Institutional Review Board IRB #31234

Author contributions

Authors contributed as follows: study conception and design: AA, WM; data collection: AA; analysis and interpretation of results: AA, WM; draft manuscript preparation: WM, AA, ID, RB. All authors reviewed the draft manuscript and approved the final version of the paper.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

Data supporting study findings are available from the corresponding author upon reasonable request.

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