WORK IN PROGRESS AND LESSONS LEARNED

Exploring social determinants of health in healthy aging among older adults: a qualitative study

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ABSTRACT:

Background: The US population is aging and diversifying. Older Black Americans comprise the largest racial minority group and experience greater disability than White Americans.

Objectives: Within a long-standing, community-based research partnership, we explored the determinants of healthy aging in Flint Michigan, a low-income, predominantly Black American community recovering from a water crisis.

Methods: Focus groups were conducted among older adults residing in Flint, MI. A grounded theory approach and constant comparison method was utilized for data analysis.

Results: Five focus groups were conducted with 49 total participants. We identified 4 themes that impacted healthy aging: economic instability, healthcare access and quality, neighborhood and built environment, and social and community context. Economic instability heavily influenced the other themes.

Conclusions: Economic instability is a barrier to healthy aging. As a result, we are testing an innovative cross-sector partnership combining older adult affordable housing and healthcare.

KEYWORDS: Community-Based Participatory Research, Aging, Social Determinants of Health, Health disparities, Older Adults

Introduction

The U.S. population is aging and diversifying; by 2029, 20% of the US population will be over the age of 65, the largest proportion of the population this demographic has ever occupied.[1] Black Americans are the largest racial minority group among older adults and experience persistently higher levels of disability compared to their White counterparts.[2] To combat racial disparities and improve quality of life for older adults, it's vital we understand the barriers and facilitators of healthy aging in predominantly Black communities.

Healthy aging is defined as 'the process of developing and maintaining the functional ability that enables wellbeing, people to be and do what they value, in older age'.[3,4] Healthy aging is the interaction between an older adults' physical and cognitive capacities and the environment they live in.[3] While aging leads to progressive decline in physical and cognitive capacity, the speed and characteristics of this decline is highly variable across individuals.[5,6] Some of the variability in the health outcomes of older adults can be attributed to upstream, societal and environmental factors, social determinants of health (SDOH), which impact the health of older adult. Social determinants of health (SDOH) are defined by the World Health Organization as "conditions in which people are born, grow, work, live, and age" which are "shaped by the distribution of money, power and resources."[7] SDOH can confer health advantages and disadvantages. For example, socioeconomic status (SES) mediates healthcare access – as older adults with higher SES have greater access to preventative care and screenings while lower SES older adults experience greater disease burden and poorer health.[8] Social factors such as satisfaction with social support and participations in clubs/organizations are associate with improved health outcomes among older adults. [9] Physical environments such as pedestrian-friendly

neighborhoods and recreational facility access are also positively associated with older adult health outcomes.[10]

To explore the determinants of healthy aging, we conducted focus groups of older adults residing in a predominately Black, low-income community. We sought to understand the drivers of healthy aging and the mechanisms by which social determinants of health impact healthy aging in this community.

Methods

We held five focus groups with 49 older adults to gain a better understanding of aging in the Flint, Michigan, United States community. This project was approved by the University of Michigan Institutional Review Board.

Community Partnership

The foundation of our community-based participatory research partnership is a faith-based community organization, Bridges into the Future, dedicated to the health and wellbeing of the Flint community and the Stroke Program at the University of Michigan. Formerly focused on cardiovascular disease prevention and preparedness, this research represents an expansion of the scope of an 11-year partnership. Through equitable and iterative discussion, community partners identified a priority in the aftermath of the Flint water crisis: determining the drivers that affect healthy aging among the older adult population in Flint, MI. In addition to identifying a new community need, community partners also assisted in participant recruitment and hosted several of the focus groups in their own spaces.

Setting and Recruitment

Flint, Michigan was once home to monumental economic and technological advances including the founding of General Motors (GM) that eventually titled Flint as the "automotive city."[11] More recent events, however, such as the dissolution of GM and lead exposure in drinking water, have led to serious economic, environmental and health complications, stifling the city's growth and putting citizens of Flint at risk.

Residents of Flint are predominantly Black people and 41% live below federal poverty thresholds—almost four times the national average.[12] National attention has surrounded Flint since the discovery of lead-contaminated drinking water in 2015. We conducted the focus groups from June to August, 2018.

Participants

Our sampling strategy included three cohorts of older adults. Those who: 1) live in independent, charity-subsidized older adult housing; 2) regularly attend activities at a senior community center; and 3) neither live in older adult housing nor regularly attend a senior center.

Inclusion criteria included residency within Flint city limits and at least 55 years of age. Older adults were recruited through word of mouth via our community partners and through advertisement at a local senior center. Participants were given $35 and refreshments during their participation; a total of 49 older adults from Flint participated. Demographic data was not

collected, but we estimate that 90% of our participants were Black people and that most participants were between the ages of 55-70 years.

Focus Group Procedures

Focus groups were held at community locations convenient for participants. A primary and secondary facilitator led each focus group. Each focus group began with the facilitators providing detailed instructions of what their participation would entail and obtaining informed consent from participants.

A semi-structured guide exploring the needs of older adults in the Flint community through 10 open-ended questions was developed collaboratively with community partners. Participants were asked to describe aspects of their community that they did and did not enjoy, how they stayed healthy while aging, and what issues they felt were ignored in their communities, among other topics (Appendix A). Every focus group did not discuss every question; facilitators prioritized discussion over adherence to the guide. All five focus groups were audio-recorded and transcribed by a third party. Recording stopped half-way through one focus group and only data from the recording was analyzed. The results of the focus groups were shared among the community-academic partnership.

Data Analysis

We used a grounded theory approach to analyze the transcripts.[13] We uploaded the transcripts into Dedoose, a web-based qualitative analysis program. Coders employed the constant

comparison method, wherein data was compared to previous data with the same code to ensure that the meaning of each code stayed consistent.

Three coders were involved in the analysis. One focus group transcript was coded individually by two coders, each independently developing their own thematic codes and coding structure. Initial codes were compared and used to develop a finalized coding structure through discussion and with the assistance of the third coder. The remaining transcripts were each coded by two coders; additional codes were added to the finalized coding structure as agreed upon by all three coders. After each transcript, assessment of theoretical saturation was made. Theoretical saturation is rooted in traditional grounded theory and is reached when no additional data are being found to develop the theoretical category.[14,15] At that point, sampling is complete. In this case, theoretical saturation was reached after five focus groups. Excerpts were organized into a database and reviewed by the coders, each justifying the codes that they applied if the second coder on that transcript did not also apply that code. The third coder read all justifications and made the final decision for each discrepancy.

Results

We conducted five focus groups with 49 older adults. Focus group size ranged from 4 to 15 participants each and lasted for an average of 64 minutes. Two focus groups each were conducted for Cohort 1 (15 participants total) and for Cohort 2 (30 participants total); one focus group was conducted for Cohort 3 (4 participants). Through analysis and subsequent discussion, we identified four themes across all five focus groups that impact healthy aging among older

adults in Flint, MI: (1) Economic Instability, (2) Healthcare Access and Quality, (3) Neighborhood and Built Environment, and (4) Social and Community Context (Table 1).

Economic Instability: Economic instability was the most important theme as evident by the frequency of discussion and strength of comment – with a participant noting, "Finances is my biggest problem." Experiences with finances include the increasing cost of living ("Food is so expensive now"; "They're adding more to our taxes") and managing healthcare costs ("I pay over $200 a month in insurance"). Many participants noted that the majority of their expenses are tied to healthcare ("Most of it has to do with our medical stuff, co-pays of medical"; "You're getting so many medical bills in. You don't know which way to turn, so you know what? I just say I throw it right down there in the pile. If I have an extra five or ten or however much, I send five dollars to each bill").

Participants explained that their financial constraints were due to fixed incomes (i.e., social security) with varying monthly expenses (i.e., increasing rent, unexpected bills). Concerns surrounding finances were a significant source of stress ("A lot of times there were sleepless nights. "God, how can I pay this," or "How can I pay that?"). Furthermore, financial constraints have led to sacrificial and tradeoff decisions, with participants often having to decide where to allocate their limited resources, including choosing to either pay for food or medicine, going to a doctor's appointment or cancelling appointments to save money, purchasing healthy versus inexpensive food, and enjoying retirement and hobbies or reentering the workforce for a supplemental income ("Either you're going to get your medicine or you're going to get your food"; "I've had to cancel some doctor's appointments because I didn't have the money to"; "It

seems healthy foods are more expensive…you pay an extra price for organic when a lot, especially the seniors that don't have that extra money to pay that extra for the more healthy food").

The dissolution of GM left a tremendous impact on the economic instability of families ("When they left, General Motors left, that left our children with nothing, no jobs…because this is a General Motors town, and General Motors was the one who was keeping us alive"; "Nobody had a backup plan"). Participants reported that general financial challenges have forced retirees to reenter the workforce to supplement their fixed income ("I'm retired. Actually, that's why I work when I can, and I usually work part-time. I've had full-time careers, so no more of that, but my finances are staying right here, and everything is going here, here, here, here, and that's my biggest problem. That's why I have to work in order to keep up of what's going on today"). Transitioning back into the workforce after retirement has been a particular challenge for some ("It's hard, because we had good jobs, good paying jobs, and then all of a sudden you go from a good paying job. It's like a sudden drop and then there's an adjustment period, and while that adjustment is going on, we're trying to adjust to life"; "It's really rough… to be at our age and still have to work").

Healthcare Access and Quality: Management of health conditions and chronic illness was also a major source of concern. When asked what challenges older adults face in Flint, MI, a participant noted, "Healthcare is number one", with others in agreement ("My health is my biggest challenge because I've been healthy…I've been active and trying to take care of my health all

my life. I ate right. I exercise. I didn't hang out a lot. I slept. I did all the good things. So why am I having these issues?").

Health management was directly linked to finances for many participants ("Health and finances. Those are my biggest, my biggest challenges and I'm saying a lot because I talk to a lot of seniors, and they're going through the same thing"; "I've got these bills from [hospital] and then the vascular center and then the cardiologist, all these bills I can't pay because there isn't enough money there. So you stress trying to"). Managing the high cost of healthcare can be stressful and negatively impact mental health, but access to resources is constrained by finances ("Not to mention the stress it's going to cause you and the agony"; "I suffer from depression, and I'm on medication right now, and they really want me to go see a counselor, but I can't afford that because the insurance doesn't always pay for that").

In addition to the challenges of accessing healthcare, participants voiced their frustrations with the quality of care. Some shared negative experiences with a medical provider and participants are left feeling as if medical providers do not care about them ("Doctors give you medication and have not looked at your chart. I've had a heart attack, and you want to give me some medication that'll make my heart fail? Then they get angry. That's why they call me stubborn because I come back on you about you gave me some medication that'll make my heart fail, and I leave that doctor because you really don't care about me"). Other participants felt that medical providers failed to properly explain diagnoses, medications, and treatments, leaving participants to do their own research regarding their health conditions ("They don't explain anything. They say, 'Here. Take this,' and they don't explain why you're taking it, the side effects of it"; "If you

don't understand it, go to your pharmacy. Go to your pharmacy, they can give you a lot of information").

Neighborhood and Built Environment: Discussions of environmental barriers included both natural ("Everywhere you go you can hardly get out on the street without having to go through tall grass"; "It's hard to drive with all the overgrown grass") and built environments ("Fixing the pipes [as a result of the water crisis] has really messed up the roads"; "Empty homes and boarded-up homes, homes that have been demolished"). However, some positive attributes were also noted, including access to community resources ("I have a lot of resources within my neighborhood where I live. I have a library, Salvation Army, neighborhood stores, beauty supply stores"; "I have about four or five, maybe six churches in the area where I live") and opportunities to socialize ("I like where I live because I'm close to the [senior community center]"). Unfortunately, access to food markets has become increasingly challenging due to grocery store closures ("They closed the Kroger store. They closed the Meijer's store, and you have to go out in order to go to a major store"; "Some little stores but nothing major, like not a grocery store"; "The nearest grocery store to our place is at least a half hour away on the city bus").

In the years after the downfall of GM, the water crisis further impeded the city's efforts to rebuild ("Once the GM went out, then that left a lot of broken people, a lot of people with lost homes and things of that nature and stuff, and so now to try to come back and build it back up, then we get tossed with the water situation"). Distress regarding the unknown and potentially harmful health impact of the water crisis on older adults was also discussed ("We really don't

know what effect the water's going to have, what long-term effect it's having on the older people. Is it causing onset of different type of illness?"; "I still have certain things that happen to me. I think it's from the water, showering and everything"). Beyond the physical effects, participants spoke about the emotional toll of the crisis, such as living in fear and mistrust ("I really hadn't heard all of the details about the water until I was in my apartment, and I was really afraid of the water. I was taking two medications, one for my blood pressure and one for diabetes, and now I have a shoebox of medicines. I mean actually the container is the size of a shoebox, and I've only been here three years in the city, and that was an emotional rollercoaster for me"; "I don't trust the water out there even though they tell us it's all right"; "I don't think anybody trusts the water").

Social and Community Context: Personal interactions and social connections were a critical resource for staying updated on community-related information ("I love networking and finding out a lot of things that are going on for seniors"). Involvement in the community was a prominent activity for the majority of participants ("I think we're all community savvy. Most of the people that I know are very active in community in some kind of way").

Participants believe that poor communication between community organizations and community members necessitates reliance on word-of-mouth and social ties as a primary means of information spread ("They don't communicate...They know all of the little steps and all the little places you can go, but they're not putting it out to the community to let you know what it is that is available to you"; "A lot of it is not advertised to where we know about it. In my community you have to know by word of mouth from someone"). Mistrust in local institutions and difficulty

navigating access to assistive services or resources have led participants to feel that they must be self-reliant in navigating what resources are truly available ("They lie to us all the time…you got to research all of this stuff").

Discussion

Through exploratory focus groups with older adults in Flint, MI and grounded-theory analysis, we found that economic instability, healthcare access and quality, neighborhood and built environment, and social and community context were the major themes of aging among older adults residing in a low-income city. These themes are consistent with the CDC Healthy People 2020 SDOH which include economic stability, education, social and community context, neighborhood and built environment and healthcare.[16] The most prominent barrier to healthy aging for all focus groups was economic instability, which heavily influenced the other three themes. For example, participants noted their primary concern was income, with fluctuating expenses mostly linked to healthcare costs. As a result, some older adults were forced to make tradeoff decisions, choosing between purchasing prescription medication or buying groceries or to re-enter the workforce. Older adults who did not re-enter the workforce were afforded more opportunities to enjoy recreational time, companionship and community involvement which may lead to greater access to information of available resources. Community economics also impacted older adults exemplified by the lasting impacts of the water crisis, which originated from city cost-saving efforts, which was associated with older adults' physical, mental and emotional well-being.

Our findings were presented to community partners and informed development of an aging coalition which consists of leaders from community-based organizations, particularly in housing and healthcare, and academic partners. The coalition determined that addressing financial barriers to healthcare was the most pressing issue. Thus, community partners established a Federally Qualified Health Center (FQHC) within the older adult affordable housing community, bringing the healthcare directly to the older adults who need it most. Onsite healthcare removes the transportation barrier. Additionally, FQHCs have affordable medication programs and address adverse social determinants of health through community health workers. An NIH-funded study on this new model of care to promote healthy aging is underway.

The following limitations of our study warrant attention. Recruitment efforts for the three cohorts did not yield an equal number of participants in each group. In particular, we had difficulty recruiting outside of the senior community center and older adult housing. Thus, representation from community members who neither regularly attend the senior center nor live in housing campus are not as well represented. Furthermore, 45 out 49 participants resided in a housing campus or attended the senior center, and thus may have a lower-income than the general older adult population. This limits the generalizability of our findings.

Conclusion

Our findings show that healthy aging for older adults in Flint, MI is heavily impacted by economic instability, our proposed primary barrier to healthy aging, through which other social and environmental determinants act, including healthcare, built environment, and social context. Further studies on the causal mechanisms of upstream factors, such as economic instability, and

their impact on health outcomes in low-income, predominantly Black communities are needed to better develop and implement community-based initiatives that promote healthy aging.

1. The Baby Boom Cohort in the United States: 2012 to 2060. https://www.census.gov/prod/2014pubs/p25-1141.pdf. Accessed April 16, 2017.
2. Freedman VA, Spillman BC. Active Life Expectancy In The Older US Population, 1982–2011: Differences Between Blacks And Whites Persisted. *Health Affairs.* 2016;35(8):1351-1358.
3. Beard JR, Officer A, De Carvalho IA, et al. The World report on ageing and health: a policy framework for healthy ageing. *The lancet.* 2016;387(10033):2145-2154.
4. World Health Organization: Ageing: Healthy ageing and functional ability. https://www.who.int/news-room/q-a-detail/ageing-healthy-ageing-and-functional-ability. Accessed 2021, June 7.
5. Lowsky DJ, Olshansky SJ, Bhattacharya J, Goldman DP. Heterogeneity in Healthy Aging. *The Journals of Gerontology: Series A.* 2013;69(6):640-649.
6. de la Fuente J, Caballero FF, Sánchez-Niubó A, et al. Determinants of Health Trajectories in England and the United States: An Approach to Identify Different Patterns of Healthy Aging. *The Journals of Gerontology: Series A.* 2018;73(11):1512-1518.
7. World Health Organization, Commission on Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinants of health. Commission on Social Determinants of Health final report. https://apps.who.int/iris/bitstream/handle/10665/43943/9789241563703_eng.pdf;jsessionid=365271ACE2052888542881700EEDCA8B?sequence=1. . Accessed November 25, 2021.
8. McMaughan DJ, Oloruntoba O, Smith ML. Socioeconomic Status and Access to Healthcare: Interrelated Drivers for Healthy Aging. *Front Public Health.* 2020;8(231).
9. Cherry KE, Brown JS, Kim S, Jazwinski SM. Social factors and healthy aging: findings from the Louisiana healthy aging study (LHAS). *Kinesiology review.* 2016;5(1):50-56.
10. Clarke P, Nieuwenhuijsen ER. Environments for healthy ageing: A critical review. *Maturitas.* 2009;64(1):14-19.
11. Rosner D. Flint, Michigan: A Century of Environmental Injustice. *American journal of public health.* 2016;106(2):200-201.
12. United States Census Bureau. http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml. Accessed July 18, 2013.
13. Strauss A CJ. *Basics of qualitative research: Techniques and procedures for developing grounded theory.* second ed. Thousand Oaks, CA: Sage Publications, Inc; 1998.
14. Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Quality & quantity.* 2018;52(4):1893-1907.
15. Bryman A. How many qualitative interviews is enough. *How many qualitative interviews is enough.* 2012:18-20.
16. Healthy People 2030: Social Determinants of Health. https://health.gov/healthypeople/objectives-and-data/social-determinants-health. Accessed November 25, 2021.

Table 1: Overview of Social Determinants of Health Themes and Impact on Health Behaviors of Older Adults

Social Determinants of Health Theme	Effect on Health Behavior

Economic Instability	- Financial constraint is a significant source of stress
	- Results in sacrificial and tradeoff decisions:
	  o Deciding whether to pay for medicine or food
	  o Cancelling doctor's appointment to save money
	  o Purchasing inexpensive food instead of healthier food option
	- Inability to enjoy retirement due to reentering the workforce for supplementary income

Healthcare Access and Quality	- Managing healthcare costs is a source of stress and negatively impacts mental health - Seeking information elsewhere (i.e., pharmacy) after negative medical provider experiences
Neighborhood and Built Environment	- Difficulty navigating some areas of the city due to lack of neighborhood maintenance - Difficulty accessing grocery stores - Living in fear and mistrust regarding the quality of water after the water crisis
Social and Community Context	- Involvement in community activities and networking as a method to stay informed - Frustration with local institutions and lack of access to certain information led to being self-reliant in navigating and accessing available resources

Appendix A: Focus Group Guide

1. Describe one aspect of your community that you value or enjoy.
    a. What adds to your life, what do you like doing, what do you like about where you live?
2. What are negative things that impact you and your community?
    a. What are daily activities that you have difficulty with in this community?
3. What do you and people in your community like to do to stay healthy?
    a. If people don't participate in community classes, etc., do they make an effort to stay healthy?
4. What makes it difficult to stay healthy?
    a. Think outside of exercise classes – doctors, nutrition, medication, etc.
5. How do you tend to get your food?
    a. Do people cook for themselves – what does that look like?
        i. How do you or others in your community get groceries?
    b. Why do you think some people don't choose healthy options?
        i. What's different between those who do and those who do not choose healthy foods?
    c. What is your experience with SNAP benefits like?
        i. Do you find that it is enough to live on?
            1. If not, how do you supplement?
6. What is your access to healthcare services like?
    a. How do you feel about your experiences with health care services?
7. What do you think are some of the ignored needs of older adults?
8. What financial struggles do people in your community experience?
    a. What doesn't happen because of these financial concerns?
9. Do you feel there are resources for those experiencing mental health difficulties?
    a. How do people cope with mental health concerns?
10. Please write down the top three challenges facing older adults in your community