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ORIGINAL RESEARCH

Patients' Perspectives on Social Barriers to Care and the Acceptability and Impact of a Community Health Worker Program in Outpatient Ophthalmology

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Introduction: Community Health Workers (CHWs) are trusted members of the community who can work as an integral liaison between community members and health care to address adverse social determinants of health (SDoH). The purpose of this semi-qualitative study was 1) solicit patient-reported social needs and what they consider barriers to their ophthalmic care, 2) determine the acceptability of discussing SDoH in eye care, and 3) determine the acceptability of leveraging a CHW to address social needs.

Methods: A total of 50 adults with type 2 diabetes at the Wilmer Eye Institute participated in semi-structured interviews. The interview included questions on barriers to care, acceptance of SDoH discussion in eye clinics, ideas to address SDoH and acceptability of CHWs. The transcripts were analyzed using traditional text analysis based on classic grounded theory to identify themes.

Results: Patients reported transportation (66%), scheduling conflicts (50%), forgetting appointments (50%) and other illnesses (40%) as barriers to attending eye appointments. Motivators included knowing the importance of maintaining regular eye appointments (22%), desire to maintain eyesight (22%) and health (10%). 88% felt positive about addressing SDoH in the eye clinic but were apprehensive about the front desk (14%) asking the questions citing lack of privacy. Some preferred doctors (20%) or specialized staff (14%) to ask the questions. 82% felt no topics should be off limits, understanding that questions aimed to help them. Ideas to address SDoH in eyecare included improving communication (44%), increasing resource access (36%) and introducing social workers (32%). 16% were aware of existing social services for eyecare. After explaining the role of CHWs, (90%) were enthusiastic about incorporating CHW in eyecare.

Conclusion: These findings support the assessment of SDoH in ophthalmology clinics and the integration of CHWs to address social needs from the patients' perspectives.

Keywords: diabetic retinopathy, social determinants of health, barriers to care, social needs

Introduction

Diabetic retinopathy, or the ophthalmic manifestation of diabetes, continues to be a major cause of vision loss.[1] Regular and repeat ophthalmic examinations are critical for identifying vision threatening complications and initiating therapy to prevent vision loss. Lack of ophthalmic screening, lapses in diabetic retinopathy care, and the underutilization of eye care services remain potential modifiable risk factors in reducing vision loss from diabetic retinopathy.[2–5]

There is an increasing awareness that social determinants of health (SDoH) impact health outcomes.[6] SDoH are the conditions in which people are born, live, work, and play that affect a wide range of health and health outcomes.[7,8] In the context of diabetic retinopathy care, adverse SDoH (eg, not having a primary care physician, having housing difficulties)

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are associated with the underutilization of eye care services, increased lapses in care, and poor vision outcomes.[9–12] However, there remains a gap between identifying the social risk factors that negatively impact diabetic retinopathy outcomes and patient acceptable interventions to address those social needs. Critically, social risk factors are the adverse social conditions or individual-level SDoH associated with poor health while social needs reflect what patients have identified and prioritized for social intervention.[13,14]

Evaluation of SDoH is not currently a routine part of the eyecare visit nor is there widely deployed evidence-based interventions to address social needs. The patient acceptability of evaluating and assessing social risk factors at the point of ophthalmic care is unknown.[15] Some authors suggest that patients dealing with adverse SDoH may be reluctant to share those barriers with specialists and doctors they do not have a relationship with.[15,16] Although there are no widely deployed interventions, there is evidence that community health workers (CHWs) can be effective strategies to address social needs and improve the health of communities.[17] CHWs are trusted members of the community in which they serve and have extensive knowledge about community resources, and can work as an integral liaison between community members and health care.[18] CHWs are under-utilized strategies in the eye care community in the US and have been primarily leveraged in low-resource countries such as India, Nepal and Sierra Leone.[19–21] The acceptability of patients to working with CHWs deployed in the ophthalmic clinic is currently unknown. The purpose of this prospective semi-qualitative study at a single academic medical center located in an urban environment was to: 1) solicit patient reported social needs and what they consider barriers to their ophthalmic care, 2) determine the acceptability of discussing SDoH in the context of eye care, and 3) the acceptability of leveraging a CHW to address social needs.

Methods

Participants and Procedure

Adult patients over 18 years of age with type 2 diabetes mellitus (T2D) seen in the Patient Access Center for the Eye (PACE) from 1/1/2024 to 7/1/2024 at the Wilmer Eye Institute at Johns Hopkins Hospital were screened for eligibility. Patients were excluded if they did not speak English or were unable to provide informed consent. Patients were given a $20 gift card for their participation. Participants underwent a semi-structured interview conducted by a single research coordinator (JAM) consisting of questions about the topics of: barriers/motivators to eye care, acceptability of being asked social determinants of health questions, and acceptability of potentially working with a community health worker (Supplemental Figure 1). A series of open-ended questions followed by specific prompts were created based on the World Health Organization SDoH framework, Healthy People 2030 and prior literature demonstrating the link between lower eye care use and poor housing conditions, lack of primary care provider, financial insecurity, and transportation difficulties.[8,22] Other questions emerged from the dialogue between the interviewer and interviewee(s). Data collection was performed until thematic saturation occurred. Interviews ranged from 5 to 48 minutes (average 18 minutes). The study was approved by the Johns Hopkins Institutional Review Board (IRB00399279) and followed the Declaration of Helsinki.

Data Analysis

The interview was audio recorded and transcribed using Microsoft Word (Version 2108). Qualitative data analysis was conducted by two members (J.A.M. and Z.R.) using traditional text analysis based on classic grounded theory.[23] This method involves isolating themes from the transcripts, highlighting texts that relate to the theme and sorting them into categories. To maintain consistency, members met regularly to clarify, discuss and merge codes. Frequently applied codes were extracted to identify the main themes from each interview and data was stored in Excel.

Additional patient sociodemographic information was extracted from the electronic health record (EHR) including age, sex, self-reported race/ethnicity, and insurance. Ocular characteristics including severity of diabetic retinopathy were extracted from the EHR from all prior office visits using codes as previously described.[11] The census block group of the patients' residential addresses were also extracted from the Johns Hopkins Precision Medicine Analytics Platform and matched to the 2021 Area Deprivation Index.[24]

Results

A total of 50 participants were included in the study. (Table 1) Most participants were female (66%), ≥50 years (70%) with mean age of 57 years, Black (72%), and non-Hispanic (94%) (Table 1).

The themes that emerged from each of the 3 interviewed topics are summarized below.

Topic 1: Barriers to/Motivators of Eye Care

Participants were asked about barriers to eye care. (Table 2) The most commonly reported barrier (N = 33, 66%) was transportation. For example, participants cited how challenging it was to find parking, miss the bus, or arrange a ride to the eye care appointment, expressed in these quotes:

Table 1 Baseline Demographic Characteristics of Patients with Diabetes Included in the Study

Sex	
Female	33 (66%)
Male	17 (34%)
Age	
≥ 50	35 (70%)
<50	15 (30%)
Race	
Black	36 (72%)
White	10 (20%)
Other	3 (6%)
Ethnicity	
Hispanic	1 (2%)
Non-Hispanic	47 (94%)
Insurance	
Private	17 (34%)
Medicaid	15 (30%)
Medicare	12 (24%)
None	5 (10%)
Other	1 (2%)
Diabetic retinopathy (DR)	
No DR	28 (56%)
Nonproliferative diabetic retinopathy (NPDR)	11 (22%)
Proliferative diabetic retinopathy (PDR)	11 (22%)
Area Deprivation Index (ADI)	
Area Deprivation Index (ADI), national percentile rank*	62.1 (22.6)

Note: *Continuous variables presented as mean (standard deviation).

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Table 2 Participants Self-Reported Barriers to Care and Motivators to Attend Appointments

Topic	Themes	Frequency (%)	Quote
SDOH/barriers to eye care/	Transportation	33 (66%)	"...I missed your appointment once because I missed the bus…" "...I try to make sure I have a ride. Especially with the eye [appointments]"
	Scheduling conflicts	25 (50%)	"The last time I was here they said that I was kind of kicked out of the system or something..I sat and sat. When I went back to the desk it was it was like I wasn't even there" "If your eyes [are] not bothering you, you [have] other appointments. You always push [the once a year eye appointment] back". "I don't know about other people when you get dilated. It's a pain because, I left work early to come to the appointment, but now I need to work..going to be hard to work because of my… I work on computers. So getting dilated is a bit of a pain".
	Forgot	25 (50%)	"Appointments they [are] too far out…so now you got to remember. [I would rather they] call me and remind me I need to make an appointment". "It's in my Google Calendar right? So it should have prompted anyway, I just…went to work that day and forgot that I had..the eye appointment".
	Illness	20 (40%)	"I am diabetic so if my sugar is up [then the] appointment is missed". "I have been having a lot of neurological issues recently and I was not prioritizing my eye care…"
	Insurance issues	16 (32%)	"...Availability (of appointments) and insurance issues that was a big thing for me, the reason is, we are going through issues with Care First and I thought my insurance was covering a lot of those things. It kind of pushed me away from having those follow up with the eye care. I had to figure out which one was more important. Eye care, physical, OBGYN". "I only have Medicare [it] won't pay you for eyeglasses. So even though I need glasses and the doctors know I need glasses there's no in between" "They cannot take care of me because I don't have insurance. I tried other places and still didn't get to go and until my primary care doctor put in for the TAP program…and here I am"
	Financial hardship	14 (28%)	"...like I got this appointment, but I got to worry about this bill. So this bill is going to overpower me" "Sometimes funds are low" "I've never missed an appointment, but I haven't made appointments because of financial issues". "Finances is a consideration"
	Caregiver role	13 (26%)	"I got grandkids and their mother need(s) me to watch them. I let them know I have an appointment. But if I really need to watch him, I …get another appointment". "…I had so many things that were coming up I had some changes with my father's health and my son's health…"
	Housing insecurity	3 (6%)	"I was moving around going from one place to the next I was having problems with housing and I lost track of my appointments so I missed out the last time I've been here" "Reason I missed like 7 appointments I had moved into a new apartment . Things changed but they were very good to give me another appointment soon"
	Need for accompaniment	2 (4%)	"Some people have children, som have disabilities where they might can't get to the appointments or have anybody take them..So they need our assistance when they can get to the appointments"
	Food insecurity	1 (2%)	"Trying to find a way to make do today. Food security things like that".

Motivators	Maintaining their eyesight	11 (22%)	"Remade [my appointment] because I still had floaters. if the eyes not hurting and if you can see it be the one appointment you push back… but then I realize after coming to the eye doctor that [if] you keep pushing it back, it's going to get to a point that they cannot stop whatever is bothering you" "I keep my appointments because my eyes are very important and most people don't believe that..so they'll just skip a doctor's appointment, but they need to be a little more educated". "I value my eyesight and I really don't want any complications to sneak up on me"
	Acknowledge the importance of regular eye appointments for diabetics	11 (22%)	"Keep my eye sight, I am diabetic and I do have a lot of problems … I definitely don't want to lose my eyesight. [I] had not kept up with appointments in the past". "Well I have diabetes now so I don't have a choice, you come back because you have a problem" "So I won't go blind..it's type 2 diabetic and I ain't try to lose my eyesight for nothing"
	Care about health in general	5 (10%)	"I'm concerned about my health, so I want to know what's going on. And I'm getting older..so I wanted to check my eyes" "I care about my health in general" "I need to stay on top of my health" "I like to know what's going on … so it's very important for me to get to my appointments because if you don't go. the matter is going to get worse"
	They want to be healthy for their family	3 (6%)	"So I'm trying to improve my quality of health because I have a six year old now" "For me I have a lot of people who depend on me … and I can't take care of [them] when I'm down"
	Family history of blindness	2 (4%)	"There's so many of us in the family's had problem with their eyes" "I don't want to go blind, my brother is like almost blind, so from him not doing what he's supposed to do"
	Encouragement from their Primary Care Provider	1 (2%)	"Well it's the fact that my primary doctor really wants me to get this, and plus diabetes is not to be played with, so and diabetes can take out any part of your body and I definitely don't want my eye to be part of it".
	Care they receive at the eye clinic	1 (2%)	"Like that you (eyecare team) care really care about how the [patient] feel"

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> …I think the parking should be better for the patients. It's difficult to park. You're in the parking lot for an hour trying to find. [parking].

> …it's so intimidating finding out where you've got to be to this place. It's not clear…where you're supposed to park and…if you are coming from a more rural area and…tend to have a bigger vehicle, you get stuck in the parking garage.

Other top challenges included scheduling conflicts (N = 25, 50%); for example, when patients had to miss work for the appointment or when the provider canceled an appointment at the last minute, as explained by a participant: "My follow up had been scheduled and I came up and was ready for it…And when I got here they told me that the doctor had decided to reschedule it". Sometimes, patients forget about their eye appointments because it was often scheduled far in advance (N = 25, 50%). Many patients with diabetes also managed other medical issues and illnesses (N = 20, 40%) that resulted in missed appointments. Insurance issues (N = 16, 32%) or financial hardship (N = 14, 28%) were other commonly cited barriers. Having caregiver responsibilities (N = 13, 26%) as stated by a participant, "I was dealing with my husband who had alcoholism. I was a caretaker for my mother, so I couldn't take care of myself" resulting in patients not being able to step away for appointments, was another barrier. Lastly, having housing insecurity (N = 3, 6%), need for accompaniment (N = 2, 4%), and food insecurity (N = 1, 2%) were also cited as barriers to eye care. The following quotes demonstrate some of the barriers:

> Right now I'm going through housing problem. I'm going to like Section 8, trying to waiting for the house to come through. I'll deal with that [then] I'll see my medical problems.

> Like I'm not seeing very well right now. If you don't have a caregiver of sorts to accompany you, that could possibly be an issue

Participants also shared what motivates them to keep their regular eye appointments. (Table 2) Many participants cited the importance of regular eye appointments for patients with diabetes (N = 11, 22%) and expressed a desire to maintain their eyesight (N =11, 22%) and health (N = 5, 10%). Some credited their primary care provider for providing counseling and encouragement (N = 1, 2%) or the excellent care they received at the eye clinic (N =1, 2%) as reasons they return. Others wanted to stay healthy for their family (N =3, 6%) and feared going blind (N = 2, 4%). These themes were captured by the following quotes:

> [It is] very important that I get the injections for my eye to keep the swelling and the bleeding down, so I came in on my own accord and made this last appointment for today

> I know the importance of it being a diabetic you have to keep an eye out for retinopathy and stuff like that

> …I want to live better, for my husband, for my children … and to myself too

Topic 2: Acceptance of Discussing SDoH in a Clinical Setting

The majority of patients felt positively about discussing SDoH at their eye appointment (N = 44, 88%). (Supplemental Table 1) Some felt strongly SDoH topics should be brought up by the doctor (N = 10, 20%), or other staff on the team such as the technician (N = 12, 24%). Some felt that it should not be the front desk staff (N = 7, 14%) due to lack of privacy, but most did not have a preference (N = 26, 52%). In terms of the timing of these questions, many participants preferred for it to take place after the appointment (N = 25, 50%). Some preferred being asked before (N = 15, 30%) or during (N = 10, 20%) the appointment, so the provider can tailor patient care and make decisions based on patients' social conditions. Most preferred to answer these questions one-on-one verbally (N = 28, 56%). The majority of patients (N = 41, 82%) felt no topics should be off limits because they know the questions are being asked to help them and they trust the healthcare team. However, some felt that questions about abuse (N = 1, 2%), relationships (N = 2, 4%) and sexual activities (N = 1, 2%) should not be asked since they are unrelated to eye care (N = 1, 2%).

Topic 3: Ideas to Address SDoH and Acceptability of Community Health Workers

Participants were asked to give their opinions on how they think barriers to eye care should be addressed. (Supplemental Table 2) Most (N = 22, 44%) felt improving communication between the eye care team and patients would be helpful. Other ideas included maintaining excellent care (N = 20, 40%), increasing access to resources (N = 18, 36%), introducing social workers (N = 16, 32%), providing free transportation (N = 14, 28%), and assisting patients with technology (N = 6, 12%).

Participants were asked to share their current knowledge of social programs to address barriers to care. (Supplemental Table 2) Most of them had no information (N = 18, 36%), some had limited to moderate (N = 26, 52%), and very few (N = 5, 10%) had extensive knowledge. Programs that patients identified addressed transportation needs, housing and food insecurities. Only 8 patients (16%) were aware of free services provided by Wilmer Eye Institute, which includes the Free Diabetes Screening clinic.[25]

The role of CHWs was explained to the participants. We described how CHWs could help with scheduling clinic appointments, connections to community resources and providing social support. Participants were enthusiastic about the idea of incorporating a CHW in an ophthalmology clinic (N = 45, 90%). (Table 3) Opinions on potential tasks of the CHW such as home visits, taking patients and involvement in acquiring resources were mixed. Some participants (N =

Table 3 Participants Opinion on the Acceptability of CHW in a Clinical Setting

Disposition/Opinion on role of community health worker in eye care	Positive: 45 (90%) Neutral: 4 (8%) NA: 1 (2%)	"I think that would be an excellent program. Some people don't like to share a lot of information so long as long as they have someone that's providing a lot of services and resources, people will really like that" "They would [like it] the position you're trying to introduce is similar to a social worker. Certain departments have social workers that helps" "Help the people you know why? Everything is done through these computers and the people we're talking about they don't know anything about these [computers]" "I don't really know anything about it"
How involved should the CHW be in acquiring resources?	Limited: 13 (26%) Moderate: 14 (28%) Extensive: 9 (18%) Mixed/Situational: 11 (22%)	"I could do it myself" "Not step by step but some guidance in the right direction" "That can go 50/50. Some people, will be very capable of handling it on [their] own…. I don't feel like nobody should be handicapped. Unless absolutely necessary" "A follow up is always essential" "It wouldn't hurt for them to stick with you" "I think that if you're an adult and you know how important something is to get it and you need help to get it and help is being offered to you in some way you should follow up on it constantly" "A lot of help they should actually sit down with them and help with the application. Not do it all with young people, they are really smart with their computer now, but my generation [is different]" "I would like help with it. Because. you can find things on the website, they might give you directions to it, But you might overlook something, I think a lot of people need assistance"
How do they feel about CHW visiting their home?	Positive: 24 (48%) Neutral or mixed: 7 (14%) Negative: 8 (16%) NA: 11 (22%)	"I don't think it's too much because the person is worried about you" "In some communities, they don't like people dropping by unexpectedly to come visit. If I believe you're trying to do me a good deed and you're coming to check on me, I wouldn't have a problem with it" "I don't want you coming to my house. Especially if it's for something like this. If you contacted me and I haven't responded that means I don't wanna be bothered"
Should the CHW take the patient to the resources?	Positive: 11 (22%) Neutral: 8 (16%) Negative: 10 (20%) NA: 21 (42%)	Limited responses "Yeah, they should help you get the glasses, right now I would have to go over and wait for somebody to see me, and then they will give me an eye chart and a paper. I have to wait two weeks to come back and get them" "Most people can do it themselves" "I don't think that the Community health worker would need to stay with them, but if they [could] guide them in the direction" "No, they are within their own community. They alright"

(*Continued*)

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Table 3 (Continued).

When should the CHW intercede during clinic visit?	Before: 13 (26%) During: 8 (16%) After: 14 (28%) Mixed: 12 (24%) NA: 3 (6%)	"If you need a social worker you ain't gonna get a visit without seeing one. It needs to be done before" "It would be better before and if there any issues that they would be aware of and make the doctor aware of during their visit" "A few days before the appointment, and if they cannot get it resolved before the appointment, your community worker knows so they'll call and say, hey, you know your appointment is coming up. I wanted to reach out, make sure you were okay" "I want to say both [times]" "I think you should do the help like after the appointment. Because you have to have the appointment to know what they need, right?" "I will say after, yes" "After your appointment, so you know what you need"
Do they trust resources present in the community?	Positive: 27 (54%) Mixed: 17 (34%) Negative: 6 (12%)	"I don't know. There's a lot of things on the Internet, so I guess if someone's assisting you and suggest different avenues forhelp. Then you can probably trust it" "If they present their background..like [if] I know who they are [and] not just some random stranger.[then yes]" "I trust the churches and firefighters. you know, yes" "Depends on what the resource is, because so many scams out there you have to do your research" "No, because in Maryland, I feel Community resources in Maryland have decreased especially in the close city areas. And they do heavily rely on institutions like Johns Hopkins and GBMC to have those things readily available for patients".

24, 48%) were in favor of home visits but 15 (30%) felt they were too intrusive or were in favor of it in certain situations. Their opinion on CHW taking patients to resources also varied. Some were in favor (N = 11, 22%), but a few felt that independence should be encouraged, and patients should approach resources themselves (N = 10, 20%).

Discussion

This prospective semi-qualitative study of patients with T2D seeking eye care at an academic facility in Baltimore City identified several social needs patients felt were barriers to seeking eye care, for example, transportation difficulties, scheduling conflicts, forgetfulness, and dealing with other illnesses. Overall, the majority of patients saw the value of and were receptive to being asked about social risk factors at their eye appointment. Most patients did not know about existing community resources. Lastly, the vast majority of patients were enthusiastic about the idea of working with a CHW to get them connected to social resources.

Differences in patient identified social needs and published social risk factors highlight the need for direct patient engagement in efforts to address adverse SDoH.[26] For example, while financial insecurity is strongly associated with lapses in care and lower eye care utilization, only a small proportion of patients recognize it as a barrier to accessing their eye care.[12,27] A barrier commonly reported by patients but not typically asked for in national surveys, is scheduling conflicts initiated by the provider.[28] For example, 50% of patients reported scheduling conflicts, but on further discussion, many of these were last minute cancellations initiated by the provider's office.

Assessment of SDoH are now a routine component of primary care visits but have not yet become commonplace in specialty clinics. Studies indicate patients are open to discussing SDoH but their willingness depends on their rapport with the provider, clarity on how the social factors impact care, and availability of resources to address the barriers.[29] Many reported they would like their doctor or clinic to ask these questions and had concerns with housing (22%), transportation (27%) and food (22%).[30,31] In our cohort, 88% responded positively to the idea of SDoH discussion during clinic visits. Some patients preferred that either the doctor or specialized staff such as social workers ask such questions but others did not have a preference. One study reported a favorable SDoH screening experience when conducted by physician assistants but not with nurse practitioners; highlighting the importance of personnel selection when approaching sensitive discussions with patients.[32] However, an important stakeholder perspective not evaluated in our study was the provider perspective. A study assessing provider perspective on SDoH collection found that the majority of providers believe social needs play a role in health quality and outcomes. Specialists believed that PCPs should be responsible for collecting and addressing these needs through a dedicated team and health system.[33,34] A study at Mayo Clinic discovered higher completion rate of SDoH screening during primary care visits compared

to specialty care visits, this may suggest a difference in priorities, training, awareness and time constraints between these healthcare settings.[35] Future interventions should incorporate the perspectives of the clinical team in addition to the patients.

Pilot programs introducing CHWs to a population have received positive feedback from participants, demonstrating high acceptability and satisfaction with CHW initiatives. These programs have improved participants' medical knowledge enabling them to better understand their health conditions and treatment options.[36] Additionally, CHWs played a role in improving access to social resources, fostering skill development and promoting self-efficacy.[37] Their cultural familiarity and close ties to the community allows them to offer emotional support and build stronger connections with patients.[38,39]

Patients have reported a great appreciation for the trusted relationship they have developed with their CHW, the range of teaching material tailored to diverse populations, and noted positive behavioral changes as a result of these interventions.[40,41] With disease-specific training, CHWs are equipped to measure blood pressure, assess vision, and navigate test results.[42] Participants in CHW based interventions have experienced improvement in health outcomes such as decrease in blood pressure and HbA1c levels, indicating adherence to treatment regimens and recommended behavioral interventions.[38,43] These experiences and interventions advocate for expansion of CHW programs across different specialties to enhance patient support, health care accessibility and wellbeing.[18]

The role of community health workers has not been extensively explored in ophthalmology. In the United States, the Manhattan Vision Screening program utilized community health workers to improve eye disease detection and specialist referral in vulnerable populations. The program resulted in high adherence to appointments and early pathology detection in 84.8% of the participants.[44] Similarly, the Philadelphia Glaucoma Detection and Treatment Project was another initiative which implemented community based intervention to improve glaucoma management.[45] Internationally, CHWs have been primarily used to increase referral to eye care providers for urgent conditions=.[19,20,46,47] These programs focus on integration of CHWs to provide eye care services in community centers to enhance eye disease detection, management, and referrals.[19,20,46,47] However, these programs did not address social barriers to care such as transportation, housing and financial insecurity which can impact access to ophthalmic care.

There are several limitations to this study. Since this was a semi-qualitative study at a single academic institution, we do not know the generalizability of our findings to other institutions. Participants were adults with diabetes who consented to this interview might not be representative of the perspectives of all patients being seen at our clinics. Future interventions will need to continually assess patient acceptance and have to continue to actively engage the communities they are seeking to help.[48]

Conclusion

This study explores the barriers to care that patients face in ophthalmology clinics, their awareness of community health care workers and acceptability of CHWs in ophthalmic care. Our findings support SDoH questioning during patient assessment and integration of CHW in ophthalmology clinics to, for example, enhance patient education, accessibility and appointment adherence.

Ethics Approval

This research project was approved by Johns Hopkins Institutional Review Board (IRB00399279). All participants provided written informed consent to participate and gave approval for quotations from their transcripts to be published. Data collected have been stored safely in an IRB approved secure folder.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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