Pre-experience Perceptions About Telemedicine Among African Americans and Latinos in South Central Los Angeles

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Abstract

*This study explores perceptions about telemedicine among urban underserved African American and Latino populations. Telemedicine has been advanced as a vehicle to increase access to specialty care among the urban underserved, yet little is known about its acceptability among these populations. We conducted 10 focus groups with African American and Latino participants (*n = *87) in urban Los Angeles in order to explore perceptions about this novel type of care. We found that concerns about telemedicine varied between the two racial/ethnic groups. These findings have implications for important issues such as adoption of telemedicine, patient satisfaction, and doctor–patient interaction. It will be critical to consider perceptions of this healthcare innovation in the development of strategies to market and implement telemedicine among urban, underserved African American and Latino populations.*

Key words: *e-health, telemedicine, policy, urban (inner city), minority(ies), qualitative methods*

Introduction

Telemedicine involves using computer, information, and telecommunications technologies to provide healthcare when the provider and care recipient are in separate geographic locations. It has been advanced as a vehicle to increase access to specialty care among the urban underserved,[1,2] yet little is known about its acceptability among minority populations. The objective of this study was to explore perceptions regarding telemedicine among African Americans and Latinos in South Central Los Angeles.

It is well documented that racial/ethnic minorities and persons who are socioeconomically disadvantaged face significant barriers to receiving basic healthcare.[3–6] African Americans and Latinos make up the largest proportion of the minority populations who experience the most severe and concentrated types of health disparities.[3–5] Much of this disparity in health is thought to be due to lack of timely access to appropriate healthcare.[6] Medically underserved populations experiencing health disparities tend to be concentrated in either inner city or rural areas. These areas are plagued by low physician-to-population ratios, limited specialty care, and healthcare facilities that suffer from overcrowding, inadequate infrastructure, and inefficient organizational structures.[3–7] South Central Los Angeles serves as a prime example of such an inner city setting, making it an excellent location for a case study.

Telemedicine has been promoted as an innovative approach to bridging the healthcare delivery gap suffered by medically underserved communities. Theoretically, telemedicine has the capacity to decrease the healthcare gap by increasing access to services for these communities. The role of telemedicine in facilitating increased access to care has traditionally been framed in terms of its ability to mitigate geographic barriers. Accordingly, remote rural communities have been the primary beneficiaries of telemedicine implementation.[7] However, limited access to appropriate medical care, particularly specialty care, is a major challenge for inner city communities as well.

Although telemedicine has the potential to redress the healthcare delivery problems of the inner city, there is little in the existing literature on telemedicine or healthcare in general that sheds light on

perceptions about telemedicine among the general population and more specifically, urban underserved populations.[8,9] In a rare study of an urban urgent care dermatology clinic, while patients generally reported high levels of satisfaction, 36% of the study sample expressed self-consciousness around the camera and 17% were uncomfortable having facial pictures taken.[10] Given that the Institute of Medicine's report on telemedicine has already identified illiteracy and distrust of technology as potential barriers to the delivery of telemedicine in urban underserved settings, it is important to assess community perceptions of this technology.[11]

There is little research on perceptions about telemedicine—pre- or post-telemedicine experience—among African American and Latino underserved populations. In one of the few studies about receptivity to telemedicine technology among an elderly minority population sample, participants were most open to technology when it could be used to improve communication with medical personnel, particularly in a medical emergency and least open when technology, such as a camera, could be used to check on the participant's status.[12] Such pre-experience perceptions will potentially shape people's initial decision to try this new technology and the contexts in which they are likely to use telemedicine services. In this study, we examined perceptions of African Americans and Latinos who have not yet experienced telemedicine to assess their willingness to try this technology. In addition to our focus on these two racial/ethnic groups, we examined differences between elders in these groups (over 65 years) and younger adults (parents of school-aged children), since these are the two groups that currently receive reimbursement for the use of telemedicine services from Medicare and Medicaid.

Methods

The research was conducted in South Central Los Angeles, a multicultural, socioeconomically disadvantaged community. The South Service Planning area (SPA 6), which encompasses South Central Los Angeles, was recently assessed to have a racial/ethnic makeup of 62.7% Hispanic, 32.4% African American, 2% white, and 2% Asian American. Nearly 28% of the population lives below the federal poverty level.[13]

We used community-based recruiting efforts, namely, the distribution of flyers in English and Spanish in community centers and public housing sites, to invite African Americans and Latinos interested in sharing their thoughts about "a new type of high tech medical clinic" to contact us. When 8–10 individuals from the priority populations (African American and Latino parents of school-aged children and seniors) responded to these efforts, focus groups were assembled in local community-based settings such as senior centers and community-based public housing sites (see *Table 1* for group composition). In total, 49% of participants (n = 43) were African American, and 51% (n = 44) were Latino. Approximately one third of parents and seniors had some high school education, and one third were high school graduates. Approximately one quarter of both groups had some college education. More seniors (18%) than parents (10%) were college graduates. Half (54%) of the parent participants were married, 36% were single, 5% were divorced, and 5% were widowed. Approximately one third (31%) of senior participants were married, 29% were single, 23% were divorced, and 17% were widowed. Half of all participants owned their own computer, and the majority of computer owners had Internet access.

Table 1. Focus Group Composition

	AFRICAN AMERICANS N = 43		LATINOS N = 44	
	GROUPS	N	GROUPS	N
Seniors (N = 37)	#1	9	#6	10
	#2	8	#7	10
Parents (N = 50)	#3	7	#8	8
	#4	9	#9	9
	#5	10	#10	7

Procedures

This study was approved by the Institutional Review Board, Charles Drew University of Medicine and Science.

After informed consent was obtained from all participants, they were asked what the word "telemedicine" meant to them to see what sorts of initial associations participants had with the word. After a 5-minute discussion, a brief video presentation—a dramatization of an actor, playing the part of a patient, receiving care for ear pain at a local telemedicine clinic—was shown to focus group participants. The five Latino groups were shown a Spanish version of the same video. In the video, the actor arrived at the clinic with ear pain that was assessed by a physician's assistant who then contacted an ear, nose, and throat (ENT) specialist using a videoconferencing link. This ENT specialist was depicted as being several miles away from the clinic, and he was able to examine the patient without being physically present in the room by using a video otoscope that transmitted images of the patient's inner ear via the Internet to the specialist.

The viewing of the video presentation was followed by the focus group interview, which concentrated on the participants' reactions to and perceptions about receiving medical care through telemedi-

cine. The second author, an experienced focus group moderator, moderated two of the groups and served as a model moderator and ongoing consultant for three research assistants (two of whom are Spanish-speaking), who moderated the remaining eight groups. All groups also had co-moderators, including the first author for two of the groups. The moderator used a semistructured interview script that covered perceived advantages and disadvantages of telemedicine, diagnoses/health conditions for which telemedicine would be appropriate, and general experiences in receiving healthcare services. The key questions from the interview script can be found in *Table 2*. Each focus group was followed by a debriefing session with all staff present to capture immediate impressions, follow up on methodological issues, and discuss ideas for subsequent focus groups.

Data Analysis

All interviews were transcribed, and all Spanish-language transcripts were translated into English by a professional transcription and translation agency. Transcripts were reviewed for accuracy and then analyzed using qualitative data analysis software (Atlas.ti). Transcripts were initially deductively coded by the second author with questions from the interview script guiding the predominant themes. These themes were summarized and discussed by the research team, and then the data underwent another level of more inductive coding to explicate the range of issues that were raised in response to each question and in combination across questions and across categorical groupings such as school-aged parents compared to elders, African American participants compared to Latino participants. Through an iterative process of immersion in the data and refining the categories, key themes and theoretical insights were identified and interpreted collaboratively by the authors.

Table 2. Focus Group Script: Interview Themes and Examples of Questions[a]

BROAD THEMES	EXAMPLE QUESTIONS
A telemedicine clinic in your community	How do you feel about it? How did you form this impression? From what particular experiences?
Perceived advantages and disadvantages of telemedicine	What are specific benefits? What are potential challenges? Would telemedicine address any specific gaps/issues you have with your present form of healthcare?
Ideal recipients of telemedicine care	Would you use telemedicine yourself? Would you recommend it to a friend? Would it be particularly suitable for older people/young children?
Conditions and context of use	For what types of health conditions would you be most comfortable using telemedicine? How often and under what conditions (e.g., weekends only) would you want to use such a clinic?

[a]These are examples of only some of the initiating questions used. Other, more probing questions were asked of participants, depending on what their responses were, in order to gain more in-depth information.

Results

While African Americans and Latinos, for the most part, perceived similar advantages of telemedicine, there were notable differences in the types of concerns they had about it (*Table 3*). However, there were no noteworthy differences between the seniors and the young parents.

ADVANTAGES OF TELEMEDICINE

For both African Americans and Latinos, there were several advantages to telemedicine as compared to their usual modes of healthcare. Most of these advantages revolved around the following: (1) reduced

Table 3. Advantages and Concerns Regarding Telemedicine for African American and Latino Participants

	ADVANTAGES	CONCERNS
African Americans	Reduced waiting time Immediate feedback Increased access to specialists Increased access to multiple medical opinions Convenience for children and the elderly	The physical absence of the physician specialist Ability to monitor the specialist's qualifications Privacy/confidentiality issues related to the presence of personal information on the Internet Adequacy of telemedicine scopes to make accurate diagnoses
Latinos	Reduced waiting time Immediate feedback Increased access to specialists Increased access to multiple medical opinions Convenience for children and the elderly Greater accuracy of diagnoses due to precision of computers Avoiding poverty-related embarrassment and in-person physician interaction	Privacy/confidentiality issues related to the presence of personal information on the Internet, to a lesser extent Adequacy of telemedicine scopes to make accurate diagnoses, to a lesser extent Concerns about whether telemedicine would be available to uninsured/undocumented

waiting time, (2) immediate feedback as to diagnosis and course of action, (3) increased access to specialists, and (4) increased access to multiple medical opinions. These advantages were discussed in all 10 of the focus groups. The four advantages were often described in combination with one another. For example, one African American participant said "You can talk to this very best specialist anywhere in the world and collaborate right on the communications system in the telemedicine program. Am I right about that? So now we're talking about a team of people who have vast experience that can help with this unusual case that's happening, and they can bring together a conclusion that will help that person that needs to be helped immediately rather than wait until you write a letter. So it could very well work."

One Latino participant said that telemedicine would be a "novelty" because "it can give you the diagnosis right away 'cause they're consulting the specialist so you can get your diagnosis instantly. I think that's good." Another Latino participant in another group said: "Science is more advanced and you will be able to see everything through the Internet...It will be like having the doctor in front of you but you won't have to go to his office. The laboratory won't take a lot of time and you will really know what you have." Saving time was a major advantage: one Latino participant said: "What I see here is that it's very favorable in terms of time. If you don't have transportation you go there and surely they can say to you, 'No, you have to go—Hold on, we're sending you to another doctor,' and off you go again with another appointment with another doctor. It's something that's very favorable."

Telemedicine's potential convenience in terms of these issues and in terms of logistics (such as location) was very appealing to both African American and Latino participants. In several focus group discussions, participants expressed interest in telemedicine because they thought that such clinics would provide easier access to care for children and the elderly. For example, a Latino participant said, "I would love something like this to open as soon as possible, because we need it. We need it for all of our children, because sometimes we take them all in when one has an appointment. You save time seeing the specialist that one of your children needs, or if another specialist is needed, you don't waste any time, you save time and see the doctor you want to see and it would be great if Medicare would pay for these services."

While the same four major advantages were discussed in all 10 of the focus groups, Latino participants also noted several additional advantages and seemed, overall, more positive and enthusiastic about the prospect of telemedicine. For example, they felt that telemedicine could potentially cut down on misdiagnoses, particularly because the computer gives "exact data." This idea of the precision of computers was raised in three of the five Latino focus groups.

TELEMEDICINE–RELATED CONCERNS

While African Americans and Latinos, for the most part, discussed similar advantages of telemedicine, there was greater variation in their discussion about concerns regarding telemedicine. African Americans in general expressed concerns about three issues: (1) the physical absence of the physician specialist; (2) the ability to monitor the specialist's qualifications with telemedicine; and (3) the use of technology and resulting privacy/confidentiality issues. While the Latino participants were substantially less concerned about these issues and in some cases felt very differently about them, they did express concerns about whether telemedicine would be made accessible to the uninsured. Both groups also expressed concerns about the adequacy of the scopes to accurately diagnose their medical condition.

Several of the African American participants' concerns about not being physically with the specialist seemed related to sensory experiences of vision and touch, that is, being unable to look into the eyes of the doctor, and/or not having the doctor be able to touch the patient. The physical absence of the physician was related to concerns about being able to assess whether "the truth" was being told to the patient; it was also related to the ability of the patient to monitor the activities of the specialist. For some, the importance of the physical presence of the specialist, particularly sight and touch, was related to the specialist's capacity to make accurate diagnoses.

Several African American participants were also concerned about verification of the absent physician's qualifications; they found it difficult to imagine that they would be able to trust someone with whom they were not familiar, or someone who might have questionable professional experience. For example, one participant said, "How many years of experience have they had? You know, some of them might not even have but 6 months, some might not even have a year. So you have to take all that into consideration because I myself don't want anyone that hasn't been in medicine over a year to be looking at me...I still prefer an experienced doctor, whether he's on telemedicine or I see him in person." There was suspicion that the physician might not be who s/he claims to be, as addressed by an African American participant: "What is the reassurance that we have that this so-called specialist that's on the screen really is what he's supposed to be?" Latino participants' discussions focused more on how they would know the qualifications of any physicians, regardless of whether or not telemedicine was used. Most often for Latino participants, knowledge of a physician's quality and qualifications came from the success of the treatment, the physician's interpersonal qualities, or other people's recommendations (including a doctor's recommendation).

For both African American and Latino participants, the technology critical to telemedicine posed some problems. On a technical level, some participants in both sets of groups discussed the possibility that the computer could go down or the system could fail. More important than this concern, however, was the possibility that information could be obtained by individuals other than those involved in the telemedicine encounter. There was discussion particularly among the African American participants that one's identity could be stolen and that one's pictures would be "floating around." The Internet was perceived as "insecure" and "for anybody." For example, one African American participant noted that "records are supposed to be a personal thing between you and your doctor, but if it's going to be on the Internet, then it's for anybody." In contrast to the African American participants, Latino participants seemed more assured that privacy would be protected, or at least they were not as concerned that privacy could not be guaranteed. One Latino participant said that the "standard ordinary person" would not even be interested in "anything scientific, and less still related to health."

Discussion

Telemedicine has been promoted as an innovative approach to bridging the healthcare delivery gap, particularly for underserved communities. While inner city minority communities could potentially benefit from this innovation, there is little in the existing literature that speaks to the acceptability of such a solution among minority populations. Studying the acceptability of technology among such populations can be extremely challenging because there are a host of important socioeconomic barriers such as education level and the geographic concentration of poverty that can act as confounders in research that assesses levels of access and use of technology among different racial/ethnic communities.[14] While we have not been able to fully address such a range of factors affecting this population, this is a preliminary effort to begin to address the topic. This is the first study, to our knowledge, that examines perceptions about telemedicine among urban underserved minority populations.

The advantages of any healthcare innovation are usually assessed by potential users relative to their current experiences of receiving care. This was true regarding telemedicine for the focus group participants of our study. Given their underserved inner city location, the study participants overwhelmingly identified timely access to care as one of the greatest relative advantages of telemedicine. For these minority groups, the larger socioeconomic context presents several barriers in terms of access to and utilization of healthcare. In the face of such conditions, telemedicine appears to provide some relatively instant solutions to issues such as the challenge of transportation to get to specialist care, lack of timely access to specialists, lack of timely diagnoses and feedback, and lack of multiple opinions in a specialist-scarce zone.

While participants in both groups perceived telemedicine as having similar relative advantages as compared to their current mode of care, they had distinctly different types and levels of concern about telemedicine. African Americans tended to identify more concerns and fewer advantages whereas Latinos had the opposite tendency. The reasons for such differences are beyond the scope of the current article.

Based on the preliminary findings presented here, it is clear that such differences require tailored approaches to the introduction and implementation of telemedicine among these different groups. It is critical to gather this group-specific information before the extensive introduction of telemedicine clinics in the community for at least three reasons. First, this information can be important for determining the best manner in which to introduce and market telemedicine among these two groups. Second, this information can be important in selecting the best ways in which to implement new telemedicine clinics. Third, these data will also serve as a baseline point of comparison for studies that will examine changes in patient perceptions over time.

Limitations

There are several important limitations to our data and study findings. First, we have a relatively small convenience sample, and our participants are not statistically representative of the wider population in inner city settings. However, as is common to qualitative methods, they represent information-rich cases, homogeneously stratified across race and age, to allow in-depth understanding of the perceptions about telemedicine among these groups. The lack of randomization may affect the generalizability of our findings to all African American and Latino populations. Another limitation is that for the majority of our participants, the only information about telemedicine came from the video we showed them. While we tried to portray telemedicine in a typical setting with a typical health problem, our participants' understanding and consequent reactions to telemedicine were clearly shaped by what they saw in the video. Finally, focus group interview data are stronger when they can be triangulated with other sources. For example, in-depth interviews could have been used to support or challenge data obtained through focus group interviews. However, given the pilot nature of this study, triangulation of these data through in-depth and survey interviews was not possible. Studies with larger samples and mixed methods will be necessary for a more comprehensive understanding of the issues touched upon in this exploratory study.

Acknowledgment

The authors acknowledge the National Center for Research Resources–funded Research Centers in Minority Institutes grant G12-RR03026 at Charles Drew University, the Agency for Healthcare Research and Quality (1R24-HS014022-01A1), the UCLA/Drew Centers of Excellence Partnerships for Community Outreach, Research on Health Disparities and Training Project (Project EXPORT) P20MD000148/P20MD000182 from the National Center on Minority Health and Health Disparities, and the Community Technology Foundation grant (2004-TT-002) for support during the research and writing of this article.

Disclosure Statement

No competing financial interests exist.

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Received: November 26, 2008
Accepted: March 25, 2009