COMMUNITY AND HEALTHCARE PERSPECTIVES ON IMPLEMENTING HYPERTENSION INTERVENTIONS FOR A MULTIETHNIC SAFETY-NET POPULATION

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Objective: To synthesize community and healthcare informants' perspectives on contextual considerations and tailoring recommendations for high-quality, sustainable implementation of evidence-based practices (EBPs) for managing hypertension (HTN) in a multiethnic safety-net population.

Design: Structured focus-group discussions and semistructured qualitative interviews.

Background: High-quality, sustainable implementation of HTN-related EBPs can promote equitable care. Implementation challenges extend beyond individual patients to span multiple levels of context. Few studies have systematically engaged community and healthcare perspectives to inform the design of HTN intervention trials.

Setting: A large safety-net healthcare system.

Participants/Methods: We conducted four structured discussions with each of five race- or ethnicity-specific community action boards (CABs) to understand community members' HTN-related norms, assets, needs, and experiences across local healthcare systems. We interviewed 41 personnel with diverse roles in our partnered healthcare system to understand the system's HTN-related strengths and needs. We solicited EBP tailoring recommendations from both groups. We summarized the findings using rapid content analysis.

Results: Participants identified contextual considerations spanning seven themes: social determinants, healthcare engagement, clinical interaction, system operations, standardization, patient education, and partnerships and funding. They offered tailoring recommendations spanning nine themes: addressing complex contexts, addressing social needs, system operations, healthcare system training and resources, linguistic and cultural tailoring, behavioral engagement, relational engagement, illness-course engagement, and community partnerships.

Conclusions: Engaging community and healthcare informants can ground implementation in the policy, community, healthcare system, clinical, and interpersonal contexts surrounding diverse patients at risk for disparities. Such grounding can reframe inequitable implementation as a multilevel social problem facing communities and healthcare systems, rather than individuals. *Ethn Dis.* 2023;DECIPHeR:68–80; doi:10.18865/ed.DECIPHeR.68

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INTRODUCTION

Hypertension (HTN), or pathologically elevated blood pressure (BP), is a key risk factor for cardiovascular disease.[1] Social, economic, cultural, and policy inequities (including unequal healthcare access and quality) have contributed to racial and ethnic disparities in HTN prevalence, awareness, treatment, and control.[2–4] Evidence-based practices (EBPs) for improving HTN detection and management exist,[5,6] but high-quality, sustainable implementation of these EBPs at scale is necessary to ensure equitable HTN care.[7–10]

Challenges to HTN EBP implementation extend beyond individual patients to include contextual factors —"the set of circumstances or unique factors that surround a particular implementation effort"[11]—at multiple levels, including health policy, community (e.g., poverty), healthcare system (e.g., care coordination), clinician (e.g., cultural congruence), and social network (e.g., peer support).[8,12] To better address contextual factors, HTN equity efforts can combine implementation science approaches with local insights gleaned through community engagement.[7,13] Few trials have systematically solicited and paired perspectives from community informants (people whose lived experiences or perspectives represent a patient population) and healthcare informants (healthcare personnel working with specific populations) to inform strategies for HTN EBP implementation. Such informants can identify contextual considerations (existing strengths and needs) and recommend tailored strategies to support implementation.[14] The high-quality, sustainable EBP implementation resulting from dialog with community members and healthcare personnel may, in turn, improve HTN outcomes and reduce disparities.

Community action boards (CABs) (also called "community advisory boards") are a formal mechanism for research projects to ensure community representation, incorporate community input, and build community capacity.[15] CABs have informed conceptualization, procedures, analysis, and dissemination for healthcare research but rarely the design of the strategies tested in trials.[16–18] While researchers have sometimes engaged patient advisory boards to guide the tailoring of patient-level interventions,[19,20] this approach may be insufficient for understanding multilevel contextual considerations. CABs represent an opportunity to gather perspectives from communities experiencing inequities on how to tailor multilevel implementation strategies.

On the healthcare side, although implementation research has long engaged clinicians, few studies have centered on safety-net institutions, or those serving uninsured, underinsured, publicly insured, and otherwise at-risk patients due to a mandate or mission to provide access for all.[21–23] Moreover, implementation research has tended to privilege physician perspectives over those of other staff such as nurses, pharmacists, and community health workers (CHWs), whose complementary patient care roles may yield distinct insights.[23] There remains a need for research that engages a diverse array of safety-net personnel on multilevel factors affecting HTN EBP implementation.

This article describes perspectives from healthcare personnel and five race- or ethnicity-specific CABs on contextual considerations and tailoring strategies for implementing HTN management EBPs in a large safety-net healthcare system. The system serves patients from a geographically and demographically diverse US county. Across 30 primary care clinic sites, the system reported 577,143 empaneled patients and 673,250 visits in 2023. With many existing HTN interventions, the system provides an opportunity to elucidate contextual strengths, needs, and opportunities for EBP implementation. This study is part of a larger implementation research endeavor that brings together community, safety-net, and academic partners to evaluate sustainable, multilevel strategies for improving BP management and reducing HTN disparities.[24]

METHODS

Implementation Framework

The Exploration, Preparation, Implementation, Sustainment (EPIS) framework guided our research. EPIS is a four-phase, multilevel model for implementing EBPs in public systems.[25,26] We describe activities in the Exploration phase (identifying needs, selecting EBPs, and assessing for adaptation) and the Preparation phase (identifying implementation determinants and further assessing for adaptation). These activities will inform EBP scale-up and long-term use during the Implementation and Sustainment phases.

The EPIS framework organizes implementation considerations into four overlapping domains: Outer Context (the organization's external environment), Inner Context (the organization's internal characteristics), Innovation Factors (EBP characteristics and fit), and Bridging Factors (reciprocal Inner-Outer connections). In our study, these domains correspond, respectively, to local communities where patients live, the partnered healthcare system and its clinics, HTN management EBPs, and system links to external partners.

Community Action Boards

We formed five race- or ethnicity-specific CABs to obtain insights into community members' HTN-related norms, assets, needs, and healthcare experiences. Each CAB consisted of 5 to 10 community members from one of the following groups: Black/African American, Chinese American, Filipino American, Korean American, and Latino/Hispanic. We defined CAB eligibility and roles and identified potential members in collaboration with (1) community partners and (2) a project steering committee encompassing community partners, healthcare system leadership, and researchers. We recruited members through requests for nominations and formal invitations that outlined eligibility, expected effort, and compensation. Eligibility criteria included being 18 years of age or older and serving as a leader, advocate, or representative from a community-based cultural, faith, or health promotion organization. Direct experience with the partnered healthcare system was not required.

CABs met quarterly; this study draws from four 1.5-hour meetings with each CAB (20 total meetings) between April 2021 and November 2022. Trained facilitators ([AS, AC, GK, MM, EN, SS, AB, and one additional facilitator]) conducted virtual (Zoom) CAB meetings in English or Spanish. To enhance congruency, facilitators for all but one of the CABs shared the participants' race or ethnicity. We recorded meetings, and notetakers transcribed participant responses. We paid CAB members $1000 per year as consultants. Each CAB meeting consisted of investigator-led capacity-building presentations and structured discussions. Table 1 shows the topics covered.

Table 1. Overview of qualitative discussion and interview guides for engaging community and healthcare system informants

CAB curriculum and discussion topics

Session 1

Agenda and curriculum
- Icebreaker (name, affiliations, community roles, and activities)
- Project and CAB goals
- Why community expertise/lived experience (1) is important insight and (2) can inform intervention development
- Introduction of HTN disparities and health impacts in the respective CAB communities
- Multilevel strategies

Structured discussion
- Q&A: project questions, logistics, and CAB member roles
- How various factors impact HTN management in participants' communities

Session 2

Agenda and curriculum
- HTN disparities in the US and population-specific local disparities (led by a chronic disease researcher)

Structured discussion
- Barriers contributing to uncontrolled HTN
- How personal, cultural, or social structures impact HTN management in participants' communities
- Successful HTN management programs seen or experienced
- Trusted community venues or resources, including potential partners for the project
- Healthcare factors, communication, and biases impacting HTN management

Session 3

Agenda and curriculum
- Potential strategies: cultural diets and physical activity (led by a healthcare system dietician and a public health researcher)

Structured discussion
- Facilitators, barriers, and cultural tailoring strategies for nutrition, diet, and physical activity interventions
- Community organizations/resources that might partner with the project

Session 4

Agenda and curriculum
- Potential intervention strategies: medication management (led by a healthcare system pharmacist)
- Review of BP informational materials

Structured discussion
- Facilitators, barriers, and cultural tailoring strategies for medication education and management interventions
- Identify community organizations/resources that help patients with medication management

Healthcare system personnel interview guide

1. To start, please describe how you and your teams provide care for patients with hypertension at [system] clinics/your clinic? (During this interview, we are interested in your perspectives on providing care to patients at [system] clinics specifically.)
2. How do you and your teams make decisions about when to use various hypertension treatments with your patients? Which do you use most often with patients at [system]?
3. How might patients' characteristics influence what is best for their hypertension care?
4. What do you think are the biggest community-level barriers to hypertension control in the service area for your [system] clinic(s)?
5. [If not already addressed] How has the COVID-19 pandemic affected the care that you and your teams provide patients with hypertension?
6. What organizations and resources are available in the communities of your [system] clinics to address social needs related to hypertension?
7. Next, I would like to ask you about leadership support (and decision support) for treating hypertension with lifestyle modifications and medication management.
8. What types of support would you and your teams find most useful for making changes in how your clinic/[system] clinics approach hypertension treatment?
9. In the next few years, what do you think can result in the greatest improvements in advancing hypertension equity among your patients? And what factors do you think pose the biggest risks for perpetuating or increasing disparities?
10. Is there anything else that you think is important to share about the topic of hypertension care at [system] clinics, especially as it relates to racial and ethnic disparities?

Healthcare Personnel Interviews

We conducted semistructured qualitative interviews with healthcare personnel to understand their perspectives on the strengths, needs, and opportunities related to HTN management in system clinics. System leadership provided a list of personnel involved in HTN care across various roles—primary care providers (PCPs), specialists involved in HTN care, nurses, medical assistants, pharmacists, and behavioral health workers (including CHWs)—and across all of the system's geographical service areas. We emailed invitations to 96 personnel. System leadership also emailed personnel about the study and encouraged participation; several additional personnel expressed interest via this channel. Eligibility criteria included being a current healthcare system employee representing a role of interest.

Between September 2021 and February 2022, we conducted 41 healthcare personnel interviews. We continued interviews until reaching saturation (i.e., additional interviews likely would not meaningfully change the findings).[27] We obtained verbal informed consent before each interview. Trained interviewers ([AD, LP, PG]) conducted interviews virtually (Microsoft Teams). Interviews lasted 30 to 45 minutes. Interviews were audio-recorded and transcribed. Afterward, interviewees received a link to a demographic survey and a $100 electronic gift card as compensation. Table 1 shows the principal questions in the interview guide. System leadership was not involved in data collection and did not have access to data or identifiable participant information.

Data Analysis

We synthesized the findings from the CAB meetings and interviews using rapid qualitative analysis, a method well-suited to quickly identifying actionable findings for implementation.[28] For each data collection encounter, we used a template based on the CAB meeting guide or interview guide to capture a summary and exemplar quotations. For CABs, we filled the template using meeting notes; for interviews, we used postinterview notes, which underwent later refinement using transcripts.

We completed a content analysis of the summaries using a Microsoft Excel matrix that permitted content comparison across sources.[29] [SC, AD, LP and PG] input summaries into the matrix, with columns representing the six data sources (interviews and five CABs) and rows representing participant-identified considerations or recommendations. [US] iteratively reviewed the matrix to identify major subthemes and overarching themes. We organized themes and subthemes according to the EPIS domains and selected representative quotes. We refined themes based on feedback from the research team, system leadership, and the steering committee.

RESULTS

Participant Characteristics

Table 2 summarizes the demographic characteristics of CAB and interview participants. The 48 CAB members represented diverse racial, ethnic, occupational, and identity groups. Most worked with populations experiencing inequity, although only three reported personally receiving safety-net healthcare. Most had previously partnered with academic research projects. Roughly two-fifths had personally experienced chronic disease. The 41 healthcare personnel were also racially and ethnically diverse. About one-half were medical providers, and one-fifth were nurses, with the remainder being divided among multiple professional disciplines. A majority bore direct responsibility for HTN treatment decisions.

Considerations for Implementation

We found seven themes across participant-identified contextual considerations for HTN EBP implementation in the partnered healthcare system, spanning all four EPIS domains. Table 3 summarizes the themes and subthemes, and Table 4 shows representative quotes. CAB members' insights reflected experiences with many local healthcare systems, not just the partnered system.

Outer Context: Local Communities Where Patients Live

1. Health Promotion and Prioritization Related to Social Determinants

Community and healthcare informants identified how patients' physical, economic, and neighborhood contexts, particularly limitations on time, money, and means, complicated the receipt and efficacy of HTN interventions. Basic needs (e.g., food, rent, and family care) often superseded medical needs. Poverty-related logistical hurdles, including long work hours, a lack of medical leave, unwalkable neighborhoods, dependence on public transit, and food insecurity, could impede HTN management. All CABs referenced the limited availability and affordability of high-quality food for safety-net populations, with several members invoking "food swamps/deserts." Multiple CABs noted how culture-specific foods or dietary practices (e.g., norms of not refusing food) became problematic when paired with mainstream US cultural factors (e.g., large standard portions) and limited guidance on low-sodium adjustments of traditional dishes.

2. Influence of Diverse Health-Related Experiences, Understandings, and Practices on Healthcare Utilization or Utility

CAB members described how misalignment between people's health-related practices and systems' HTN-focused services could hamper healthcare utilization and efficacy. Individual and cultural factors affecting healthcare uptake included denial, fatalism, norms

Table 2. Selected demographic characteristics of CAB members and healthcare system personnel

Aggregated CAB members (n=38)		Healthcare system personnel (n=41)	
Age (years)	Total (%)	**Gender**	Total (%)
18-35	4 (11%)	Female	29 (83%)
35-49	14 (37%)	Male	5 (14%)
50-65	15 (40%)	Prefer not to answer	1 (3%)
Over 65	5 (13%)	**Race/ethnicity (nonexclusive)**[a]	
Gender		Black/African American	1 (3%)
Female	23 (61%)	Chinese	5 (14%)
Male	15 (40%)	Filipino/Filipina	5 (14%)
Race or ethnicity (nonexclusive)[a]		Korean	1 (3%)
Black/African American	7 (18%)	Latino/Latina/Hispanic	9 (26%)
Chinese	8 (21%)	White/Caucasian	7 (20%)
Filipino/Filipina	8 (21%)	Middle Eastern	1 (3%)
Korean	5 (13%)	Vietnamese	1 (3%)
Latino/Latina/Hispanic	9 (24%)	Taiwanese	1 (3%)
White/Caucasian	1 (3%)	Indian	1 (3%)
Education		Asian (nonspecific)	1 (3%)
Associate's or technical degree	3 (8%)	Prefer not to answer	1 (3%)
Bachelor's degree	7 (18%)	**Professional discipline**	
High school or GED	2 (5%)	Physician	12 (34%)
Postgraduate (e.g., master's, PhD, etc.)	24 (63%)	Nurse practitioner	6 (17%)
Prefer not to answer	2 (5%)	Nurse	7 (20%)
Prior academic research partnership		Behavioral health	2 (6%)
Yes	22 (58%)	Pharmacist	4 (12%)
No	13 (34%)	CHW	1 (3%)
Unsure	3 (8%)	Health education	1 (3%)
Employment affiliations		Clerical	1 (3%)
CBO	17 (45%)	Medical assistant	1 (3%)
Local small business (e.g., barbershop)	7 (18%)	**Total experience in healthcare (years)**	
Education/schools	4 (11%)	Less than 5	5 (14%)
Safety-net healthcare	4 (11%)	5-10	8 (23%)
County public health agency	2 (5%)	11-15	6 (17%)
Faith-based organization	1 (3%)	16-20	3 (9%)
Unemployed	1 (3%)	Over 20	13 (37%)
Unknown	1 (3%)	**Work role in the system (nonexclusive)**	
Populations represented (self-identify)		Medical provider	16 (39%)
Black/African American	10 (26%)	Care team staff	10 (24%)
White/Caucasian	3 (8%)	Clinic leadership	7 (17%)
Latino/Latina	15 (40%)	System leadership	4 (10%)
Chinese	8 (21%)	Administrator	2 (5%)
Filipino/Filipina	8 (21%)	Prefer not to answer	1 (3%)
Native American	2 (5%)	**Total experience in the system (years)**	
LGBTQ	3 (8%)	Less than 5	9 (26%)
Low-income patients	13 (34%)	5-10	9 (26%)
Patients with chronic disease	9 (24%)	11-15	6 (17%)
Chronic disease (personal experience)		16-20	3 (9%)
Yes	15 (40%)	Prefer not to answer	2 (6%)
No	22 (58%)	**Responsibility for treatment decisions**	
Prefer not to say	1 (3%)	Yes	22 (63%)
Safety-net care (personal experience)		No	12 (34%)
Yes	3 (8%)		
No	33 (87%)		
Unsure	2 (5%)		

[a] In addition to the shared racial or ethnic backgrounds specific to CABs, the data reflect one member each in the African-American/Black and Chinese CABs who self-identified as Latino/Latina/Hispanic and one member in the Latino/Latina/Hispanic CAB who identified as White/Caucasian

Table 3. Community and healthcare informants' perspectives on considerations for implementing evidence-based hypertension management practices for the multiethnic patient population served by a safety-net healthcare system

Outer Context: local communities where patients live

1. Health promotion and prioritization related to social determinants
- Unmet basic needs (e.g., food, rent, and family/dependent care) superseding healthcare needs[a,b]
- Poverty- or work-related logistical hurdles (e.g., work hours, lack of leave, and public transport)[a,b]
- Neighborhood factors (e.g., safety/walkability and healthy food access)[a,b]
- Food security and guidance for tailoring cultural/familial foods[a,b]

2. Influence of diverse health-related experiences, understandings, and practices on healthcare utilization or utility
- Individual and cultural factors affecting uptake (e.g., denial, fear, self-neglect, fatalism, and HTN stigma)[a]
- Familiarity with preventive biomedicine (e.g., in relation to country-of-origin healthcare norms)[a]
- HTN-related health literacy (e.g., risk factors, racial and ethnic disparities, severity, symptoms, diagnosis, and disease development)[a]
- Medical trust and mistrust (e.g., due to fear, trauma, racism, colonialism, exclusion, errors, and mistreatment)[a,b]
- Family and social support (e.g., social/caretaking support and buy-in for household health modifications)[a,b]
- Medication-related understandings and attitudes (e.g., purpose, mechanisms, side effects, motivations, and stance toward medicalization)[a]
- Mental health and stress[a,b]

Inner Context: healthcare system and clinics

3. Clinical interaction dynamics
- Awareness of, comfort with, and training in sociocultural congruence for diverse populations[a,b]
- Patient-provider communication and mutual understanding (e.g., building trust, promoting shared decision-making, flattening power dynamics, and avoiding stereotypes/assumptions/bias)[a]
- Linguistic concordance (including interpretation service awareness, comfort, logistics, and dynamics)[a,b]

4. Healthcare system operations
- Addressing dynamic needs of medically and socially complex patients[b]
- Consistency and transparency of social needs screening and referral[b]
- Transformative power and coordination of system leadership[b]
- System-wide integration and standardization of HTN management[b]
- Consistency of staff input to system changes[b]
- Quality and performance metrics related to HTN[b]
- Electronic health record structure (in relation to HTN informatics and data on social needs)[b]
- Patient-friendly delivery adaptations (e.g., patient-language medication labels)[b]
- Ease of obtaining medications (e.g., refill processes, formulary, outside pharmacy cost)[a,b]

Innovation Factors: hypertension treatment best practices

5. Standardization
- Applicability of guidelines for addressing real-world medical and social complexities[a,b]
- BP measurement reliability (e.g., access to early diagnosis, home BP monitors, and patient/provider training for reliable diagnosis and monitoring)[a,b]
- Variation in the content of professional guidelines (e.g., across disciplines)[b]
- Variation in professional guideline application across providers or settings (e.g., PCPs vs nursing, inpatient vs outpatient, and primary vs specialty care)[b]
- Access to professional guidelines and system-specific HTN resources[b]

6. Patient education resources
- Tailored education materials (on a cultural, linguistic, or socioeconomic basis)[a,b]
- Education sessions and lifestyle resources (e.g., nutrition classes and lifestyle coaching)[b]
- Linguistic and literacy-level accessibility (e.g., nontextual and lay-language materials)[b]

Bridging Factors: healthcare system links to external partners

7. Partnerships and funding
- Heterogeneity and volatility of funding[b]
- Bureaucratic requirements for partnerships with CBOs and public agencies[b]
- Time, awareness, and infrastructure to establish or expand partnerships with CBOs and public agencies[b]
- Sustainability, capacity building, staffing, and data sharing for partnerships[b]

[a] Insight from CABs

[b] Insight from healthcare system interviews

Table 4. Representative quotations from CAB members and healthcare informants illustrating considerations for implementing evidence-based hypertension management practices for the multiethnic patient population served by a safety-net healthcare system

Outer Context: local communities where patients live
1. Health promotion and prioritization related to social determinants
Basic needs (Latino/Hispanic CAB member): "The decrease in economic status for our families or even ourselves, especially during this time in the pandemic, is what's actually contributing to uncontrolled hypertension . . . because it becomes a choice of putting food on the table and taking care of your medical needs . . . A lot of people are making that very, very hard decision to make sure that there's food on the table and paying the rent, rather than taking care of their health."
Basic needs (healthcare system social worker): "[The patient's] focus is like . . . 'Yes, you're telling me to take this medication, but I can't feed my family tonight'."
Food access (Korean American CAB member): "Someone once said, 'You can go down the street to buy drugs and a gun, but you have to take a bus to buy tomatoes'. It's like that [here]."
2. Influence of diverse health-related experiences, understandings, and practices on healthcare utilization or utility
Fatalism (Latino/Hispanic CAB member): "Many of our Latino families think that . . . there's nothing too much to do, because they will get it anyways because it runs in the family."
Inner Context: healthcare system and clinics
3. Clinical interaction dynamics
Provider assumptions (Black/African American CAB member): "As a pharmacist, I'm very well aware of medication as a part of management of hypertension. And often there is a bias I've seen. I'll speak for other pharmacists . . . or other health professionals who seem to think the patients are just not adhering to their medications, and that's why their hypertension is not controlled. And that's not necessarily the case. It's not as simple as, 'You take this tablet and your hypertension will be under control'. There are other modalities that are very important in managing hypertension, and the assumption that Black patients—I would say the kind of implicit bias is that they don't want to take the medication, that's why their blood pressure is not under control. That's an incorrect and unfair and inaccurate assumption."
Provider assumptions (Chinese American CAB member): "I've seen doctors and healthcare systems treat people like little kids 'cause they don't think they know anything. And you know, if you give them the right language, translate or [provide] an interpreter or something, you will see that that person is probably smarter than you."
Dynamics of interpretation (Latino/Hispanic CAB member): "When they receive the information from the doctor—who may have a translator—the connection with the patient about the importance of controlling blood pressure and all those medical conditions is lost. It's like the information reaches the patient as secondhand information and lacks the impact it would have coming directly from the doctor."
4. Healthcare system operations
System integration (healthcare system PCP): "There's a lot to be explored with how the system moves toward integration, particularly with both primary care and specialty care services. Because we're both seeing the same patients, but oftentimes the communication and the care is a little bit fragmented . . . as both services are still kind of siloed."
Innovation Factors: hypertension treatment best practices
5. Standardization/flexibility
Access to BP cuffs (Black/African American CAB member): "My mom has high blood pressure, so she has the machine at home, so she is able to take her blood pressure. But I hear many people . . . when they don't know, they have to get transportation to get to someplace in order to know whether their blood pressure is high or not."
6. Education materials
Linguistic tailoring (Filipino American CAB member): "There may be a lot of burden on providers and those comfortable speaking a Filipino language. Not having readily accessible materials on a public platform, there may be a lot of pressure to medical providers and families to provide care."
Accessible language (healthcare system CHW): "Some of the information that they send for the educational purposes of our patients—they might be a little bit too advanced . . . Because we have some individuals who are illiterate. They can't speak the language, one, or they can't read it or write it. And so to give them a piece of paper for educational purposes doesn't work. You really have to sit down with them . . . I think that the best way for them to learn is to teach them, because not everybody learns through reading, either."
Bridging Factors: healthcare system links to external partners
7. Partnerships and funding
Bureaucratic requirements for partnerships (healthcare system pharmacist): "I don't know about nonprofits, but for anyone to do business with [the system], it seems like there are endless hoops to jump through, more than you would expect."

valorizing silent suffering, and limited familiarity with primary care. CAB participants noted a need to improve HTN-related health literacy. Several CABs observed how traditional medicine could be quicker, less expensive, and more culturally congruent than biomedical care.

Community and healthcare informants also described factors influencing the efficacy of the HTN services that patients did access. Patient-provider trust could facilitate effective care, whereas mistrust due to personal and structural causes could pose challenges. CAB members described patients' variable comfort in advocating for themselves amid socially and historically shaped power imbalances. They also noted that social support and family participation could enhance healthcare engagement by improving system navigation, HTN-related understanding, and accountability. CABs identified many reasons for patient reluctance to take medications and linked these to opportunities for effective medication education. Both CABs and interviewees highlighted how mental health and stress could impact HTN care engagement and self-management.

Inner Context: Healthcare System and Clinics

3. Clinical Interaction Dynamics

In discussing clinical contexts, community and healthcare informants consistently identified provider behaviors, sociocultural congruence, and linguistic concordance as potential influences on HTN management. Many healthcare personnel endorsed a calling to work with diverse patient populations (which was, in some cases, even a motivating factor for safety-net employment), alongside a need for training on incorporating cultural responsiveness into medical care. CAB members emphasized how patient-provider communication and mutual understanding could build trust; promote shared decision-making; flatten power dynamics; and reduce stereotypes, assumptions, and bias. CAB and healthcare participants underscored the importance of offering HTN screening, education, and treatment in socially relevant terms. Some posited potential synergies among sociocultural congruence, healthcare access, and interpersonal rapport.

Community and healthcare informants specifically emphasized the importance of linguistic concordance. Healthcare participants considered the system's widely available interpreter services (particularly for Spanish) an asset, although some worried that unpredictable waits and limited provider familiarity could lead to suboptimal utilization. CABs and healthcare personnel also observed that even when interpretation proceeded optimally, interpretation dynamics could impact engagement and efficacy. Conversely, a CAB member ventured that community valorization of English proficiency might lead some patients to forgo an interpreter despite potential benefits. Another cautioned that different varieties or registers of English could create communication barriers for Anglophone patients as well.

4. Healthcare System Operations

Healthcare informants identified multiple operational factors affecting HTN management, highlighting the need to leverage resources to address the dynamic needs of medically and socially complex patients. Providers described how the urgency of acute conditions sometimes necessitated the deprioritization of HTN. While emphasizing that screening for unmet social needs and referral to corresponding resources happened consistently in primary care, interviewees noted that it varied in specialty settings and that post-referral outcomes sometimes remained opaque. Conversely, informants cited transformative, well-coordinated system leadership as an asset for effective implementation. Multiple interviewees underscored the importance of system-wide integration and standardization in HTN management. The electronic health record facilitated the monitoring of HTN-related quality and performance metrics but posed challenges to extracting social needs data and implementing informatics strategies for HTN diagnosis, monitoring, and decision support. Patient-friendly delivery adaptations such as Spanish-language medication labels were a potentially scalable strength. Finally, CAB members concurred with healthcare personnel that support in navigating prescription refills could influence therapy initiation and adherence.

Innovation Factors: Hypertension Treatment Best Practices

5. Practice and Resource Standardization

Community and healthcare informants identified several implementation considerations for standardizing BP measurement and clinical HTN practices. Healthcare personnel felt that HTN-related guidelines did not always account for patients' medical and social complexities, leading to trade-offs between fidelity and individualization. CAB members and interviewees agreed on the importance of access to HTN screening, BP monitors, and monitoring education. Several PCPs described difficulties in supplying home BP monitors despite system protocols for such prescriptions, and CABs echoed this as an issue across multiple healthcare systems. Healthcare personnel identified two potential sources of variation in national and system-based HTN guidelines: content variation between guidelines and the variable application of guidelines across providers and care settings (e.g., primary versus specialty care). Interviewees also noted opportunities to streamline electronic access to guidelines and system-specific HTN resources.

6. Patient Education Resources

Community and healthcare informants both underscored the importance of culturally, linguistically, and socioeconomically tailored HTN education materials. Healthcare personnel identified the system's existing HTN education sessions and lifestyle resources, available in English and Spanish, as assets with the potential for tailoring and scale-up. One CAB member explained how a lack of tailored materials could place the burden of educating patients on family members or language-concordant clinicians. CABs and interviewees also highlighted difficulties arising from the primacy of textual materials and the prominence of jargon and complex language, given the variability in English proficiency, literacy, and health literacy.

Bridging Factors: Healthcare System Links to External Partners

7. Partnerships and Funding

Healthcare informants identified several implementation factors related to partnerships and funding: the heterogeneity and volatility of funding streams; bureaucratic requirements for partnerships with community-based organizations (CBOs) and public agencies; and the time, awareness, and infrastructure (e.g., staffing or compliant data sharing) necessary for establishing or expanding such partnerships.

Recommendations

In addition to identifying contextual considerations for implementing HTN-related EBPs, community and healthcare informants provided specific recommendations for tailoring EBPs. We found nine recommendation themes spanning the four EPIS domains, as summarized in Table 5.

Recommendations for (1) *addressing complex socioeconomic and cultural contexts for health promotion* included improving the availability and accessibility of linkage to social resources and developing pragmatic health promotion guidance reflective of real-world circumstances (e.g., neighborhoods with limited walkability).

Suggested mechanisms for (2) *addressing unmet social needs* included distributing free or discounted healthy food, providing BP cuffs and measurement training, offering flexible schedules for existing health education activities, enhancing care navigation support, expanding patient-friendly service adaptations, and strengthening screening and referral for unmet social needs.

Participant-identified (3) *operational strategies* for enhancing evidence-based HTN management included securing HTN-specific grants, incorporating diverse staff input into system changes, leveraging middle-level system leadership, clarifying the integration and division of labor, and systematically scaling existing successes.

Suggestions for (4) *healthcare system training and resources* included clinically applicable cultural responsiveness training, training on systematically evaluating patients' social contexts, HTN-specific training for nonclinical staff, advanced HTN training for clinical staff, and streamlined access to electronic resources.

Recommendations for enhancing patient engagement spanned four themes. For (5) *linguistic and cultural tailoring*, participants suggested centering culturally important foods, recognizing heterogeneity within groups, linguistically tailoring, using plain language, and foregrounding social imagery and community representation. (6) *Behavioral strategies* encompassed practical dietary tips, experiential learning, enjoyable activities, role-playing and practice, and giveaways and discounts. (7) *Relational strategies* included home-based outreach, family involvement, peer support, cautiously leveraging trust in medical experts, and using social and targeted cultural media. (8) *Illness-course strategies* included emphasizing "pills and skills," delivering patient-centered medication education, recognizing the initial HTN diagnosis as a moment of receptiveness, and dividing HTN-related changes into manageable steps.

Finally, informants offered specific recommendations for (9) *community partnerships*: strengthening existing partnerships, building community capacity, and partnering with CBOs of particular types and topical interests.

DISCUSSION

Overall, our findings reframe opportunities for more equitable HTN management as a matter of communities and systems rather than individuals. Most research examining chronic disease disparities has focused on individual-level factors (e.g., patients' knowledge, attitudes, and behaviors), with less attention being devoted to broader contexts.[30,31] Adopting a socioecological approach,[8,12] our study elucidates multilevel influences spanning households, clinical personnel, healthcare systems, local communities, and health policy. As expected for a study designed to explore and plan around implementation opportunities, community and healthcare system informants identified many needs. At the same time, they identified many assets and offered recommendations for leveraging these toward equitable implementation.

HTN management guidelines increasingly acknowledge the impact of social determinants, or "the non-medical factors that influence health outcomes,"[32] but there remains a need to research and address specific social determinants affecting the implementation of HTN-related EBPs among populations experiencing disparities.[33] Our findings suggest that HTN interventions can benefit by addressing patients' basic needs and health needs in tandem given how poverty-related trade-offs and logistical hurdles hamper HTN detection, treatment, at-home management, and control. Our findings underscore the multilevel nature of cultural factors; "culture" is not a discrete characteristic of racial or ethnic minority populations but a key influence running through multiple contextual

Table 5. Community and healthcare informants' recommendations for contextual tailoring of evidence-based hypertension management practices for the multiethnic patient population served by a safety-net healthcare system

Outer Context: local communities where patients live

1. Addressing complex socioeconomic and cultural contexts for health promotion and prioritization

- Improve availability and accessibility of *linkage to public benefits, local resources, and system resources* (e.g., legal aid)[a]
- Develop *pragmatic health promotion guidance* reflective of resource limitations and real-world circumstances[a]

Inner Context: healthcare system and clinics

2. Addressing unmet social needs

- Provide access to *free or discounted healthy foods* adjacent to clinical sites and health education activities[a]
- Provide access to *BP cuffs and measurement* training for every patient with HTN[a,b]
- Offer *flexible schedules for existing health education activities* to increase participation from working patients[b]
- Strengthen *care support and coaching* (e.g., through CHWs) to help with system navigation and HTN management[a]
- Expand and leverage existing *service adaptations that account for patient social needs* (e.g., telehealth)[b]
- Strengthen *system-wide screening and referral* for unmet social needs[b]

3. Operational strategies

- Secure *dedicated grants* to fund aspects of HTN management[b]
- Incorporate *diverse staff input into the design and implementation* of new changes[b]
- Leverage the *strength of middle-level leadership* (e.g., clinic site or subspecialty leads) to promote change[b]
- Coordinate the *integration of specialties and disciplines* (including CHWs) in HTN management approaches and contributions[b]
- Clarify *division of labor across different specialties and disciplines* with regard to unique HTN management roles[b]
- Systematically identify and scale *existing local successes* within the system (e.g., nurse-directed HTN clinics at some sites)[b]

Innovation Factors: hypertension treatment best practices

4. Healthcare system training and resources

- Provide *clinically applicable cultural responsiveness training* for staff (e.g., HTN-focused rather than general)[b]
- Provide *training on systematic evaluation of patient socioeconomic and cultural contexts* for staff[a,b]
- Implement *HTN-specific training for nonmedical staff* such as CHWs to enhance support skills[b]
- Implement *advanced HTN training for nursing and medical staff* to enhance clinical skills[b]
- Increase *ease of access to electronic resources* such as documentation of the healthcare system's expected practices and national guidelines[b]

5. Engagement: linguistic and cultural tailoring

- Honor and work with the *strong tie between food and cultural identity*[a]
- Maintain *awareness that existing educational materials may center socioculturally irrelevant foods and practices*[a]
- Maintain *awareness of socioeconomic heterogeneity within racial or ethnic groups*[a]
- Undertake *linguistic tailoring* of education and interventions for patients with limited English proficiency[a,b]
- Use *plain language* to make education and interventions accessible irrespective of health literacy[a,b]
- Foreground *family or social imagery and racial or ethnic representation* in educational and interventional materials[a]

6. Engagement: behavioral strategies

- Incorporate *concrete, practical tips* (e.g., reduce sodium by moderating sauces) to make education appealing[a]
- Use *experiential dietary activities* (e.g., cooking class and ethnic grocery walkthrough) to go beyond recipes[a]
- Educate and intervene through *enjoyable social activities* such as songs, Lotería, bingo, group walks, and tai chi[a]
- Create *opportunities for role-playing and iterative practice of habits* to make changes less daunting[a]
- Use *small giveaways and discounts* to promote engagement[a]

7. Engagement: relational strategies

- Create *opportunities for outreach in the home environment*, where people may be more comfortable or receptive[a]
- Foster the *involvement of other household members* (as, e.g., advocates and accountability buddies) to enhance care[a,b]
- Leverage the strength of *peer support groups and relational aspects of programming* to enhance interventions[a]
- Thoughtfully leverage *trust in medical authority* (where present) to build engagement[a]
- Use *social media and culturally targeted media* such as ethnic television channels or publications[a]

8. Engagement: illness-course strategies

- Emphasize the *complementarity of "pills and skills*," i.e., medication management and lifestyle techniques[a]
- Implement *patient-centered medication education* on the rationale, mechanisms, side effects, and treatment expectations[a]
- Recognize the *period of initial diagnosis* as a potential window of heightened engagement[a]
- Use *subdivision of education and lifestyle change into discrete steps* to avoid overwhelming patients and families[a]
- Emphasize *gradual changes over time* to avoid patients feeling reproached or "cut off"[a]

Table 5. Continued

Bridging Factors: healthcare system links to external partners
9. Community partnerships and effective linkage • Strengthen *partnerships with CBOs* to promote access, accompaniment, and social needs support[a,b] • Build *community capacity* through interventions to ensure sustainment after the end of the initiative[a] • Partner with *CBOs focusing on specific issues*, particularly medical care access, chronic disease management, lifestyle modification, aging-related issues, and basic social needs[a,b] • Partner with *CBOs of specific types*, including race- or ethnicity-specific social groups; markets and food pantries; senior centers; leisure establishments; churches; restaurants and cafes; community clinics and traditional medicine practitioners; laundromats, carwashes, hair salons, nail salons, and other service providers; labor groups; and parks and libraries[a,b]

[a] Insight from CABs

[b] Insight from healthcare system interviews

levels and domains. From this perspective, it becomes clearer that unhealthy "cultural" diets are inextricable from structural factors such as food security and tailored nutritional education or that "preference" for traditional medicine may derive from historical access gaps rather than beliefs. Further research on social determinants among specific populations can inform (1) community-focused implementation strategies that account for HTN-related social needs and (2) healthcare-focused implementation strategies that make standardized HTN services more socioculturally congruent.

In addition to social determinants, our results pinpoint local healthcare determinants that may affect the delivery and receipt of HTN EBPs in a racially and ethnically diverse safety-net population. But considered slightly more abstractly, the healthcare-related opportunities and recommendations that we identify are hardly exclusive to one system or even the safety net; rather, they reveal ubiquitous influences that manifest in different ways in different service contexts. CAB members' observations and recommendations related to healthcare engagement, clinical dynamics, and sociocultural congruence reflect considerations for the community-led adaptation of multilevel HTN interventions. Similarly, the fact that many healthcare informants recommended strengthening existing system processes highlights how implementation challenges usually reflect opportunities to expand, standardize, and improve existing resources.

This study demonstrates the value of diverse community- and healthcare system-engaged methods for informing implementation. When researching the translation of evidence into policy and practice, implementation scientists and disparity researchers may consider soliciting perspectives from population-specific CABs and multidisciplinary healthcare personnel to better understand the contexts for implementation, including individual, community, clinical, and system factors that may impact the equitable delivery of EBPs. Pairing community and healthcare informants is a mechanism for moving "from learning healthcare systems to learning healthcare communities"[34] by obtaining a richer portrait of the assets, needs, and opportunities of socially and medically complex patient populations. It also facilitates planning for long-term sustainment considerations (e.g., financially incentivizing ongoing community-healthcare relationships) throughout the implementation process, as the EPIS framework recommends.[25,26] The funding and design of biomedical research and intervention have historically incorporated limited support for pursuing the community and healthcare system engagement that we have described despite its potential contribution to the quality and sustainability of efforts to reduce disparities. More initiatives such as the National Institutes of Health's Community Partnerships to Advance Science for Society (ComPASS)[35] can help promote such engagement across disciplines, diseases, settings, and populations.

We note four limitations. First, this article reports only community representatives' and healthcare personnel's perspectives; to more holistically inform EBP tailoring in our implementation trial, we also conducted CBO interviews and system-specific patient focus groups (to be reported separately). Second, CAB members' contributions reflect experiences in many healthcare systems, so their observations and recommendations may not apply one-to-one in our partnered healthcare system; system-specific patient focus groups will lend further nuance and clarity to CAB members' community-level perspectives on context and tailoring. Third, while healthcare informants identified many implementation strengths, the study procedures could have more explicitly solicited these alongside challenges. Fourth, our findings cannot tell us the relative weights to assign to various assets, priorities, and recommendations in the implementation planning process; determining these will require ongoing collaborative decision-making with system leadership, patients, and CABs.

CONCLUSIONS

This study leveraged the unique expertise of CAB members and healthcare personnel to elucidate contextual considerations and tailoring recommendations to support HTN EBP implementation in a large safety-net healthcare system with a strong foundation for providing care to diverse patients at risk for disparities. The findings show how engaging community and healthcare informants can ground implementation in the policy, community, healthcare system, clinical, and interpersonal contexts surrounding patients. Such contextual grounding can reframe inequitable implementation as a multilevel social problem facing communities and healthcare systems rather than individuals. Pairing CABs and healthcare personnel interviews may be a valuable approach for other implementation trials addressing HTN disparities.

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CONFLICT OF INTEREST

Sandesara, Wali, Park, and Brown: Receive salary support from the partnered healthcare system for this study.

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