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Multiethnic and Multilingual Patients' Perspectives on Hypertension Diagnosis, Education, Management, and Socioeconomic Factors Within the Safety Net



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ABSTRACT

BACKGROUND: Understanding the clinical, self-management, and resource needs of low-income, multilingual, racially and ethnically diverse safety-net patients with hypertension can guide interventions to improve outcomes in under-resourced communities.

OBJECTIVE: Explore barriers and contributors to equitable hypertension care.

DESIGN: We conducted semi-structured virtual focus groups during April 2022 to April 2023.

PARTICIPANTS: Los Angeles safety-net patients with hypertension (or their caregivers) self-identifying as Latino, Black/African American, Filipino, Korean, and Chinese were eligible; these groups had the lowest blood pressure control rates within a large public safety-net healthcare system.

APPROACH: We analyzed transcripts using reflexive thematic analysis.

RESULTS: Nine focus groups (43 hypertensive participants) across 5 racial/ethnic groups and 5 languages included three Latino ($n=13$), two Black ($n=11$), two Chinese ($n=12$), one Filipino ($n=4$), and one Korean ($n=3$) groups. Most patients (70%) received care through a large public healthcare system, 19% at FQHCs, and 6% elsewhere. Thirty-seven percent were over 65, 91% saw a doctor last year, 77% were very low-income, 72% were foreign-born, and 58% preferred a language other than English. Themes illustrate opportunities to achieve equitable hypertension care and management: (1) diagnosis acceptance (gradually processing diagnosis, risk appreciation driving self-management); (2) desire for personalized guidance (guidance needed for reducing medication concerns, preference for solution-focused care, guidance on real-world lifestyle change strategies, physical mobility/disability/mental health limiting self-care); (3) clinical factors (clinical follow-through

being primarily patient-initiated, comprehensive clinical support needs, variably accessible provider communication); and (4) community support environments (insufficient resource awareness or access, desires for social support).

CONCLUSIONS: Understanding patient experiences can lead to specific, effective, culturally appropriate multilevel interventions for patients, providers, and systems to address the multiple factors affecting hypertension management. We use our findings to outline actionable primary care strategies and case studies for multilevel interventions.

KEY WORDS: hypertension; safety-net; minority health; shared decision-making and communication; primary care

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INTRODUCTION

Social, economic, cultural, and structural inequities, including unequal access to and quality of healthcare, have contributed to racial and ethnic disparities in hypertension prevalence, awareness, treatment, control, and outcomes.^{1–3} Hypertension disparities become especially evident in resource-constrained settings, including safety-net health systems that disproportionately care for medically underserved patients. Understanding patients' lived experiences with safety-net clinical services and providers, their community-based socioeconomic and structural conditions, and the personal relationships influencing their health beliefs and behaviors can elucidate the factors shaping blood pressure self-care and clinical management. Additionally, understanding geographic and system-specific features that

influence factors shaping blood pressure self-care and clinical management is essential to ensuring that health equity interventions address relevant barriers, minimize unintended harm, and promote community- or culturally congruent strategies for high blood pressure control. Awareness of these factors is also vital for health system leaders and policy-makers who develop and coordinate programs for these populations.

Numerous qualitative studies have identified factors affecting optimal hypertension clinical care and self-management in the USA, including limited health literacy and knowledge about causes and associated uncontrolled hypertension risks; fear, limited knowledge, and stigma about medication;⁴⁻⁶ and inadequate understanding of deprescribing;^{4,6-8} ineffective provider-patient interactions;^{7,8} and social and economic barriers.^{5,9,10} However, concerns and lived experiences of low-income, multi-ethnic, multilingual, safety-net hypertensive patients regarding self-care, medical management, and community-level socioeconomic influences remain underexplored.^{1,2,3,11-13} As medical and social systems work to improve service integration, diverse patient perspectives are essential for informing clinical, personal, family, and community resource networks throughout the hypertension care continuum.

Perceptions of the hypertension diagnosis and management process can guide potential interventions to promote optimal and equitable care. This qualitative study focused on low-income individuals from diverse racial and ethnic backgrounds, most of whom prefer a language other than English. These groups were among those with the lowest rates of adequate blood pressure control within a large public safety-net healthcare system and were a focus of efforts to identify potential interventions to improve blood pressure care, services, education, and connections to community resources.¹⁴

METHODS

Approach

With the ultimate goal of identifying potential interventions to support equitable and optimal care, this study aimed to understand the lived experiences of hypertensive patients and their perceived barriers to and facilitators of clinical care, self-management, and community resources for optimal blood pressure management. Our multi-ethnic research team included five physicians with safety-net experience and numerous staff with prior qualitative research experience with safety-net populations; our professional backgrounds and personal beliefs about healthcare access and experiences naturally influenced how we interpreted participant stories and developed themes. We adopted a critical realist paradigm, which acknowledges how culture and experiences of structural and systemic barriers can shape participants'

experiences.^{15,16} We utilized community-partnered research methods,¹⁷ ensuring that our methods aligned with a large public safety-net health system's care priorities and that our focus group guide reflected early insights from community advisory boards representing the five racial and ethnic groups that supported study design.^{14,18} We used a values-based approach, which focuses on methodological congruence, reflexive openness, and embracing non-positivist assumptions to conduct and report the methods and approach described herein.¹⁹

Drawing on topics addressed in previous qualitative hypertension studies,^{4,5,7-9} perspectives of research team members (including members who provide primary care within the large public safety-net health system), and the National Institute of Minority Health and Health Disparities (NIMHD) Research Framework,²⁰ we developed a focus group guide to examine barriers and facilitators to hypertension management for safety-net patients (see Box).

Box Questions from the Focus Group Guide

Hypertension patient knowledge

1. How do you think high blood pressure affects health? What happens when blood pressure stays high or is not at the number it's supposed to be?
2. What health changes are needed when blood pressure is high? How do you get your blood pressure down?
3. What makes it hard to get your blood pressure to the number it's supposed to be?

Health system hypertension management

4. For your medical care, when you work with your medical team or doctor, what helps manage your blood pressure? What is missing from the care you receive?
5. Do you feel you are involved in decisions about your medical care? Do you feel confident making decisions with your healthcare team for your high blood pressure? Why or why not?
6. Do you explain your difficulties to your doctor or medical team when trying to manage your blood pressure?
7. Where do you typically seek care? What are the top reasons you choose to do so? Do specific clinics better meet your needs and preferences than others? Why or why not?
8. Do you feel any of the interactions you've had in the health care settings has been the result of your race/ethnicity, gender, education? How have your interactions in medical care been? Do you think that your race/ethnicity, gender, education, income, or other personal characteristics have impacted your care?

Community resources and hypertension management

9. What are some things in your community (including your neighborhood or in your culture) that could help promote healthy habits like eating healthy and exercising? What are some things in your community that could make it hard to engage in a healthy lifestyle?
10. Have you found any other programs, groups, or other people that have helped support your blood pressure or healthy habits? What additional support would help you in improving your blood pressure in your community?
11. Are there traditional (or non-medical) beliefs in your culture, your family, or your community about lowering blood pressure?

Human Subjects

The UCLA IRB approved study protocols (IRB#20-001300) with reliance from the Los Angeles County Department of Public Health IRB. We obtained verbal informed consent from all participants. Participants received a \$100 gift card.

Data Collection

From April to November 2022, we posted recruitment flyers in primary care clinics and emailed healthcare providers and community organizations to solicit patient referrals. We conducted recruitment and screening in English, Tagalog, Simplified and Traditional Chinese, Cantonese, Mandarin, and Spanish. Eligible persons included Los Angeles safety-net patients diagnosed with hypertension and their caregivers who self-identified as Latino/a/x or Hispanic American (hereafter Latino), Black or African American (hereafter Black), Filipino American (hereafter Filipino), Korean American (hereafter Korean), or Chinese American (hereafter Chinese). These groups had the lowest rates of blood pressure control within the public safety-net health system.¹⁴ For patients seen in the safety-net health system, we confirmed the hypertension diagnosis in the electronic medical record.

Each 2-h focus group, conducted and recorded via Zoom, was led by one facilitator, with a note-taker in attendance. To enhance congruence, the facilitator self-identified with the race or ethnicity of the focus group participants and spoke the language fluently. Participants completed an online pre-questionnaire on social, demographic, and clinical details.

A professional transcription service de-identified, transcribed, and translated recordings. The research team supported the study design, facilitated focus groups, took field notes, verified transcripts for accuracy, and analyzed the data.

Data Analysis

The lead author coded interview transcripts using a six-step reflexive thematic analysis process for theme development.^{21–23} Data familiarization included reading and rereading transcripts, generating notes on patterns in perspectives, and brainstorming initial coding structures in memos. The lead author systematically coded data in ATLAS.ti and used memos to record coding decisions, updates, and refinements to coding names and definitions, highlighting points for team discussion. Throughout the analysis, regular team meetings helped refine the coding structure, verify its appropriateness, incorporate team reflections, and review transcripts. The team generated initial themes from coded and collated data and developed, reviewed, and refined themes with input from health system leadership. Finally, further refinement of the organization of concepts, themes, definitions, and excerpts occurred during manuscript composition. We conducted descriptive analyses of the demographic questionnaires to summarize participants' characteristics.

As this study aimed to guide interventions to promote equitable care and optimal health, we used the findings to outline actionable primary care strategies to improve hypertension management among diverse safety-net patients.

These strategies guided several elements of a larger study (protocol published elsewhere¹⁴), which we outline and describe after the qualitative results.

RESULTS

We conducted nine focus groups with 43 participants, stratified first by race and ethnicity, and second by language preference. This included two Black groups ($n = 11$), two Chinese groups ($n = 12$), one Filipino group ($n = 4$), one Korean group ($n = 3$), and three Latino groups ($n = 13$). We held sessions in English (four groups), Spanish (two groups), Tagalog (one group), Mandarin (one group), and Cantonese (one group). Participants received primary care in the large public safety-net healthcare system (70%), community-operated Federally Qualified Health Centers (19%), and private clinics (6%). Sixteen participants (37.2%) were older than 65 years, 26 (61%) were female, 24 (77%) had very low income, 31 (72%) were born outside the USA, and 25 (58%) spoke a primary language other than English. Table 1 and the Supplemental Table display participants' demographic characteristics. For one caregiver participant, we reported the patient's demographics.

We organized qualitative findings into four organizing concepts: (1) hypertension diagnosis acceptance; (2) desire for patient-centered, solution-oriented guidance; (3) clinical factors affecting management; and (4) personal and community environments for support. Table 2 summarizes the organizing concepts, themes, and additional illustrative quotes. If applicable, quotes specify the original language.

Acceptance of Hypertension Diagnosis

Participants reported significant delays in processing and varied levels of awareness, knowledge, acceptance, understanding of severity, and motivation after receiving a hypertension diagnosis. These factors influenced their self-efficacy in managing lifestyle, medication, and clinical navigation.

A Hypertension Diagnosis Requires Gradual Processing and Acceptance. Participants reported extended processing time to accept, understand, and act upon a hypertension diagnosis. The processing delays, sometimes lasting years or decades, related to limited understanding of severity—including long-term health effects of hypertension—and were exacerbated by imperceptible symptoms. The diagnosis was frequently incidental, discovered during visits for other reasons, and necessitated multiple blood pressure readings and visits for confirmation, resulting in an implication of inconsequentiality at the point of diagnosis. Consequently, many participants did not initially recognize hypertension as a lifelong health

Table 1 Focus Group Participant Demographics and Characteristics

	All groups (n = 43)	Black/African American(n = 11, 2 sessions)	Latino American [§] (n = 13, 3 sessions)	Chinese American [¶] (n = 12, 2 sessions)	Filipino Ameri- can [†] (n = 4, 1 session)	Korean American (n = 3, 1 session)
	N (%) or mean (SD)	N (%) or mean (SD)	N (%) or mean (SD)	N (%) or mean (SD)	N (%) or mean (SD)	N (%) or mean (SD)
Primary medical care center						
Public safety-net health system clinic	30 (69.8)	11 (100)	13 (100)	1 (8.3)	4 (100)	1 (33.3)
Other federally qualified health centers	8 (18.6)	0 (0.0)	0 (0.0)	7 (58.3)	0 (0.0)	1 (33.3)
Other private clinics	5 (11.6)	0 (0.0)	0 (0.0)	4 (33.3)	0 (0.0)	1 (33.3)
Age						
25–44	7 (16.3)	3 (27.3)	3 (23.1)	0 (0.0)	0 (0.0)	1 (33.3)
45–64	20 (46.5)	7 (63.6)	7 (53.8)	5 (41.7)	0 (0.0)	1 (33.3)
65+	16 (37.2)	1 (9.1)	3 (23.1)	7 (58.3)	4 (100)	1 (33.3)
Female	26 (60.5)	5 (45.5)	9 (69.2)	9 (75.0)	2 (50.0)	1 (33.3)
Total household income in the last year						
Less than 25K	24 (55.8)	4 (36.4)	8 (61.5)	8 (66.7)	4 (100)	0 (0.0)
25 K to less 50K	9 (20.9)	3 (27.3)	1 (7.7)	3 (25.0)	0 (0.0)	2 (66.7)
More than 50 K	3 (7.0)	0 (0.0)	1 (7.7)	1 (8.3)	0 (0.0)	1 (33.3)
Prefer not to say, don't know, or not sure	7 (16.3)	4 (36.4)	3 (23.1)	0 (0.0)	0 (0.0)	0 (0.0)
Education						
Less than high school	5 (11.6)	0 (0.0)	2 (15.4)	2 (16.7)	1 (25.0)	0 (0.0)
Some high school	2 (4.7)	1 (9.1)	1 (7.7)	0 (0.0)	0 (0.0)	0 (0.0)
High school graduate or GED	12 (27.9)	5 (45.5)	5 (38.5)	1 (8.3)	1 (25.0)	0 (0.0)
Associate's or technical degree	7 (16.3)	3 (27.3)	2 (15.4)	1 (8.3)	1 (25.0)	0 (0.0)
Bachelor's degree	14 (32.6)	2 (18.2)	1 (7.7)	7 (58.3)	1 (25.0)	3 (100)
Graduate degree	2 (4.7)	0 (0.0)	1 (7.7)	1 (8.3)	0 (0.0)	0 (0.0)
Prefer not to answer	1 (2.3)	0 (0.0)	1 (7.7)	0 (0.0)	0 (0.0)	0 (0.0)
Current employment status (Check all that apply)						
Working full-time (≥ 32 h a week)	5 (10.0)	1 (9.1)	1 (7.1)	2 (11.8)	0 (0.0)	1 (33.3)
Working part-time (< 32 h a week)	11 (22.0)	2 (18.2)	3 (21.4)	4 (23.5)	1 (20.0)	1 (33.3)
Working without pay or volunteering	2 (4.0)	0 (0.0)	0 (0.0)	2 (11.8)	0 (0.0)	0 (0.0)
Unemployed	10 (20.0)	5 (45.5)	4 (28.6)	0 (0.0)	1 (20.0)	0 (0.0)
Retired from work	11 (22.0)	0 (0.0)	1 (7.1)	7 (41.2)	2 (40.0)	1 (33.3)
Staying at home, taking care of the home or others	4 (8.0)	1 (9.1)	2 (14.3)	1 (5.9)	0 (0.0)	0 (0.0)
Not able to work due to disability	5 (10.0)	1 (9.1)	3 (21.4)	0 (0.0)	1 (20.0)	0 (0.0)

Table 1 (continued)

	All groups (n = 43)	Black/African American (n = 11, 2 sessions)	Latino American [§] (n = 13, 3 sessions)	Chinese American [¶] (n = 12, 2 sessions)	Filipino Ameri- can [†] (n = 4, 1 session)	Korean American (n = 3, 1 session)
	N (%) or mean (SD)	N (%) or mean (SD)	N (%) or mean (SD)	N (%) or mean (SD)	N (%) or mean (SD)	N (%) or mean (SD)
Other	2 (4.0)	1 (9.1)	0 (0.0)	1 (5.9)	0 (0.0)	0 (0.0)
Saw a medical provider in the last 12 months	39 (90.7)	10 (90.9)	11 (84.6)	12 (100)	3 (75.0)	3 (100)
Have a blood pressure monitor at home (Answered Yes)	31 (73.8)	6 (60.0)	7 (53.8)	11 (91.7)	4 (100)	3 (100)
Routinely check blood pres- sure at home (Answered Yes)	30 (69.8)	5 (45.5)	8 (61.5)	11 (91.7)	3 (75.0)	3 (100)
Years diagnosed with hypertension						
Missing	7	0	1	6	0	0
0–2 years	8 (22.2)	4 (36.4)	2 (16.7)	2 (33.3)	0 (0.0)	0 (0.0)
3–10 years	16 (44.4)	5 (45.5)	6 (50.0)	2 (33.3)	1 (25.0)	2 (66.7)
More than 10 years	12 (33.3)	2 (18.2)	4 (33.3)	2 (33.3)	3 (75.0)	1 (33.3)
Prescribed blood pressure medications (Answered Yes)	36 (83.7)	9 (81.8)	12 (92.3)	8 (66.7)	4 (100)	3 (100)
Most recent time you've missed taking blood pressure medication						
Within the past week	10 (32.3)	5 (55.6)	5 (45.5)	0 (0.0)	0 (0.0)	0 (0.0)
1–2 weeks ago	2 (6.5)	0 (0.0)	2 (18.2)	0 (0.0)	0 (0.0)	0 (0.0)
More than 3 months ago	1 (3.2)	1 (11.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
I never skip medications	18 (58.1)	3 (33.3)	4 (36.4)	4 (100)	4 (100)	3 (100)
Other previous or current diagnoses (Check all that apply)						
Arthritis	6 (14.0)	1 (9.1)	0 (0.0)	4 (15.4)	0 (0.0)	1 (14.3)
Cancer	4 (9.3)	0 (0.0)	0 (0.0)	3 (11.5)	0 (0.0)	1 (14.3)
Chronic kidney disease	2 (4.7)	0 (0.0)	1 (7.7)	1 (3.8)	0 (0.0)	0 (0.0)
Diabetes or pre- diabetes	20 (46.5)	7 (63.6)	6 (46.2)	3 (25)	2 (50.0)	2 (66.7)
Heart attack	3 (7.0)	1 (9.1)	0 (0.0)	2 (7.7)	0 (0.0)	0 (0.0)
High cholest- erol	14 (32.6)	3 (27.3)	2 (14.3)	7 (26.9)	0 (0.0)	2 (28.6)
Stroke	4 (9.3)	0 (0.0)	1 (7.7)	2 (7.7)	1 (20.0)	0 (0.0)
Born outside the USA	31 (72.1)	0 (0.0)	12 (92.3)	12 (100)	4 (100)	3 (100)
Years lived in the USA (if born outside the USA)						
1–5 years	2 (6.5)	N/A	1 (8.3)	0 (0.0)	1 (25.0)	0 (0.0)
6–10 years	4 (12.9)	N/A	2 (16.7)	2 (16.7)	0 (0.0)	0 (0.0)
11–20 years	11 (35.5)	N/A	4 (33.3)	5 (41.7)	2 (50.0)	0 (0.0)
21+ years	14 (45.2)	N/A	5 (41.7)	5 (41.7)	1 (25.0)	3 (100)

[§]2 focus groups conducted in Spanish[¶]1 conducted in Cantonese, and 1 focus group conducted in Mandarin[†]1 focus group conducted in Tagalog

concern. Some reported believing that they could overcome hypertension, or that cures exist. One Latino participant (focus group [FG]#3, Spanish) said, “*I think it's a disease for life, I don't know.*” Genetics, fatalism, and a sense of invincibility of younger groups were barriers to acceptance, appreciation of severity, and personal connection to the diagnosis.

Risk Appreciation Driving Hypertension Self-Management. Participants demonstrating diagnosis acceptance and commitment to medication or healthy lifestyle habits regularly identified long-term risks of uncontrolled hypertension, such as stroke, heart disease, kidney disease, and other complications. Lived

Table 2 Themes, Quotes, and Actionable Practice Recommendations for Hypertension Care within Low-Income Multiethnic and Multilingual Safety Net Patients

Concept	Theme	Salient quotes	Actionable PCP practice and clinic recommendations	Case (Tbl. 3)
Acceptance of hypertension diagnosis	A hypertension diagnosis requires gradual processing and acceptance	<p>“After 20 years of living with high blood pressure, I see good results... based on teamwork and paying attention to the recommendations... [previously], I wasn't following the doctor's advice. Now I'm more focused.”—Latino (Spanish) FG#3</p> <p>“About 31 years ago... I feel like man, ain't nothing wrong with me.... [but] how I feel about it today, you know, I try to watch what I eat, and I take my medication.”—Black (FG#5)</p> <p>“I found out by accident. A lot of people don't realize it's a disease, that it's a silent killer, because they all think... we can eat, smoke, or not exercise... age is not going to catch up to us... when I found out, I was 40... I was shocked.”—Korean (FG#1)</p>	<ul style="list-style-type: none"> • Explicitly assess patient understanding and attitudes regarding hypertension and health risks for uncontrolled hypertension (e.g., using the teach-back method)⁵⁰ • Set patient expectations of chronic disease treatment plans and management (e.g., emphasizing asymptomatic nature of condition, trial-and-error nature of treatment, need for sequential appointments, anticipation of some setbacks/challenges)^{51,52} • Utilize multidisciplinary clinical support to address patient education, motivation for treatment, coaching for adherence, and social determinants (e.g., involving community health workers, nurse-titration clinics, social workers, nutritionists, and health educators).^{33,36,37} 	I, II, III
	Risk appreciation driving hypertension self-management	<p>“I discovered that I have high blood pressure after I got an aneurysm and undergone surgery, [and found] two medications that work best for my body.”—Filipino (FG#6, Tagalog)</p> <p>“I was hospitalized... my blood pressure was way too high... life-threatening... that's how I got to really come to face-to-face with my problem... now I'm just keeping it contained through medication and better lifestyle.”—Korean (FG#1)</p> <p>“If you don't help yourself... there is no way to [improve HTN]... you must read... There are a lot of details, not just about whether I sweat during exercise or how much salt I eat. When I ask the doctor questions, I don't expect a simple answer.”—Chinese FG#5, Cantonese</p>		

experiences of hypertension's health effects catalyzed and motivated hypertension management. A Black participant (FG#4) stated, “I have learned over the years with family members... suffering from high blood pressure is [a threat to] your kidneys.” Participants with such lived experiences proactively sought information on hypertension management outside primary care visits and shared practical, real-world tips for developing medication routines, finding compromises, and incorporating healthy behaviors into everyday practice (e.g., bringing healthy snacks to reduce unhealthy eating, carrying a medication case, culturally congruent care).

Desire for Patient-Centered, Solution-Based Hypertension Guidance

Participants sought practical hypertension self-care strategies for resource-constrained settings, with particular emphasis on accessibility, language translation, literacy, local availability, and cultural relevance. They also requested strategies to address additional barriers (e.g., poverty, mental health challenges, disabilities).

Patients Require Guidance to Reduce Doubts, Alleviate Uncertainty, and Build Confidence in Medication. Medication adherence barriers included limited knowledge of purpose,

Table 2 (continued)

Concept	Theme	Salient quotes	Actionable PCP practice and clinic recommendations	Case (Tbl. 3)
Desire for patient-centered, solution-based hypertension guidance	Patients require guidance to reduce doubts, alleviate uncertainty, and build confidence in their medication treatment	<p><i>"If we're able... If I could, I want to get off the medicine because it's like a chore to take medicine every day."</i>—Korean (FG#1)</p> <p><i>"Apart from prescribing medicine, it seems the doctor has no other methods to inhibit this disease... but I am not sure if the medicine will cause damage to the patient. We Chinese think every medicine has its side effects."</i>—Chinese (FG#8, Mandarin)</p> <p><i>"A pill won't cure you of the disease; it's just a sedative."</i>—Latino (FG#7, Spanish)</p>	<ul style="list-style-type: none"> ● Provide personalized, actionable guidance on medications and lifestyle strategies in real-world settings(e.g., reviewing healthy eating on SNAP, discussing low-sodium adaptations to cultural diets, encouraging chair-based or at-home/small space exercise for mobility-limited patients and those without safe neighborhood options).^{32,53,54} ● Use communication strategies that are straightforward, literacy-friendly, and patient-centered (e.g., using images, metaphors, videos, and anecdotes) ● Use multiple dissemination methods and translate patient educational materials into languages relevant to the patient population to minimize technology and language gaps in educational resources. Utilize (text, email, mailing, portal) to improve reach for patients with limited access to technology or variable educational preferences. Tailor and translate educational materials to language preferences.^{11,55,56} ● Tailor treatment plan to patient's social, economic, language, literacy, cultural, and accessibility needs(e.g., providing linguistically and culturally tailored nutrition information, avoiding presumption of literacy or health literacy, involving CHW to bridge gaps in understanding or navigation).³³ ● Provide social needs and mental health referrals, which can support overall thriving and reduce barriers to engagement and adherence.^{33,36–38} ● Clarify benefits and expectations of medications(e.g., explaining the possibility of multiple visits to find the right regimen, including patient preferences to optimize adherence and delineate any tolerable side effects).^{43,44,52} ● Reduce medication stigmas(e.g., explaining that medications are often directly derived from natural sources and can complement holistic lifestyle changes).^{43,44} ● Emphasize medication adherence for prevention of health risks(e.g., clarifying that medications are unlike pain medications in that they prevent long-term harm rather than addressing periodic or limited symptoms).^{43,44,52} ● Simplify regimens and administration to enhance adherence (e.g., offering fixed-dose combination medications and assessing patient barriers to directly counsel on leveraging mail-order, pill boxes, or medication reminder tools).^{43,44} 	I, II, III
	Patients desire solution-based care	<p><i>"The doctor prescribes medicine... But, as a patient, I am given relatively little information on what we need to do at home to complement and support our treatment. Maybe this information is out there, but we don't have easy access."</i>—Chinese (FG#5, Cantonese)</p> <p><i>"If you don't give us a list of things... that's a big downfall."</i>—Black (FG#4)</p> <p><i>"When we suffer from this disease, our challenge is to know how to control it."</i>—Latino (FG#3, Spanish)</p>		

Table 2 (continued)

Concept	Theme	Salient quotes	Actionable PCP practice and clinic recommendations	Case (Tbl. 3)
	Patients seek guidance on real-world, resource-limited lifestyle change strategies	<p>"If they can hold some lectures for my parents to attend, so that they can learn more. I know other communities have those, but mainly in English and fewer in Chinese."—Chinese (FG#5, Cantonese)</p> <p>"It would help... to say, this has this much salt... sugar... It should be broken down simpler... people won't have to fall victim of high blood pressure."—Black (FG#2)</p> <p>"Koreans are like one of the worst lifestyles as far as blood pressure is concerned because high-sodium diet and high stress in their work ethic, you know."—Korean (FG#1)</p>		
	Limited physical mobility, disability, and mental health affect self-care	<p>"Either it's work, or I'm struggling emotionally with depression, or I'm not motivated to do the exercise. And sometimes—well, I just had a knee replacement back in November, but, you know, the pain of exercising prevents me from doing exercise."—Black (FG#4)</p> <p>"Today, believe me, I didn't want to go walking... my legs were heavy. Depression."—Latino (FG#8, Spanish)</p>		
Clinical factors affecting hypertension management	Clinical follow-through relies on a patient-initiated care-seeking model	<p>"Accountability... you go to your appointment, and that's it, but [the medical team] they're not with you on a day-to-day basis. You can't check with them as often as you would like."—Black (FG#2)</p> <p>"They diagnosed me ...and prescribed me medication. They just said, 'check it,' ...they didn't tell me the numbers... In that sense, I've felt alone... I'm lost... [on] when to rush to the hospital, when to stay calm, or stand up, drink water, take another pill, or exercise, or what to do after I see that my blood pressure is too high."—Latino (FG#3, Spanish)</p> <p>"It becomes inconsistent... it's not always a doctor's face that you see... if they don't know what you've told them... everything can go down in shambles... Or if the hospitals don't share all of your medical records."—Black (FG#2)</p>	<ul style="list-style-type: none"> ● Foster care continuity and longitudinal feedback and support, including early and ongoing check-ins following diagnosis as well as long-term support through clinical and community-based referrals.^{32,33,44} ● Balance team-based care with continuity of care to prevent delays in treatment and encourage engagement (e.g., communicating proactively with subspecialists about roles, addressing hypertension during primary care visits even when subspecialists are involved).³² ● Utilize clinic-wide registries to track and notify providers of patients who have resistant or uncontrolled hypertension and guide action quality improvement initiatives.³⁹ ● Systematize strategies that enhance medication supports and adherence (e.g., standardizing combination drugs on the formulary, medication counseling or titration appointments, and providing free, clinic-distributed pill boxes and automated SMS reminder platforms).^{43,44} ● Promote standardized in-clinic blood pressure measurements for clinic staff and develop standard pathways for ordering at-home blood pressure monitors for patients. Conduct continuing education and quality improvement assessments for clinic staff conducting blood pressure measurements. Develop provider ordering guides for at-home blood pressure monitors and patient-education guides, and establish multidisciplinary support for at-home monitoring and reporting.⁴⁰⁻⁴² ● Use professional language translation services to ensure full bidirectional understanding.¹¹ 	I, II
	Comprehensive hypertension management benefits from safety-net clinical supports	<p>"My doctor... he calls me every couple of weeks, checking... they hooked me up with a diabetes nutrition specialist... I'm actually thankful."—Black (FG#4)</p> <p>"They referred me—in the same clinic—to a nurse who specialized in high blood pressure. They often monitor me for side effects... the new medication has worked out."—Latino (FG#3, Spanish)</p>		

Table 2 (continued)

Concept	Theme	Salient quotes	Actionable PCP practice and clinic recommendations	Case (Tbl. 3)
	Health literacy and accessibility of provider communication (including translation) both vary	<p>"We don't understand some stuff, like professional terms... They usually offer a translator, and the key is whether the translation... If it's good, the doctor may do a better job. If it's not good, the doctor seems to be a little annoyed."—Chinese (FG#5, Cantonese)</p> <p>"They provide somebody to help... that speaks Spanish. But the problem is that they don't speak very well... the interaction with the doctor is very difficult... a lot of doubts and everything."—Latino (FG#9)</p> <p>"Speaking your own language is most convenient."—Chinese, FG#5, Cantonese</p>		
Personal and community environments for support	Patients desire social support	<p>"Once you start to learn how to eat more healthier at home with your kids and with your spouses and stuff like that, and all of you guys are on one accord, then you can start branching out and trying to find other resources of finding healthier things to eat."—Black (FG#2)</p> <p>"To hear from other people that are going through the same thing.. and knowing that you're not alone, you're not going through this alone. I found this very helpful."—Latino (FG#9)</p>	<ul style="list-style-type: none"> • Develop and leverage connections with affordable, health-promoting resources in the local community(e.g., produce vendors that accept SNAP, eateries with healthier menu options, linking to walking clubs, recreation center classes, faith-based resources, indoor malls or tracks open for public use).^{32,53} • Promote peer, family/social support and education on hypertension, including regarding healthy habits, risks of uncontrolled hypertension, and the importance of medication adherence.^{49,57} 	I II
	Patients face lack of awareness of, poor access to, or limitations in neighborhood resources	<p>"In some of the poverty-stricken areas, start to create that, create an environment for people, I don't know if it's a park or whatever it is, where people can be more active... it would help our community, the Black community and probably the Latino... some of the areas are so bad that you can't even get out... it's a holdback, community-wise."—Black (FG#4)</p> <p>"[I] should pay attention to eating less salty food, [but] I don't know how to cook other dishes... I can't talk to the doctor either. The doctor will only give you 20 minutes."—Chinese (FG#5, Cantonese)</p> <p>"The food bank... the things that are offered there... too much sodium, the bread has no fiber... most of the people that they're giving it to are the ones that are in the high blood pressure and diabetes."—Black (FG#2)</p> <p>"They don't have programs to help with diabetes or high pressure... It just isn't [in] Spanish... in my community we don't have these programs."—Latino (FG#9)</p>		

function, and health benefits relative to potential side effects or long-term risks. Some patients expressed frustration when medications were the only option offered, especially when newly diagnosed and unsure of their importance, and desired critical risk-benefit and health-outcome information to process pharmacological options in addition to and compared with non-pharmacological options. Participants feared medication dependence, side effects, toxicity, and long-term health impacts, questioning benefits versus risks. A Chinese participant (FG#5, Cantonese) hypothetically asked, “*Are you trying to poison me to death by giving me such a high dosage?*” Participants expressed feeling inadequate when lifestyle changes proved insufficient, and medication remained necessary. Conversely, some highlighted the importance of ongoing, long-term self-advocacy in shared decision-making about medication. They stressed the importance of patient education to foster understanding that multiple medication options exist and to foster persistence, since multiple visits are often needed to identify a suitable option and manage side effects.

After receiving prescriptions, some participants were uncertain about the course length of treatment and hoped the medications were temporary. The prospect of lifelong medication overwhelmed some. A Chinese participant (FG#8, Mandarin) explained, “*The doctors didn’t say if I should take medicine all my life or not... tell me, should I cry or laugh?*” Some participants expressed skepticism about pharmaceutical profiteering, explaining, “*They make their money off of pills*” (Black, FG#4), and a desire for holistic or alternative medicine, such as herbalism and homeopathy, due to worries about medication side effects and long-term health impacts. Lastly, patients desired guidance on medication routines and best practices, as questions arose about administration (morning/evening, with/without food, and foods to avoid) and which side effects should be reported as possibly concerning.

Patients Desire Solution-Based Care. Participants expressed uncertainty about how to act on a hypertension diagnosis and requested concrete, effective strategies working for people like them. They reported that vague medication or lifestyle recommendations often resulted in delays, inaction, or unsuccessful behavior change. For example, patients requested specific parameters—such as activity type, duration, frequency, timeline, and expectations for anticipated blood pressure changes—to accompany exercise recommendations. A Chinese participant (FG#8, Mandarin) asked, “*How much exercise should one take to lower blood pressure?*”

Patients Seek Guidance on Real-World, Resource-Limited Lifestyle Change Strategies. Participants desired patient-centered guidance on hypertension-reduction strategies in formats that took into account culture, literacy, socioeconomic conditions, and language. Many found

generic recommendations impractical in the real world because they referred to costly, unavailable resources or required a complete overhaul of sociocultural lifestyles. Patients requested affordable, flexible cooking education and skill-building that aligned with locally available, healthy, culturally relevant foods. They asked for SNAP (Supplemental Nutrition Assistance Program)-eligible healthy menu suggestions, nutrition-related education, and guidance on working within lifestyle recommendations to honor socially and culturally important practices, including holidays and celebrations.

Limited Physical Mobility, Disability, and Mental Health Affect Self-Care. Personal situations hindered patients’ ability to adopt healthy habits and hypertension management, especially when generic recommendations overlooked comorbidities or functional status. Mobility issues from age, injuries, or disabilities limited lifestyle changes. Other relevant limitations included caregiving responsibilities, limited family understanding of hypertension, social isolation, substance use, and mental health issues. Health and social setbacks, such as hospitalization or unemployment, caused disappointment, insecurity, and stress. Participants wanted healthcare providers to more fully recognize the real-world complexity of managing physical and mental health conditions.

Clinical Factors Affecting Hypertension Management

Participants described medication uncertainty and clinical factors that hindered hypertension management, some of which were mitigated by healthcare system resources.

Hypertension Clinical Follow-Through Relies on a Patient-Initiated Care-Seeking Model. Participants cited limited support and desired real-time communication to facilitate diagnosis processing, lifestyle changes, and medication management in the real world, “*as opposed to waiting*” for the next appointment (Black, FG#4). They viewed multiple competing comorbidities as barriers to effective shared decision-making and patient education because of challenges in addressing both patient and provider priorities within limited appointment timeframes. Patients saw longitudinal provider relationships and proactive routine appointments as assets for shared decision-making.

Comprehensive Hypertension Management Benefits from Safety-Net Clinical Supports. Facilitators for hypertension care included provider continuity, language concordance, iterative care communication, clinical supports, and dedicated patient education options. Participants championed self-care resources, such as education on side effects and risks of non-management, and referrals to allied health professionals,

including health educators for processing diagnoses, nutritionists for understanding dietary options, nurse-led medication titration clinics for dosing appointments, and community health workers for navigation and cultural sensitivity. A Black participant (FG#4) said, *"I've been in this program now, talking to a nutritionist for at least six months... we definitely need support and resources to assist us along the way to better health. Talk to your healthcare providers, ask them, 'Hey, could you just please give me a few more minutes because... I'm not understanding this.'"* However, few participants identified examples of safety-net clinical supports beyond their physicians.

Health Literacy and Accessibility of Provider Communication (Including Translation) Both Vary. Participants who preferred a language other than English emphasized the vital role of interpreter services; however, challenges to interpretation quality remained, hindering patients' understanding of provider recommendations. A Latino (FG#7, Spanish) participant explained, *"It's not the same to have a person who speaks Spanish as it is to have an interpreter."* Even English-speaking participants described feeling intimidated as a health literacy barrier, explaining the need for lay-language communication (Latino, FG#9): *"Even if it's in your own language, many times we feel intimidated, and they just are saying a lot of stuff at us, and we're shaking our heads and agreeing and not always comprehending."*

Personal and Community Environments for Hypertension Support

Participants described limited community-based resources for healthy living and a need for social support in hypertension management.

Patients Face Lack of Awareness of, Poor Access to, or Limitations in Neighborhood Resources. Community resources and public benefits affected lifestyle adherence in low-income neighborhoods. Economic factors significantly influenced healthy eating options, gym affordability, and the ability to manage priorities that competed with one's own health (e.g., caretaking). Participants noted an abundance of fast-food options, limited grocery stores, challenges in outdoor exercise due to scarce green spaces or safety concerns, and a lack of community resources. Many emphasized the importance of location, language, and accessibility for effective resource utilization. A Latino participant (FG#3, Spanish) explained, *"Organizations... they promote outdoor exercise in the parks... Zumba... also workshops... on how to eat healthy... You have to invest in transportation and time... [which] depend on everyone's schedule and how close the resources are."* Participants viewed food banks distributing processed, unhealthy foods and fast-food restaurants accepting SNAP as impediments. They called for

free, accessible services, including food distribution centers, exercise classes, and disease management education.

Patients Desire Social Support. Participants regarded peer support as beneficial because it allowed people to discuss coping strategies for hypertension, share knowledge, promote efficiency, offer encouragement, and provide tips such as recipes or medication adherence strategies. They valued the social normalization of hypertension and the opportunity to *"share one's experience"* or *"network off each other"* (Black, FG#2). Participants described how health goals can sometimes conflict with family traditions, preferences, or routines, highlighting the importance of family or social circle buy-in and hypertension education to support normalization.

DISCUSSION

This study used semi-structured virtual focus groups to assess the clinical, self-management, and resource needs of low-income, multilingual, racially and ethnically diverse safety-net patients with hypertension in Los Angeles. We explored barriers and enablers of equitable hypertension care, with the ultimate goal of guiding interventions to improve hypertension outcomes in under-resourced communities.

Participants acknowledged that even accepting a hypertension diagnosis was often a prolonged process. They described limited understandings of risks, medications, and available support systems in both clinical and community contexts, which in turn affected patient motivation and management. Participants emphasized the need for high-quality clinical language translation and clear, literacy-friendly education. They called for clinical support, such as referrals to multidisciplinary teams, regular check-ins, and improved communication between patients and providers. They also suggested patient-centered strategies for medication adherence and lifestyle changes, tailored to language, literacy, culture, and financial factors. Their experiences demonstrated a need to improve hypertension diagnosis, communication, and ongoing education, with a focus on setting expectations and building strong therapeutic relationships among patients, providers, teams, clinics, and community resources, relevant to clinical, cultural, economic, and social contexts.

This study aimed to guide potential interventions to promote equitable care and optimal outcomes. Our findings align with prior work showing hypertension management adherence may be enhanced by greater understanding of risk; clinical supports (such as health education, medication reminders, and effective doctor-patient communication); and community-based supports (including establishing routines and social support).⁴⁵

In Table 2, column 3, we outline actionable primary care strategies—grounded in participant perspectives and supported by the cited literature—to improve hypertension

management. These strategies have guided several protocol elements in a larger research trial within the large safety-net healthcare system:¹⁴ clinical case studies tailored for safety-net patients, which were used in provider educational sessions at intervention clinics (see Table 3); culturally tailored multilingual patient education materials (publication in process);⁴⁶ a provider and patient resource guide that included workflows for home blood pressure monitor prescription and referrals to community-based social needs; and storytelling videos about patient experiences with hypertension.⁴⁶

To facilitate awareness, diagnosis, and acceptance, providers should explicitly assess patients' understanding and attitudes toward hypertension. A majority of US adults with uncontrolled hypertension are unaware of their condition, and 70.8% of those being treated have inadequate control.^{13,47} As in other studies, our participants held misconceptions or described stigmas about medication reliance, benefits, quantity, and the time course required to evaluate individual lifestyle health changes.^{48–50} Assessing understanding and attitudes can ensure that education, medication management, and lifestyle resources are relevant to patients' needs and facilitate longitudinal patient education and activation.

There remains a need for more evidence on how to promote medication and lifestyle adherence in clinical encounters,⁵¹ foster belief and motivation in one's ability to manage hypertension, and effectively access appropriate education, tools, and support within and beyond the clinic.⁵² Our participants advocated shared decision-making and greater clinician understanding of social needs, in line with principles of patient-centered care.³⁰ Our findings suggest the value of personalized, actionable care that adequately accounts for patients' understanding, language, literacy, socioeconomic status, and culture, echoing prior research showing that patient coaching and navigation with these characteristics can help mitigate hypertension.²⁷ Previous studies show that patient-physician language concordance correlates with a lower risk of cardiovascular outcomes,¹¹ as does patient income status, racial and multi-ethnic disparities, and related social determinants.^{1–3,12} For instance, patients desired comprehensive options for managing hypertension to supplement or eliminate medication. Although lifestyle interventions—including regular exercise, eating healthy, weight management, sodium reduction, limits in substance use, adequate sleep, and psychosocial support—can improve hypertension control,^{44,53} study participants noted insufficient practical information, such as how much these lifestyle changes may improve blood pressure as it relates to their personal and provider goals⁴⁴ or for implementing lifestyle changes in real-world, resource-limited settings, as previously reported elsewhere.⁴⁹ In parallel, participants emphasized that effective interventions require a patient-centered understanding of physical factors, like personal mobility, frailty, or injury; environmental aspects, such as neighborhood or home accessibility for exercise and resources; cultural considerations involving modifications to cultural diets or lifestyle factors; and economic issues, like healthy food access

and employment opportunities. As Westernized diets and behaviors increase hypertension prevalence, culturally tailored interventions are crucial for combating unhealthy habits, promoting traditional health practices, and aligning with patients' preferences,⁵³ especially as culturally relevant lifestyle coaching may improve hypertension care.⁵⁴ Our findings also underscore the value of linguistically and culturally tailored communication and navigation resources, as well as screening, referral, and resources for unmet social and mental health needs, the resolution of which can improve engagement and adherence.^{27–29,35}

Proactive clinic system best practices for hypertension management include prevalence and monitoring dashboards for hypertension, multidisciplinary teams, standardized quality assurance for blood pressure measurements, and affordable access to formularies with appropriate medications.^{27–29,36–41} Our findings support the value of registry-based monitoring and appointment tracking, standardized measurement, home blood pressure monitor prescription, streamlined medication regimens, and the use of translation, tailored education materials, and other linguistically and culturally congruent communication tools. Our participants' perspectives also underline the value of clinically based support teams, such as nurse titration clinics, health education, and nutritionists, which can encourage patient-centered decision-making and patient empowerment. Truly patient-centered care may require additional provider guidance and education alongside less diffusion of responsibility (e.g., subspecialist care).⁵⁵

Our participants advocated for access to longitudinal community resources and social supports, including friends, family, and organizations (e.g., faith-based institutions). Such access can foster healthy living and improved mental health, which can potentially reduce cardiovascular risk by mitigating social isolation.^{56,57} Given that participants sought social support for knowledge sharing, we also suggest potential interventions include strategies to build social capital and promote healthy habits within social networks.^{42,58} Integration of mental health screening into care can include referrals to stress-management classes, counseling, and assessments of challenges affecting self-care.

Finally, our findings highlight the need for more inclusive hypertension guidelines and resources. Some providers have observed that current guidelines do not adequately address the needs of diverse, low-income patients with co-occurring social and medical complexity.¹⁸ Others have cited non-inclusive patient educational materials.⁴² Our participants' perspectives suggest multiple areas for making national hypertension guidelines and resources more reflective of real-world conditions. Guidelines and resources should incorporate patients' needs within the clinic (e.g., culturally, socioeconomic, language, and literacy congruent health education, medication coaching, and systems navigation) and outside the clinic (e.g., exercise recommendations related to physical or community mobility, connection to health-promoting community resources, and culturally tailored low-cost dietary education).

Table 3 Multiethnic and Multilingual Hypertension Cases Based on Safety Net Study Patient Narratives

Case	Case narrative	Case discussion considerations
<p>Title: "I have no symptoms... I am young and healthy."</p> <p>PMH None</p> <p>Social History:</p> <p>Does not smoke, drinks 3–4 beers on weekends, no substance use</p> <p>Family History:</p> <p>Mother has Type II Diabetes, Father had HTN (died at age 54 of unknown cause)</p> <p>Exam:</p> <p>Height 5'10" Weight 195lbs BMI 28 BP 168/84, repeat 162/82 otherwise unremarkable</p>	<p>Part I: A 40-year-old Filipino man presents for the first time 1 week after an ED visit for palpitations</p> <p>At that time, the workup was unremarkable apart from a BP of 210/110, with no evidence of hypertensive emergency. The ED physician prescribed a medicine for HTN, but the patient opted not to fill it. In clinic today, BPs are 160s/80s. He has no symptoms. He is hesitant to start meds, since he feels "young and healthy." He envisions taking meds once he gets older, "since I'll need it then," but doesn't want to deal with relatives asking about it now</p> <p>Part II: After discussing the long-term effects of high BP, the patient is open to lifestyle modifications, including 30-min brisk walks 5x/week before work and monitoring salt intake. You order a BP monitor and ensure that he has reading-level-appropriate material on measuring BP. You bring him back for a nurse visit in 3 weeks, and his BP remains > 140/80 (including home measurements on his machine). Given his repeatedly elevated BP, you strongly suggest medication, which he reluctantly agrees to. You start losartan 50 mg daily and schedule a nursing clinic visit with a lab check in 2 weeks</p> <p>Part III: You see the patient again in 3 months. He is asymptomatic with a BP of 166/90. He took losartan until the prescription expired, but missed his nursing appointment because he needed an additional shift at work. His labs showed normal BMP, lipids, and A1c. Given his high BP, you recommend restarting the losartan, with repeat lab work and nursing follow-up for medication titration. He becomes frustrated, stating that he doesn't have time to attend repeated appointments/lab checks due to his work schedule and that he feels well. He is amenable to taking one pill a day, nothing more</p> <p>Part IV: You determine he has no compelling indication for losartan and agree to prescribe a 3-month supply of amlodipine to obviate the need for frequent pharmacy visits or laboratory tests. You plan an over-the-phone nurse BP review in 1 month, with his BP monitor readings, so that he does not need to leave work for an extended period</p>	<p>What are potential barriers to engaging this patient in the management of his hypertension?</p> <ul style="list-style-type: none"> → Asymptomatic nature of condition → Lack of understanding of HTN-associated risks and benefits of treatment → Stigma of chronic disease → Aversion to "sick role" → Belief that chronic diseases are conditions of older age → Social or familial influences and responsibilities <p>What are entry points for engaging the patient?</p> <ul style="list-style-type: none"> → Risks of hypertension → Lifestyle management options → General rapport-building → Familial supports and health beliefs → If there is time/rapport (or the severity of HTN calls for it), may consider broaching medications <p>What do you want the patient to know about hypertension?</p> <ul style="list-style-type: none"> → Risks/complications of uncontrolled BP → BP treatment goals → BP measurement techniques for home BP cuff <p>What additional information may be relevant?</p> <ul style="list-style-type: none"> → Other beliefs about HTN → Previous healthcare experiences → Dietary habits (including sodium intake) → Sleep quality and possible sleep apnea symptoms → Stressors and work demands → Use of supplements, over-the-counter medications, or energy drinks <p>What are his options for evidence-based non-pharmacologic treatment?</p> <ul style="list-style-type: none"> → Exercise – 150 min/week of moderate exercise → Low-sodium diet → Reduction of alcohol → Avoidance of non-steroidal anti-inflammatory medications <p>How would you use shared decision-making when recommending medication for a patient who remains reluctant to start treatment?</p> <ul style="list-style-type: none"> → Validate concerns → Solicit views about medications and commitment to daily medications → Discuss risks and benefits → Align with patient goals and motivations → Assess barriers to adherence <p>What are some potential challenges to engagement and adherence, and how can you address them?</p> <p>Frequency of monitoring may pose a burden, so think about options that may ease this burden</p> <ul style="list-style-type: none"> → Medication type → Prescription quantity/duration → Telehealth visits, if appropriate → Team-based follow-up <p>At this visit or the next, what are some things you want to share with the patient about long-term management and prognosis of hypertension?</p> <ul style="list-style-type: none"> → Since frequent monitoring may pose a burden, assess barriers, set realistic expectations, and consider options that ease the burden (e.g., telehealth, home BP monitor, family education, access to pharmacy) → Use assessment of HTN understanding and motivation for care to guide team-based follow-up → Discuss how medications work in the body and the importance of medication for health risks

Table 3 (continued)

Case	Case narrative	Case discussion considerations
Title: "But <i>Doctora</i> , the medicine makes me feel worse than the disease..."	<p>Part I: A 54-year-old Spanish-speaking woman presents for follow-up. She immigrated from Mexico 15 years ago and never had a PCP before establishing with you 6 months ago. She has a recent diagnosis of DM and hyperlipidemia. Today, you note her BP has been 140s/80s on several consecutive office visits</p> <p>Part II: You suggest a BP medication, especially given her diabetes. She says that her BP is "not that high," that she has no headache or dizziness, and that when her sister had to take BP medications, those medicines "made everything worse" by causing fatigue and leg swelling. She also mentions friends whose BP medications have caused work problems due to frequent urination. She says, "The treatment is worse than the problem," and notes that many in her friend circle and community feel uncomfortable discussing side effects with their doctors. She states that most of her friends take their BP medicines only when they have symptoms like headaches</p> <p>Part III: She feels overwhelmed by all her newly diagnosed conditions. It is difficult for her to attend appointments and laboratory tests because her husband must take time off work to accompany her. She also wonders if her BP is really a problem, since coming to the clinic makes her anxious. She eats home-cooked meals and does not think diet is an issue, nor would her family be comfortable with forgoing traditional Mexican food. She asks about holistic remedies for HTN</p>	<p>What are some of the nuances in this case?</p> <ul style="list-style-type: none"> → Medical and social complexity → Limited experience with preventive care, health systems, and role of PCP → Potential lack of medical trust/rapport → Potential lack of cultural/linguistic concordance → Potential reliance on alternative sources of health information <p>How do you begin developing a hypertension management plan that this patient will understand, feel comfortable with, and benefit from?</p> <ul style="list-style-type: none"> → Empower the patient to speak up and play an active role → Use motivational interviewing → Discuss the asymptomatic nature of HTN → Clarify the difference between preventive treatment and symptom relief → Acknowledge medication side effects → Understand medication stigmas/resistance and provide education, including how medications work in the body and the importance of reducing health risks and future complications → Approach interactions with cultural sensitivity → Avoid resignation/fatalism <p>What strategies can build trust when patients report negative experiences shared by family or community members?</p> <ul style="list-style-type: none"> → Validate experiences → Explore concerns respectfully → Explain how medications work in the body and reduce health risks → Acknowledge side effects and discuss side-effect management → Empower the patient to speak up → Encourage ongoing communication → Avoid resignation/fatalism <p>What health system-specific resources may help you?</p> <p>Which other members of the healthcare team can assist this patient in managing her BP?</p> <ul style="list-style-type: none"> → Team-based care (including via telehealth): professional medical interpreters, community health workers/promotoras de salud, nurse care managers, pharmacists for medication counseling, registered dietitians familiar with culturally relevant nutrition, behavioral health services, health educators, social workers to address barriers related to transport/scheduling/caregiving, home BP monitoring programs <p>How can dietary counseling be culturally adapted to avoid discouraging or competing with traditional foods?</p> <ul style="list-style-type: none"> → Inclusion of culturally appropriate fruits and vegetables with every meal → Portion modifications → Sodium reduction strategies → Alternative preparation methods <p>How would you discuss complementary and holistic therapies while maintaining evidence-based care?</p> <ul style="list-style-type: none"> → Explore patient beliefs → Review safety of remedies → Explain how conventional medications are often made from plants and natural sources → Encourage therapies that complement rather than replace treatment → Maintain a nonjudgmental approach <p>What issues are present in this case that also impact the patient's hypertension?</p> <ul style="list-style-type: none"> → Prioritization of immediate basic needs → Difficulty maintaining routines → Limited healthcare access → Social drivers of health → Untreated mental health conditions → Self-medication with substances
Title: "HTN is the least of my concerns..."	Part I: A 62-year-old African-American man with a history of generalized anxiety, cigarette, and alcohol use disorder has been your patient for years but only established care three months ago because "things weren't working with the other doctor." He has experienced intermittent homelessness but moved into a friend's garage apartment two months ago	

Table 3 (continued)

Case	Case narrative	Case discussion considerations
	<p>Part II: On follow-up today, his BP is 162/93. He doesn't want to start a BP med because he is worried about being dependent on meds. Now that he has stable housing, he wants to make lifestyle changes, including eating better, exercising, losing weight, and reducing alcohol and cigarettes. He admits, though, that he has felt anxious enough that he hasn't started these changes in the past 2 months, and that smoking and beer help him relax. You ask him about the use of other substances. You specifically ask about methamphetamine and cocaine (both can elevate BP and impact BP treatment options) and benzodiazepines (given his anxiety). He is not taking any other substances</p> <p>Part III: While the patient obtained a BP monitor after you ordered it during his last visit, he forgot to measure at home. He also had difficulty reading the patient education material you provided during his last visit. Reviewing his chart, you see he is consistently labeled "noncompliant" and documented as having a poor understanding of HTN</p>	<p>What reactions might you encounter when managing the patient's hypertension?</p> <p>Consider how the patient may need support, current barriers to care or self-management, and potential resources, instead of:</p> <ul style="list-style-type: none"> → Judging his substance use → Growing frustrated at lack of change → Labeling him "noncompliant" rather than digging into reasons → Focusing only on mental health issues → Repeating the same plan as 3 months ago → Giving into defeatism/fatalism <p>How would you prioritize hypertension management alongside competing medical, psychiatric, and social concerns?</p> <ul style="list-style-type: none"> → Engage in patient-centered goal-setting → Employ harm reduction approaches → Promote incremental behavior change → Address mental health and BP concurrently <p>What next steps might you take?</p> <ul style="list-style-type: none"> → Use motivational interviewing and open-ended questions to elicit concerns, challenges, supports, strengths, and other assets → Tackle anxiety and substance use together with HTN (e.g., consider a Beta-blocker or guanfacine, which are normally not first-line) → Provide non-written patient education and use the teach-back method → Make referrals to other team members for counseling and resources: <ul style="list-style-type: none"> → Health educators → Behavioral health services to address mental health, substance use, and unmet social needs → Community health workers for patient engagement, assessing home environment, and social support

LIMITATIONS

This study has limitations. First, we did not analyze or quantify differences across racial and ethnic groups because (a) we primarily aimed to identify common areas for potential interventions for safety-net patients in Los Angeles County, (b) qualitative studies are not statistically representative, and (c) recruitment varied across groups. Additionally, our findings may not apply to other groups, settings, or regions, and since participants self-selected for the study, they may not fully reflect patient groups least likely to engage in hypertension management. Finally, virtual or phone participation may have limited nonverbal cues, and social desirability bias may have affected focus group dynamics. Future research may investigate how to tailor interventions most effectively within each racial and ethnic group, and across caregivers, social support networks, or clinical providers.

CONCLUSIONS

Patient perspectives lead us to recommend a number of actionable primary care strategies that include patient-centered assessment, guidance, and communication; team-based multidisciplinary care that incorporates accurate measurement practices and clinical registries; linkage to resources for social

and mental health needs; and other strategies to ensure hypertension care accounts for socioeconomic, language, literacy, and culture. Particularly in multiracial, multi-ethnic patient populations who rely on safety-net care, such strategies can help translate evidence- and guideline-directed hypertension best practices into effective real-world management. Educational case studies can help primary care clinicians understand and test the types of strategies we recommend. Finally, hypertension care guidelines must continue to incorporate recognition of patients' diverse clinical and community needs.

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Data Availability The data supporting this study's findings are available from the corresponding author upon reasonable request.

Declarations

Human Ethics and Consent to Participate UCLA was the IRB of record and approved study protocols (IRB#20-001300) and an institutional IRB reliance was granted from the Los Angeles County Department of Public Health (LACDPH).

Clinical Trial Number Not applicable

Conflict of Interest The authors declare that they do not have a conflict of interest.

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