Local Actors' Frames of the Role of Living Conditions in Shaping Hypertension Risk and Disparities in a Colombian Municipality

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ABSTRACT *Conditions in the social and physical environment influence population health and risk for CVD, including hypertension. These environmental conditions are influenced by the decisions of public officials, community leaders, and service providers. Examining the frames that local decision makers bring to understanding hypertension can provide important insights into the decisions that they make about strategies for addressing this problem in their jurisdiction. The goal of this study was to examine the frames that local decision makers in Quibdó, Colombia, bring to understanding hypertension risk, and in particular, whether and how they use frames that encompass associations between living conditions and hypertension risk. Data for this qualitative study were collected using a stratified sampling strategy. Semi-structured interviews were conducted in 2012 with 13 local decision makers and analyzed using a framework approach. Participants linked the structural conditions experienced in Quibdó, including displacement, limited economic opportunities, and the infrastructure of the city, to hypertension risk through multiple pathways, including behavioral risk factors for hypertension and physiologic responses to stress. They described the social patterning of these factors across socioeconomic, racial/ethnic, and gender hierarchies. Although several conditions associated with hypertension risk are widely distributed in the city's population, social processes of marginalization and stratification create additional disadvantages for those on the lower rungs of the social hierarchy.*

KEYWORDS *Hypertension, Urban population, Social inequity, Social determinants of health, Colombia*

INTRODUCTION

Hypertension is the main risk factor for cardiovascular disease (CVD),¹ the leading cause of death in Colombia accounting for 133 deaths per 100,000 population annually.^{2,3} Evidence from high-income countries suggests that conditions in the social and physical environment influence population health and risk for CVD.⁴⁻⁶

These environmental conditions are, in turn, influenced by the decisions of public officials, community leaders, and service providers. These social and political leaders (henceforth, local actors) play key roles in the social and economic patterning of health through the selection of policy alternatives, allocation of public resources, and other decisions that shape living conditions, including access to protective resources and exposure to risks.⁷⁻⁹ Globally, there is increased attention to

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understanding the health implications of social and economic policies at municipal, state, and national levels.¹⁰ However, in Colombia, as in other middle- and low-income countries, there is a paucity of research on how local actors who shape these policies view the contribution of living conditions to health in their jurisdiction.

Colombian municipalities have responsibilities for public and social services, building and maintaining infrastructure, and health care and public health services.¹¹ Decisions made by municipal leaders have implications for health-protective resources, harmful exposures, and resident's vulnerability to conditions that undermine their health.^{8,12,13} People experience many of the effects of policy choices and conditions that influence their health risks, as well as the opportunities and resources that protect them against adverse health outcomes, at the local or municipal level.¹⁴ Examining the frames that local decision makers bring to explaining hypertension can help in understanding the decisions that they make about strategies for addressing this problem in their jurisdiction. Of particular interest in this study is the extent to which these local decision makers consider the health implications of policy decisions which are often considered outside the realm of "health" (e.g., distribution of resources, built environment, transportation), and which have increasingly been linked to health outcomes.¹⁰ In the following pages, we examine key themes that were identified from interviews with decision makers focused primarily on links they observed between structural conditions in the city and hypertension risk, with particular attention to themes of displacement, limited economic opportunities, and municipal infrastructure.

THEORETICAL FRAMEWORKS

This study is informed by ecological models of public health and by framing theory. Ecological models of public health make explicit the role of multiple layers of contextual factors (e.g., family dynamics, social networks, community characteristics, policy decisions)^{15,16} in shaping population health. Moreover, ecological models as proposed Galea and colleagues⁸ and Schulz and colleagues¹⁴ suggest opportunities for local actors across multiple levels to improve health. However, little research has examined whether or how local actors in Colombia explicitly connect decisions over which they have influence to opportunities for addressing hypertension, and if so, in which arenas.

Framing theorists suggest that the way a particular problem is framed will shape the options that are considered for action, the rationale for intervention, who is perceived to be responsible for addressing the problem, and ultimately, the course of action selected, as well as those that are discarded.^{17,18} For instance, to the extent that hypertension is framed as a consequence of individual health-related behaviors, interventions may focus on lifestyle modification, with responsibility for behavior change substantially left to the individual. In contrast, framing hypertension as a consequence of living conditions opens a broader range of potential interventions including, for example, modifications of the social and physical contexts in which people live. The frameworks that local actors hold may inform their actions. Frame theory suggests that frames are socially constructed, both reflecting and shaping beliefs about potential courses of action and their implications. As a result, they may serve to increase, reduce, or legitimize social disparities in health.¹⁹ In sum, a frame approach allows for the exploration of the frameworks local actors currently bring to their understanding of hypertension and a deeper understanding of the

potential to frame solutions across a full range of options suggested by an ecological model.

The literature on the use of frame analysis to understand social movements¹⁸ has proposed three core framing tasks. The *diagnostic task* refers to how the problem is defined. It attempts to identify who or what is to blame or who is responsible. This task is important because it focuses attention on one particular explanation and not others. The particular explanation (*diagnosis task*) offered will influence actors' perceptions of the potential solutions to that problem.¹⁸ Identification of potential solutions is the focus of the *prognostic task*, as well as tactics or means for achieving them.¹⁸ Finally, in public policy, the *motivational framing task* relates to the identification of those actors who should do something about the problem.²⁰ Each of these stages is informed by the previous stages, with the definition of the problem during the diagnostic task shaping the potential solutions that are identified as well as the understanding of who is responsible for enacting those solutions.

Given the importance of the diagnostic task in shaping this process, it is our focus in this paper. Specifically, the analysis presented below addresses the question "In what ways, if any, do local actors' frames regarding hypertension risk in their municipality include the role of living conditions?" The intent is to expand our understanding of the frameworks of local actors in Quibdó, a Colombian municipality characterized by a high poverty level and a growing multiethnic urban population, with a particular focus on whether and how those frames encompass associations between living conditions and hypertension risk. Our overarching goal is to inform policy interventions aimed at reducing hypertension risk in Quibdó and similar contexts in Colombia and Latin America. In particular, this study provided the foundation for a larger public health initiative that has emerged from the initial interviews; results of which are reported here. It has informed the establishment of a community-academic-governmental partnership that continues to work together to address social determinants of hypertension in Quibdó. The results presented below suggested that municipal determinants of hypertension in Quibdó involved forced displacement and its implications for social relationships in Quibdó; unplanned urban space and implications for the city's geographic and social structure; and unemployment and economic conditions in Quibdó. These results continue to guide the work of the ongoing community-academic-governmental partnership to address social determinants of cardiovascular health in the city.

METHODS

Using a critical case sampling strategy,²¹ we selected Quibdó to conduct a qualitative single-case study²² addressing the above question. This selection considered demographic, social, and epidemiological criteria. Quibdó is the capital and largest municipality of the department of Chocó, Colombia. In 2012, Quibdó's had 115,052 residents, 25 % of the population of Chocó. Ninety-two percent of Quibdó's population are blacks, and 89.5 % live below the poverty line, according to the Unmet Basic Needs Index.²³ Quibdó is the only capital city located in, and the third largest municipality of, the Colombian Pacific Coast, the sub-region with the highest prevalence of hypertension in the country (38.3 % compared to 25.5 % in Colombia as a whole).²⁴ In Quibdó, coronary heart disease and stroke, the two most important types of CVD, are the leading causes of mortality in the population aged 45 years and over (211.6 and 311.9 per 100,000, respectively).²³ Although the prevalence of hypertension in Quibdó is unknown, the high rate of mortality for

CVD and high prevalence of hypertension in the sub-region where this municipality is located suggest that hypertension is an important contributor to morbidity, disability, and mortality.

This study was reviewed by and granted exemption from IRB at the University of Michigan for Protection of Human Subjects in 2011.

Participant Recruitment and Data Collection. We used a stratified purposive sampling design²¹ to capture information on political, social and economic characteristics, resources, and potential interventions from a variety of perspectives in Quibdó. Participants were selected from four strata, each with different roles in the local policy-making process: (1) community leaders (e.g., members of neighborhood associations), (2) appointed municipal officials, (3) elected policymakers (e.g., mayors and members of the local council), and (4) health practitioners.

The first author, a local health researcher, and a fieldwork assistant compiled a list of potential participants within each of these strata, including municipal officials and policymakers appointed or elected during the periods 2004–2007, 2008–2011, and 2012–2015; health practitioners; and community leaders. Participants were then selected based on the potential richness of information they might provide about the research question through semi-structured interviews. Among those who accepted the invitation to participate, interviews were scheduled based on their availability.

The first author conducted three rounds of interviews in 2012, using a topic guide informed by the diagnostic task in framing theory (Table 1). Interviews were conducted in Spanish, the native language of Quibdó residents as well as the first author. Interviews were completed with 13 of 18 of participants invited to participate based on the identification of people from each stratum. Five interviews were not conducted due to participants' time constraints or travel schedules. Interviews lasted 60–80 min and were audio taped, transcribed verbatim, and checked by the first author for errors. Examples of the types of topics included in the topic guide used for the interviews are shown in Table 1.

Data Analysis. We analyzed the data following the five steps of the framework approach: familiarization; identification of a thematic framework; indexing; charting and mapping; and interpretation.²⁵ Familiarization involved immersion in the data by listening to tapes, reading field notes and transcripts of each interview, and listing key ideas and themes. In the second step, a thematic framework was developed based on the diagnostic framing tasks and the themes derived from the data. In the third step, indexing, the thematic framework was applied to all the data gathered. Charting, the fourth step, involved abstracting and synthesizing the data before rearranging them to create charts. The original text was referenced in order to trace the source. At this stage, the abstracted and synthesized themes were translated into English. Translation was not done earlier in the process to reduce potential distortions of meaning during the initial analytic stages. In the final analytic step, charts were used to map the nature of the phenomenon under study and identify relationships between themes to provide sufficient description and explanations for the findings.²⁵ *Nvivo10* (Doncaster, Australia: QSR International Pty Ltd) was used for managing the data including the indexing and charting.

Findings were discussed with 5 out of the 13 individuals who participated in the interviews (2 community leaders and 3 appointed municipal officials). Three

TABLE 1 Examples of the types of questions included in the topic guide

Subject	Question
Living conditions: population, environmental factors, and social services	How do you perceive are the characteristics of the population people in Quibdó?
	How do you describe the physical characteristics of the city?
	How do you describe the social characteristics of the city?
Risk and disparities in HT in Quibdó	How is the situation of HT in the city?
	Who are hypertensive in the city?
	Why, if any, living conditions contribute to the risk and differences of HT in the city and among different groups?

participants excused themselves from attending the meeting due to travel or work constraints. The reasons why the remaining five participants did not attend the meeting were unknown. The meeting with participants included a summary of preliminary results and discussion on completeness, relevance, and clarity of the findings. Results from this process have been incorporated into the findings reported below.

RESULTS

The final sample included four community leaders, four appointed municipal officials, three elected policymakers, and two health practitioners. Six participants were female and seven were male. All but three participants had post-secondary education. Seven were between 40 and 50 years old, four in the 30–40 age category, with two of undetermined age.

Based on analysis of the qualitative data, three interrelated municipal determinants were identified related to the diagnostic framing task. Specifically, participants described the following as associated with hypertension risk and disparities in Quibdó: (1) forced displacement and its implications for social relationships in Quibdó, (2) unplanned urban space and implications for the city’s geographic and social structure, and (3) unemployment and economic conditions in the city (Fig. 1). The role of these three forces as described in participant interviews is presented in the following paragraphs, followed by connections participants made between these conditions and proximal risks factor for hypertension.

Forced Displacement and Social Relationships: Living Together and Apart in a Place We Own with Others

Participants described changes in the city’s population—both size and composition—and the implications of these changes for the social composition of the city. Among the drivers of these changes was migration, primarily the forced displacement of indigenous and black communities from rural areas.

FIG. 1 Factors that influence hypertension in Quibdó according to study’ participants.

On December 25th an irregular military force displaced all families of their lands, which have been allocated to Afrocolombians [blacks]. It was hard when we arrived here [to Quibdó]. Some of us came to relatives or friends’ houses. The houses of our relatives were overcrowded and we weren’t welcomed by civil society.

Displaced people arrived in Quibdó after escaping the armed conflict in rural and isolated areas in Chocó. Many have experienced trauma due to the loss of loved ones, lands, social connections, and culture. After arriving, displaced people lived in poor conditions in crowded public spaces, relying on public assistance or donations to partially provide basic needs. In addition, they also often encountered rejection and stigmatization by residents of the city, as described by this policymaker:

The traditional people of Quibdó, like Colombians in general, have considered that these persons [displaced population] are like a plague.

Study participants often described the displaced population as unskilled, delinquents, or street sellers, and as people of rural customs who have difficulties adapting to life in the city. Some participants described members of the displaced population as perpetrators of violence, while others described them as victims. Some noted that displaced persons experienced violence both in the areas from which they had fled and in the city to which they had arrived.

Displaced people were stigmatized. They were seen as thieves, so people began to reject them. Without understanding that the displaced were victims, they were victimized [themselves].

In addition to the immigration of forcibly displaced people described above, participants also described the impact of voluntary migration into Quibdó on contemporary social relationships within the city. Voluntary migrants included people moving from rural areas or smaller cities in Chocó, as well as people from neighboring departments (e.g., Antioquia and Risaralda), into the city. Of particular concern were mestizos (called *paisas* by people of Quibdó) who came to the city looking for economic opportunities through, for example, business ownership.

These complex and shifting processes of in- and out-migration of various groups were linked to dynamic relationships between social segregation and stratification of racial/ethnic and socioeconomic groups in the city. Forcible displacement of persons from rural communities and their immigration into the city contributed to shifts in relationships between ethnic and racial groups. Dichotomized relationships between white and black racial groups, previously the norm, became an increasingly complex social and economic hierarchy that encompassed racial/ethnic background, place of origin, and possession of material resources. Participants noted that mestizos occupied the top of this pyramid, followed by long-term residents of the city (mainly blacks), displaced blacks, and indigenous residents (displaced or not). In the following section, we examine the ways that the processes of displacement and immigration, and the social hierarchies created through these dynamic processes, are reflected in the city's geographic and social structure, and the meanings ascribed to those social and geographic locations.

Unplanned Urban Space and Geographic and Social Structure: a Central and Peripheral City in the Periphery of a Centralized Country

Interviewees described Quibdó as a city that is both geographically and politically isolated, historically receiving little attention from the national government. Many shared a perception that the policies of the national government, located in the Andean region of the country, were informed by, and more relevant for, that region than for the department of Chocó, located on the Pacific coast. As one participant noted:

...the [national] government's policies have always been for the Andean region... because those who work for the [national] government are from that region and know only the dynamics of that region of the country.

The perception of being located on the periphery of political power was linked to a sense that the department's needs and interests were not always well served by national policies, including decisions related to the distribution of resources, services, and infrastructure necessary to support quality of life and economic development. This sense of marginalization was reflected as participants recounted histories of struggle that have characterized the city's efforts to gain greater recognition and access to resources distributed through the national government:

...the little we have achieved here in Quibdó and in the [department of] Chocó has been through a people's struggle. We got electrical power because there was a strike, we got telephone services because there was a strike...we got a university because of a strike, this is all evidence that we have been in complete oblivion...

Similarly, interviewees described processes of geographic and social centralization and marginalization as these were reproduced within the city itself. Historically, Quibdó grew from the Atrato River to the periphery. This geographic orientation has been, and continues to be, recognized as a marker of social stratification among city residents, with higher social status associated with locations near to the river. Migration dynamics, particularly forced displacement, and the absence of urban planning policies have reinforced processes of stratification and marginalization as the city continues to grow. In particular, displaced immigrants tend to locate in new

neighborhoods with more limited infrastructure located on the periphery of Quibdó, while longer term residents, and new migrants with greater access to resources, may locate in neighborhoods with better infrastructure and access to municipal and economic resources. In the mental maps of the city described by interviewees, Quibdó has a center and a periphery. Clear social differences were ascribed to these geographic spaces, as in the following excerpt from an interview with a policy maker:

Currently and for many years there have been new neighborhoods [in the periphery]. There are people living downtown who do not know those neighborhoods. And there are people that would not go there [into the new, peripheral neighborhoods] even if they were paid in Euros.

While the geographic boundaries between areas are not clear-cut, and are complicated by geographic and socioeconomic similarities across Quibdó, the social differences ascribed to geographic locations throughout the city were clearly part of the mental maps held by participants in this study. These carried over to opportunities for employment and economic conditions across areas of the city, as described in the following section.

Unemployment and Economic Conditions: Without Opportunities for Living with Dignity

As participants in this study discussed relationships between living conditions and hypertension, they almost invariably noted the importance of unemployment and its associated insecurities. For example:

...another thing that has exacerbated the problem of hypertension is that we are number one in Colombia in the problem of unemployment, also in violence and insecurity.

At the time these interviews were conducted, unemployment in Quibdó stood at 17.7 %, substantially higher than the 10.4 % unemployment rate experienced by Colombia as a whole.²⁶ While participants noted the effects of unemployment across all social groups, they described the particularly profound effects experienced by those with low socioeconomic position and by displaced populations. Displaced populations, in particular, were described as having few skills that match the available labor market. Participants repeatedly described the economic circumstances and the dearth of employment offering living wages as crucial explanations for the poor quality of life and the daily economic struggles for many. Reflecting these desperate economic circumstances, one participant noted that “Here, we survive (everyday) off miracles.”

High unemployment was also linked to the absence of public services. Participants noted that the lack of public services and the huge investment this infrastructure requires restricted the establishment of businesses and created challenges in attracting companies that might generate employment opportunities in the city. For example, the following quote from a participant describes the need for basic infrastructure currently unavailable to support economic development:

Who is going to provide water to you here? [If you are an investor] you have to develop a big water supply plan in order to provide water to all people that visit a mall.

In addition to the need for basic infrastructure for economic development, participants described the absence of national and local policies to promote job creation and employment opportunities. As a result, many jobs—particularly those available to members of the displaced populations—were informal or temporary positions (e.g., motorcycle taxi drivers). In contrast, formal jobs in the city were described as almost exclusively public sector (e.g., governmental) positions. Such public sector jobs were often described as under the control of politicians and frequently offered in exchange for political support. In such a system, several participants described the pressures experienced by those holding public jobs to provide support to the politicians that helped them get jobs. They also commonly feared losing their jobs with shifts in political power.

Within the context of high unemployment and a political patronage system for public jobs, interviewees described women's particular vulnerability to sexual exploitation in the labor market. One female respondent described her experience with sexual harassment in finding and keeping jobs:

I came in to present my resume and the first thing they take note of is your physique from head to toe, and excuse me for my language, they take note of your tits and your ass to see if you are good. They call you to offer you an opportunity if things happen as they'd like, and not all women are going to accept those conditions. This is also part of what happens here in Chocó, as they say very rudely you give it [sex] up to me and I'll give you the job then, and it stays like that, if you gave it up already, you need to keep giving it to keep the job.

Under such conditions, women might be forced to choose between employment and income, continued sexual harassment and exploitation, and unemployment.

Thus the themes of forced displacement and migration combined with political, social, and geographic isolation were linked with the dynamics of poor employment prospects. Displaced persons forced into the city by violence and conflict, limited infrastructure to support economic development, and labor force discrimination were clearly linked to a context in which economic vulnerability, underemployment, and unemployment are pervasive, with those most marginalized along racial/ethnic, and gender dimensions, among the most vulnerable.

Participants in this study explicitly linked these conditions to hypertension risk. These linkages are described in the following section and presented visually in Fig. 1.

Living Conditions: Shaping Behaviors and Getting under the Skin

Participants highlighted the role of living conditions in shaping dietary practices and physical activity, two behaviors for which there is good evidence of associations with hypertension.²⁷ Furthermore, they noted the role of the forces described above in shaping stress, another factor they associated with the risk of hypertension among residents of Quibdó. We discuss each of these themes below.

Living Conditions and Dietary Practices. Participants mentioned that people in Quibdó eat “a lot, bad, salty, and fatty.” They tied structural conditions in Quibdó to the availability, accessibility, and storage of staple foods. Historically, food in Quibdó has come from other regions of the country. Due to the poor road conditions and long distances from places where food products are harvested or produced, products, particularly fresh fruits and vegetables, are often of poor

quality when they arrive, and prices are high and unaffordable for most local residents. Participants noted that this situation is exacerbated by the lack of a supply center or large supermarkets in Quibdó, which contributed to difficulties in ensuring a regular supply of products.

Similarly, historical deficits of electricity, which remain an issue in some rural communities, have contributed to contemporary dietary preferences. Salted cheese, produced in the northern part of Colombia, is widely available and accessible as its high concentration of salt preserves it on the long trip to Quibdó. Fish, an available and essential food in the region, has traditionally been cured with salt.

The fish is salted and then it is put to be dried by sun, and also the meat, and then they are put it in the refrigerator.

High dietary intakes of sodium are well established as a key factor in shaping risk of hypertension.²⁷ Thus, the absence of reliable sources of fresh produce, concomitant with ready access to, and dietary preferences for, salted cheeses and salt-cured fish, together may contribute to high risk of hypertension.

Living Conditions and Physical Activity. Walking, exercising at the gym, and participating in public aerobic classes are the main types of physical activity participants mentioned as available in the city. For each of these activities, there were also barriers and facilitating factors linked to geography and social structure, displacement, and uneven employment opportunities.

Participants linked the inadequate and uneven nature of infrastructure development across neighborhoods in Quibdó to physical inactivity among residents. Neighborhood playground areas were more likely to be present in the planned areas of the city near to its center. Neighborhoods located in the periphery lacked both recreational facilities and access to transportation systems that might enable them to access playgrounds or recreational facilities. In a climate with temperatures oscillating between 25–30 °C and where frequent and intense rains occur throughout most months of the year, the absence of covered facilities is an important deterrent to physical activity.

Recognizing the importance of infrastructure to support physical activity in Quibdó, participants also described the constraints for creating such infrastructure. Particularly in the periphery, areas for building recreational and sport facilities have not been set aside and the town hall faces economic restrictions for acquiring houses or lots with the purpose of building these facilities. Some participants in this study who were responsible for making or enforcing urban planning policies expressed concerns that the acquisition of land for building public spaces (e.g., parks) in neighborhoods occupied predominantly by displaced people might interfere with the availability of these spaces. Failing to protect housing for populations in critical need might lead to legal problems for the local government or personal accusations of violations of human rights. Thus, obtaining land for recreational facilities in communities with a high demand for basic shelter offered an important challenge to efforts to improve access to these facilities in those communities.

Walking, an important form of physical activity, is constrained by the poor conditions of sidewalks and the occupation of those spaces by informal sellers. These conditions are exacerbated by the lack of traffic lights and street signs, the large number of motorcycles in the city, and frequent infractions of transit rules by drivers, with resulting safety

concerns for pedestrians. In addition to contributing to traffic congestion, participants described the public and private use of motorcycles as replacing walking as a major means of transport even for relatively short distances. For example:

...you get a motorcycle to go the governorship building, get a motorcycle to go from the market to the church, but from the market to the church there are just four blocks. So, you have to pay one thousand pesos [less than half US dollar] for four blocks.

Indoor recreational facilities offer an alternative to walking and other outdoor activities. However, although some gyms have been opened in the city, lack of economic resources is a relevant barrier for paying gym fees. As a result, access to gyms is limited for most parts of the population:

Gyms? There are gyms, but who goes there is who has the money to pay; who has the exercise habit and the money to pay...

Thus, residents of Quibdó confront substantial challenges to efforts to maintain an active lifestyle. As with other resources, both the distribution of indoor recreational spaces and their cost prevent many members of the population, particularly those with restricted incomes, from accessing spaces that support physical activity.

Stress and Social Hierarchy. In addition to the conditions that influence both dietary practices and physical activity, participants described stressful life conditions as a factor contributing to hypertension:

So yeah, I think my stress led to me having hypertension.

While participants described stress as affecting everyone, everywhere, they also noted differences in the sources of stress and stressful experiences across social groups. Participants noted that the lack of job opportunities is the most important and common stressor associated with hypertension for the population of Quibdó, and may be particularly important for those who are most marginalized. Other stressors participants cited included the limited opportunities for having a good quality of life, defined by one participant as the possibility that:

...each person has a decent house, education, and basic public services.

Food insecurity was also cited by participants as an ongoing source of stress for poor families.

People of Quibdó, can be stressed for many reasons: the lack of a decent job, (thinking) about how to get the daily bread for his/her family. That is stressful.

Additional stressors mentioned by the participants were the high levels of noise, traffic congestion, and safety concerns in some neighborhoods. Poor public services were also stressful, as residents experienced challenges associated with access to resources necessary for daily living:

...after three days without rains, it is a terrible problem for the general population. It is stressful; people get desperate because there is no rainwater.

For displaced people, the trauma of the displacement, memories of lost land, family members and friends, disruption of family and community, reception and treatment received after arriving to Quibdó, stigmatization and marginalization, and difficulties adapting to the city all contribute to profound stress, taking a substantial physical as well as emotional toll.

The experiences faced by displaced persons from indigenous communities—a subset of those who have been displaced—are profound. The failure of non-indigenous people to recognize these stressors may be linked to cultural differences in the expression of stress, coping mechanisms that emphasize spiritual or other less visible forms of coping, and by language barriers that constrain the communication of stress. These failures are exemplified by an excerpt from a local leader, who stated “...indigenous people do not have many concerns.”

Regardless of their socioeconomic condition, participants noted that black women face additional stressors associated with the intersection of race and gender. For instance, black women participants noted the multiple roles they play as mothers, housewives, and workers (formal or informal). Although no comments were made about indigenous women, this may offer another example of the failure to recognize stressful living conditions in this population.

Alcohol consumption was considered by some participants to be a common and “normal” behavior among the adult population of the city. Participants did not recognize socioeconomic differences in alcohol consumption, but rather it was seen by many as an alternative to the lack of recreational or cultural opportunities and a coping mechanism for stress particularly for informal workers:

People go to work and after work the only fun is dancing and drinking. In Chocó there is no more fun.

In sum, participants in these interviews linked the structural conditions experienced in Quibdó, including displacement, limited economic opportunities, and the infrastructure of the city, to hypertension risk through multiple pathways, including behavioral risk factors for hypertension (e.g., lack of physical activity) and both behavioral (e.g., alcohol use) and physiologic responses to stress. Further, they described ways in which these conditions were socially patterned, varying across socioeconomic, racial/ethnic, and gender hierarchies. Although several adverse conditions are widely distributed in the city’s population, social processes of marginalization and stratification create additional circumstances for disadvantaging those already at the bottom of the social hierarchy (Fig. 1).

DISCUSSION

In the public health discourse, hypertension is considered a chronic condition due to its long latency period and prolonged course of illness.²⁷ Paradoxically, the chronicity of the social circumstances that may lead to hypertension at the population level has received less attention in Colombia. Participants in this study offered explanations—diagnoses, to use the language of frame analyses—that included multiple and interconnected processes, many of which have unfolded over long periods of time, influencing excess risk and the unequal distribution of

hypertension in Quibdó. Forced displacement, unplanned urban space, and unemployment that shape living conditions in Quibdó were important aspects of the diagnostic frame that local actors identified. These conditions, in turn, influence risks for and disparities in hypertension in this population. These explanations demonstrate the framework for an analysis of hypertension risk that encompasses clear linkages to social determinants of health in this jurisdiction. There is substantial evidence, discussed in more depth below, to support the connections that these participants are making, linking structural factors and living conditions to population health outcomes.^{10,28} As described above, these factors and conditions may act through different pathways and across levels of an ecological model (Fig. 1).

Forced Displacement and Hypertension. Forced displacement has multiple negative social, economic, and health consequences.^{29–32} Generally speaking, people flee toward areas where they expect better conditions when their integrity is threatened. For many, the displacement is the continuation or even the accentuation of an already poor and vulnerable condition.²⁹ This fact was clearly pointed out by participants as they suggested that most of the internally displaced population in Quibdó experienced limitations for meeting basic survival necessities, stigmatization, and a variety of difficulties for accommodating to their new life in the city. Although literature has focused more on acute and mental health consequences of exposure to conflict and displacement,³³ those who survive may experience long-term effects that similarly threaten their health and lives. Displacement results in socio-cultural, psychosocial, and physiological stressors.^{32,34} These stressors can set in motion a series of physiological changes that have been clearly linked to hypertension^{35–38} as well as other chronic health risks.

Displacement may also contribute to the erosion of social ties. Community integration and active involvement in a social network have been found to be a protective factor for hypertension.³⁹ As a consequence of displacement, people tend to lose their social networks and associated social supports, which in the stress-buffering model is associated with the modulation of stressful events.^{40,41} Furthermore, integration into new contexts is a difficult process, particularly when members of the host society are hostile to and wary of internally displaced persons. As noted in this study, feelings of hostility are common in host societies that are asked to accommodate new groups and can be exacerbated in communities that fear competition for already scarce resources.³² These mistrustful social relationships are an important source of stress for all groups in society and have been associated with a higher level of systolic blood pressure.⁴²

Second, unfair treatment and stigmatization have also been associated with increased risk of high blood pressure.^{43,44} As people who have been displaced move into the city and encounter the types of unfair treatment and stigmatization described in these interviews, they may experience social isolation and chronic stress that, ultimately, contribute to increased risk of hypertension.⁴⁵ Finally, displacement may lead to hypertension through the adoption of damaging coping behaviors (e.g., excessive alcohol consumption), and the lack of economic resources for health-related behaviors such as healthy diets, as was evidenced in this study.^{33,45}

Unplanned Urban Space and Hypertension. Participants attributed a key role to displacement as a driver of the urbanization process of Quibdó. Urbanization, regardless of its causes, has been widely cited as an important contextual factor associated with hypertension in low- and middle-income countries (LMICs).^{39,46}

However, living in an urban context is not always negative and what may matter for the risk of hypertension among urban dwellers in LMICs might be variations in the features of the urban context.^{47,48} Urban areas, in comparison with rural, may be more beneficial for health as cities are generally better equipped with health care and public health infrastructure, as well as other features that have a lasting benefit on health.⁴⁹ In contrast, risks associated with urban spaces in LMICs include exposure such as heavy traffic by motor vehicles, limited green space, and dependency of food supply.²⁸

Some urban areas of Quibdó meet criteria to operationally define a slum. These criteria are as follows: (1) inadequate access to safe water; (2) inadequate access to sanitation and other infrastructure; (3) poor structural quality of housing; (4) overcrowding; and (5) insecure residential status. Two additional attributes that characterize slums are poverty and social exclusion, which are considered to be both causes and consequences of slum conditions.⁵⁰ Despite the fact that 1 billion of the world's population currently live under slum conditions or in other marginalized urban settlements in poorer countries,⁵¹ research directly tying poor urban living conditions to hypertension in LMICs is still limited.^{52–55}

Studies from African cities, some of which may share urban and sociodemographic characteristics with Quibdó, have found an increase in blood pressure in urban compared with rural populations as a result of current urban residence and/or lifetime exposure to urban environments.^{39,56,57} Most of these studies suggest that changes in well-established risk factors for hypertension, such as physical inactivity and stress, are involved in this increase. From a life course perspective, it is possible to recognize multiple predisposing exposures that would increase the risk of hypertension in disadvantaged urban areas. These exposures include, but are not limited to, under-nutrition early in life, low socioeconomic status across the lifespan, crowded spaces that restrict building recreational and social spaces for physical activity and gathering, poor food environments, and multiple social, physical, and psychosocial stressors.^{28,52}

Economic Circumstances and Hypertension. Policies and urban conditions (e.g., lack of public services) that hinder job creation and foster unemployment are also expressions of the inability or lack of political will to address social determinants of hypertension in Quibdó. Despite limited and conflicting research considering how unemployment may contribute to the etiology of hypertension,⁵⁸ the interconnected mechanisms suggested by participants in this study are plausible, even if not consistently empirically established. The lack of job opportunities is an important stressor for the whole population of the city, and particularly for those in the bottom of the social hierarchy. In fact, stress is one of the most commonly proposed mechanisms in the literature linking unemployment to hypertension.^{58,59} In addition, high levels of unemployment in Quibdó have contributed to the proliferation of informal jobs, with some of these employment opportunities linked to well-established risk factors for hypertension. For instance, reduction in walking was in part explained by the excessive number of both informal motorcycles taxi drivers and sellers on the street. In addition, exposure to noise from combusted fuel vehicles as motorcycles has been linked to chronic stress and increased blood pressure.^{60,61}

Strengths and Limitations. Two strengths of this study should be highlighted. First, it builds on the unique contribution of qualitative research to mapping contexts and

answering “what is” and “how” questions that are needed to start understanding the social phenomenon in a particular context.⁶² In this regard, this study extends existing research on hypertension in Latin American that has particularly focused on individual-level explanations using quantitative approaches.^{63–65} Second, we engaged local actors in examining the contributions to hypertension across levels of an ecological model. Findings such as these are crucial in public health as they represent the particular social world of participants and extend the few studies aimed at directly exploring lay understandings of the causes of health risks and disparities,⁶⁶ as well as the role of place in framing a particular public health problem. Research that actively engages decision makers in thinking and talking about the multilevel causes of excess health risks in their city provides an opportunity to initiate a conversation about the policy-making process and potential initiatives that might be considered for addressing hypertension in Quibdó. Engaging decision makers in such conversations is also an important opportunity to consider specific features of the city that may influence the distribution of hypertension across residents, and to consider important issues of equity as they relate to urban space.

This study also has limitations. Because we collected the information in Spanish and conducted the last step of the analysis in English, it is possible that the English-language description of the findings may not fully capture participants’ meanings, feelings, and understandings. In addition, despite the efforts to involve additional key local actors, particularly from the government, it was not always possible due to their time constraints. These actors may have provided additional or different perspectives regarding the diagnostic task reported in this study. It is not clear if the perspective of those who did not participate in the study would have helped to make distinctions clearer. However, the recurrence of major topics across the interviews that were conducted suggests that the study captured critical aspects of this complex phenomenon.

Conclusion. The social and political actors who participated in this study clearly described social determinants of hypertension in Quibdó. They articulated multiple pathways through which these social, economic, and spatial conditions might contribute to excess risk of hypertension among residents, with particular risk accruing to some of the most vulnerable populations (e.g., displaced indigenous people, black women).

As described in the literature,^{28,66} the analysis presented here suggests that the non-random distribution of social determinants of health emerges from a confluence of factors. These factors and their devastating manifestations and consequences are products of the combination of political and social decisions and processes, as well as the accumulation of vulnerabilities in the population.^{28,67} That the participants in this study were able to articulate the role of the characteristics of the place where they live in shaping hypertension risks and disparities, as well as the role of historical and structural factors in this process, suggests the potential for policies and practices across multiple levels of an ecological approach that might be implemented to address these challenges.

This approach implies a need for public policies that have a meaningful impact on the social determinants of health. Participants suggested a set of public policies that might be adopted to address some of the structural factors they mentioned. Not surprisingly, they prioritized policies to increase economic opportunities and job creation, regulate urban planning, improve access to public services and physical

infrastructure, and allow the population access to decent housing. Undoubtedly, the modification of the factors that foster forced displacement will have a great impact on the social conditions of the population of Quibdó. Even if the local government increases its current capacity for planning and providing services, the presence of forced displacement and a continued influx of displaced persons with few resources would remain as an important factor in shaping the health and well-being of urban residents and social inequalities would persist. Indeed, under these conditions, a successful group of urban residents may improve their living standards, while those left behind will be joined by the newly displaced.

Efforts to address the complex and multifaceted challenges associated with the social and economic determinants of hypertension in Quibdó will require concerted attention by policy and decision makers, working collaboratively across multiple units of government (e.g., transportation, economic development, education). Given that many of the participants of this study are policy and decision makers, it is most promising that they identified these broader social and structural factors as key factors influencing health status. Translating these findings into population health interventions and policy change will be a key step in improving health equity in the years ahead.

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