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TITLE

Looking beyond vector control to address mosquito-borne diseases: critical approaches to public health in Honduras.

SHORT TITLE

Beyond vector control

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ABSTRACT

Global systems of capitalist production shape local experiences with health and disease, as well as approaches to infectious disease control. Through participants' descriptions of health-disease experiences, I explore an alternate route for the prevention and control of mosquito-borne diseases in Tegucigalpa, Honduras, beyond a strict focus on vector control. I identify three local enunciations of health-disease processes through the experiences of five different stakeholders. These local enunciations demonstrate a nuanced understanding of health-disease processes and are indicative of local unfulfilled needs and aspirations. Importantly, these local enunciations point to different experiences of dispossession (e.g., material, political, subjective) under neoliberal regimes.

KEYWORDS

Honduras; ethnography; critical medical anthropology; dispossession; vector-borne diseases; social determination of health.

INTRODUCTION

Like other tropical and subtropical countries (Katzelnick, Coloma and Harris, 2017; Pang, Mak and Gubler, 2017), Honduras recently experienced a resurgence in dengue fever cases (Zambrano et al., 2019), while also dealing with the newly established presence of two additional arboviral infections: Zika and chikungunya (Fernandez-Salas et al., 2015; PAHO, 2016). The *Aedes aegypti* mosquito is a known vector for all three arboviruses (Zambrano et al., 2019). The presence of the *Ae. aegypti* mosquito in urban areas like Tegucigalpa, Honduras, is associated with socio-politically marginalized urban environments with poor or non-existent investment in public infrastructure—typified by non-regularized neighborhoods (Hasemann, 2011)—and is exacerbated by environmental conditions associated with global climate change and environmental discrimination (Alley and Sommerfeld, 2014; Baer and Singer, 2009; Castro, Khawja and Johnston, 2010; Kendall et al., 1991; Patz et al., 1998; Satterthwaite, 2003; Sommerfeld and Kroeger, 2012; Singer, 2015, 2017; Whiteford, 1997). Given the recurring nature of dengue fever epidemics in the Americas, the increasing incidence of Zika and Chikungunya (Fernandez-Salas et al., 2015; Katzelnick, Coloma and Harris, 2017; Pang, Mak and Gubler, 2017), and the overall ease of implementing intensive vector control interventions over more sustained structural changes (Breilh, 2011), public health control and prevention of mosquito borne diseases unduly focuses on vector eradication while side-stepping the social dimensions that condition vector presence and disease spread (Nading, 2014), making community-based vector control strategies (Heintze, Velasco Garrido and Kroeger, 2007; Sommerfeld and Kroeger, 2012), and accompanying intensive vector control mechanisms (Packard, 2016), the favored approach for dealing with mosquito presence and thereby disease transmission.

In this article, I offer a departure from commonplace and longstanding public health approaches to vector control (Packard, 2016) by focusing on how dispossession (Abadía-Barrero, 2015; Harvey, 2005) shaped the contexts in which the everyday experiences of Tegucigalpa's low-income urban residents unfolded, as well as their relationship to governmental services. I argue that multiple and concomitant experiences of dispossession both significantly shaped research participants' overall health-disease experiences and were reflected in the conditions of urban precarity, vulnerability, and abandonment that are known to foment the reproduction and spread of the *Ae. aegypti* mosquito and transmission of associated viruses (Castro, Khawja and Johnston, 2010). I conclude by noting that controlling mosquito-borne diseases entails addressing dispossession. To develop my argument, I adopt the dialectical lens of Critical Medical Anthropology (CMA) and Latin American Social Medicine/Collective Health (LASM/CH) to look beyond the narrow conceptions of biomedical mosquito-borne disease control (Breilh, 2013).

The data I present here were collected over the course of 14 months (November 2017 – January 2019) of ethnographic research with three different households in the downtown area of Tegucigalpa, Honduras. I present my data by drawing on and describing separate encounters and conversations with three different groups of participants. Through these descriptions, I articulate how participants voiced experiences of dispossession through depictions of subjective violence that concealed larger underlying processes of structural violence common within capitalist systems (Zizek, 2008)—structural violence that can be associated with the transmission of mosquito-borne diseases (Castro, Khawja and Johnston, 2010; Singer, 2017).

FRAMING MOSQUITO CONTROL: MANUFACTURED NEED FOR INTENSIVE CONTROL PRACTICES AND CRITICAL RESPONSES

Intensive biomedical mosquito control campaigns are part and parcel of a "governance" based approach to the provision of public health that prioritizes private interests over public needs (Breilh, 2013: 20, 22, 25). While technologically intensive solutions to vector control perpetuate the idea that scalable approaches focused on a limited number of interacting variables can solve disease transmission (Moran-Thomas, 2013; Packard, 2016), community-based approaches in public health could be faulted for promoting the assumption that local "cultural" practices determine local behavior and that, ultimately, affected local populations are responsible for the propagation of infectious diseases (Briggs and Mantini-Briggs, 2003; Onoge, 1975; Smith-Nonini, 2009). Generally, biomedical approaches to infectious disease control are accompanied by a neoliberal view of subjects (see Hilgers, 2012) influenced by ideals of rationality and self-governance, and the presumed absence of these qualities in affected populations (Bashford, 2004; Briggs and Mantini-Briggs, 2003); thereby justifying approaches to public health that construct an "irrational," "unwilling," and "dangerous" other (Good, 1993; Lupton, 1995; Onoge, 1975; Povinelli, 2006) as an actually existing obstacle, and which increasingly push vertically implemented technical solutions in an effort to by-pass an imaginary non-complying populace (Biehl and Petryna, 2013) and to more easily disregard structurally or institutionally oriented changes (Das, 2015). The paradigms employed to justify contemporary approaches to vector control in public health are reminiscent of those found in colonial tropical medicine (Worboys, 1996), are intimately tied to the underlying capitalist logic of reigning biomedical models in health (Singer and Baer, 1995), and invisibilize the political, economic, social, and historical factors that cause present conditions of misery and structural vulnerability (Breilh,

2013; Suarez, González and Viatela, 2004). Alternatively, within approaches to health-disease processes that incorporate the social origins of disease (Waitzkin, 1981), social conditions—and oppressive unequal social relationships—characteristic of capitalist modes of production are understood to fundamentally shape health-disease processes.

In parallel, LASM/CH (Breilh, 1994, 2013; Morales, Leitzelar and Salinas, 2014; Vasquez, Perez-Brumer and Parker, 2019) and CMA (Singer, 1990, 1998; Singer and Baer, 1995) have contributed to theorizing health-disease processes as the product of a dialectical relationship between overarching political economic conditions and relations of power, and socially constituted lives, modes of action, beliefs, and behaviors. Within both approaches, the biological manifestation of disease is understood as a reflection of the history of social conditions and policies that pattern life along class, race, and gender lines, that are in no way reducible to the biological, the individual, or the predictable, and which demand concerted social and structural change (Borde and Hernández, 2019; Breilh, 1994, 2013; Singer, 1990; Singer and Baer, 1995). Addressing health exceeds adopting strategies at the individual level (e.g., targeted vector control or household level cleaning practices), and the lived reality of the individual is understood as significantly shaped by political economic forces and relations of power expressed through social policy determinations and ultimately manifested through the experience of the suffering individual (Breilh, 2013; Horton, 2016; Singer and Baer, 1995; Vasquez, Perez-Brumer and Parker, 2019).

ARTICULATING DISPOSSESSION IN HEALTH: SUBJECTIVE VIOLENCE AS A REFRACTIVE LENS FOR STRUCTURAL VIOLENCE IN TEGUCIGALPA

The consistent trend of privatization of public services of every kind, of which health is just one more (Navarro, 2009; Waitzkin and Jasso Aguilar, 2015), has been recognized as a form of "accumulation by dispossession" (Harvey, 2005); whereby previously achieved social victories (e.g., attributes of the welfare state such as socialized health and public pensions) are re-introduced into the realm of capitalist speculation in the ever-intensifying search for profit. Harvey (2005) introduced the concept of accumulation by dispossession to build on Rosa Luxemburg's insights that capitalist expansion depended on imperialist maneuvers to solve periodic crisis of over accumulation. Harvey (2005) argued that original or primitive accumulation, defined through predation and robbery, was not limited to a specific historical period but rather an ongoing and crucial aspect of capitalist expansion. The slow deterioration of the Honduran public health system, as portrayed below through the interactions between participants and varied representatives of the public health system, could likewise be attributed to the creeping intromission of private interests and investments into the realm of public health (Carmenate-Milan, Herrera-Ramos and Ramos-Caceres, 2016) to solve a crisis of over accumulation by introducing spaces outside of capitalism to capitalist exploitation.

Scholarship in the anthropology of health has extended Harvey's (2005) "accumulation by dispossession," which focuses on material dispossession, to include important subjective registers (Abadía-Barrero 2015). These subjective registers are relevant because they are evidence of usually obscured structural violence (Povinelli, 2011; Zizek, 2008), but also because they provide new forms of proof against the ravages of structural violence under a capitalist economic system. Abadía-Barrero (2015) argued that the accumulation by dispossession that

accompanied the privatization of the Hospital Materno Infantil (Maternal and Children's Hospital, HMI) in Colombia left in its wake a host of civil servants in the throes of what could be diagnosed as post-traumatic stress disorder. Part of the argument made by Abadía-Barrero (2015) was that the process of privatization of the HMI constituted accumulation by dispossession not just because a public asset was transformed for capitalist gains or because public employees were no longer guaranteed stable employment, but also because employees at the HMI were dispossessed of an important part of themselves, their identities, and their ethics. Abadía-Barrero (2015) framed dispossession as a violent process that also operates at the level of subjectivities, much like "…alienation of the spirit…" (Gordon, 2015: 128), and expanded on how "the most vicious and inhumane manifestations" (Harvey, 2005: 173) of accumulation by dispossession also attack the worth and value of those lives directly affected by capitalist expansion.

In the vignettes below, participants' descriptions of their experiences with the public health system, and generally their expectations from the public sector, exposed a similar form of accumulation by dispossession that made itself evident through subjective registers. Participants' experiences with public health services provided examples of subjective violence that caused them to question their own value as individuals and which ultimately reflected the underlying forces of structural violence at work in each of their lives. The "sufferer experience" (Singer and Baer, 1995: 101) presented below for different research participants encapsulates the historically determined political and economic forces that produced each encounter, and which, rather importantly, led to manifestations of health-disease processes for raced and gendered individuals occupying a particular class position (Martinez-Parra, Abadía-Barrero, Murata, Méndez Ramírez and Méndez Gómez, 2019). These experiences reflected the structural conditions that led to the presence of mosquito-borne diseases in urban areas like Tegucigalpa (Castro, Khawja and

Johnston, 2010), as well as on the veritable absence of accessible and acceptable public health services for potentially affected individuals.

For heuristic purposes, I divide participants' experiences with the public health system into three explanatory domains through three vignettes. These three explanatory domains should demonstrate that control of mosquito-borne diseases exceeds control of the vector itself (Zambrano et al., 2019), fomenting local practices meant to control vector presence (Alley and Sommerfeld, 2014; Sommerfeld and Kroeger, 2012), or pursuing more intensive biomedical solutions (Katzelnick, Coloma and Harris, 2017; Pang, Mak and Gubler, 2017). Instead, these explanatory domains are meant as guides to describe health improvement as a matter of social change, and mosquito-borne disease occurrence as a matter of socially constructed and perpetuated inequality and precarity (Breilh, 1994; Singer, 2015). In the three vignettes that follow, I articulate the 1) daily lived-experience of socially damaging public policy, 2) perceptions of public health services in lives marked by persistent resource constraints, and 3) encounters marked by discrimination within the public health system.

THE DAILY LIVED-EXPERIENCE OF SOCIALLY DAMAGING PUBLIC POLICY

Doña María, 54, lived in one of the neighborhoods where the historical downtown area of Tegucigalpa began. She worked as a small-scale merchant distributing assorted meat products from her home, mostly poultry. Once a week a local distributor would deliver between 50-100 pounds of product—depending on the level of sales during the previous week—to her doorstep. Doña María told me she only made between 12 – 20 cents (US dollar) per pound of product she sold. As the distributor started raising its prices towards the end of 2018, doña María was forced to cut back on her profit margin. Doña María was proud of her abilities as a saleswoman, which

in her view were related to her social capital in the neighborhood: "I don't even have to *hustle* anymore. People know when I am getting chicken, and they contact me—because they know I give them [a good price]." Doña María would tell me at length about the various business enterprises she had participated in throughout the years and about her political activism. Doña María had been an ardent community organizer for the traditional left-of-center party for at least two decades but decided to leave the Partido Liberal (Liberal Party, PL) when she was asked to perform sexual favors in return for a formal (read paid) position within the party. Doña María's exit from the party coincided with the coup against José Manuel Zelaya Rosales in 2009 (CIDH, 2009). Over the years, her political allegiance as a community organizer gravitated towards the more conservative Partido Nacional (National Party, PN) as they gained popularity in her neighborhood, whilst the PL continued to alienate popular voters—according to doña María—through a series of political missteps and missed opportunities.

Doña María was always positive in her appreciations of local public health efforts and routinely reported—at least once a month—that public health personnel had been at her house during the previous week inspecting water reservoirs and distributing larvicide. I was only present in her home once at the same time as public health personnel. After vector control technicians left, she confided: "*Ay no!* We have to wash the *pila*[1] again now. I always tell them not to use that [powder][2]—that abate[3]. It dirties the water—I don't like it. I tell them that they're wasting it, because we get water all the time and wash the *pila*..." Doña María thought that if there were any mosquitoes in her house it was mostly because of neighbors and overgrown grasses beyond her property lines. Despite her generally positive appreciations, she appeared to have little faith in the activities performed by the local public health personnel. She would often remark, "Look, we can't expect the government to do everything for us. They come, but they're

not going to clean. They just say, 'Do this or that.'" On occasion, doña María would also acknowledge that if the health status in her household was favorable it was not because of public health activities, but because she knew people through her extended networks that could get her the control and prevention materials she needed (e.g., different types of larvicide, fogging equipment, speedy appointments at local public clinics). "It's not just the government," she would say. "We can't blame them all the time, one is also corrupt. What do you call that? It's corruption."

One day we were sitting in doña Maria's living room talking about one of her former business ventures selling used clothing. She started telling me about how she participated in the distribution chain for used clothing coming from the USA by picking through large, bundled shipments of clothing locally referred to as *bultos.* "You need to have an *eye*," she told me. "I had to sift through mountains of garbage to find an article [of clothing] to sell … That's what they send us—garbage. That's what we pay for—to wear other people's garbage … That's what we are … That's how they treat us." I was caught off guard by doña María's comment, but also by the way in which she delivered it as an evident truth that did not require further elaboration. Up to that point, I had always taken doña María's remarks on self-sufficiency and limited governmental involvement in the lives of citizens as part of a neoliberal, individualist ideology (Hilgers, 2012), a discourse popular within the ranks of the PN. Perhaps they were, but they were also much more. They were also an admonishment of the current political structure and distributive practices within a rigid social hierarchy (Hernández Oré, Sousa and López, 2016).

To doña María, the links between government policies and population regulation and control were more than evident. Policy, seen through doña María's eyes, was a tool for discipline. Popular mobilizations and protests were frequent in Tegucigalpa throughout 2018 and

2019 (OSAC, 2020). The PN candidate's highly questioned and questionable re-election at the end of 2017 (Carrillo, 2017; Malkin, 2017) initiated a series of sustained protests addressing governmental mismanagement and embezzlement at multiple levels that may have well continued through 2020 had it not been for COVID-19 quarantine lock-down measures. Throughout 2018, doña María and I talked about the increasing energy prices, a direct result of a public-private partnership between the previously state administered, single electrical power provider and an international private administrator (SAPP, 2017). Doña María would tell me, "[The president] is punishing us with these tariff spikes … He's getting revenge for the protests." She would also, however, tell me how she thought that many people were likely not aware of how much electrical power they were consuming. She held similar views on gasoline and liquid petroleum gas prices. Doña María considered these ploys were directly coordinated by the presiding President and nothing more than power plays. A rather stark indication of how doña María viewed the position of most people in Tegucigalpa as utterly vulnerable to presidential whim. Ultimately, doña María was a firm advocate for entrepreneurial self-sufficiency because she felt abandoned by a President she helped get elected: "…were going to turn into old people waiting for the government to do something … It's dumb people that let themselves get fooled."

In our discussions, doña María felt dispossessed of means of popular representation and mobilization. Doña María elaborated at length on the social factors that affected her and her family's daily lives. She was clear about the links between policies, behaviors, and outcomes. Doña María also went deeper than talking about causal relationships that were evident on the surface to expose some of her own experiences with the world, pointing to issues that were difficult to solve with "governance" focused initiatives (Breilh, 2013). Doña María had become part of an anonymized and undifferentiated mass (see Gordon, 1997, "perverse anonymity") that

could only expect to continue being disenfranchised from meaningful public policy implementation and public service availability.

PERCEPTIONS OF PUBLIC HEALTH SERVICES IN LIVES MARKED BY PERSISTENT RESOURCE CONSTRAINTS

Jefferson and his uncle, don Yago, shared a small workspace in downtown Tegucigalpa. Jefferson, 33, was apprenticed to don Yago, 60. Jefferson and his uncle plied their shoe and leather repair trade in a small store front in one of the many dilapidated, one-story, adobe brick houses in the downtown area, close to one of the local produce markets. Jefferson also moonlighted as the singer for a Christian death metal band and don Yago performed odd jobs in construction. Jefferson was critical of the current political administration, and his views on the regime coincided in curious ways with vector borne disease transmission. “They made this virus,” he told me once talking about Chikungunya. “You don’t believe me, do you? They want to kill people, that way nobody can oppose them.” He continued, “There’s always some new virus … it spreads, no one can stop it, and then there’s a vaccine … Don’t you think there’s already a vaccine? That’s how they make money.” Considering how current vector control practices in Tegucigalpa rely on large, periodic purchases of larvicide, insecticide and associated equipment from large transnational corporations (El País, 2019; Garcia, 2020), and how Jefferson’s argument intersected in curious ways with contemporary theorizations on global health as a mechanism for preserving or protecting the lives of more valued segments of the global population (Lakoff, 2010; Povinelli, 2006), it was hard not to agree with Jefferson’s characterizations of the current epoch.

Despite Jefferson's views, both Jefferson and don Yago were well informed of the way in which dengue fever, Chikungunya, and Zika were known to transmit in low-income areas of Tegucigalpa, and they also had regular access to prevention materials like larvicide. Jefferson and don Yago were both associated with people that worked alongside some of the local governmental agencies that provided different manner of prevention and control services for vector borne diseases. Jefferson's mother worked as a Guía de Familia (Familia Guide, GF) a position made popular in the past two presidential administrations under the PN. The generally acknowledged idea behind the GFs was to train individuals within neighborhoods to operate as liaisons between neighborhood residents and various governmental services, like health promoters (Presidencia de Honduras, 2018). In practice, the GFs were temporary employment positions that ruling conservative party leaders traded amongst themselves at irregular intervals to provide temporary jobs for associated community leaders and conservative party activists. Don Yago, on the other hand, rented a room from the owner of the house where he had his shop. The owner of the house occupied the other available room. The owner, Manuel, oversaw the maintenance of one of the local Catholic churches that was usually closed to the public. Manuel's position as caretaker made him a recognizable figure within the neighborhood, which led to him being selected to participate as a neighborhood liaison in a mosquito-borne disease prevention program. The program was hosted at the local public health center. The center piloted a larvicide distribution and vector control program using local neighborhood residents to improve local uptake. Manuel participated in the program for a few months before he was asked to leave.

Although don Yago did not share some of Jefferson's views on mosquito-borne diseases as tools for political control, he was still skeptical of the utility of some of the prevention and

control activities being carried out by the local public health center. Don Yago directed much of that skepticism towards Manuel, who kept close to 40 1-gallon jugs filled with water in the space between the store front and the rooms at the back of the house. Many of the jugs were sealed with a bottle-cap, but many were not. I once asked don Yago if he considered the jugs to be a determining factor in local mosquito presence and spread. He told me he did, but that he could not do anything about it since the water bottles belonged to Manuel: "I get into fights with him all the time. I tell him, 'You need to cover up those jugs.' He gets mad at me and tells me to leave him alone." He continued, "I use the water in the uncovered jugs first, but sometimes we don't use them fast enough and larva start accumulating … I don't know what it is he thinks he learned in those [prevention] workshops because he doesn't do any of that here." Like doña María, don Yago also thought neighbors were responsible for a lot of the mosquitoes in the area. Even if he had been capable of controlling mosquitoes in his own house, it was not possible for him to control potential breeding hotspots in other neighboring households. Dengue fever, Chikungunya, and Zika were just infections that could potentially happen, but not pressing concerns.

For Jefferson and don Yago, mosquito-borne diseases were just another fixture within the routine of life. Nothing out of the ordinary. Common but not destabilizing. For both don Yago and Jefferson, dengue fever (and other vector borne diseases) could be called on to explain something. Dengue fever, Zika, and Chikungunya existed within a web of causality, meaning, and experience but never occupied the limelight for long. Jefferson was confident not only that viruses like Chikungunya and Zika were manufactured in laboratories—along with HIV, Swine Flu, and Ebola—but that he himself had gotten sick with Chikungunya at least three times. Infection with Chikungunya more than once is highly unlikely, which makes it a viable vaccine

candidate (Kam et al., 2012). He was diagnosed with Chikungunya by a trained physician only once in 2015, but every time thereafter, whenever he had similar symptoms, he self-diagnosed with Chikungunya. On the two subsequent self-reported infections with Chikungunya, I asked him if he had visited a medical provider. Both times he said no, "For what? I already know what I have. Why am I going to go wait for hours for them to tell me something I already know?" Jefferson would take Ibuprofen or Acetaminophen, both of which were usually prescribed at local public clinics and easy to purchase from dozens of sidewalk vendors in Tegucigalpa or Comayagüela, the neighboring city. Jefferson also complained about problems with asthma frequently. Both chikungunya and asthma would lead us to discussing his current living situation, his poor relationship with some of his neighbors that "never clean their backyard," the dampness in his room, overgrown grass all over his neighborhood, poor sanitation and waste management services, political instability, and lack of money.

Jefferson and don Yago were dispossessed of an entire health system whose role in their lives was ambiguous at best. Jefferson was skeptical of the origin of now common viral diseases, and the role of global public health in relation to spread and containment, and don Yago was just resigned to them. Don Yago's approach to mosquito-borne diseases was clear, "What can I do? If I get sick, I get sick." Don Yago did not consider it did much good to think about mosquito-borne diseases, since they were a rather familiar affair and he did not consider them fatal, "You just have to rest … it bends you over, but you know what to do." Don Yago was more concerned with his cardiovascular health. Don Yago had recently been diagnosed with high blood pressure. He decided to visit the Instituto Hondureño de Seguridad Social (Honduran Social Security Institute, IHSS) after he started having fainting spells at work, accompanied by headaches, and ringing in his ears. He was eventually diagnosed with high blood pressure and prescribed

medication to lower his blood pressure (Irbesartán) and his cholesterol (Atorvastatina). Don Yago tried to implement other changes in his daily routine, like changing his diet, drinking more water, taking his medication regularly, and remaining calm. This last point was confirmed by Jefferson, who agreed his uncle used to have anger management issues. However, all this was difficult to accomplish since produce was expensive in Tegucigalpa, potable water provision was infrequent during summer months increasingly marked by droughts, sometimes medication was not available at the IHSS, and increased worries about money made it difficult to remain calm. To manage potential pill shortages, don Yago would only take half of the prescribed daily medication on days he was feeling better, thereby slowly accruing surplus medication in case of emergencies within the public health system. Both Jefferson and don Yago were mindful of their health, but it was difficult for both to remain healthy (Abadía-Barrero and Melo-Moreno, 2014).

ENCOUNTERS MARKED BY DISCRIMINATION WITHIN THE PUBLIC HEALTH SYSTEM

"Well then? Go ahead, José, ask me [if they came]." After a while, Ruth[4] started our weekly conversations by pre-empting one of my usual opening questions: Did local public health personnel visit your house during the last week? Her answer was always, "No … They don't even show up around here. We don't know what that is." She usually also answered no to my follow-up question: Did you receive potable water during the last week? Ruth, 52, had lived all her life in the downtown area of Tegucigalpa in the same house. Ruth lived about 7 blocks away from Doña María's neighborhood, in the general direction of the Central Park. Ruth lived with her two teenage children, three nieces, and a nephew. They all shared one single room built from old wooden boards located at the front of a shared family compound. The room was large

enough to fit four foldable beds (about 3x6 meters), that seemed to be arranged differently every time I visited. Her older brother, Paco, used to live in the room with them, but passed away 4 months before I met Ruth. Paco, and the rest of his family, experienced a prolonged battle with cancer. At times, Ruth would blame the neglect of medical personnel at IHSS for Paco's death[5], other times she would just say that it had been God's will. Paco worked for over 30 years at the IHSS and was the sole provider for the household. Since his passing, Ruth performed odd jobs, relied on her extended network of acquaintances and relatives, or received support from one of the local Protestant Evangelical youth groups that her teenage children belonged to. Ruth, however, was Catholic.

The rest of my opening questions were related to illness episodes in the home during the previous week (see Das, 2015, "morbidity surveys"). Ruth always told me that no one in the house had gotten sick or shown any symptoms, but as we started conversing, she would invariably tell me about isolated symptoms in the household. Ruth usually talked about symptoms like headaches, stomachaches, fevers, throat pains, etc., as one-off experiences that were causally related to some discrete and self-limiting event (e.g., eating too much Chinese food the day before). Ruth told me that the last time one of her own children had been truly ill was over 12 years ago. Her eldest, Miguel, was 5 years old when he started running a high fever and vomiting, unable to keep down any solid food. Ruth panicked and took him to the IHSS, where her brother worked, and where they received prompt attention. Ruth told me this story several times and Miguel's diagnosis in each telling was always different: dengue fever, hepatitis, or appendicitis. Granted, all three diseases can present with high fevers and vomiting, and Ruth was recalling an event that had taken place over a decade ago. When I asked her about these differences, she would just shrug it off and say, "It was one of those." Regardless, Ruth

believed that the treatment they had received had been exceptionally good and she even remembered fondly the name of the attending physician whom she believed had saved Miguel's life.

The next time someone got sick—which for Ruth meant having to go to the hospital—was after I had already been visiting Ruth and her family for several months. Her daughter, 15-year-old Nora, had been experiencing diarrhea, nausea, and high fevers for over a week. When Nora finally went to the doctor, the doctor just told her that she had an infection and prescribed an antibiotic. When Ruth first told me about their experience at the doctor she was incensed. "I'm pissed, José," she started when I asked about their visit. "First, they make us wait for hours before they see her—and Nora is burning-up. Then, the doctor barely even talks to us. The doctor didn't even want to give us [a] consultation." I asked her what she meant by that, and she responded, "It's like [the doctor] didn't want to be there, she didn't even touch Nora … it's like [the doctor] was disgusted [by Nora]—didn't want to touch her." She continued, "And then, they gave us the prescription on a piece of paper." As she made this last comment, she called over to Nora to show me the prescription slip. Nora came over to where we were sitting and showed me a small, blue, sticky slip of paper cut-out in the shape of an apple with a few words scribbled on it. Ruth ended, "They didn't even have the medicines there. We had to go outside to get it." Ruth had the firm opinion that local public medical services and other public health services had deteriorated because of a lack of calling[6], "it's all about money now." When I asked Ruth why she thought the doctor might have been disgusted, she just said, "Maybe because we're poor." I received this response from other research participants throughout my fieldwork. Frequently, research participants felt that doctors and nurses within the public health system sometimes felt

disgusted by them and that this obviously affected the type of treatment and services they could expect to receive.

Poor service availability at public health centers was one of the consequences of accumulation by dispossession experienced by low-income user in Tegucigalpa, but users like Ruth and Nora also thought themselves dispossessed of treatment as equals under regimes that determined value anew within the medical establishment. Although Ruth and Nora were not capable of accessing private services, other participants increasingly preferred to make use of private services to avoid patently violent encounters within the public health system. Ruth expressed a sentiment common amongst participants in Tegucigalpa: public healthcare services were better in the past. At the same time, appreciations like Ruth's, about the kind of care people could expect to receive in the public system, went beyond measures of quality, acceptability, accessibility, or adequacy commonly used to evaluate health services, but which have been shown to fall short of addressing key issues of human dignity (Yamin, 2016). For Ruth and Nora, it was not an issue of receiving more or better care, but rather care of a different kind between equals (Kelleher, 2016), akin to the differentiation Navarro made between socialized and socialist medicine (Navarro, 1989). At stake for Ruth and Nora, much like for other participants, was their very notion of self as human beings engaged in relational, horizontal encounters with presumed equals as presumed equals (Anderson, 1999). That presumed equality presented itself as false in the face of demeaning and dehumanizing treatment that made them feel as less than; defined by a single attribute and relegated to a non-descript, undifferentiated totality of "the poor." Ruth and Nora were relegated to a "zone of nonbeing … beneath even the self-other relation" (Gordon, 2015:127-128), forcing them to answer not *who* but "*What* am I?," where this "…interrogation occasions alienation of the spirit…" (128). Subjective violence within the

public health system was another strand in the meshwork of issues that determined health and disease in Tegucigalpa and that were exemplary of unequal relations of power under capitalist regimes expressed through biomedical encounters (Navarro, 1989; Singer and Baer, 1995). The unequal treatment experienced by Ruth and Nora while attending public medical services was an extension of the structurally rooted inequality Ruth and her family experienced on a daily basis.

EXPANDING ON THE CAUSAL CONTRIBUTORS TO MOSQUITO BORNE DISEASES IN TEGUCIGALPA

Singer and Baer defined health as "access to and control over the basic material and non-material resources that sustain and promote life at a high level of satisfaction" (1995: 42) and contended that the "sufferer experience is a social product, one that is constructed and reconstructed in the action arena between socially constituted categories of meaning and the political economic forces that shape the contexts of daily life" (1995: 101). In the preceding sections, I presented three ethnographic case-studies to portray different facets of the "sufferer experience" in Tegucigalpa and to articulate how different experiences of dispossession—resulting from political-economic arrangements under neoliberal capitalist regimes—in turn reflected structural conditions that could be associated with the transmission of mosquito-borne diseases. The vignettes began by tracing the indirect political economic articulations and relations of power that directly impact on individuals' ability to organize their lives and slowly moved towards profiling, more directly, encounters between participants and the public health system. All three vignettes also exemplified how individuals were subjected to diverse forms of subjective and structural violence, through their interactions in an unequal social space, and how they were in the process dispossessed of a part of themselves, their identities, or their ethics (Abadía-Barrero,

2015). Participants were 1) dispossessed of meaningful popular representation, 2) dispossessed of their trust in a reliable public health system, 3) and dispossessed of treatment as equals. The three vignettes, together, compose a mesh of lives interconnected by the same sociotemporal landscape, and are meant to help elucidate how participants had both little access and control to the material and non-material resources needed to promote life to a high level, and even less stake in and control over the governmental maneuvers used to address their concerns, needs, and aspirations.

The experiences recounted above demonstrate that participants themselves conceived of health-disease processes in complex terms, and that participants were aware of how these processes were socially constructed and evinced the existence of unequal and hierarchical social relations. The elements identified above lead to thinking about the changes that we would need to see in Tegucigalpa to improve public health services for local populations and to reduce, among other things, the burden of mosquito-borne diseases. Each one of the factors identified are phrased in terms of their negative effects on participants, but they can also be phrased in a manner which edges closer to the necessary destabilizing acts needed to promote change in capitalist systems (Gorz, 1968: 119) or promote health-sustaining factors (Abadía-Barrero and Melo-Moreno, 2014; Breilh, 2010). Anderson (1999) argued that egalitarian justice had been reduced to formulations based on resource distributions, wherein the consequences of unequal social relationships under capitalist systems were only lessened. Alternatively, Anderson (1999) called for a return to the original positive and negative aims of egalitarian justice; not merely compensating for ill-treatment but restructuring the unequal social relationships that are the source of ill-treatment and that thrive off and produce difference: to "…end oppression …" and "create community in which people stand in relation of equality to others" (288-289). In other

words, pursuing meaningful structural change and not being content with meager material compensation for what appear to be—or are conveniently presented to affected parties as—inalterable conditions of life under dominant framings of health issues (Yates-Doerr, 2020). All the participants included above spoke to their experiences, needs, and aspirations, and although these participants' experiences cannot encapsulate the totality of needs and aspirations in Tegucigalpa regarding health, they can serve as a point of departure or a common base for meaningful local mobilization (Gorz 1968), with the understanding that these, too, will change. Conceiving of more integrated forms of care that take into consideration the actual lives of individuals, creating spaces for individuals to mobilize and to be heard within political structures, and ensuring that interactions with public health services result in re-affirming experiences are notions that speak to the complexity of health-illness-care and which draw attention to the role of social organizing to redress unequal health-disease experiences (Breilh, 2013; Singer, 2012; Vasquez, Perez-Brumer and Parker, 2019).

Nading and Lowe (2018) recently argued that social justice[7] constituted an unacknowledged technology of epidemic control and a rather powerful one at that, since "social justice is also a technology for addressing racial, gendered, and political struggles," where "inequalities are obstacles" (467) to achieving programmed goals in epidemic control. Nading and Lowe (2018) argued, following Nancy Fraser (2010), that achieving social justice consists of more than the redistribution of goods and is intimately linked to issues of representation and recognition. They further argued that the ability to construct, shape, and diffuse messages is not equally distributed within unequal social contexts (see Briggs and Mantini-Briggs 2016). This last point matters greatly, since it greatly affects what is recognized as an issue of importance and how that issue is represented to others. Research participants all pointed towards

acknowledged inequalities in practice that they either experienced intermittently or suspected occurred at global levels that were then reflected onto their daily lived realities. In all the instances recounted above, participants recognized that their experience with health or their experience of health as urban residents were not isolated or individual affairs but rather part of something larger, something systematic, and something tied to political and economic designs. If social justice can indeed be a technology for epidemic control, then the three domains identified above through participants' input can feed that technology for claims on health in Tegucigalpa and for alternate approaches to controlling mosquito-borne diseases.

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NOTES

[1] Cement water basin.

[2] Doña María used the word *polvo*, which could mean both powder or dust, but is more commonly used to refer to dirt. Bti (the local name given to the biological larvicide now utilized for mosquito control activities in Honduras) is also a light brown color which actually does make it look like powdery dirt (see Ponce Guevara et al., 2018).

[3] Abate (Temefos) is no longer in use in Tegucigalpa or Comayagüela. Participants frequently referred to Bti as abate.

[4] Neither Ruth nor her children liked it when I referred to her with the honorific *doña*, which is why I am also leaving it out in my retelling.

[5] Ruth believed her brother's experience with bladder cancer could have been different if the decision to commence treatment had been taken earlier. The decision to postpone treatment was made by the first physician at the IHSS that diagnosed Paco with bladder cancer. Paco did not start treatment until almost 6 months after his initial diagnosis and only after consultation with a different physician, always within the IHSS.

[6] Ruth used the phrase *falta de vocación*, literally lack of calling, and an oft repeated phrase in Tegucigalpa during my fieldwork in relation to the medical establishment, both public and private. A similar appreciation of medical doctor's ethics within the public health system has been identified in the Venezuelan context (Cooper, 2015).

[7] See Reid-Henry (2016: 716) for a definition of social justice in health as opposed to market-based justice in health.

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