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Food insecurity, chronic illness, and gentrification in the San Francisco Bay Area: An example of structural violence in United States public policy

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Abstract

Food insecurity continues to be a major challenge in the United States, affecting 49 million individuals. Quantitative studies show that food insecurity has serious negative health impacts among individuals suffering from chronic illnesses, including people living with HIV/AIDS (PLHIV). Formulating effective interventions and policies to combat these health effects requires an in-depth understanding of the lived experience and structural drivers of food insecurity. Few studies, however, have elucidated these phenomena among people living with chronic illnesses in resource-rich settings, including in the United States. Here we sought to explore the experiences and structural determinants of food insecurity among a group of low-income PLHIV in the San Francisco Bay Area. Thirty-four semi-structured in-depth interviews were conducted with low-income PLHIV receiving food assistance from a local non-profit in San Francisco and Alameda County, California, between April and June 2014. Interview transcripts were coded and analysed according to content analysis methods following an inductive-deductive approach. The lived experience of food insecurity among participants included periods of insufficient quantity of food and resultant hunger, as well as long-term struggles with quality of food that led to concerns about the poor health effects of a cheap diet. Participants also reported procuring food using personally and socially unacceptable strategies, including long-term dependence on friends, family, and charity; stealing food; exchanging sex for food; and selling controlled substances. Food insecurity often arose from the need to pay high rents exacerbated by gentrification while receiving limited disability incomea situation resulting in large part from the convergence of long-standing urban policies amenable to gentrification and an

outdated disability policy that constrains financial viability. The experiences of food insecurity described by participants in this study can be understood as a form of structural violence, motivating the need for structural interventions at the policy level that extend beyond food-specific solutions.

Key words/phrases:

San Francisco Bay Area; food insecurity; HIV; chronic illness; gentrification; structural violence

Introduction

Food insecurity is defined as “the limited or uncertain availability of nutritionally adequate, safe foods, or the inability to acquire personally acceptable foods in socially acceptable ways”[1]. Affected individuals regularly face one or more of the following challenges: insufficient quantity, poor quality, limited diversity, or compromised safety of food; inadequate access to food, leading to feelings of hunger or anxiety; or the need for socially unacceptable procurement of food, including begging, scrounging, relying on charity, exchanging sex for food, stealing food, and other illicit activities[1]. Freedom from food insecurity is enshrined in the human right to adequate food—a component of the right to an adequate standard of living detailed in Article 25 of the Universal Declaration of Human Rights and Article 11 of the International Covenant on Economic, Social and Cultural Rights[2]. Nevertheless, food insecurity remains an everyday challenge for hundreds of millions across the globe—including in the United States[3]. Alongside its inherent challenges of malnutrition, hunger, and anxiety, food insecurity has multiple well-documented interactions with chronic diseases including infectious, non-communicable, and mental illnesses[1], rendering this challenge an urgent health issue.

Food insecurity in the United States

The United States stands out among members of the Organization for Economic Cooperation and Development (OECD) for both its high poverty rates after taxes and transfers and its use of direct food assistance as a prominent component of the social safety net, most notably as part of the Supplemental Nutrition Assistance Program (SNAP)[4]. According to the United States Department of Agriculture (USDA), 15.8% of the population (some 49 million adults and children) was food insecure in 2013, concentrated among low-income households[3]. Extensive data also associate disability with poverty and food insecurity in the United States, and a recent USDA report found that one third of

households containing an adult with work-limiting disability were food insecure[5]. Similarly, studies have demonstrated a high prevalence of food insecurity among low-income people living with HIV/AIDS (PLHIV)[6–8]. But despite these figures, little is known about the precise structural mechanisms by which food insecurity is unevenly distributed across the population. Moreover, although several qualitative studies have investigated the lived experience of food insecurity in the United States, these have primarily been among otherwise healthy populations[9–13].

There is a particularly critical need for further research among PLHIV, since numerous quantitative studies have demonstrated associations of food insecurity with viral transmission and worsened clinical outcomes across a range of settings[1]. Among homeless and marginally housed PLHIV in San Francisco, food insecurity was longitudinally associated with risky sex[14], depressive symptoms[15], non-adherence to antiretroviral therapy (ART)[16], acute care utilisation including hospitalisations and emergency room visits[17], and worse immunologic and virologic outcomes[16]. These findings are echoed in further quantitative studies of PLHIV across the United States and Canada[8,18–22]. Lack of qualitative studies among chronically ill individuals in resource-rich settings, however, has precluded an in-depth understanding of the structural determinants, nature, severity, and implications of food insecurity among such populations.

Structural violence

The inequitable distribution of food insecurity in the United States calls for an appropriate theoretical lens through which to understand qualitative findings. Structural violence is a construct that has been used to demonstrate the way in which the political and economic organisation of society can invisibly and systematically foster physical harm and emotional distress among groups of vulnerable individuals[23,24]. Integral to structural violence is the role of institutions and social practices in preventing such persons from

reaching their full potential[25], emphasising the capacity of the modern state to protect or fail to protect its citizens from large-scale forces of political economy and history[23,24]. With regard to socioeconomic inequality, debate on the necessity and extent of state protection in the United States is embodied by perennial discourses on the "unworthy" poor, arriving with the first Protestant settlers and enduring through, among other phenomena, the mid-nineteenth century poorhouse, the "culture of poverty" in the 1960's, images of the "welfare queen" through the 1970's and 1980's, advocates of workfare in the 1990's, and the vilification of disability cheats and malingerers today[26–29]. The concept of structural violence allows us to understand how epochal institutional and policy-level decision-making strategies, as well as these public discourses that shape them, are transcribed onto the bodies of the vulnerable, linking the lived experiences of such individuals to a broader understanding of shifts in politics, economics, culture, and law[23,24].

Approaching food insecurity in the United States from a structural violence perspective raises a series of salient questions: How does food insecurity manifest among certain groups in the population? What structures are involved in the genesis and propagation of food insecurity, and how have they come to be? What are the precise mechanisms by which these structures are systematically translated into food insecurity? And how does food insecurity lead to poor health outcomes among individuals with chronic illness? Our study sought to investigate these questions among a group of low-income PLHIV residing in the San Francisco Bay Area a population for whom the serious negative health implications of food insecurity have previously been demonstrated[14–17].

Methods

Research collaboration

This study was part of a research collaboration between the University of California, San Francisco (UCSF) and Project Open Hand (POH), a Bay Area non-profit that provides

food assistance to individuals suffering from chronic and debilitating illnesses. Serving ~3,800 clients from two sites in San Francisco and Oakland, California, POH provides take-home meals and groceries free of charge to approximately 3000 PLHIV. To qualify for food assistance, potential clients must have a provider referral and a physician-certified diagnosis of a qualifying health condition, including HIV/AIDS. Eligible PLHIV are classified as “mildly ill” or “severely ill” by POH depending on symptomatology and life situation: mildly ill clients may receive either a weekly bag of groceries or up to seven pre-prepared meals each week; severely ill clients may receive both. The majority of POH clients are low-income individuals, and many receive payments for work-limiting disability through Supplementary Security Income (SSI; a form of welfare administered by the Social Security Administration, the receipt of which precludes eligibility for SNAP in California) and/or Social Security Disability Insurance (SSDI; a social insurance programme). Starting in 2013, UCSF partnered with POH to explore the relationship between food insecurity, food assistance, and health.

Research setting

All POH clients are residents of either San Francisco or Alameda County, which includes the cities of Oakland and Berkeley among others. As in much of the Bay Area, these cities are currently experiencing a period of social turbulence following the start of the second technology boom circa 2011. In providing an explosive boost to the local economy, the rapid post-recession rise of the technology industry in Silicon Valley and San Francisco has raised the cost of living in the Bay Area significantly, and gentrification fuelled by the influx of technology employees with high disposable incomes has become a fractious issue in traditionally low-income neighbourhoods[30–32]. As outposts of increasingly rare affordable housing in the Bay Area, these neighbourhoods are home to many of POH’s clients.

Much of this upheaval is intimately entwined with a soaring rent market that has been particularly affected by the economic developments, rising in unprecedented fashion. In June 2014, the median monthly rent for a studio apartment in San Francisco was $2,300—a 21% increase in the space of 12 months. A similar rise has been seen in the other cities of the Bay Area including Oakland, where the median rent price of a one-bedroom apartment grew 33% in the 24 months between September 2011 and September 2013[33]. Beginning in April 2014, our study took place in the midst of this economic and socio-cultural context.

Study population

Our study population was drawn from a sub-population of POH clients recruited into, but not yet initiating, POH's new *Food=Medicine* pilot programme, a novel food assistance programme providing three medically tailored meals per day plus snacks to chronically ill clients over a period of five to six months. POH selected participants for the programme from their larger pool of current clients, with the criteria that they be adult (over age 18), English- or Spanish-speaking, HIV-positive, and low-income, with a history of good adherence to POH services. POH also aimed to maximise the diversity of gender, race/ethnicity, housing location (San Francisco vs. Alameda County), and disease severity (mildly ill vs. severely ill) in the *Food=Medicine* cohort, and sought to include 30-35 PLHIV recruited on a rolling basis between April and June 2014.

Recruitment strategy

Participants of the *Food=Medicine* pilot programme who had given permission to be approached for inclusion in our study were invited to participate. The only study inclusion criterion was being a current HIV-positive participant in the *Food=Medicine* pilot programme, and there were no exclusion criteria. We then recruited on a rolling basis as

interviews were conducted until we reached saturation of ideas. All study participants received standard POH services prior to and during data collection.

Data collection

Semi-structured in-depth interviews were conducted with 34 study participants. After collecting demographic information related to gender, sex, race/ethnicity, education, housing, and marital status, interviews were conducted in English, loosely following a pre-defined interview guide and lasting between 45 and 165 minutes (average length 90 minutes). The interview guide explored the housing, finances, food security, and health of participants, as well as the impact of POH on their lives. Questions most relevant to the experience and determinants of food insecurity addressed type of shelter, access to kitchen facilities and food storage, perceptions of their neighbourhood, sources and adequacy of income, periods of insufficient quantity, poor quality, or limited diversity of food, and management strategies employed during such times. Physical health, mental health, and sexual health were also discussed, along with healthcare behaviour including ART adherence and access to clinics and hospitals. All interviews were audio-recorded with permission from participants, and recordings were later transcribed verbatim. We provided participants with $20 in cash at the end of their interview.

Data analysis

Transcripts were coded and analysed according to content analysis methods[34]. During the data collection phase, five researchers followed an integrative inductive-deductive approach to develop a codebook[35], using both the interview guide and an initial review of the data to produce a preliminary list of codes and sub-codes. This approach provided us with an organising framework while also leaving room for new codes to emerge from the transcripts, which were read and discussed by the study team as

interviews proceeded. The team then refined this code list into a final codebook. The primary interviewer coded all transcripts using the qualitative text management software Dedoose. Transcripts were double-coded at pre-determined intervals (every four transcripts; *n*=8), with discrepancies discussed and resolved by consensus within the study team to validate the codebook and maximise coding reliability. Excerpts captured by the codes and sub-codes were reviewed in light of their original context and discussed by the research team to reach consensus and identify salient themes. Selected quotations were chosen to illustrate key themes and sub-themes.

Ethics statement

Our study was granted ethical approval by UCSF's Committee on Human Research in January 2014. Participation was voluntary and affected neither receipt of standard POH services nor enrolment in the *Food=Medicine* programme. Informed written consent was obtained from all participants.

Results

The majority of participants were men, aged between 45 and 65, well-educated, and never married or divorced (**Table 1**)broadly representative of POH's HIV-positive client base. It also emerged in the interviews that the overwhelming majority received income exclusively through disability benefits, most commonly SSI. Three highly salient themes relevant to the lived experience of food insecurity emerged from the interviews: insufficient quantity of food; poor quality of food; and strategies for procuring food. The most salient theme relevant to the structural determinants of food insecurity was an imbalance between participants' rent payments and the income they received through disability.

Insufficient quantity of food

Roughly half of participants described periods in their lives during which they could not get enough to eat. The reasons behind these episodes were financial in almost all cases. For some participants, periods of insufficient quantity came about cyclically towards the end of the month. This type of situation is illustrated by a female San Francisco resident whose interview took place on the nineteenth day of the month:

> *"Like this morning, I had nothing to eat. Because [my roommate] ate the last eggs up and the last oatmeal. And tomorrow is Tuesday, so I'll be ready to go back here [to POH] to pick up my food. But Saturday, Sunday, and today: three days I haven't ate. . . . Because I was out of food. And I was like, 'I want to ask somebody to lend me $5,' I mean just go get a box of eggs. And then I said, 'No, payday is almost here. I can struggle it out.'"*

For other participants, insufficient quantity of food was experienced in more defined and sustained stretches of time. A male Alameda County resident had recently suffered such a period in his life owing to a lengthy spell of severe financial hardship:

> *"You go around hungry and hope for the best, you know, and I've even gone as far as standing outside stores and asking for a quarter or a dollar or something like that. And some days I'd just eat potato chips and a soda, you know? Yeah. There's been some pretty rough times."*

Several participants had become accustomed to long-term dependence on POH for almost all their food. Given the limitations to POH's standard services, shortages in such situations were routine as illustrated by this male San Francisco resident:

> *"[I skip meals] every week. Something goes every week, yeah. . . [I skip] breakfast and lunch. And sometimes dinner don't eat nothing at all. And drink a lot of water."*

For those who had experienced chronic food shortages, the consequences for their health were often a salient concern. A male Alameda County resident, dependent on POH for all his food, described living long-term with severe food insecurity and HIV/AIDS as follows:

> *“No, it’s never enough food. . . . It’s a really hard kind of situation sometimes to express how difficult it is to survive. Especially with this [virus], the body deteriorates in so many ways. And for me, I’ve seen people through the years just fall apart.”*

Poor quality of food

The majority of participants described long-term struggles in obtaining food they considered to be desirable, of high quality, or sufficiently healthy. Such experiences almost always stemmed from low finances, as illustrated by this male Alameda County resident:

> *"[It's] not just that you’re not getting enough to eat, but that you’re eating stuff that you would just never eat. But it’s just cheap and you have to eat it."*

Participants generally reported knowledge about healthy eating, but explained that the price of healthy food often ruled out the possibility of realising an optimal diet. As implied in the quote below from a female Alameda County resident, the economics of living on a low-income budget could sometimes require a trade-off between obtaining a sufficient quantity of food and maximising the nutritional value of participants’ diets:

> *"I like to eat healthy things, you know, not just a bunch of junk. And when you’re broke, you have to get a bunch of junk. Because that’s what you're going to spend your money on, that’s what you can get: a whole lot of junk."*

Quality was almost always compromised in order to obtain enough food not to go hungry, such that participants who had lived through defined periods of insufficient quantity

described effectively graduating to another form of food insecurity in which hunger was less salient but diet was often perceived as low quality, unhealthy, or undesirable. The health consequences of this type of food insecurity were often evoked. A male San Francisco resident put it this way:

> *“My health right now is probably about 50% of what I would like it to be. I’d like to be a lot healthier. But then the economics stop me from being a lot healthier, because I’d need to eat a lot more nutritious food to be a lot healthier. And that limits that, because of the finances.”*

Strategies for procuring food

Living with these issues in a low-income context often required participants to be resourceful in their attempts to obtain food. Common strategies for avoiding hunger included stockpiling food in times of plenty and relying on friends and/or family for food or money to buy food. A male San Francisco resident described a form of risk pooling among acquaintances experiencing similar food security challenges by sharing food:

> *“I have a little network of people. They’re not HIV-positive, but sometimes they don’t have food. And I am now the main warehouse [because of the food assistance from POH]. You know? So I share with people. They share back."*

Participants talked about how being able to store frozen meals from POH and heat them up at a later date allowed them to manage the food they received in accordance with their own struggles. Multiple participants described stockpiling POH meals in reserve during times of relative plenty, and many conceptualised the regular supply of food as an insurance pool that guaranteed at least something to eat each week, regardless of other struggles. A male Alameda County resident described this approach:

> *“If I get enough [food] I’ll try to skip a dinner and eat some groceries, maybe once a week, to save a frozen meal. I try to keep three or four saved up. You never know; always expect the unexpected.”*

If there was money to buy additional food, participants would then stretch it out to supplement the assistance from POH, and here they would prioritise quantity over quality.

Many participants also relied upon other food assistance programmes in addition to POH, including the soup kitchens in San Francisco and food banks and pantries on both sides of the Bay. As with POH, however, these organisations did not universally protect against hunger or a poor diet. Limited opening times, lengthy queues, poor quality meals, and participants’ pride were all cited as barriers to using soup kitchens, while the food given out at food banks and pantries was often described in unfavourable terms. A female Alameda County resident spoke of her experiences with a food pantry in Oakland:

> *“There’s times when my money would run out and I tried to call like churches and different places to get food and, man, I even had [my partner] come with me to go to some place out there off [cross-streets in Oakland], it was this church. And what they gave me was a bag of rice and a can of soup with a couple apples and some stale bread. I was like, 'Oh, my God. What the hell I’m going to do with this? Except for use this bread for a hockey puck.' Serious, you know? And that’s real sad. When you really need something, you know, where you think you can get help from. No, it ain't cool.”*

Other resourceful strategies described by participants for procuring food included taking part in studies for vouchers or cash, dumpster diving, recycling bottles for cash, and selling a local street newspaper.

While several individuals described how dependence on friends, family, and local non-profits for food often felt uncomfortable, many participants were also pushed to procurement strategies that in addition would widely be considered socially unacceptable.

A prominent example is stealing food—a strategy that had been employed at one time or another by several participants. These included a male Alameda County resident:

> *"Some days good, some days bad. Would I take my life on it? No. I'll do what I have to do first. . . . What that details in, I really can't say. I'm not going to be stupid and rob a bank or kill somebody, I'm not stupid. But I will take something from the store or something. I won't take nothing from nobody like you or me who are working, I'll go over to a store if I need, you know what I'm saying?"*

Similarly, a female San Francisco resident described how she felt about stealing food:

> *"Yeah, I had to steal [food]. That's not a comfortable feeling, you know, when you're not a thief. But I get hungry and yeah, I went to Safeway, and I had to steal some food. Yeah, so that's not a comfortable feeling."*

Other personally and/or socially unacceptable strategies for obtaining food or money to buy food included checking into homeless shelters explicitly for meals despite renting an apartment, sneaking into buffet events at a local university, earning extra income without declaration to the Social Security Administration, exchanges involving sexual activity, and selling prescription drugs including treatments for erectile dysfunction and morphine. This last approach was the preferred strategy of a male San Francisco resident:

> *No [I don't skip meals towards the end of the month because] I have a little thing going on, I have this [acquaintance] . . . from Arizona, and he's the one that I send pain pills [morphine] to, and he always sends me an advance. So I don't usually go through that [kind of] thing."*

Imbalance between rent payments and disability income

Food was reported as a high priority by participants, who were mostly forced to give up things they considered to be less necessary expenses, including entertainment, travel, toiletries, and new clothes. While other necessities such as laundry and access to a phone sometimes competed with food, shelter frequently emerged as a top priority among participants, several of whom had experienced homelessness. Paying rent often used up a sizeable proportion of monthly income, however, and rising rents and gentrification in the Bay Area often surfaced in the interviews. A male San Francisco resident spoke frankly about the changing face of the Tenderloin, a notorious low-income neighbourhood close to downtown San Francisco:

> *"[The Tenderloin] is changing a lot: the rich are trying to get in here and live here. They want to kick all the sick and poor out. And they're being successful at it too."*

Another male San Francisco resident expressed his views in equally forthright terms:

> *"I believe in twenty years there won't be any poor people in San Francisco. . . . Because the housing that's in San Francisco now, and the housing that's being built in San Francisco, is being built for people that have double and triple the income of somebody that's on social security."*

Participants living in Alameda County, particularly Oakland, articulated similar perspectives.

Two key mechanisms emerged through which participants could afford to keep living in San Francisco and Alameda County. First, participants who had lived long-term in apartments covered by rent control policies had more affordable rents. Only around a third of participants had lived in their current dwelling for over 10 years, however, and many lived in apartments not covered by rent control, e.g. those in San Francisco built after

1979. Second, approximately two-thirds of participants had been able to obtain a rent subsidy to lower the out-of-pocket monthly expense. Participants reported receiving rent subsidies from a wide range of public (e.g. Section Eight, Shelter Plus Care; ~60%) and private (e.g. San Francisco AIDS Foundation, Catholic Charities; ~40%) institutions. Using subsidies in the private rent market was far more common than living in low-income or supportive housing, which was the case for only a few individuals.

In some cases, the subsidy was given as a fixed-value voucher; in other cases, the participant paid a certain percentage of their income. Regardless of which, most participants with a subsidy ended up paying around 30% of their income towards rent (although this proportion was far higher in some cases, and rarely lower). This left the majority of participants with between $300 and $900 income for the rest of the month. Rent subsidies thus emerged as a crucial, if variable, protective factor, freeing up funds for basic living expenses including money to buy food. A female Alameda County resident explained the importance of her rent subsidy from the federally funded Shelter Plus Care programme:

> *“See, I have Shelter Plus [Care]. . . . It's for people that have health issues. Yeah, I was selected for that, thank God, because I only get like eight-something a month, and this place is $825, so I wouldn't have been able to afford this place. . . . With the help, I pay $256 a month, thank God, because I couldn't handle it. And then the rest I live off of, and I pay my PG&E and my phone bill, and I'm able to get dry goods and other stuff that I need. So I’ve pretty much got just enough to make it through the month.”*

Illustrating the extreme financial hardship that could result without a rent subsidy, a male Alameda County resident explained the mechanism behind his prolonged struggle with severe food insecurity as follows:

"No, in fact, recently I just got [the $200 rent subsidy] within the last six months. I only get $925 a month, and before then I was paying the whole $900 [for rent] and I was getting food from the food bank and [POH] and just where I could, because I couldn't afford it. But I had to have a place to stay, so…"

In a similar situation, the partner of another male Alameda County resident was recently deceased, and this participant was suddenly faced with paying a $900 monthly rent for his one-bedroom apartment on an $891 SSI cheque.

While rent subsidies might have prevented participants from having to relocate, most still experienced perpetual financial hardship even with the subsidy, which in turn manifested as food insecurity. This discordance was explained by a male Alameda County resident:

"When you get a raised increase in social security, it's not really [enough]… I think they don't include either rent or something else when they figure that out, so I don't know why it's called a cost of living increase. . . . So in the years that I've been on social security, I was able to afford a lot more before and it just keeps getting smaller and smaller as time goes on."

Another male Alameda County resident evoked similar sentiments:

"I think it's a shame because a lot of times the money that you do get from the disability is really not enough to do anything. You know, when you get seven, eight hundred dollars a month you think that's a lot of money, but if you're staying on your own, you know, that's nothing. You've got to pay rent or be in the streets, you got no choice to make. . . . And the SSI don't go up. I mean, you may get a dollar or two, or maybe five dollars every two years, but rent goes up, what, once a year, so what can you do?"

The key structural determinant of food insecurity that emerged from the interviews, therefore, was an imbalance between income received through SSI or SSDI and participants' monthly payments for rent. As a result, money left over for the rest of the month was often extremely limited, contributing to the lived experience of food insecurity described above.

Discussion

Participants across our sample related long-term struggles with food insecurity, and described a range of experiences that encompassed every aspect of food insecurity as it is defined. At the most severe end, many participants had experienced times of significant food shortage during which either hunger was a salient experience or the anticipation of hunger was a serious source of anxiety, and for some individuals such periods would arise with relative frequency, often towards the end of the month. Many participants also found that they were routinely unable to afford a diet that they perceived to be sufficiently healthy, and considered this to be of detriment to both their general and HIV-related health. Faced with these issues, participants turned to a multitude of strategies aimed at procuring either food directly or money to buy food, many of which they found personally uncomfortable and some of which would widely be considered socially unacceptable. These included long-term dependence on friends, family, and charity—mainly soup kitchens and food banks and pantries—as well as risky strategies such as sexual exchange, stealing food, and selling controlled substances.

These experiences with food insecurity arose almost exclusively from severely limited finances, and financial viability was seriously constrained across the sample. Moreover, participants revealed a strong, structural pattern to the hardships described: in most instances, the payment of rent used up a disproportional percentage of their monthly disability cheque (SSI or SSDI) such that any money left over was insufficient to cover a

healthy or sufficient diet. This consistent imbalance between rent prices and disability payments has been previously identified among drug users in the United States[36], and its recognition as a structural cause of our participants' long-term struggles with food insecurity permits us to search for appropriate targets for intervention and policy change. Doing so, however, requires thorough consideration of gentrification and disability policy in the United States.

Gentrification, technology, and disability in the post-industrial era

Gentrification is "the process by which higher income households displace lower income residents of a neighbourhood, changing the essential character and flavour of that neighbourhood"[37]. In the United States, public policy shifts since the Second World War have produced various iterations of this phenomenon. The "first wave" of gentrification resulted from state-sponsored and publicly regulated efforts at sporadic post-war urban regeneration, whereas a "second wave" followed private sector redevelopment of inner city neighbourhoods in the 1980's[38]. Since the 1990's, however, large-scale public-private partnerships for "urban renaissance" have become a staple of urban policy, reflecting the resurgence of *laissez-faire* market economics, privatisation, and deregulation often referred to as "neoliberalism"[39]. This entails the privately financed residential and cultural revamping of entire neighbourhoods justified by appeals to jobs, taxes, and tourism, with the consequent displacement of original low-income residents designated the "third wave" of gentrification[38,39]. Important collateral effects of this process may include exacerbated social exclusion of those who remain in these neighbourhoods, magnified neighbourhood polarity and segregation, and worsened health inequalities[40,41].

The current gentrification of the Bay Area should be understood in this light. Throughout the 1990's, the City of San Francisco undertook "quality of life" measures to render its streets more attractive to the principal agents of wealth creation: tourists, middle-

class taxpayers, and corporate investors[27]. Using this same logic two decades later, city authorities have sought to leverage the current technology boom centred further down the peninsula for more localised economic gain, enacting a series of policies designed to draw the industry and its employees into the city[42]. In this manner, urban regeneration has become a requisite for the market-driven economic advancement of the Bay Area. In the absence of the public funding enjoyed by cities of bygone eras, however, which naturally supported a multitude of social programmes for the welfare of the urban poor, the private sector architects of the new city landscape have no real mandate for social provision[39] even in cities as historically progressive as San Francisco and Oakland[27]. The result is gentrification, which is reflected in our participants' cynical narratives on neighbourhood and citywide trends that they felt were penalising low-income individuals characterised primarily by the increasingly unaffordable burden of ever-rising rents.

Almost all our participants described receiving monthly disability payments as the majority of their income. The most common source was SSI, a welfare programme created in 1972 to provide "monthly cash payments in accordance with uniform, nationwide eligibility requirements to needy aged, blind, and disabled persons"[43]. This scheme is grounded in a federal base rate ($721 in 2014) to which states can add at their discretion; in California in 2014, the maximum monthly income for a single adult living alone was $961. This system of federal uniformity, unchanged since the 1970's, means that recipients across the nation receive similar incomes despite the need to meet sometimes dramatically contrasting expenses. While some flexibility exists at the state level, the cost of living can vary substantially even by county for states such as California[44]. Similar issues exist for SSDI, which, while more flexible, averaged only $1,148 per month nationwide in 2014.

Living on disability benefits therefore becomes precarious in the context of rapid, localised economic growth and gentrification, which directly explains the narratives of food insecurity related by our participants. A key tenet of urban regeneration programmes is the proposed enhancement of social integration among original inhabitants of regenerated areas alongside the development of physical infrastructure and economic growth supposedly achieved, in part, through the provision of projects such as employment centres[45]. Our findings, however, paint a wholly different picture: excluded from the labour market and reliant on limited and inflexible state payments, the PLHIV in our study had little access to the potential benefits of state-encouraged urban regeneration while its effects on the rent market further constrained their financial viability leading to severe financial hardship and food insecurity as the alternative to displacement. We argue that this is a clear case of structural violence, characterised by a failure to protect the health and wellbeing of vulnerable individuals from the collateral effects of large-scale economic forces.

A call for structural intervention

The dangers of food insecurity for PLHIV are well established: sexual risk, sub-optimal adherence to ART, and poor clinical outcomes are the likely downstream effects of the structural violence described here[14–22]. The mechanisms uncovered by our data, however, direct us to the forms of structural intervention most likely to succeed in interrupting this process. It follows from our findings that policymakers can intervene from two possible angles: (1) by protecting vulnerable populations from the market effects of urban regeneration, and (2) by helping state-dependent individuals to afford an adequate and sufficiently healthy diet. Both these angles surfaced in our findings. In the first instance, rent subsidies and rent control policies helped participants to afford shelter. In the second, private sector food assistance organisations (i.e. POH, soup kitchens, food

banks and pantries) alleviated food shortages to some extent. These interventions, however, were collectively insufficient to protect against food insecurity in the context of the persistently gentrifying Bay Area: instead of facilitating an acceptable standard of living, they merely enabled basic survival and the resistance of physical displacement. This echoes previous qualitative findings that suggest paying even a third of low incomes (including disability benefits) towards rent puts critical strains on resources[36].

Accordingly, policy change is required. Given that urban regeneration is now a structural cornerstone of the modern productive urban economy, far more comprehensive housing support for vulnerable individuals is needed in the most heavily affected areas if gentrification, displacement, and the deeper entrenchment of socioeconomic polarisation and poverty are to be avoided. Demand for rent subsidies and supportive housing already outweighs supply[36,46], and the rent subsidies that many of our participants had managed to obtain came from HIV/AIDS-specific foundations or programmes, in line with evidence that suggests being HIV-positive makes it easier to obtain a subsidy[46]. The situation may be even more desperate for those suffering from other chronic illnesses, requiring urgent attention. Similarly, the adequacy of disability policy should be reassessed in the context of a deregulated market economy, along with other aspects of welfare that can influence food insecurity, e.g. SNAP eligibility criteria.

For people like our participants, however, more immediate action is needed in the interim. Accordingly, POH has rolled out its fully comprehensive *Food=Medicine* pilot programme, which represents a previously unexplored approach to food assistance. In addition, the Patient Protection and Affordable Care Act presents a policy window for inclusion of medically tailored meals (such as those provided in the new programme) in state and federal insurance programmes including Medicaid and Medicare. These meals could be provided by community organisations such as POH that would then be

reimbursed[47], creating a path of direct policy intervention strongly indicated by the data presented here.

Study limitations

Our study has limitations. Firstly, owing to the logistics of the *Food=Medicine* pilot programme, our sample consisted of clients who had demonstrated good compliance to POH services in the past. This recruitment strategy may have filtered out clients with particularly unstable life situations and drivers of food insecurity such as substance use and chronic homelessness. Secondly, participants were generally well-educated and middle-aged to elderly. Although the structural forces described reinforced their low socioeconomic status, it is possible that some may have fallen into this bracket in the unique socio-cultural context of the early HIV/AIDS epidemic, distorting applicability to the present day. Finally, while the experiences and mechanisms of food insecurity described here likely hold in other settings, they may also vary in different populations and contexts. Additional studies of food insecurity among individuals receiving disability and living with chronic disease are therefore needed, and these should be carried out in the context of different illnesses, other geographic locations, and intersecting social hierarchies of gender, race, citizenship, and sexual orientation.

Conclusion

In attempting to realise their basic human right to adequate food, the participants of this study often found themselves pushed into corners of indignity, shame, and poor health by large-scale economic forces beyond their control. Without the funds to buy the foods they wanted or required, these low-income PLHIV described struggling their way towards adequate nutrition against a backdrop of long-term illness, often falling short into absolute hunger or poor diets that prompted concerns about and consequences for their physical

health. In a region of significant wealth and economic growth, these narratives represent both a stark injustice for those directly concerned and a failure of aspects of American public policy. If policy changes are to interrupt this process with success, they must extend beyond food-specific solutions to address issues of low-income housing and state financial support in the modern economy. Only broad, structural approaches that employ a nuanced eye for the larger inequities at play can help chronically ill and vulnerable individuals to escape from the serious indignities and negative health consequences of food insecurity in the 21st century.

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Table 1. Participant demographics.

	n	%
Age:		
39 - 45	4	12
46 - 55	16	47
56 - 65	11	32
66 - 70	3	9
Gender:		
Male	28	82
Female	6	18
Disease severity:		
Mildly ill	17	50
Severely ill	17	50
Residence:		
San Francisco	21	62
Alameda County	13	38
Race/ethnicity*:		
White/Caucasian	17	50
Black/African American	16	47
Asian	0	0
Hispanic	6	18
Other	5	15
Highest level of education completed:		
Primary school	4	12
High school	3	9
General Educational Development	2	6
Some college	14	41
College - undergraduate	7	21
College - graduate	4	12
Current housing status:		
Apartment or house	26	76
SRO or nightly hotel	6	18
Staying with friends	2	6
Marital status:		
Married	2	6
Widowed	3	9
Divorced	9	26
Separated	1	3
Never married	15	44
Living with partner	3	9
Other	1	3

*Participants could self-identify as multiple categories.