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## When Diabetes Confronts HIV: Biological Sub-citizenship at a Public Hospital in Nairobi, Kenya

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*This article investigates how international donor policies cultivate a form of biological sub-citizenship for those with diabetes in Kenya. We interviewed 100 patients at a public hospital clinic in Nairobi, half with a diabetes diagnosis. We focus on three vignettes that illustrate how our study participants differentially perceived and experienced living with and seeking treatment and care for diabetes compared to other conditions, with a special focus on HIV. We argue that biological sub-citizenship, where those with HIV have consistent and comprehensive free medical care and those with diabetes must pay out-of-pocket for testing and treatment, impedes diabetes testing and treatment. Once diagnosed, many are then systematically excluded from the health care system due to their own inability to pay. We argue that the systematic exclusion from international donor money creates a form of biological sub-citizenship based on neoliberal economic policies that undermine other public health protections, such as universal primary health care. [diabetes, HIV, biological sub-citizenship, Kenya]*

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\*These two authors put in equal work to the manuscript.

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## Introduction

My HIV/AIDS care is provided free of charge but other diseases such as diabetes I pay for, something that is making my life difficult because I can't afford these services. [...] It is also hard for poor people like us to afford special meals for diabetes. (Sarah [pseudonym], a 52-year-old woman in Nairobi, Kenya)

A HIV positive person on ARV will not get sick. But diabetes, people get sick. (Lucy [pseudonym], a 31-year-old woman from Nairobi, Kenya)

Sarah's and Lucy's comments introduce how differential costs for chronic diseases can have an impact on social and economic lives at an urban hospital clinic in Kenya. The emergence of type 2 diabetes among communities already overburdened by HIV and AIDS introduces a new social and economic complexity to an already difficult situation. Specifically, HIV treatment and care are provided free of charge due to international donor money, but people with diabetes must pay out-of-pocket for care. Thus, while health financing decisions are made far from the clinics they affect, the social realities these decisions create have impacts close to home, revealing how international policy decisions impact both how people perceive illnesses and how they interact within the health care system.

In this article, we argue that a form of biological citizenship can be seen in Kenya, wherein those who have HIV are recognized (through health care financing) as those who are worthy of health care, while those with other debilitating chronic conditions, such as Type 2 diabetes, are systematically excluded from the health system due to an inability to pay. The concept of biological citizenship, as Rose and Novas (2005) have defined it, refers broadly to "citizenship projects that have linked their conceptions of citizens to beliefs about the biological existence of human beings, as individuals, as families and lineages, as communities, as population and races, and as a species" (p. 440). They argue that "making up citizens" reshapes how people are defined by authorities and therefore deserving of recognition for a certain biological existence.

In her book *Life Exposed*, Petryna (2002) describes biological citizenship as "a massive demand for but selective access to a form of social welfare based on medical, scientific and legal criteria" (p. 6). More recently, Wahlberg and Rose (2015) have taken this concept a step further to argue that biological citizenship involves the "governmentalization of living," in which global health investment priorities determine which targeted conditions might make a population more "productive" (p. 86). Sparke (2017) argues further that this leads to a form of biological sub-citizenship, where "real resources are invested that save lives, but so many places and political-economic pathologies are left unaddressed" (p. 288). This does not depart significantly from the concept of "therapeutic citizenship" suggested by Vinh-Kim Nguyen (2005, 2009), where those suffering from HIV could claim their rights to health care on the basis of their HIV-status alone, rather than on the basis of poverty, social disadvantage, or other illnesses. Indeed, diabetes does not provide a similar political or social power.

In Kenya, sub-citizenship arises in part because the health care system is fragmented, with both public and private options. Most of Kenya's low-income citizens seek public services as a right of citizenship—a fundamental participatory action of people residing within a relatively stable democracy (Van de Walle and Scott 2011). Although in-patient care is covered by the National Hospital Insurance Fund, no mechanism covers the needs of low-income patients whose diseases exist outside of health financing priorities (Okungu et al. 2017). This produces a challenge because, although the Kenyan discourse around health care gives lip service to universal health coverage (Mwangi 2013), comprehensive health care is only provided for mothers and children and those infectious diseases prioritized by the international donor community (Nguhiu et al. 2017).

Like many other lower-middle-income countries whose health financing depends in part on international donors, out-of-pocket payments remain one of the only ways to pay for care for non-priority diseases like diabetes that require consistent self-care. This cultivates the type of sub-citizenship Sparke (2017) refers to, in which the disease selectivity of global health programs is driven by concerns with targeting resources on cost-effective interventions. Prioritization is not necessarily surprising, nor is the fact that conditions like diabetes reflect a localized manifestation of one's environment—what Margaret Lock (1993, 2001) has described as “local biology,” where foods, fats, toxins, stress, and other external factors become embodied in metabolic realities. While antiretrovirals (ARVs) are somewhat clear-cut and cost-effective biomedical interventions for HIV (Laurie 2015), the complexities that drive diabetes onset and complications are harder to mitigate, including the common biomedically prescribed “behavior change” interventions (see Carney 2015) that may appear too challenging and costly to tackle.

The concept of sub-citizenship describes the problem in Kenya, where those with diabetes are discriminated against because of their biological condition as a result of the prioritization of infectious disease treatment over other diseases. The prioritization of infectious diseases is not new, as they have been the focus of global health interventions since colonial medicine (Packard 2016). Still, those with diabetes and other non-communicable diseases are systematically excluded from care because of the out-of-pocket payments required to access diabetes diagnoses and care. This situation is exacerbated by poverty afflicting those citizens who must seek care in the public sector due to their lack of health insurance because they work in the informal economy. Diabetes exclusions from international aid funding are tragic in comparison with the extraordinary healing power of biological inclusions such as those prioritized by the Global Fund and President's Emergency Plan for AIDS Relief (HIV, tuberculosis, and malaria) (Benton 2015). Biological sub-citizenship arises as donor prioritizations fail to align with the epidemiological and experiential realities of the populations they serve.

This article investigates how biological sub-citizenship fundamentally shifts how people navigate the health care system and manage other diseases, with a special focus on diabetes. Sarah's suffering provides a starting point for interrogating this complexity, demonstrating how one's inability to pay for out-of-pocket costs determines which conditions individuals prioritize and deem “manageable” in their everyday lives. The extraordinary impact of HIV and AIDS on the general

population in Kenya has been widely documented, but only recently has epidemiological surveillance, such as the Diabetes Atlas (IDF 2015), documented the extraordinary escalation of diabetes in the region. These indices suggest that between 9.5 and 29.3 million people live with diabetes in the Africa Region—the large variation in possible numbers being due to the notion that three-fourths of people living with diabetes are estimated to be currently undiagnosed (IDF 2015).

In Kenya many people remain undiagnosed in part because of lack of both detection because of unfamiliarity with diabetes symptoms and absence of routine testing within primary care settings (Brown et al. 2015). Yet, more than half of hospital admissions and deaths in Kenya are attributed to non-communicable diseases, including diabetes (El-Busaidy et al. 2014). With an estimated 10% of those residing in Nairobi slums having diabetes (Ayah et al. 2013), comorbidity with HIV is common (Remais et al. 2013), especially as people with HIV are living a decade longer today than they did before access to antiretroviral therapy (ART) was improved (Johnson et al. 2013). Even though some argue that funds for HIV treatment and care remain insufficient (McGrath et al. 2014), these gaps in diabetes care need to be taken seriously not only because people on ART increasingly develop diabetes but also because diabetes is materializing among low-income communities, often dovetailing with other complex conditions such as depression, tuberculosis, and hypertension (Leone et al. 2012; Mendenhall et al. 2017). Recognizing how the health system affects individuals and their health is even more imperative as we begin to discuss the scale-down of international aid funding and scale-up of health systems funding (Kenworthy et al. 2017).

## Setting and Methods

Our research was conducted in a public hospital clinic at Mbagathi District Hospital, one of the largest feeder hospital clinics for Kenyatta National Hospital. Kenyatta National Hospital is the oldest hospital in Kenya. It serves as a public, tertiary referral hospital for the Ministry of Health and as a primary research and teaching hospital for the University of Nairobi. But Mbagathi District Hospital is much smaller physically and in relation to the number of people it serves. Many people from Kibera, the second of the largest urban informal settlements in Africa, seek medical care at Mbagathi simply because of its location and accessibility. This hospital provides diabetes clinics twice per week and is one of the few diabetes clinics across the city for those seeking specialty care. Half of our participants were drawn from this specialty clinic; the other half were invited to participate from the clinic providing primary health care services.

We conducted 100 extensive life history narratives with patients seeking care at Mbagathi, in addition to observations at the hospital, other surveys, psychiatric inventories, and biological data. This article draws its conclusions from the interviews to identify emergent themes around living with diabetes, HIV, depression, tuberculosis, malaria, and other co-occurring conditions, with a focus on the complexities of health care seeking. The themes we identified emerged from a critical analysis of 33 “core-themes” and a number of “sub-themes” that involved a broader scope. The key themes ranged from specific life stressors to structural factors that shape everyday lives, perceptions of and experiences with disease and illness, and important

meaning in one's social world. Once the list was agreed on, the four participants of the research team developed a codebook with explicit definitions of each theme. Two research assistants carefully coded narrative interviews, and the second author, assisted by two research assistants unrelated to the study, reviewed codes to ensure that the codes and text corresponded and reflected the definitions generated by the research team.

We have published more extensively elsewhere about our participants with whom we conducted lengthy one-time life history narrative (and other mixed-methods) interviews at a public hospital in Nairobi, Kenya (Mendenhall et al. 2015). For this article, we have selected three exemplars that reveal the emergent themes at the center of this article to show the dynamics of biological citizenship undergirding the tension between HIV and diabetes care.

Among these 100 individuals seeking care from the public hospital, most were living along or below the poverty line—although they were not exclusively the poorest of the poor. Nearly all participants resided in slums but showed some socioeconomic diversity: One-fourth reported a private flush toilet in their home (higher income), and around half reported a communal toilet (lower income). Two-thirds of the participants were 50 years or younger and born outside Nairobi. Half were ethnically Kikuyu, one-fifth were Kamba, one-tenth Luo, and the rest were Luhya, Embu, Kisii, or other. Nearly all had been married at some point in their lives, many had co-wives, and three-quarters had more than two biological and/or adopted children. Two-thirds of women completed primary school or less, compared to 40% of men. Yet, more women (20%) completed technical or professional school, compared to men (10%). Twice as many women reported casual or contract labor or being employed with a pension compared to men. Most people had poor diabetes control, and this included those diagnosed ( $n = 50$ ) and undiagnosed ( $n = 50$ ) with diabetes; however, more than half of those undiagnosed had glucose intolerance ( $A1c \geq 6.5$ ). But fewer were obese, with one in three women and one in eight men meeting the international guidelines for obesity. More than half of women (56%) reported depressive symptoms compared to 10% of men. More women (50%) than men (28%) reported hypertension, and nearly every two in three (74%) reported ever having malaria (Table 1). Few reported having tuberculosis, chest pain, and HIV/AIDS. Women had more comorbidities than men.

### The Cost of Diabetes in Nairobi

Societal concerns around health and disease in Kenya include socioeconomic and political factors that promote individual risk for disease as well as whether or not the health care system is capable of managing these health problems. For instance, when health systems are weak with insufficient clinical services and equipment, accessibility challenges and frequent drug stock-outs make provision of care for chronic diseases difficult (Goudge et al. 2009). With escalation of chronic conditions like diabetes that require routine medical care, the health system is increasingly challenged, resulting in calls for improvement in the health system's responsiveness to these diseases in particular (Atun et al. 2013). As a result, limited structured care programs have developed in low- and middle-income countries to target non-communicable diseases, including diabetes (Atun et al. 2013).

Table 1. Sample Demographics

	Women ( <i>n</i> = 50)	Men ( <i>n</i> = 50)	Total ( <i>n</i> = 100)
Residence ( <i>n</i> , %)			
Urban	47 (94%)	44 (88%)	91 (91%)
Rural	3 (6%)	6 (12%)	9 (9%)
Marital status ( <i>n</i> , %)			
Married	48 (96%)	48 (96%)	96 (96%)
Unmarried	2 (4%)	2 (4%)	4 (4%)
Education ( <i>n</i> , %)			
Primary school or less	31 (62%)	20 (40%)	51 (51%)
Secondary school or more	24 (48%)	25 (50%)	49 (49%)
Employment			
Employed	41 (82%)	34 (68%)	75 (75%)
Unemployed	6 (12%)	16 (32%)	22 (22%)
Income ( <i>n</i> , %)			
Daily use of pit latrine	15 (30%)	32 (64%)	47 (47%)
Daily use of flush toilet	35 (70%)	18 (36%)	53 (53%)
<i>Biomarkers</i>			
Obese	32% (16)	14% (7)	23% (23)
Diabetic (A1c < 6.5)	76% (38)	66% (33)	71% (71)
Uncontrolled diabetes (A1c > 8.0)	42% (21)	34% (17)	38% (38)
Depression	56% (28)	10% (5)	33% (33)
<i>Self-Report</i>			
Hypertension	50% (25)	28% (14)	39% (39)
Malaria	68% (34)	80% (40)	74% (74)
Chronic pain	16% (8)	6% (3)	11% (11)
HIV/AIDS	8% (4)	2% (1)	5% (5)
Tuberculosis	8% (4)	8% (4)	8% (8)
Chest problem	24% (12)	12% (6)	18% (18)

Unfortunately, most health systems in sub-Saharan Africa (SSA), including Kenya, continue to rely on donor funded disease-specific vertical programs that prioritizes interventions for infectious diseases over non-communicable diseases, and thus limits the health system in caring for multi-morbidities (Bygbjerg 2012). The dearth of available human resources for health also poses challenges. Although Kenya has a stronger source of nurses, physicians, and medical officers compared to some countries in SSA, the region as a whole has access to only 3% of the world's health workforce, which is disproportionate to its disease burden (WHO 2004). The lack of a programmatic approach to solving this manpower problem exists although diabetes and HIV require health system support in terms of regular long-term follow-up of patients and an uninterrupted provision of medicines and psychological support. What can a detailed investigation of what goes on among patients in these conditions tell us about this problem?

In what follows, we describe the problem of sub-citizenship as a useful analytic for elucidating how patients perceive and experience care for their diabetes while navigating management of their health. We start with the cases of Jane and James. Then we introduce Grace, whose story underscores the social, economic, and

medical complexities of living with HIV and diabetes in a context that places priority of care for those with HIV and AIDS over those without it. In other words, we show how donor emphasis on some diseases over others trickles down to patient populations and denies them a right to care, as if their citizenship were sub-par in comparison with others. Our point is to show that donor priorities in health aid can create internal sociopolitical hierarchies that may or may not have existed prior to the arrival of such aid. That is, populations can be impacted along indices of biological vulnerability in ways that are new and a direct result of global health funding.

*Jane, a 55-year-old with Diabetes in Kibera*

Jane moved from her rural home in central Kenya to Nairobi with her husband and six children in her late 30s. Her husband ran a butchery business and for many years they were happy. But after her husband married a second wife, he moved out of their home, the butchery business collapsed, and her daughter died in a random police shooting incident. Jane fell into poverty and had to move to a smaller home in the low-income neighborhood in which she resides in Nairobi. Although unemployed, she cares for her three grandchildren. She and most of her children are unemployed and get money from casual jobs.

Jane was diagnosed with diabetes at a public hospital clinic in Kenya (17 years ago). Managing her diabetes causes her a lot of stress. Seeking medical care is one of those stresses, especially having to “queue for long hours before we see a doctor.” Because she and her children have unreliable casual jobs, the days spent seeking diabetes care are always a financial burden to her because they are days she is not earning income. But lack of money to buy medications for diabetes and the foods that the clinicians advise also causes her stress. Jane says: “Sometimes the medicines get finished and I have no money to buy more medicines. Again, sometimes I have no transport to go to the hospital during my clinics, sometimes I don’t have KSh.300 (\$3 USD) required for consultation, before I am attended to at the clinic. I also can’t afford the required foods, I just eat what is available. All these are barriers in managing my diabetes.” Jane argues that even though the required foods are readily available in the markets, she lacks money to buy these foods. She says: “If I had money, foods are there in the market, but since I have no money, I can’t do anything.”

Jane describes how her untreated diabetes affects her life: Physically, she feels weak and sick and at times unable to attend to her household chores. The disease has also incapacitated her so that she can no longer work. This has affected her economically and socially because she is financially drained and has lost all her friends: “Now that I have no money, everyone has run away from me.” Because of her untreated diabetes, Jane says that people from her husband’s side have made claims that she is not really suffering from diabetes but from HIV, or what they call a “bad disease.” She describes this experience, which she found deeply troubling: “One of my sister-in-laws hates me so much. She even abused me verbally. She talks bad things concerning me; this is something that is disturbing me a lot. I even lost a lot of weight and they started talking about me that I had a bad disease [HIV].” Yet, the irony of Jane’s condition is that if she did, in fact, have HIV, she would receive routine and comprehensive medical care for her condition. It is explicitly because she does not have this diagnosis that she does not receive care, demonstrating a double

Table 2. Health system challenges

	Women ( <i>n</i> = 50)	Men ( <i>n</i> = 50)	Total ( <i>n</i> = 100)
Cost of diabetic medication	21 (42%)	12 (24%)	33 (33%)
Long queues and long waiting time	15 (30%)	9 (18%)	24 (24%)
Lack of equipment	2 (4%)	1 (2%)	3 (3%)
Unavailability of doctor	3 (6%)	1 (2%)	4(4%)
Prescription of wrong medication	3 (6%)	0	3 (3%)
Doctors negative attitudes	4 (8%)	2(4%)	6 (6%)
Transport to the hospital	8(16%)	2 (4%)	10 (10%)
Inequalities in care for HIV versus Diabetes	20(40%)	14 (28%)	34(34%)

bind: Jane experiences stigma associated with HIV but does not receive medical care attached to the HIV diagnosis because she has diabetes.

In Table 2, we note that more than three quarters of people with diabetes reported that the cost of diabetic medication was unaffordable. In addition, due to frequent stock outs of diabetic drugs at the public hospitals, patients were forced to buy costly drugs from chemists or private hospitals. Thus, most patients with diabetes indicated that they skipped taking their medications. When you add together the consultation fee of KSh. 300 (\$3 USD), extra laboratory tests ordered by the doctors, other tests and medicines for comorbidities, and the fact that the daily wage was KSh. 300 (\$3 USD) for those working in casual jobs and less than KSh. 200 (\$2 USD) for the majority of those who are unemployed, the cost of diabetes care was too much for even people like Jane who was not the poorest of the poor. A 58-year-old male patient with diabetes reported that:

I use drugs and I have to go to the hospital and that is a very big burden. Every time I use KSh.1500 (\$15 USD); consultation fee is KSh.300 (\$3 USD), I buy drugs for three months and that costs KSh.300 (\$3 USD) per month and also food, I have to try and eat the food that was recommended to me. So that is the problem that it [diabetes] has contributed to in my life.

Continuous care was also impeded by lack of finances, as was the case for a 66-year-old woman: “I was asked to go to the lab for blood tests and X-ray scans but due to lack of money, I have not done anything and this is stressful.” Lack of money for transport to the hospital was also mentioned as a barrier to accessing medical care at the hospital, resulting in some patients buying over-the-counter medication for diabetes without the doctor’s prescriptions. One woman said: “There is a time I just went to the chemist and bought medicines from the chemist because I had no money to pay for my clinic visit” (54-year-old woman with diabetes). Finally, patients reported a lack of both the money to buy the foods recommended for healthier meals and the time expected to prepare them. A 55-year-old man said:

It [diabetes] has changed my life because initially I used to eat anything I could find. Now I have to measure everything I eat, and you know, diabetic foods are very expensive. My sugar levels would have really gone down but



it reaches a point that if you don't eat you might die so it forces you to eat even that which you are not supposed to eat.

Poverty and the debilitating effects of living with diabetes (and the impossibility of paying for routine diabetes care) have inherently barred patients like Jane from playing the role of “productive citizens” (Rose and Novas 2005; Sparke 2017). Yet, doing so is nearly impossible in a health care system that prioritizes the goals of donor agencies that focuses more on HIV than diabetes. This situation was described by some of the participants who felt that HIV care had displaced that of diabetes, as reported by a 45-year-old man with diabetes: “Foreign aid is only helping people with HIV and not us [people with diabetes], they should also care for us.” The need for strengthening health systems is recognized by donor agencies. But this is not enough because along the way, a class of subcitizens has developed by way of their diagnosis, as demonstrated by James's case below.

*James, a 54-year-old Man from Majengo, An Informal Settlement in Nairobi*

James was recently diagnosed with diabetes but was not well informed about his diagnosis. He explains: “I don't understand the disease itself, I don't know its cause, I don't know where it came from, I can't tell you.” Despite this, he describes various incidents where he has experienced challenges within the health care system while seeking care for his diabetes. Systemic issues such as long lines and waiting time before seeing a doctor, drug shortages, and doctors' negative attitudes toward the patients bothered him. He says: “There are long procedures with a lot of issues, you have to go to the doctor, the doctor sees you and sends you to another place, you go get tested then [ . . . ] it's a long process, you can even fall down. There's a time I fell down once.”

James narrates how he once felt mistreated when seeking care for his diabetes. He reports:

I think that doctor was stressed up, the doctor shouted [at me], “Do you have a number?” I said, “Yes I have a number.” “You have everything?” “Yes.” “What's the problem?” I told him: “I'm diabetic and there is a, b, c, I told him everything. . . .” “Wait out there the watchman will tell you what to do.” I went back to the watchman and he said, “Okay wait.” The watchman ran his errands first and came back later and told me “Go [to the doctor] now.” I went for the second time and he sent me away again.

James is not satisfied with the quality of care at the diabetic clinic. He also pointed out that no services for diabetes were guaranteed without money: “No treatment, no drugs, it's all about money.”

James's story points to themes that recur among other participants in our study (Table 2). They described how hospital shortages affected their ability to care for their health problems. Some patients left the hospital dissatisfied and without treatment or care as described by a 52-year-old woman with diabetes:

Sometimes the doctor sends me to a different room to be tested, I queue in the waiting bench to wait for my time to be tested. After about 2 hours,

when I get into the lab, the lab person tells me that there is no equipment to test what the doctor wants. This happened to me and they just told me to leave that room. When I went back to the doctor, he had already left. I went back home as a disappointed person.

Lack of funds in public hospitals for testing equipment led to people with diabetes failing to receive common routine tests. For instance, a man with diabetes described a clinical visit where: "That day there was only one glucometer that was being used by the clinic and the wards, so it was being taken from the clinic to the wards and from the wards to the clinic." For many, the lack of testing equipment for other routine health conditions caused stress, as described by the following 36-year-old woman seeking primary care:

Sometimes, I am told to go to other private hospitals for major lab tests because there are no machines to test in the public hospital. When I get to these well-equipped hospitals, they are very expensive. That makes me go back home without being treated. I will never stop being stressed up.

Sometimes the doctors were not available during clinic visits, as described by one middle-aged woman with diabetes: "I have missed the doctor many times." Even when the doctors were available, it was reported that they were very slow and that services were sluggish, something that contributed to bottlenecks on the lines. Because they were few, doctors were often overwhelmed by the large numbers of patients seeking care. They often try to work quickly to "clear" the queue; this led to patients feeling that they were rushed and were not given quality care. One middle-aged man without diabetes explained: "I usually spend less than 5 minutes because there are many other patients waiting who want to be attended to."

A common description across the diabetes narratives wove together a technical exclusion (e.g., insufficient equipment in diabetes clinic) as well as a clinical exclusion defined by the doctor's negative attitude toward those with diabetes. This was alluded to by negative comments about diabetes care and more positive attributes about the HIV clinic, such as the "HIV clinic is well organized" and "doctors at the HIV clinic are friendly." According to one 52-year-old woman: "Like yesterday, I came to the hospital and I was telling the doctor that I have issues with my joints, he did not even look at where I was showing him, he just prescribed medicines and asked me to leave his office." The doctor may have felt rushed or overburdened; this patient felt maltreated, and connected this mistreatment with the doctor's diagnosis and subjugation of the patient's health condition. Thus, the diabetes diagnosis produces a form of sub-citizenship because patients perceive a therapeutic exclusion that does not exist for patients with HIV, who routinely receive medical attention, medication, and care.

### Biological or Therapeutic Citizenship and the Othering of Patients with Diabetes

In the first part of this article, we described how health systems have struggled to keep up with the burden of chronic diseases in places like Kenya in part because of donor prioritizations of HIV/AIDS (Shiffman 2008). The overemphasis on foreign aid agencies such as the U.S. government's Presidential Plan for AIDS Relief has left

most countries incapable of dealing with the rapid emergence of diabetes and other chronic non-communicable conditions (Marais et al. 2013). This is despite calls for more attention to health system strengthening and a new call for emphasis on obesity (Jamison et al. 2013). In two decades, Development Assistance for Health grew by 73% and was almost exclusively utilized to fight infectious disease, with one in three U.S. dollars going to fight HIV/AIDS (Shiffman 2008). In 2016/17, donor funding toward health care in Kenya was 63.4% (Ksh.19.8M (\$196,966 USD), with almost all of it committed to programs targeting HIV, TB, malaria, and maternal health while non-communicable disease funding was negligible (Republic of Kenya 2016). This led to significant differences in cost of health care services between diseases—with most infectious disease care being free and non-communicable diseases being out of pocket (Njoroge and Munene 2015).

The cases of Jane and James clearly illustrate how people feel therapeutically excluded from the health care system as a result of their diabetes diagnosis. They perceive that they are experiencing a form of clinical discrimination because their care is perceived to be worse than patients who are diagnosed with HIV. This is illustrated not only in the stand-alone HIV clinic that provides medication and free care but also in the positive patient–doctor interactions and in the shillings saved to pay for glucose testing and medications.

There is also a biological production of subjugation. Thus, Jane and James only take insulin medications when they feel bad so as to reduce cost. In part, this episodic treatment is a production of the multiple competing needs of their limited finances, including the needs of other family members, especially children and grandchildren. But by excluding their own needs and prioritizing others (as a result of the high out-of-pocket payments), Jane, James, and many others become sicker. Their biological risk is therefore closely tied to the structural violence of clinical medicine and global health, where some diseases are prioritized at the global (policy) level as well as the national (financing) level. This will be further elaborated below by Grace, who faces a dilemma when her HIV is prioritized over her other co-occurring conditions, including diabetes and high blood pressure, thereby compromising her overall health. In this case, her HIV diagnosis improves access to HIV care, while her cardiometabolic conditions remain systematically excluded from care.

*Grace, a 50 Year Old with HIV, Diabetes and High Blood Pressure in Kibera*

Grace, a widow with six children was born and raised in a polygamous family in Karachuonyo, a rural area in Nyanza province in Kenya. Having dropped out of school at the age of 15, she was married to a casual laborer residing in Nairobi. Consequently, she relocated to Nairobi to live with her husband in Kibera informal settlements. Ten years later, her husband married a second wife who had five children. Grace reported that her husband and co-wife together with three of their children later succumbed to AIDS. She said: “My husband died in the year 2000 and my co-wife died in 2004. Even the children she [co-wife] gave birth to all tested HIV positive. The first born is now in form two, others have died due to AIDS.”

Grace now lives with her two surviving step-children and her eldest son, who are all HIV positive and on ARV medications. She is the breadwinner in her family through her small business of selling food stuffs in her neighborhood. Talking

about her illnesses, Grace reports that she is not troubled with HIV because of good and free comprehensive services available at the hospital. She says: “We have free ARV medication and good doctors. The clinic [HIV clinic] offers good medical care and counseling to the patients.” She also adds that “HIV is ok because once someone starts medication, everything goes on well.” The counseling and care she receives at the HIV clinic has helped her manage her HIV well, compared to her other diseases. She adds: “HIV is better than diabetes and pressure because, HIV is easier to manage but the others are difficult to manage.” This difficulty is not due to the symptoms of diabetes and hypertension but rather insufficient clinical support and care for these diseases.

Grace, despite being in a better position than Jane and James because of her HIV infection, elaborately described many of the same stresses they talked about in relation to diabetes. She also described how her other comorbidity—high blood pressure—makes this challenging for many of the same reasons her diabetes is challenging. She tells us how managing diabetes and high blood pressure fuels stress. First, the cost of diabetic medication and the inability to purchase these costly items is stressful: “Diabetic medications are expensive, sometimes I am not able to afford the medications.” Second, she explains a situation where she is not able to control her diabetes or high blood pressure because the two diseases affect each other. She says: “Pressure has caused my sugars [diabetes] to go high. I do inject myself. I, however, do not use the insulin so much because, it affects my legs. They get [so] swollen that I can’t walk. So, I just use [it] some days and skips other days.” Lack of knowledge about how to manage her multiple chronic conditions is itself a consequence of lack of funding to train caregivers in these complicated health management regimes, and this has led to poor compliance with her diabetic medications, thus aggravating her poor health condition.

Grace complains of body aches and health-related difficulties. She says: “Diabetes and pressure are problems, especially pressure. I can’t even climb a hill. They are [so] disturbing me that I can’t even do my businesses.” Grace also directs much blame to the public health hospital where she receives her routine medical care for diabetes; she says that lack of proper clinical care for her diabetes and high blood pressure has also hurt her health. She explains that: “I was admitted for two weeks but I asked the doctor to discharge me from the hospital because the care was not good, I was not improving.” She also adds: “My heart beats a lot even when I walk for a short distance. Even today when I came to the hospital my pressure was at 200. The doctor was shocked about that. This pressure is making me tired and fatigued. Sometimes I can’t even hold a cup; it may fall down.”

HIV donor funding has contributed to vertically controlled HIV programs, which are siloed into targeted clinics, medication, and care that is not fully integrated within the health system at the district hospital where we worked. This has in some sense contributed to fragmentation of chronic care for other non-communicable diseases such as diabetes because these non-priority diseases require out-of-pocket payments. Thus, one may perceive non-communicable disease care to be systematically excluded from the health system as out-of-pocket payments can fundamentally deter health seeking (see Dugee et al. 2018; McIntyre 2015). For instance, Grace can access comprehensive care for her HIV, but her diabetes and high blood pressure are neglected within the health care system and neglected within her own self-care

priorities. Grace's case is not a unique one as others described the same concern, as exemplified by a 55-year-old man with diabetes:

If you look at the government, it hasn't provided free drugs for diabetes. You have to buy [them]. If you go to the pharmacy here at the hospital, they will tell you there are no drugs go to the chemist, and you know our drugs [diabetic medicines] are very expensive.

This systematic exclusion is shown in part by Grace and others who seek care at the HIV clinic at Mbagathi District hospital and visit the newly constructed standalone building with ample space, which is situated right behind the diabetic and TB clinics. It is one of the newest buildings in the hospital, alongside the new maternity ward that was recently opened by the governor of the Nairobi City County in 2014.

Observations at the hospital during the data collection period revealed how the HIV clinic was well organized and clean; it had enough space for patients to sit on well-arranged chairs inside the building while waiting for their consultations and treatment. In contrast, patients, including Grace, observed that TB and diabetes clinics were situated in an old small building. Although these clinics had different designated rooms for consultations, sometimes TB and diabetes patients shared consultation rooms. This depended on the number of patients who turned up to the clinic on a particular day. Patients also lined up in the same space; they sat on wooden benches outside consultation rooms. Due to limited space in the building, our interlocutors expressed dissatisfaction with sharing rooms with TB patients. One 64-year-old woman with diabetes noted: "Here we share rooms and we queue on the same benches with TB patients," something that placed them in vulnerable situations to be infected with TB. Patients' negative sentiments were repeated by a 45-year-old health care provider, who worked in a diabetic clinic in the hospital for over 10 years: "I have seen patients with diabetes getting infected with TB in this hospital due to mixing of patients and sharing of common waiting rooms."

Lack of proper care for people with diabetes influenced the way they experienced their illnesses as well as how they perceived those suffering from HIV and AIDS. This is exemplified by the following 52-year-old woman who had both HIV and diabetes and said:

Diabetes can be stressful and can lead to many problems that can make someone sick and bedridden especially thinking of how to get the medications. The many years that I have lived with HIV since 2002 up to now, I have known that HIV cannot kill a person. [...] But diabetes will kill you due to stress.

This feeling was echoed by other patients, even those who did not have diabetes, such as a 35-year-old man who stated: "Diabetes is worse than HIV because, diabetes makes someone very weak but someone who is on ARVs is very healthy and strong."

## Discussion

This article argues that international health donor policies create hierarchies of care that result in the creation of categories of biological sub-citizenship for those with diseases that are disregarded by these policies. Diabetes patients are victims of this problem. These policies and practices are tied to delayed care seeking for those with diabetes—to patients seeking care only when they become very sick. Once diagnosed, many of these patients are systematically excluded from the health care system due to their own lack of ability to pay for treatment.

This situation might not be new. Lack of diagnosis, access to care, and adequate health care resources have long been a problem for those with chronic morbidities in places like Kenya. However, with increases in the rates of such morbidities and especially diabetes, coupled with the increased attention paid to infectious diseases (to the exclusion of attention to chronic health problems), the situation has exacerbated problems of care for diabetes sufferers in Kenya.

We have argued that the priorities of donor agencies that emphasize HIV/AIDS care over diabetes care in Kenya has resulted in creating new members of sub-citizens in this country—people who are essentially denied citizenship rights because of their disease. But the problem is much deeper and points to problems that began before the shift toward (return to) care for infectious diseases in donor aid. The problems of sub-citizenship in Kenya are rooted in the lack of robust economic opportunities that propel citizens' ability to pay for health care as well as the impact of “global forms of neoliberalism that have since come to overshadow the health of the whole world amid the market-conforming pressures of market-led globalization” (Sparke 2017, 290). In other words, new shifts in the pay structure of the health sector—notably shifting toward use of private, or out-of-pocket money, for chronic diseases systematically excluded from international donor money—creates (or grows) biological sub-citizenship based on the presence or absence of a co-morbid disease. These patterns are, as Sparke (2017, 290) notes, “competitive economic processes” that undermine other public health protections, such as universal primary health care. The exclusion of diabetes from the rich supply of funding pouring into some countries for care of HIV/AIDS, TB, and malaria further exacerbates syndemic interactions between poverty and diabetes, and diabetes and HIV, through iatrogenic interactions brought about by the exclusion from services (Mendenhall et al. 2017). In what follows, we offer four key points addressing issues of legitimacy in health.

First, biological sub-citizenship is created by way of the construction of indices of legitimacy of certain diseases over others. This legitimization was seen in the physical structures at Mbagathi District Hospital, with the new buildings being reserved for HIV/AIDS while older and more dilapidated (if not health-compromising) facilities were left for those with chronic diseases. Similar findings have been reported from elsewhere in Kenya with newly renovated, widely available, and free-of-cost buildings housing the comprehensive care center for HIV and TB (Njoroge and Munene 2015). Benton (2015) calls for a recognition of an “HIV exceptionalism” in which there is an entirely different health care system and perception of sickness that comes along with AIDS funding. Diabetes is, by default, delegitimized in health care priorities. However, as conditions like diabetes escalate, the systematic exclusion of these patients from new and improved health systems will not only exacerbate

outcomes, but will also likely create inevitable clogs in the health care system—clogs that may, ultimately, undermine population health and impede economic growth (Daniels et al. 2014).

Second, among those patients who have both HIV and diabetes, a new form of sub-citizenship arises with clinical complexity that dissociates the priority of diseases within individuals as opposed to populations. Grace's narrative exemplifies this point by showing how within one life, a double process of legitimization (can claim access to HIV care) and delegitimization (cannot claim access to diabetes care) is experienced. At this point, it is not just that HIV is prioritized over diabetes; instead, one disease is medically prioritized through treatment and not other diseases from which one might suffer. This biomedical classification leads to a form of therapeutic citizenship where those with diabetes are not afforded therapeutic citizenship (Nguyen 2005, 2009), despite the extraordinary biological and social impact of the disease (Mendenhall et al. 2017). Prince (2012) has argued that HIV has become an asset for many in Kenya because it opens up spaces for recognition and for claims, and it can be used to make one visible and legible to organizations that distribute material resources and triage care. Elsewhere, studies have established that those suffering from HIV could claim their rights to health care on the basis of their HIV-status alone, rather than on the basis of poverty or other illnesses, hence they had a form of "therapeutic citizenship" (Nguyen 2005, 2009; Richey 2012).

Third, another form of legitimization is seen as a result of the major barriers (work load and costs) that impede health care providers from screening patients for multiple conditions. People like Grace have HIV for many years before they are ever tested for diabetes. After so many years of having the disease, Grace's diabetes was hard to control, and as a result of the hierarchy of neglect of diabetes care (including cost of medicines, lack of education, etc.), she rarely used medication to treat it. Delays in diagnosing one's co-morbidity is due in part to the considerable burden placed on the already weakened health care system by patients with co-morbidities (Goudge et al. 2009). But the inherent lack of capabilities to provide care for those with non-priority diseases effectually produce a lack of legitimization of patient suffering. For instance, among the 50 study participants who had never been tested for diabetes, more than half of them tested insulin resistant during our evaluation of their blood glucose, although they had never been tested themselves. This was somewhat startling given that these patients are the ones who were sick enough (assumedly with something else) to seek primary care in the first place. Thus, these patients who were sick enough to seek medical care did not receive comprehensive medical evaluation to help them feel better and address their complicated illness experiences because to do so they would have to pay out of pocket. Indeed, lack of routine testing for common conditions like diabetes furthers this biological sub-citizenship, where those without any ability to pay are overlooked for anything beyond blatant, immediate symptoms.

Finally, the "cost" of being a biological sub-citizen has profound effects on individual decisions around care-seeking and self-care. The personal cost of ineffective diabetes care drives delayed testing, medication skipping, and delayed care-seeking when symptoms worsen. Cost is the driving force behind those who deem diabetes to be worse than HIV (Mendenhall and Norris 2015), although it is a condition that

is potentially reversible and/or manageable with non-medical practices. In this sense, cost is another site for legitimation practices that contribute to sub-citizenship.

Further, our findings suggest that the social cost of diabetes may be that individuals are blamed for their own biological sub-citizenship because of poor dietary choices or resignation that services for diabetes will not work or exist when they need them, thus they fail to avail themselves of health care resources. But patients also know that long lines are inevitable, and doctors may not provide the care and treatment they need, even if they can afford them (which is seldom at best).

We know that the National Hospital Insurance Fund in Kenya does nothing for primary care (prioritizing the needs of acute emergencies)—itself a consequence of donor aid influence—and that targeted national priorities exclude non-communicable conditions. We might conclude that the systematic exclusion of diabetes care may be a reflection of the fact that diabetes and other cardio-metabolic conditions are too political or cost-(in)effective simply due to their attribution as being “behavioral problems” associated with poor dietary choices. This would also be a mistake. The abdication of the state or international donors for any responsibility for emergent diabetes is tied to failure to regulate corporations that target countries like Kenya for sales of sugary drinks and foods that are too oily, salty, and sweet in the first place (Marshall 2014; Stuckler and Nestle 2015). Taxation of these foods and drinks or political pressure to change certain ingredients in such foods may make a big difference. But these actions require the political will to stand up to powerful international corporations—something that many find difficult within the global neoliberal economy (Nakhimovsky et al. 2016). This is in part why the focus on what to do about conditions like diabetes is often relegated to biomedicine, despite evidence that corporations are responsible. Thus, the focus on biomedicine as a conduit for good health and the legacy of systematically excluding conditions like diabetes and prioritizing infectious diseases (Packard 2016) in global health will continue as long as primary care is costly and the social and political conditions that produce non-communicable conditions are ignored.

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## References Cited

- Atun, R., S. Jaffar, S. Nishtar, F. M. Knaul, M. L. Barreto, M. Nyirenda, N. Banatvala, and P. Piot. 2013. Improving Responsiveness of Health Systems to Non-communicable Diseases. *Lancet* 381: 690–97.



- Ayah, R., M. D. Joshi, R. Wanjiru, E. K. Njau, C. F. Otieno, E. K. Njeru, and K. K. Mutai. 2013. A Population-based Survey of Prevalence of Diabetes and Correlates in an Urban Slum Community in Nairobi, Kenya. *BMC Public Health* 13: 371.
- Benton, A. 2015. *HIV Exceptionalism: Development through Disease in Sierra Leone*. Minneapolis: University of Minnesota Press.
- Brown, E., N. N., R. McLaughlin, and K. Mehta. 2015. Pathways and Barriers to Diabetes Screening: Observations from Rural Kenya. *Procedia Engineering* 107: 387–94.
- Bygbjerg, I. C. 2012. Double Burden of Noncommunicable and Infectious Diseases in Developing Countries. *Science* 337: 1499–501.
- Carney, M. 2015. *An Unending Hunger: Tracing Women and Food Insecurity across Borders*. Berkeley: University of California Press.
- Daniels, M. E., Jr., T. E. Donilon, and T. J. Bollyky. 2014. *The Emerging Global Health Crisis: Noncommunicable Diseases in Low- and Middle-income Countries*. New York: Council on Foreign Relations.
- Dugee, O., E. Palam, B. Dorjsuren, and A. Mahal. 2018. Who Is Bearing the Financial Burden of Non-communicable Diseases in Mongolia? *Journal of Global Health* 8: 4–5.
- El-Busaidy, H., M. Dawood, A. Kasy, C. Mwamlele, N. Koraya, and H. Parpia. 2014. How Serious Is the Impact of Type 2 Diabetes in Rural Kenya? *The Open Diabetes Journal* 7: 1–4.
- Goudge, J., L. Gilson, S. Russell, T. Gumede, and A. Mills. 2009. Affordability, Availability and Acceptability Barriers to Health Care for the Chronically Ill: Longitudinal Case Studies from South Africa. *BMC Health Services Research* 9: 75.
- IDF Diabetes Atlas. 2015. *Diabetes. International Diabetes Federation*. <https://www.idf.org/e-library/.../diabetes-atlas/13-diabetes-atlas-seventhedition.html> (accessed August 9, 2017).
- Jamison, D. T., L. H. Summers, G. Alleyne, K. J. Arrow, S. Berkley, A. Binagwaho, F. Bustreo, D. Evans, R. G. Feachem, J. Frenk, G. Ghosh, S. J. Goldie, Y. Guo, S. Gupta, R. Horton, M. E. Kruk, A. Mahmoud, L. K. Mohohlo, M. Ncube, A. Pablos-Mendez, K. S. Reddy, H. Saxenian, A. Soucat, K. H. Ulltveit-Moe, and G. Yamey. 2013. Global Health 2035: A World Converging within a Generation. *Lancet* 382: 1898–955.
- Johnson, L. F., J. Mossong, R. E. Dorrington, M. Schomaker, C. J. Hoffmann, O. Keiser, M. P. Fox, R. Wood, H. Prozesky, J. Giddy, D. B. Garone, M. Cornell, M. Egger, and A. Boulle. 2013. Life Expectancies of South African Adults Starting Antiretroviral Treatment: Collaborative Analysis of Cohort Studies. *PLoS Med* 10: e1001418.
- Kenworthy, N., M. Thomann, and R. Parker. 2017. From a Global Crisis to the “End of AIDS”: New Epidemics of Signification. *Global Public Health* 13: 960–71.
- Laurie, E. W. 2015. Who Lives, Who Dies, Who Cares? Valuing Life through the Disability-adjusted Life Year Measurement. *Transactions of the Institute of British Geographers* 40: 75–87.
- Leone, T., E. Coast, S. Narayanan, and A. de-Graft. 2012. Diabetes and Depression Comorbidity and Socio-economic Status in Low and Middle Income Countries (LMICs): A Mapping of the Evidence. *Global Health* 8: 1.
- Lock, M. 1993. *Encounters with Aging: Mythologies of Menopause in Japan*. Berkeley: University of California Press.
- Lock, M. 2001. The Tempering of Medical Anthropology: Troubling Natural Categories. *Medical Anthropology Quarterly* 15: 478–92.
- Marais, B. J., K. Linnroth, S. D. Lawn, G. B. Migliori, P. Mwaba, P. Glaziou, M. Bates, R. Colagiuri, L. Zijenah, S. Swaminathan, Z. A. Memish, M. Pletschette, M. Hoelscher, I. Abubakar, R. Hasan, A. Zafar, G. Pantaleo, G. Craig, P. Kim, M. Maeurer, M.

- Schito, and A. Zumla. 2013. Tuberculosis Comorbidity with Communicable and Non-communicable Diseases: Integrating Health Services and Control Efforts. *The Lancet Infectious Diseases* 13: 436–48.
- Marshall, M. 2014. *Drinking Smoke: The Tobacco Syndemic in Oceania*. Honolulu: University of Hawaii Press.
- McGrath, J. W., M. S. Winchester, D. Kaawa-Mafigiri, E. Walakira, F. Namutiibwa, J. Birungi, G. Ssendegeye, A. Nalwoga, E. Kyarikunda, S. Kisakye, N. Ayebazibwe, and C. B. Rwabukwali. 2014. Challenging the Paradigm: Anthropological Perspectives on HIV as a Chronic Disease. *Medical Anthropology Quarterly* 33: 303–17.
- McIntyre, D. 2015. *WHO Global Coordination Mechanism on the Prevention and Control of Noncommunicable Diseases. Working Group on How to Realize Governments' Commitment to Provide Financing for NCDs. Policy Brief Domestic Financing for NCDs*. Geneva: World Health Organization.
- Mendenhall, E., B. A. Kohrt, S. A. Norris, D. Ndeti, and D. Prabhakaran. 2017. Non-communicable Disease Syndemics: Poverty, Depression, and Diabetes among Low-income Populations. *Lancet* 389: 951–63.
- Mendenhall, E., and S. A. Norris. 2015. When HIV Is Ordinary and Diabetes New: Remaking Suffering in a South African Township. *Global Public Health* 10: 449–62.
- Mendenhall, E., G. B. Omondi, E. Bosire, G. Isaiah, A. Musau, D. Ndeti, and V. Mutiso. 2015. Stress, Diabetes, and Infection: Syndemic Suffering at an Urban Kenyan Hospital. *Social Science and Medicine* 146: 11–20.
- Mwangi, T. 2013. Dying to Live: Kenya's Search for Universal Health Care. In *Global Health Check*, edited by A. Marriott. Oxford: Oxfam GB.
- Nakhimovsky, S. S., A. B. Feigl, C. Avila, G. O'Sullivan, E. Macgregor-Skinner, and M. Spranca. 2016. Taxes on Sugar-sweetened Beverages to Reduce Overweight and Obesity in Middle-income Countries: A Systematic Review. *PLoS One* 11: e0163358.
- Nguhiu, P. K., E. W. Barasa, and J. Chuma. 2017. Determining the Effective Coverage of Maternal and Child Health Services in Kenya, Using Demographic and Health Survey Data Sets: Tracking Progress towards Universal Health Coverage. *Tropical Medicine and International Health* 22: 442–53.
- Nguyen, V.-K. 2005. Antiretroviral Globalism, Biopolitics and Therapeutic Citizenship. In *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, edited by A. Ong and S. J. Collier, 123–44. Malden, MA: Blackwell Publishing.
- Nguyen, V.-K. 2009. Government-by-Exception: Enrolment and Experimentality in Mass HIV Treatment Programmes in Africa. *Social Theory & Health* 7: 196–217.
- Njoroge A., and E. Munene. 2015. Scaling up Non-communicable Disease Control: Lessons to Be Learnt from the Infectious Disease Paradigm in Kenya. *East African Medical Journal* 92: 165–87.
- Okungu, V., J. Chuma, and D. McIntyre. 2017. The Cost of Free Health Care for All Kenyans: Assessing the Financial Sustainability of Contributory and Non-contributory Financing Mechanisms. *International Journal for Equity in Health* 16: 39.
- Packard, R. 2016. *A History of Global Health: Interventions into the Lives of Other Peoples*. Baltimore: Johns Hopkins University Press.
- Petryna, A. 2002. *Life Exposed: Biological Citizens after Chernobyl*. Princeton, NJ: Princeton University Press.
- Prince, R. 2012. HIV and the Moral Economy of Survival in an East African City. *Medical Anthropology Quarterly* 26: 534–56.
- Remais, J. V., G. Zeng, G. Li, L. Tian, and M. M. Engelgau. 2013. Convergence of Non-communicable and Infectious Diseases in Low- and Middle-income Countries. *International Journal of Epidemiology* 42: 221–27.

- Republic of Kenya. 2016. National and County Health Budget Analysis FY2015/2016. Nairobi: Republic of Kenya. <http://www.healthpolicyplus.com/ns/pubs/6138-6239FINALNationalandCountyHealthBudgetAnalysis.pdf> (accessed January 10, 2017).
- Richey, L.A. 2012. Counselling Citizens and Producing Patronage: AIDS Treatment in South African and Ugandan Clinics. *Development and Change* 43: 823–45.
- Rose, N., and C. Novas. 2005. Biological Citizenship. In *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, edited by A. Ong and S. Collier, 439–63. Malden, MA: Blackwell.
- Shiffman, J. 2008. Has Donor Prioritization of HIV/AIDS Displaced Aid for Other Health Issues? *Health Policy Plan* 23: 95–100.
- Sparke, M. 2017. Austerity and the Embodiment of Neoliberalism as Ill-health: Towards a Theory of Biological Sub-citizenship. *Social Science and Medicine* 187: 287–95.
- Stuckler, D., and M. Nestle. 2015. Big Food, Food Systems, and Global Health. *PLoS Med* 9: 7.
- Van de Walle, S., and Z. Scott. 2011. The Political Role of Service Delivery in State-building: Exploring the Relevance of European History for Developing Countries. *Development Policy Review* 29: 5–21.
- Wahlberg, A., and N. Rose. 2015. The Governmentalization of Living: Calculating Global Health. *Economy and Society* 44: 60–90.
- World Health Organization (WHO). 2004. *Addressing Africa's Health Workforce Crisis: An Avenue for Action the High Level Forum on the Health MDGs. Abuja, December 2004*. Geneva: WHO.