

## Trapped in the prison of the proximate: structural HIV/AIDS prevention in southern Africa

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There is now agreement in HIV/AIDS prevention that biomedical and behavioural interventions do not sufficiently address the structural causes of the epidemic, but structural prevention is understood in different ways. The social drivers approach models pathways that link structural constraints to individuals at risk and then devises intervention to affect these pathways. An alternative political economy approach that begins with the bio-social whole provides a better basis for understanding the structural causes of HIV/AIDS. It demands that HIV/AIDS prevention in southern Africa should not be a set of discrete technical interventions but a sustained political as well as scientific project.

**Keywords:** HIV/AIDS prevention; southern Africa; political economy

[Piégé dans la prison de l’approximatif : la prévention structurelle du VIH/SIDA en Afrique australe.] Il existe maintenant un consensus en matière de prévention du VIH : les interventions biomédicales et comportementales ne traitent pas assez les causes structurelles de l’épidémie, mais la prévention structurelle peut être comprise de différentes manières. L’approche des facteurs sociaux modélise des relations qui lient des contraintes structurelles aux individus à risque et conçoit des interventions qui influent sur ces relations. Une approche alternative de l’économie politique qui prend en compte l’ensemble biologique et social fournit une meilleure base pour la compréhension des causes structurelles du VIH/SIDA. Elle nécessite une prévention du VIH/SIDA en Afrique australe qui ne soit pas un ensemble d’interventions techniques discrètes mais un projet politique et scientifique durable.

**Mots-clés :** prévention du VIH/SIDA ; Afrique australe ; économie politique

### Introduction

The HIV/AIDS pandemic has ravaged southern Africa for almost three decades. Given the relative wealth of many countries of the region, some were surprised by the rapidity of its spread and the resilience of the epidemic. Yet one can also ask, as Shula Marks (2002) did in relation to South Africa, if HIV/AIDS was not an epidemic waiting to happen in southern Africa, given its history of impoverishment, inequality, disenfranchisement, rapid urbanisation, labour migration, war and social disruption.

Initially, prevention followed established global approaches focused on the transformation of individual sexual behaviour: targeting high-risk groups, using social marketing techniques to provide information and to persuade people to use condoms, avoid concurrent

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sexual relations and, when testing became available, to know their status. Yet from the outset there were also critics who argued that prevention programmes focusing on changing individual sexual behaviour were failing to confront the structural causes of the epidemic. Some in South Africa particularly (but not only) even argued that the structural causes were the disease, thus compromising both the public health response and the legitimacy of their critique of prevention approaches focused exclusively on sexual behaviour (Fassin 2007).

South Africa's treatment action campaign (TAC) around access to antiretroviral therapy (ART) drugs for all successfully challenged both government health policy and multinational pharmaceutical companies (Robins and Von Lieres 2004). Its success largely resolved the clinical debate on provisioning of ARTs across the region and underlined the importance and political possibility of addressing structural causes of the disease. Recognition of structural causes of HIV/AIDS has also acquired new legitimacy in global health policy. The Working Group on Social Drivers is one of nine set up by the AIDS2031 Consortium 'to question conventional wisdom, stimulate new research, spark public debate and examine social and political trends regards AIDS' (AIDS2031 Consortium 2011, xi). PEPFAR, the Global Fund and the World Bank now promote combined HIV-prevention packages that include structural, biomedical and behavioural interventions.

Reading through the literature on these new structural interventions, one encounters a bewildering array of different meanings and measures. Some are very specific, such as income-generating activities for adolescent girls or laws enforcing 100% condom use in brothels. Others are very general, such as improving public health and education systems. Some pursue the 'gold standard' of the randomised control trial (RCT) in pursuit of measures that have 'demonstrated or promising efficacy' (Kurth et al. 2011). Others emphasise that the social embedding, contextual specificity, political contingency and multiple outcomes of structural intervention make it difficult to sort out cause and effect statistically or to standardise interventions (Hankins and De Zaluondo 2010).

These differences in interpretation and practical approaches to structural intervention reflect the theoretical ambiguity of the field. This ambiguity goes beyond the inevitable conceptual blurring that emerges out of the negotiation process in the writing of institutional policy documents and funding proposals to fundamentally divergent ways of thinking about structural approaches to HIV/AIDS prevention. The same language is being used for different things. This essay argues that it is clarifying to distinguish two very different ways of conceptualising the structural causes of HIV/AIDS, each with different implications for strategies of prevention: the social drivers approach and an alternative bio-social political economy approach.

### **Social drivers: conceptualising the structural causes of HIV/AIDS**

Global HIV/AIDS prevention has focused on controlling the sexual transmission of the disease. Yet many scholars of HIV/AIDS have long been convinced that its dynamics, like those of other epidemics before it, are grounded in structures of poverty and inequality (inter alia Farmer 1999; Barnett and Whiteside 2002). In their contribution to going 'beyond condoms', Klein, Easton, and Parker (2002) argued that HIV/AIDS prevention had to address the reasons for selective social vulnerability to infection. They identified different kinds of causes, all of which have relevance in southern Africa: poverty resulting from long-term patterns of economic development, gender inequality, migration and population displacement related to political instability. Stillwaggon (2009) has given particular attention to triggering co-factors and hence to the failures of public health systems in the wake of structural adjustment.

It has proven difficult, however, to confirm statistically a relation of causality between poverty and the incidence of HIV/AIDS. In a careful sifting through of available data, Johnston (2013, ch. 4) shows that there are no clear correlations between the various dimensions of poverty and being vulnerable to HIV/AIDS at either national or individual level. The relations are complex and variable over place and time. How then can the importance of social vulnerability for disease be captured empirically? Or must prevention retreat to what it has been able to measure – changes (or not) in sexual behaviour?

A thoughtful, detailed and accessible answer on how to integrate structure in HIV/AIDS prevention has been laid out by Justin Parkhurst (Parkhurst 2010, 2012, 2013, 2014), building on his earlier work with Rao Gupta (Gupta et al. 2008) and Auerbach, Parkhurst, and Cáceres (2011) on social drivers. Their approach now dominates the prevention policy literature; it uses social driver as a synonym for structural driver.

The social drivers approach models the processes that link social variables to sexual behaviour and hence to individual biological outcomes, in this case becoming HIV positive. Health outcomes are shaped directly by the immediate determinants of individual risk (the proximate determinants). In the case of HIV/AIDS these are exposure to, transmission of and infection by the HIV virus. But the proximate determinants are themselves structured by a multiplicity of social, cultural and environmental determinants (distal determinants) that make a particular group of people vulnerable to situations of immediate risk. 'Pathways' tie distal to proximate determinants and should thus be the focus of structural interventions. For example, poverty is a structural factor that gives rise to financial inability to meet daily food needs, which may lead to a parent engaging in transactional sex (Parkhurst 2014, 4). Identifying such links allows prevention to target the processes that aggregate individual risk into social vulnerability. Such causal pathways are contextually specific and often interdependent, i.e. health outcomes have multiple determinants and structural factors such as poverty have multiple, even countervailing, health outcomes (Parkhurst 2012, 4).

This approach thus begins with the decision-making, risk-calculating, health-seeking individual whose choices reflect social and cultural constraints as well as biological processes. Its methodological strategy is to begin with individuals whose choices have failed them; it identifies high-risk groups on the basis of HIV prevalence, and looks outwards for possible causes of vulnerability. Changes in individual behaviour or preferences are measures of successful intervention.

Analytical rigour is maintained in the identification of pathways by the insistence that the link to individual biological risk be statistically measurable. In looking, for example, at the ways in which migration might affect vulnerability to HIV/AIDS, Deane, Parkhurst, and Johnston (2010, 1459) emphasise:

Finally, and critically, to influence HIV risk, any distal factor must do so by changing one or more direct proximal factors – migration must affect a factor that is related to the number of potential exposures (number of partners, number of sex acts, partners from a higher prevalence community, etc.) or affect factors that mediate risk for any given sex act (condom use, presence of other infections, etc.) – all of which may change over the course of an HIV epidemic.

Parkhurst (2014, 3) argues that broad definitions of structure that include things such as human behaviour, health systems functioning or biomedical research are not operationally useful. He prefers to focus either on social factors that fundamentally shape or influence patterns of individual risk behaviour or on those that mediate how people can avoid HIV within a given context.

The proximate/distal approach is a familiar one to demographers and epidemiologists. Its language has long been used by the large international population non-governmental organisations (NGOs), such as Pathfinder, that initially dominated HIV/AIDS prevention in southern Africa. They used social marketing to promote change in sexual behaviour and emphasised gender relations in households as an important variable limiting women's ability to choose for HIV testing or condom use. The analytical framework employed in the social drivers approach is also similar to that of contemporary micro-economics, the dominant framework in health economics, which assumes the utility-maximising individual operating within a universe of resources and constraints and thus construes population health as an aggregate of individual choices (Johnston 2013, ch. 3).

This paradigmatic congruence of theoretical approaches focused on individual choice orients the kinds of structural interventions deemed suitable in 'combination approaches' to prevention, the strategy favoured by UNAIDS, the AIDS2031 Consortium and many of the most prominent epidemiological experts on HIV/AIDS (e.g. Padian et al. 2011; Verboom, Melendez-Torres, and Bonell 2014). Structural interventions are designed to be part of prevention 'packages' that include existing biomedical and behavioural interventions. The new 'structural interventions' in HIV/AIDS prevention maintain a focus on changing the behaviour of individuals at risk but they add a social component intended to address the economic, social and cultural drivers that prevent individuals from exercising healthy choices.

To prove their efficacy rigorously, the social drivers approach prefers that interventions be tested by public health experts before being 'scaled up' to reach greater numbers of people at risk. Though Parkhurst (2014, 6) envisions the inclusion of qualitative evidence in designing and assessing interventions, others give almost exclusive priority to quantitative evidence, even demanding that packages be tested on the basis of the 'gold standard' of evidence-based medicine, RCTs (Kurth et al. 2011). Parkhurst emphasises the importance of contextually related variation in the drivers of HIV/AIDS and the limitations of a top-down approach, but translates this as searching for 'generalisable strategies to provide what target groups need in "tailored" ways that respond to the specific set of multiple structural factors influencing the group's risk and vulnerability' (Parkhurst 2013, 2).

McMichael famously characterised modern epidemiology as a 'prisoner of the proximate', adept at determining which individuals are at increased risk, but not at understanding disease distribution within and between populations (McMichael 1999, 888–889). Certainly Auerbach, Parkhurst and the Social Drivers Working Group, all of whom recognise social inequality as a determinant of inequalities of health, have been concerned with finding ways to avoid the prison of the proximate. Yet existing examples of the combination approach in southern Africa suggest that their attempts fall short of an escape.

### **Experimental 'structural interventions' in southern Africa**

As Hargreaves (2013, 3) has noted, the evidence base is thus far rather weak, but in an extended literature search I found a small number of well-documented studies on combined approaches to structural intervention in HIV/AIDS prevention in southern Africa. All are experimental in design, use RCTs and include various components. Interestingly, all focus on gender inequality as a pathway and identify women as subjects of intervention. I have chosen three that have been described in the literature as promising examples. They differ by location, by group of women targeted and by forms of intervention. They illustrate the kinds of theoretical and methodological conundrums that the social drivers approach confronts when it defines structure in terms of the determinants of individual choice.

***Microfinance with gender training***

The IMAGE project (Intervention with Microfinance for Aids and Gender Equity) is often cited as a successful or promising structural intervention in the policy, popular and scholarly literature (Epstein 2007; Gupta et al. 2008; Gibbs et al. 2012; AIDSTAR-ONE 2013). IMAGE was carried out in rural Limpopo Province in South Africa (Pronyk et al. 2005, 2006; Kim et al. 2008) as a joint project of prestigious institutions – the School of Public Health of Witwatersrand University and the London School of Hygiene and Tropical Medicine. It was intended to test whether a micro-credit programme could reduce intimate-partner violence, unprotected sexual intercourse and HIV incidence among poor rural women.

The study paired communities chosen for intervention with similar control communities elsewhere. The intervention included a group-lending scheme and gender training, both implemented by South African NGOs. The gender training featured HIV/AIDS education and political mobilisation, culminating in a political demonstration against violence against women. Women mainly used the loans as working capital for tailoring or for selling clothes, fruit and vegetables. Follow-up interviews with participants and their paired counterparts from similar communities were done about two years later.

The organisers of the study were initially quite modest about the significance of their findings (cf. Pronyk et al. 2006). Women in the intervention group were more likely than the control group to be economically better off, had more household assets, were more often members of rotating savings societies and spent more on food, but they did not achieve higher food security nor did their children improve their school attendance. Interview data suggested that those in the intervention group had a stronger sense of community, reported more participation in collective action, expressed different attitudes towards gender roles and talked more about sex to the members of their households than did women in the control communities, but this is, after all, how they had learned to speak in the gender-training module. They registered fewer incidents of domestic violence than the women of the control group, but there was no change in frequency of unprotected sex. The incidence of new HIV infections did not decline in the aftermath of the project in the communities of intervention.

***Conditional cash transfers to keep girls in school***

A rising star in the list of structural interventions for HIV/AIDS prevention in southern Africa is conditional cash transfers (see *inter alia* Gibbs et al. 2012; Pettifor et al. 2012; Strathdee et al. 2013; Fieno and Leclerc-Madlala 2014). Attention has thus far been focused on a World Bank-funded experiment in southern Malawi (Zomba) in 2008–2009 (Baird et al. 2010, 2012; Baird, McIntosh, and Ozler 2011). The study sought to affect the length of time that adolescent women between the ages of 15 and 24 remain in school, a possible determinant of sexual activity and hence of exposure to HIV. They wanted to explore the notion that schooling is a kind of ‘social vaccine’ against risky sexual behaviour (Baird et al. 2012). The researchers also sought to intervene in the social policy debate in southern Africa around the efficacy of conditional versus non-conditional transfers. They tried to see what size transfer was required to be effective and to find out whether giving money to girls themselves would have better or worse outcomes than giving it to their parents.

There were three sampling zones in the study area: the city of Zomba, surrounding peri-urban areas and a rural area. The researchers did not try to target poor households though

they excluded areas regarded as too affluent from the study. They included girls who had dropped out of school (who were asked to re-enrol) as well those still studying. The girls were randomly assigned to three different groups: the control group that received no cash payments, one group that received an unconditional cash payment and one that received a payment subject to monthly controls on their school attendance. School fees were paid directly by the project. Both girls and their parents received separate payments of varying amounts, again randomly determined.

After a year, researchers interviewed all the girls and found that, as expected, those who had received the conditional cash transfer had better school attendance than the other two groups. They also had a lower incidence for some outcomes regarded as evidence of risky sexual behaviour: first-time sex, having sexual intercourse at least once a week and having a partner over 25. Yet the differences between the girls who got *conditional* transfers and those receiving an *unconditional* payment were minimal. The researchers conclude that cash transfers in general could promote school attendance and improve sexual behaviour. They speculate that the monthly transfers may have allowed girls to spend less time in transactional sex with ‘sugar daddies’ (Baird, McIntosh, and Ozler 2011, 1736). Even these results were somewhat contradictory, however; the control group who got no payment was less likely, for example, to have unprotected intercourse than those who got transfers (Baird et al. 2012).

Their strongest finding is thus not surprising: if girls’ school fees are paid and they and their parents receive a cash payment for going to school, then they do. What has made this project famous, however, is that 18 months after it began, when cash payments were still being disbursed, participants were tested for HIV1 and HIV2 (Herpes). The conditional transfer group had a lower HIV prevalence of infection (3/235, 1%) than both the control group (17/799, 3%) and the unconditional transfer group (4/255, 2%) (Baird et al. 2012, Table 4, 1327). These are small numbers and there could be no control of changes in the respective rates of incidence since there was no baseline testing done. The conclusion is nonetheless drawn that secondary schooling can be a kind of social vaccine for girls, facilitated by conditional cash transfers.

### ***Raising sex-workers’ gender consciousness***

A recent review in the *Annual Review of Public Health* focused on combination approaches to HIV among women at high risk of infection in low- and middle-income countries (Strathdee et al. 2013). One of the model projects discussed was the Women’s Health CoOp intervention, aimed at substance-using women, sex-workers and other vulnerable women in Pretoria, South Africa. Contrary to expectations raised by its name, no local women’s health cooperative was involved. This was a community-based RCT, funded by the US National Institute on Drug Abuse and based on a United States ‘best-evidence’ intervention developed for crack cocaine-using, inner city African-American women (Wechsberg et al. 2011). It rests its claim to being a structural intervention on having addressed substance use and gender-based violence as pathways towards risky sexual behaviour.

It was difficult to find sufficient self-identified, drug-using, professional sex-workers for the study, so eligibility was broadly defined. Participants had to be women, 18 years or older, South African citizens living in Gauteng, have consumed alcohol on at least 13 of the past 90 days, and be an active sex worker or had unprotected sex in the past 90 days. Eighty-three per cent of the group reported they were unemployed and 63% identified themselves as sex-workers (obviously not exclusive categories). Most had a regular sexual partner other than clients. Participants accepted for the programme were tested for HIV.

They received small payments for their time in cash and supermarket gift vouchers as well as toiletries and risk-reduction items such as condoms 'to facilitate continued behaviour change'. Participants were randomly assigned to two groups: one had a brief counselling session on risky sexual behaviour and substance use. The other received women-centred information and counselling on women's particular risk for HIV and other sexually transmitted infections, substance use and intimate-partner violence, role-playing practice on negotiation and preparation of a personal action plan.

Self-reported baseline information on sexual behaviour and clinical data on substance use from an initial baseline interview were compared with the results at the end of the programme. Women who had followed the intensive women's intervention programme were much more likely than the control group to report that they had used condoms the last time they had intercourse with their partners (not clients) and, if they were sex-workers, to have experienced a reduction in sexual and physical abuse. Yet, contrary to the expectations of the researchers, women who were not sex-workers in the control group reported much greater reduction in drug use and physical abuse than those who participated in the specially designed women's intervention. Nonetheless, the intervention has been assessed as successful and is being 'packaged' for 'scaling up' in local community health centres and NGOs (*Ibid.*).

The claims of this experiment strain credibility. No matter how clever the role-playing and creative the life-planning, it is hard not to think that in a group with an 80% unemployment rate the cash and small gifts were more important in shaping reported answers than was the consciousness-raising power of two 50-minute educational sessions and two subsequent interviews. This programme has been adapted from one developed for African-American women in inner cities in the United States. The project has imported the definition of a high-risk group, urban women substance-users, from a very different profile of risk and then blurred the definition of vulnerability when those who volunteered to participate did not fit the model of the drug-using commercial sex-worker.

### ***The limits of the social drivers approach to structural intervention***

These three 'structural interventions' more or less fulfilled the comparative requirements of experimental design and all addressed gender as a structural driver, but they otherwise vary in quality and results. The Women's CoOp project arguably violates Parkhurst's emphasis on contextualisation and shows how flexibly 'tailoring' to context can be interpreted. The Domba project was originally an intervention on girls' school attendance; measuring HIV prevalence was a tag-on. The IMAGE intervention did not lead to a statistically significant impact on HIV incidence and the CoOp project did not attempt to measure it. Yet all have been promoted as promising new forms of HIV/AIDS prevention by influential institutions of global public health. A closer look raises some questions about the limitations of the social drivers approach to structural intervention.

The first problem is that the approach is atheoretical in its questions, choice of subjects of intervention and identification of pathways. When theoretical premises are not specified they remain implicit assumptions, reflecting our common sense or the dominant theoretical paradigms of the world in which we live. This is particularly dangerous if we are taking an unknown 'other' as the subject of intervention.

The current list of structural interventions for southern Africa focuses narrowly on various categories of high-risk women: in these cases poor rural women in Limpopo, non-wealthy adolescent rural women in Malawi, women commercial sex-workers in Gauteng. The studies refer to gender relations as a pathway but they are remarkably



uninformed by gender theory, either by the concept of intersectionality linking gender and class or by inquiry into how and why gender relations change.

The questions asked are entirely about what would give poor women more choices in their sexual behaviour. The importance (not exclusivity) of sexual intercourse in HIV transmission makes gender relations an appropriate pathway to look at in prevention but gendered vulnerability to HIV/AIDS is not an exclusive or fixed condition. To say that 59% of those living with AIDS in sub-Saharan Africa are women (Strathdee et al. 2013, 302) does not mean that the remaining 41% are unimportant or that these proportions are fixed.

The first prevention programmes in the 1990s in southern Africa targeted migrant men, commercial sex-workers and people living in cities. High-risk groups were targeted on the basis of current national prevalence and assumptions based on experiences elsewhere. Loewenson and Whiteside (1997), reviewing HIV prevalence rates in the region in the early 1990s, found that prevalence was up to 2.5 times higher in urban than in rural areas, very different to the situation today. Rural women were not initially flagged as a vulnerable group in prevention programmes despite the well-known gendered patterns of circulating migration in the region. Epidemics have dynamic histories so prevention has to be prepared to meet a moving target. Recent studies have shown that in discordant couples it can now be the woman rather than the man who is HIV positive (Eyawo et al. 2010). With prevalence as high as it is in southern Africa, arguably everyone is potentially at risk.

These interventions focus narrowly on increasing women's resources and awareness with little attention to the lives and consciousness of men. The African heterosexual male appears in these studies to be a shadowy, homogeneous, somewhat pathological presence. The Domba study refers to 'sugar daddies'. In the CoOp study, all men of African descent appear by tradition to be omnipotent, predatory and sources of infection:

South African women more often lack control over their sexuality and often face victimization. African men are usually expected to be in control in the home and are often abusive and have concurrent partners. Interrelated HIV risk factors that are particularly prevalent among South African women are intimate partner violence (IPV), exposure to alcohol and other drug use, and unprotected sex with male partners with high HIV prevalence. (Strathdee et al. 2013, 304)

Men would seem to be steadfastly unconcerned either about their own health or that of their partners. Challenging gender relations seems to lie entirely within the powers and responsibilities of women and gender struggles to be limited to the domains of culture, sex and domestic violence. The rich southern African literature on the changing shape of sexualities, including masculinities (Niehaus 2002; Hunter 2004), does not figure here, nor does the differentiation of experience resulting from intersecting relations of class and political struggle. The labelling of women as victims and men as aggressors reinforces the moral culture of blame that Fassin's (2007, 2013) work has shown to be so destructive to HIV/AIDS prevention efforts in South Africa. It is not at all safe to presume that HIV transmission in southern Africa today takes place only in transactional sex or in sex under duress, when men are perpetrators of contagion and women are victims.

The second problem is that these interventions subordinate external validity to internal validity (Cartwright 2010; Woolcock 2013); the requirements of experimental design take priority over evidence that may give us qualifying or even different answers to our research questions. Both Adams (2013) and Hunsmann (2012) document how the rigid methodological requirements of experimental 'evidence based medicine' (EBM) preclude the ethnographic and historical information needed to understand the experience of the subjects of



intervention. Parkhurst (2013, 7) includes focus groups, individual interviews, observation and historical data in his list of evidence to be used in a structural approach, but the bibliographies of these three studies include few references to the historical and ethnographic literature on health in South Africa and Malawi. This is understandable since, as Adams (2013, 55–56) points out, the ‘gold standard’ of EBM, the top level on a scale of five, is the properly designed random controlled trial, the RCT. Eyewitness non-expert testimony lies outside the scale, classified as ‘anecdotal’.

Ironically, we learn more about the causes of vulnerability to HIV/AIDS and the limitations of micro-credit interventions from the admirably frank discussion by Dunbar et al. (2010) of SHAZ!, an experimental structural intervention that has not made it onto the list of ‘successes’ because the study was not concluded. A microfinance project for a group of young women in Zimbabwe, it was implemented in the period of rampant inflation before the currency devaluation. Most used the money to set up trading businesses. Only the few from better-off families were successful and repaid their loans. Moreover, those who tried to do long-distance trade and needed lodging for the night became victims of sexual violence, including rape. The dropout rate was so high that a second round of HIV testing was never carried out, so it fails the standards of EBM.

A third set of problems results from the assumption that the dynamics of the whole can be reduced to the aggregate of individual choices. Both microfinance and conditional cash transfers linked to mandatory school attendance are currently widely promoted by the major AIDS organisations and the World Bank as ways of increasing the capacity of women to refuse risky sex. In line with many World Bank projects, they locate the causes of deprivation in the poor themselves: their lack of capital blocks women’s entrepreneurial spirit or the lack of willingness of parents to send their daughters to school exposes them to risk. It is presumed that if we make all poor rural women small-scale entrepreneurs or pay all poor adolescent girls in rural Malawi to go to school, we can reduce both rural poverty and strengthen women’s capacity to refuse to be infected by HIV.

But it is not so easy to scale up what might work for one to all. The markets for hand-made clothes and small-scale vendors in Limpopo are already saturated. To extend the conditional transfer to all adolescent girls in Malawi would require substantial investment in the scale and quality of secondary education, particularly in rural areas. Why not avoid administrative costs by skipping the conditional transfer altogether and investing directly in secondary education and extending universal free schooling to secondary level? The World Bank preference for micro-credit and conditional cash transfers over generalised social assistance is explicitly ideological, as discussed elsewhere in this special issue.<sup>1</sup> That HIV/AIDS intervention should follow in its wake reflects the politics of funding in prevention research, precisely one of the structural drivers Parkhurst considers too broad to be operational.

Its methodological emphasis on structure as an aggregate of individual choice also makes it difficult for the social drivers approach to recognise the importance of collective agency (Kippax et al. 2013). The organisers of the IMAGE intervention were aware of this issue and tried to recognise the importance of community by carrying out a range of activities at the local level, including working with a South African NGO that gave political mobilisation training, talking to local chiefs and police and bringing the subjects of the intervention to a political demonstration against violence against women (Pronyk et al. 2008). They then interpreted community as an aggregate of individual social capital and measured it by giving scores for social networks, for perceptions of reciprocity, community support and solidarity, and for participation in collective action. They set aside as ‘secular changes’ the major shifts in attitudes towards HIV/AIDS that were going on in South Africa

at that time as the TAC created ‘... new political spaces for engagement at local, national and global levels’ (Robins and Von Lieres 2004, 84).

The question of political spaces raises another lacuna in the social drivers framework: silence around where researchers themselves fit politically in strategies of prevention. Universities with major public health programmes have been, like the World Bank or UNAIDS, the Gates Foundation, the pharmaceutical companies and the population and health international NGOs, major actors in global health politics, particularly around HIV/AIDS. The proximal/distal distinction puts them far off-stage, but their impact has been very direct, giving, for example, these sorts of experimental RCT studies the legitimacy of ‘structural intervention’.

The packaging approach followed in these three experimental structural interventions does not alter very much the behavioural and biomedical components found wanting in critical analyses of the failures of earlier prevention programmes; they simply add in a new social component. One could argue that proximate/distal framing that currently dominates the social drivers approach to intervention could be salvaged by loosening the methodological demands of the RCT in evidence-based medicine and by following Parkhurst’s directive on the importance of contextualisation. But it is not so easy to cast off the experimental methodology of RCTs; the proximate/distal framework provides its theoretical model for linking social variables to biological outcomes. A more radical alternative is to heed Kippax and Stephenson’s (2012) call to go beyond the distinction between biomedical and social dimensions of HIV/AIDS prevention. This means, I would argue, scrapping the proximal/distal distinction and reclaiming the concept of structure to better reflect the kinds of concerns raised by critics of behavioural interventions in HIV/AIDS prevention.

### **A bio-social political economy of HIV/AIDS prevention in southern Africa**

The proximate/distal approach to conceptualising the relation between social and biological processes builds on what Clifford Geertz (1973) called a stratigraphic conception of human life: a biological core surrounded by psychological, social and cultural layers. Geertz suggested that human life was more like an onion; when you strip off all its layers, there is no core. An alternative way to think about the problem is that the social and biological are inextricably linked in a single material totality that we dissect theoretically through the questions we ask. As Kippax and Stephenson (2012, 792) have argued: ‘Although analytically distinct, effective prevention requires that biomedical technologies, behavioral strategies, and social structures are not treated as separate entities.’ In short, the best way to escape from the prison of the proximate is to break down the walls of the prison, effacing the distinction between proximate and distal, explicitly theorising questions to determine the relevance of evidence, and thus navigate our way through a broad space that is both biological and social.

The concept of structure is relational. This means by definition, for example, that if we observe an enormous gap in rates of HIV incidence of black and white people in South Africa, our initial questions do not attempt to isolate the distinctive behavioural characteristics of black people but to understand the reasons for inequality between black and white. The concept of structure is not a synonym for the social but a way of thinking about causality. Understanding the causes of events demands going beyond the immediate sequence of events to look for social forces that exert their pressure over long periods of time, are not easy to change and are often unperceived by those who live them and make them (Pierson 2003). Such an approach applied in epidemiology means that there are rarely quick fixes for epidemics like HIV/AIDS and that solutions can be impermanent.

There are different theoretical traditions in this alternative structural epidemiology – eco-social, political economy or social medicine, for example (Krieger 2014). Many of those who have written on the political economy of HIV/AIDS take a broadly Marxist approach, emphasising the importance of capitalism as a global system in the structuring of the bio-social and thus underlining the ways that contradictions of class intersect with contradictions of gender and race in shaping the space of intervention. From this perspective, the politics of opposition, including the instruments of ideological critique, are a necessary part of prevention.

A bio-social political economy takes history not as upstream context but as the expression of structure, a beginning point for understanding the causes of inequality in health. Southern Africa shares with the rest of the world insertion in the structures of global capitalism, but it also has some distinctive structural patterns. Historically, global capitalism was intersected by a common history of settler colonialism and regional divisions between rural labour reserves and centres of accumulation. The resulting patterns of residence, work, living conditions and conjugality have shaped distinctive patterns of health and disease (O’Laughlin 2013). The long-term structural pattern of women and children residing and farming in the countryside while men migrated to work on mines and in cities as wage-workers has been eroded (Crush et al. 2005; Hunter 2010), but the region is still marked by great mobility, permeable national boundaries and the dominance of South African capital. In rural areas particularly, non-commodified production, mainly done by women and children, covers a good part of nutritional needs and care. The wage-labour force is sharply segmented, with a large proportion of jobs being casual, manual and seasonal or precarious. Women-headed households have long been common in southern Africa (O’Laughlin 1998), but today many conjugal couples never establish a common residential unit with their children.

In this region, the defence of racialised settler capitalism was violent and protracted with the apartheid regime in South Africa entangled in other wars in the region. In such a historical context the politicisation of race remains very alive. Though legal definition of racialised zones of residence and conditions of employment has been abolished, living conditions and the provisioning of formal health care are still spatially and socially discriminated. Campbell’s study of an HIV/AIDS prevention project in ‘Summertown’, a mining community in South Africa, showed how continuing social divisions were reflected in miners’ resistance to HIV/AIDS prevention messages (Campbell 2003). A racialised understanding of suffering continues to shape public AIDS discourse, particularly in South Africa (Fassin 2007).

These specificities of the region intersect in the case of HIV/AIDS with a conjunctural moment, the near hegemony of United States public health discourse – its premises, its policies, its institutions – in global HIV/AIDS policy. The shifting debates within institutions such as UNAIDS, the World Bank, WHO or the Gates Foundation normatively shape how HIV/AIDS is to be known, how its causes will be understood, who will be treated and which treatments they will receive. The dependence of many regional health budgets on donor funding, the scale of earmarked funding for HIV/AIDS and the dependence of HIV/AIDS organisations on external funding mean that a neoliberal normative vision of health care suffuses HIV/AIDS prevention and treatment (cf. Ingram 2013).

One can understand Parkhurst’s (2014, 3) hesitation to employ such a broad definition of structure, his fear that it may not be epidemiologically operational. There is, however, an established methodological tradition in epidemiology that traces precisely the path that Parkhurst is reluctant to tread: Geoffrey Rose’s work on prevention (Rose 2001, 2008), which distinguishes between what makes an individual sick and what makes a population

sick. Rose's approach to prevention puts together two related epidemiological insights (which he does not claim as his own). First, health and disease, the normal and the pathological, are not sharply opposed conditions but part of a dynamic continuum. Those who are recognised as very sick or at high risk of becoming so lie at one end of the distribution but there are many degrees in between. Second, the distribution of risk of exposure to a particular illness within a population is often such that more cases come from the large group falling around the middle of the distribution who are individually at low risk than from the outlying high-risk but much smaller group (Rose 2008, 131). Prevention must therefore address two distinct issues: the determinants of individual cases and the determinants of the rate of incidence within a population (Rose 2001). A high-risk strategy of disease prevention conflates the two: 'it concentrates attention on the conspicuous segment of disease and risk, seeking to understand and control it as though it were the whole of the population in general' (Rose 2008, 49). This is what has happened in mainstream HIV/AIDS prevention.

Rose's strategy of prevention seeks to shift downwards the profile of risk for the entire population, considering the whole continuum from the normal to the pathological. This can have a greater impact on the total number of cases than does a restrictive focus on individuals at high risk of exposure. In the case of the incidence of HIV, for example, long-distance truck-drivers can be particularly vulnerable to HIV infection yet still account for a very small proportion of those who become HIV positive. Typically, the underlying determinants of the continuum of disease are mainly economic and social and thus their remedies must also be economic and social. This is why Rose concludes that: 'Medicine and politics cannot and should not be kept apart' (*Ibid.*, 161).

There are important methodological and practical differences between the social drivers approach to structural prevention of HIV/AIDS and Rose's strategy. The social drivers approach begins with individuals considered to be at risk, looks outward to find the social and economic forces that constrain their capacity to make healthy choices and identifies programmes that will directly affect the pathway between the individual and the structural constraint. Rose's strategy begins with the dynamic distribution of disease within the population as whole and looks for the principal social and economic processes that shape it, some of which may lay outside the direct experience of the individual at risk. Prevention must thus bring epidemiological knowledge to bear on political processes that are collective and involve challenges to economic and social institutions that will certainly meet political opposition.

Rose's approach applied to HIV/AIDS prevention in southern Africa thus obliges us to look at the dynamics of its broader political economy. He provides a way of thinking about the interdependence of the biological and the social that brings HIV/AIDS prevention back towards the classic concerns of public health with conditions of living. His caution against focusing only on the characteristics of those who are ill rather than on the distribution of risk within the population as a whole obliges us to think about those social relations that determine why particular groups are vulnerable to infection and others are less so and how the boundaries between them change over time. His emphasis on politics allows us to recognise that health too is an area of power, contradiction and struggle.

### **Structural HIV/AIDS prevention as a bio-political process**

The social drivers approach to structural HIV/AIDS prevention strives to find a set of globally applicable discrete social interventions that can be tailored to particular contexts and plugged into intervention packages designed by epidemiological experts. The alternative intervention strategy is to identify the structural relations that affect the incidence of the

disease, to look for possible points of intervention and to ally with and learn from those who can be involved in the long term in struggles to challenge the structural causes of the disease. Such efforts cannot be tailored into packaged interventions and are unlikely to be supported by PEPFAR or the Global Fund. There is much to be learned from looking at other experiences of intervention, but it would be unwise to try to implement them purely on the basis of statistical success.

This strategy implies a long-term commitment to political struggles in particular places around particular issues. To show what it would mean to operationalise this approach, I use two cases drawn from Mozambique, where the nature of intervention is likely to affect the patterns of incidence of the disease. The first discusses an area where intervention has focused on the sexual behaviour of migrant male cane-cutters but not on their conditions of recruitment, residence and work. The second has to do with attempts to address the structural determinants of adherence to antiretroviral therapy.

### ***Capital, labour and public health in sugar production<sup>2</sup>***

The Xinavane Sugar Estate in southern Mozambique is mainly owned by the large multinational sugar corporation Tongaat-Hulett. It took over a derelict sugar estate and has expanded up-river in the Incomati valley. It now employs around 4800 workers on permanent contracts and up to 3700 casual workers. Cane-cutters are mainly migrants from other areas of Mozambique, recruited on six-month contracts and housed in walled guarded hostels located close to the fields and away from the towns. Most return home to their families when cane-cutting is finished.

At the end of the day, particularly on Sundays and after wages are paid at the end of the month, migrant workers socialise with local men and local women at nearby beer-stands. In these districts, rural families are heavily dependent on remittances from labour migration to South Africa. There is no need to appeal to tradition to understand the presence of concurrent sexual relationships here. A study done in an area neighbouring the Xinavane estate found overall HIV prevalence to be 39.9% (González et al. 2012, 584), higher among women than among men. It is inevitable that without condom use some migrants will contract HIV and that they will transmit it to their wives in areas that currently have lower prevalence.

As Campbell (2003) found in 'Summertown', large corporations employing migrants can be interested in HIV/AIDS prevention, if only on grounds of worker productivity, though they may be reluctant to yield authority over workplace activities. The Xinavane estate is a leading member of ECOSIDA, a HIV/AIDS business council set up in 2005 to provide information to businesses, unions and labour inspectors on workplace prevention programmes that raise HIV awareness and promote implementation of existing laws against stigma and discrimination in the workplace. The Xinavane employee responsible for workplace AIDS awareness training told me of the reprimand he received from workers on one of the new outlying plantations of the estate after delivering his talk on condom use. Exasperated, they told him that they wanted to use condoms but there were none available anywhere near the hostel. Neither the small number of local shops nor the itinerant vendors who came on payday carried them. He went off to the capital city and brought back a three-month supply.

Xinavane Estate could probably be convinced to distribute free condoms, but just as important is the eradication of the ideological premises that informed the behavioural prevention interventions promoted by international AIDS organisations. They took responsibility for developing HIV/AIDS education away from national public health systems to

vest it in advertising agencies that organised glossy social-marketing campaigns and claimed that the success of health promotion was only demonstrated if people paid for the condoms they needed and used. This intervention was structural – it has had lasting consequences – but so could be the reorientation of condom distribution and health promotion training, an effort to which academic institutions could contribute without much need for funding.

The company has not addressed a longer-term structural question, how migrant workers are recruited as cane-cutters. It tried outsourcing management of recruitment and the hostels, but was obliged to take them over again after a cholera outbreak in one of the hostels. Migration per se is not a structural cause of AIDS. There is no generic migrant behaviour. How people live and work within changing patterns of migration in southern Africa varies by work group, by gender, by employer, by the militancy of trade unions, by the rigour of health inspections. Those pushing employers for better living and conditions or lobbying for tighter enforcement of workplace standards could benefit from expert epidemiological advice but that would require an oppositional rhetoric and a constancy of political struggle that does not fit well with the terms of project funding from PEPFAR, the World Bank or the United Kingdom Department for International Development.

### ***Local public health care and adherence to ART***

The political struggle coordinated by TAC (the Treatment Action Campaign) obliged the South African government to introduce free antiretroviral therapy in the public health system and forced the big pharmaceutical companies to lower prices and allow for the production or import of cheap generics. This was a process, not a single event, and involved a broad range of allies: people living with AIDS, community health activists, churches, health workers, epidemiologists, lawyers and COSATU (the Congress of South African Trade Unions) (Robins and von Lieres 2004). Their tactics ranged from educational presentations of relevant epidemiological research, through mass demonstrations, to pleading legal cases to the constitutional court. Their campaign had political resonance throughout southern Africa.

Antiretroviral treatment has now entered the list of measures promoted in mainline prevention, based on the possibility that reduction of viral load and hence contagion will allow the epidemic to die out gradually (Padian et al. 2012). Clinical challenges are recognised: acute early infection may go disregarded, or drug-resistant variants of HIV arise or chronic opportunistic infections could overwhelm the public health system (*Ibid.*). Further, for ART to function as prevention, adherence to treatment must be sufficient to keep viral load down and to avoid the development of resistant strains. Although adherence is sometimes understood as a matter of individual choice, here too structural issues intrude.

One aspect of adherence to treatment is nutrition, an issue insightfully discussed for Mozambique by Kalofonos (2010). To stay healthy on antiretrovirals, one should eat a varied and plentiful diet. For those with well-paid permanent jobs this is possible, but assuring an adequate diet is problematic for poor HIV-positive small-scale farmers, many of whom are women. Rain-fed agriculture is risky and demands intensive labour for weeding precisely when last year's stocks have already run low. Casual work is seasonal and poorly paid and remittances from migrants are irregular.

The international NGOs that introduced ART in Mozambique were aware of the nutritional issue. They distributed a monthly basic food ration, eventually provided by the World Food Programme (WFP). The family shared the ration; it is not morally or practically



possible to reserve food for the person with HIV/AIDS (Kalofonos 2010; Braga 2012). But as the ART programme has expanded, it has become increasingly difficult to assure provisioning of the household ration (Pfeiffer 2013). Moreover, WFP food imports in food-producing areas presented the classic dilemma discussed by Amartya Sen (1981): there is food available in the market; those who are poor and living with AIDS simply do not have the money to buy it. Importing food potentially undercuts the working of local food markets and thus local commercial farming, reinforcing the downward spiral of poverty and illness. Yet if a cash subsidy is given instead, there is no assurance that the money will be spent on the varied and high-quality diet needed by those who are on ART. Though high rates of malnutrition do not mirror the distribution of HIV prevalence or AIDS cases in Mozambique, from a structural perspective nutritional conditions will affect the overall prevalence of full-blown AIDS among those who are HIV positive.

Adherence is also compromised by the availability and quality of care for the rapidly expanding number of those receiving ART. Initially, PEPFAR funding for HIV/AIDS was channelled through NGOs operating parallel to the ministry and the public health system (Pfeiffer 2013). When international NGOs began to offer ART they did so in clinical coordination with the public health system (Høg 2014), but usually through a separate and better facility, located within or close to a public hospital or health centre. The public health system, which was already facing a high disease burden, had both to respond to the burden of curative care and to develop the capacity to implement ART on an expanding scale in rural areas (*Ibid.*).

In 2008, the Ministry of Health ordered the NGO day-hospital programmes to integrate into regular public health facilities. This decision was not popular with HIV/AIDS patients, who typically had to wait longer both to be attended and to obtain their medicine in much less pleasant environments, or with staff, who were generally paid less and worked under more stressful conditions (Olsen 2011; Braga 2012).

Assessments of the impact of the integration of day hospitals in public health centres on ART adherence and thus ultimately on the success of a prevention strategy based on ART show mixed results. Sherr et al. (2010) reported that the quality of ART care in the health posts that functioned under trained non-physician clinicians was as good as that provided by doctors. Lambdin et al. (2013) found, however, that the kind of intensive follow-up and counselling that was done by the separate vertical ART programmes had resulted in higher levels of adherence than the public health centres achieved. Yet they opted for a long-term structural solution: to work on improving the functioning of the public health system. There is no certainty that the public health system can respond. Braga's (2012) empathetic account of the indignities confronted by AIDS patients in their transfer from a specialised day-hospital to neighbourhood public health clinics in central Mozambique showed that what patients lost was not simply privileged access to medicine but care based on the respect of specially trained staff and on the accompaniment, compassion and persistence of volunteers organised and paid a small subsidy by NGOs.

Thus the problem of adherence to treatment is certainly a clinical issue informed by clinical studies, but it raises the kinds of structural tensions – ethical and political – flagged by Rose (2001) when balancing the treatment of individuals against the causes of incidence of the disease. Focusing on the latter requires long-term involvement in political struggles of both alliance and opposition. Public health researchers cannot precisely predict the outcomes of the structural interventions they advocate but the positions they take, in efforts unlikely to be funded by PEPFAR, the World Bank or the Global Fund, will affect what happens.



### **What constitutes structural intervention in HIV/AIDS prevention?**

The London cholera epidemic of 1854 ended after Dr Snow took the handle off a pump that spewed infected water, and epidemiologists have been arguing ever since over the significance of what he proved: that bacteria are the cause of cholera or that investing in public systems of clean water provisioning could end centuries of periodic cholera epidemics (Kunitz 2007). HIV/AIDS prevention belongs in this core debate in public health. Early HIV/AIDS prevention in southern Africa focused on the causes of contagion, particularly the sexual transmission of the HIV virus, but there was from the outset a concurrent stream that argued for the importance of understanding the structural causes of the disease. How to do this is, however, also a subject of debate, the terms of which this article has sought to clarify.

There are two different ways of thinking about confronting structural causes in prevention of HIV/AIDS. The social drivers approach begins with the proximate biomedical causes of the disease and works outwards to find the pathways that link structural constraints such as gender inequality to individual behaviour. It proposes to identify programmes such as micro-credit that can disrupt these pathways, test them through rigorously controlled experiments and then plug them into packages of interventions that can be scaled up and implemented in tailored ways in different places.

I have argued that the social drivers approach remains trapped in McMichael's prison of the proximate. It is conceptually and methodologically very difficult to identify and give importance to the structural causes of HIV/AIDS if individual agency is both the beginning and the end of the analysis and if the dynamics of the whole are understood as no more than the sum of individual choices. Metaphorically speaking, it is better to destroy the prison by breaking down the wall between proximate and distal to work analytically with a bio-social totality. To do so demands that questions are posed within an explicit theorisation that takes account of the particular historical patterns that give rise to structures that are both dynamic and resistant to change. The southern African region is such a totality, made distinctive by the ways a racialised settler capitalism has become intertwined with shifting patterns of global capital accumulation. The structural consequences for health, including both vulnerability to HIV/AIDS and the nature of the responses to it, are political, economic, social and cultural.

It is understandable that Parkhurst would feel unsure about such a broad perspective, why he would argue that things such as the functioning of the health system or the funding of HIV/AIDS research cannot be operationalised epidemiologically. Rose's distinction between why individual people get sick and why populations get sick provides, however, a way of thinking about what kinds of intervention make sense and measuring their impact. The aim of HIV/AIDS prevention should be reducing the incidence of the disease across the population as a whole. This usually means confronting processes that are structural – contradictory, long-term, politically contested and often difficult to perceive in everyday individual decisions about health.

Operationally, a structural approach to HIV/AIDS prevention in southern Africa should not be expected to find or adapt 'proven' social components for clearly delimited technical 'packages' of prevention interventions marketed across the world. It could mean HIV/AIDS experts reflexively locating themselves and their institutions structurally before proposing any kind of intervention: e.g. reading critically the literature on micro-credit before launching a scheme or considering the external validity of the assumptions underlying condom social marketing. If the intention is more fundamentally to weaken the structural causes of HIV/AIDS, then it means understanding the patterns of incidence of the disease in

particular places at particular times and putting that knowledge to work in collective action, as was done in the TAC campaign. That would mean participating in political processes that aim, without any certainty of success, to alter the conditions under which a not very robust virus has spawned a very stubborn epidemic. Good politics are informed by evidence, but the uncertainty of outcomes will not be resolved by controlled experimental testing.

### Note on contributor

Bridget O'Laughlin began as an anthropologist but moved towards development studies with her work in the Centre of African Studies and in the Economics Faculty at Eduardo Mondlane University in Maputo from 1979 to 1992. She subsequently worked in the population and development, rural development and methodology programmes at the Institute of Social Studies in the Hague, from which she is now retired. Her current research is on rural labour and rural health in Mozambique. She is a research associate of the Institute of Economic and Social Studies in Maputo.

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### Notes

1. On the relation of the choice of interventions to neoliberalism, see Johnston on conditional cash transfers and MacPherson, Sadalaki, Nyongopa, et al. on microfinance, both in this issue.
2. This section relies on research in Xinavane carried out in 2012 by the Institute of Economic and Social Studies (Maputo). See O'Laughlin and Ibraimo 2013.

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