

HIV, Viral Suppression and New Technologies of Surveillance and Control

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DOI: 10.1177/1357034X15624510

bod.sagepub.com



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Abstract

The global response to managing the spread of HIV has recently undergone a significant shift with the advent of ‘treatment as prevention’, a strategy which presumes that scaling-up testing and treatment for people living with HIV will produce a broader preventative benefit. Treatment as prevention includes an array of diagnostic, technological and policy developments that are creating new understandings of how HIV circulates in bodies and spaces. Drawing on the work of Michel Foucault, we contextualize these developments by linking them to systems of governance and discursive subjectivation. The goal of this article is to problematize the growing importance of viral suppression in the management of HIV and the use of related surveillance technologies. For people living with HIV, we demonstrate how treatment-as-prevention’s emphasis on individual and collective viral load is transforming the performative dimensions of embodied risk, affect, subjectivity and sex.

Keywords

affect, Foucault, governmentality, HIV, mapping, surveillance, viral load

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Extra material: <http://theoryculturesociety.org/>

A recent YouTube video campaign from the British Columbia Centre for Excellence in HIV/AIDS features a metallic form being lifted from a high-tech conveyor belt. Set to hip-hop style music with deep thrusting bass, the object transforms itself into a sleek, luxury sports car. The viewer is told: 'Your body is also a great machine. Ask for an HIV test to know your status.'¹ The video's audience is presumed to be male, and appeals to an adolescent virility, a techno-erotics of freedom and control. The viewer is invited to identify his body as a high-performance automobile, a machine in the image of the Transformers™ toys and films, and to perform this embodiment and sexuality in part as an empowered and responsible consumer of health services. Elsewhere, the widespread 'HIV STOPS WITH ME' campaign,² funded by the US Centers for Disease Control and Prevention (CDC) features portrait-style photographs in which the image of someone living with HIV is split vertically down the centre: the left half appearing in stark black-and-white is labelled 'detectable' while the right half is depicted in full colour and is labelled 'undetectable'. This visual rendering of the detectable/undetectable binary is meant to represent the amount of HIV virus in someone's blood plasma pre- and post-treatment, respectively. The video and photo campaigns are emblematic of the recent shift to 'treatment as prevention', which involves scaled-up HIV testing and access to antiretroviral therapy, together with corresponding forms of clinical and public health monitoring of people living with HIV. We argue that the discursive emphasis on viral load cultivates new socio-sexual subject-positions performed and embodied at the threshold of what is undetectable and detectable, virally suppressed and unsuppressed. The promise of subjective freedom and control is not always what it seems.

This article problematizes the ways that bodies and subjects are discursively made and unmade through the affective, performative and surveillant effects of treatment as prevention. To this end, we examine aspects of treatment-as-prevention programmes through Michel Foucault's analytic strategy attuned to the way 'power relations, governmentality, the government of the self and of others, and the relationship of self to self constitute a chain . . . [through which] . . . to connect together the question of politics and the question of ethics' (Foucault, 2005: 252). Ethics, here, involves self-stylization in response to various forms of governance (or games of truth) and

the practice of *freedom* in relation to normative constraints (Tobias, 2005). We further adapt Butler's (1990) theory of performativity to argue how subject-positions are constructed and consolidated around viral load measures. Finally, we complement our articulation of performativity with Anderson's (2012) Foucauldian insights on affect, where affective relations constitute the emotional ties that bind together individuals and communities, while also serving as strategies for governing life through the dual targets of the body and the population. In the analytic frame we develop, the 'transformation' of bodies is more than merely symbolic or rhetorical. Indeed, it is instantiated within 'an increasingly biomedicalized form of governmentality' (Nguyen, 2008: 127) that produces subjects and citizens through discursive, material and biological strategies. Our analysis identifies two emerging subject-positions: the 'successful' virally suppressed (undetectable) and the 'failed' virally unsuppressed (detectable). In the following sections we describe the logic of treatment as prevention and interrogate its key features: testing and treatment, adherence and viral surveillance. We relate these to embodied and affective aspects of viral suppression and its contradictions.

The Historical Context and the Emergence of Treatment as Prevention

The spread of HIV remains a pressing global health issue with an estimated 35 million people currently living with the virus (UNAIDS, 2014). Following the identification of HIV in the 1980s, treatments were slow to be developed and often had severe side-effects (Arno and Feiden, 1992). This was followed by the availability of new classes of drugs in the 1990s that slowed the replication of the HIV virus and radically reduced HIV-related morbidity and mortality (Sepkowitz, 2001). While these drugs also have related toxicity, they significantly improved health outcomes for people on treatment (Burgoyne and Tan, 2008). Globally, however, the benefits of treatment have lagged due to trade patents which restrict the production of affordable options (Walwyn, 2013). This has prompted debates about whether to focus 'limited' resources on HIV prevention *or* treatment. Yet, this binary has been challenged following a series of clinical trials demonstrating the efficacy of early antiretroviral therapy initiation to reduce HIV transmission in serodiscordant

(or mixed-status) couples (Cohen et al., 2012). This so-called ‘treatment-as-prevention’ approach promotes the scale-up of antiretroviral therapy as a ‘cost-effective’ treatment strategy with the concomitant benefit of reducing the number of new infections (Johnston et al., 2010). Within treatment as prevention the goal of antiretroviral therapy has shifted from inhibiting viral replication to the more specific goals of achieving (and maintaining) a state of ‘viral suppression’ and, preferably, an ‘undetectable’ level of the virus in the blood (usually defined as under 50 copies per millilitre and as little as 30 copies per millilitre) (Widdrington et al., 2011). Treatment as prevention has received wide praise and in 2011 earned the distinction of being named the scientific ‘breakthrough of the year’ by the journal *Science* (Cohen, 2011). Beyond the scientific community the notion of ‘undetectable’ has made its way into individual and community-level discourse about risk and pleasure (Grace et al., 2015; Race, 2015).

Prominent organizations like UNAIDS, the World Health Organization (WHO) and the aforementioned British Columbia Centre for Excellence in HIV/AIDS and the CDC have promoted the scale-up of treatment as prevention. The CDC (2011) has advanced early antiretroviral therapy initiation within their ‘High-Impact HIV Prevention’ approach, which involves ‘using combinations of scientifically proven, cost-effective scalable interventions targeted to the right populations in the right geographic areas’. The British Columbia Centre for Excellence in HIV/AIDS has launched the ‘Seek and Treat for Optimal Prevention of HIV/AIDS’ (STOP HIV/AIDS) programme to expand HIV testing and treatment coverage, which includes various approaches to retaining individuals in care (e.g. supportive housing) (Johnston, 2013). STOP is a unique partnership between the British Columbia Centre for Excellence in HIV/AIDS and the provincial government of British Columbia, which provided an initial \$48 million investment, and which has since been renewed and expanded. The STOP programme provides an important example of how treatment as prevention has turned from a potentiality to public health policy.

The broad institutional support for treatment as prevention connects with slick media campaigns to create a highly affective promotional discourse. For example, the STOP media campaign combines sexy Transformer™ style videos with moving personal testimonials.

The ‘It’s Different Now’ media campaign that invites the public to get tested draws links with the civil rights movement, exhorting viewers to change history by getting themselves tested and, if diagnosed, onto treatment.³ The video on their website ends with a rousing call to action to end HIV, exclaiming, ‘we need you to do your part’. Saying nothing about the implications of knowing one’s HIV status, the video projects a powerful message that forecloses critical questions. Indeed, critics of the biomedical approach to HIV prevention have been charged with being ideologically driven and ignoring real-world needs (Nguyen et al., 2011). Accordingly, we ask, how might we best cut through this projection of the treatment-as-prevention-adherent body, this ‘purposive rational instrumental view of the body’ as machine (Featherstone, 2010: 199–200), which can be plugged into diagnosis and treatment without consequence? How best to raise concerns that, while treatment as prevention may benefit some, it may also marginalize others through increased surveillance and deceptive forms of freedom and control?

From Testing to Treatment

Bauer and Olsén (2009: 117) urge us to explore the relationship between ‘the digitized and transparent individual patient body of the clinic on the one hand and the epidemiological databases originating through public health surveillance practices on a population scale on the other hand’. The aforementioned STOP project launched by the British Columbia Centre for Excellence in HIV/AIDS has involved testing campaigns, including ‘testing fairs’, where socially and economically marginalized people are offered food and gift cards in exchange for consenting to an HIV test (Vonn, 2012). Before the shift to seek-and-treat programmes, Waldby (2004: 114) argued that HIV tests act ‘simultaneously as a diagnostic technology for clinical medicine, a surveillance technology for epidemiology, and a disciplinary technology for the medico/social management of the infected’. With the scale-up of treatment as prevention, Waldby’s analysis must be extended to reflect treatment as prevention’s universalizing aspects. Indeed, some of the STOP campaign posters clearly state, ‘We don’t think you’re special’. Yet, once an individual tests positive for HIV antibodies, he or she becomes ‘special’ and is classified within a risk group – MSM, injection drug user, sex-worker,

etc. – and is entered into public health databases for follow-up counselling, treatment and partner contact tracing. Considering that many people continue to fear the tests and their consequences, Krellenstein and Strub (2012: 12) have questioned how health authorities expect to ‘get anything close to 100 percent of a large community to consent to testing and treatment without some form of coercion’. Indeed, Patton (2011: 263) has starkly warned that treatment-as-prevention ‘programs require testing and mandatory treatment on a scale seen only in dictatorships’.

For treatment as prevention to be effective in realizing an ‘AIDS free generation’, it requires a majority of persons currently infected with HIV to be tested and to initiate treatment (at least 75% as modelled by Lima et al., 2008). The CDC (2013) explains that such programmes are ‘based on the premise that the rate of new HIV infections will be maximally reduced by using *aggressive* methods to test and diagnose all people living with HIV infection’, and by treating them ‘with [antiretroviral therapy] *regardless* of CD4 cell count or viral load at diagnosis’ (emphasis added). Previously, under 2010 WHO treatment guidelines, antiretroviral therapy was initiated only when an individual’s CD4+ T-cell counts decreased to ≤ 350 cells per μL , and they began experiencing the health effects of HIV. By 2013, WHO guidelines were revised to recommend initiating treatment at ≤ 500 because ‘earlier, safer and simpler antiretroviral therapy can push the HIV epidemic into irreversible decline’ (WHO, 2013a). And yet, while earlier initiation may delay the deleterious health effects of HIV, it requires people who perceive themselves to be asymptomatic to commit to a drug regimen that may cause physical side-effects. As Rosengarten (2004: 92) has noted, what the success of antiretroviral therapy ‘does not convey so well is the potential toll, borne by those engaged in a most intimate corporeal relation with the drugs’. Elsewhere Rosengarten (2005: 75) has described the ‘damaging effects of the drugs’, along with adherence issues and possible drug resistance, and has pointed to ‘individual and gender-identified physiological differences that may influence test results, drug absorption, and the manifestation of side effects’. Under the treatment-as-prevention model, people who test positive are encouraged to initiate treatment immediately regardless of their personal circumstances and the potential impact of treatment. Strub (2010) has argued that the ‘simplicity’ of treatment as prevention,

‘hides deeply disturbing truths, including that many people coerced into unnecessary treatment will suffer side effects and treatment-induced diseases’.

Some common side-effects associated with HIV medications include dizziness, nausea, vomiting, headaches and pain. For most people these subside within a few weeks, but for others they may persist and become a significant barrier to adherence (Grierson et al., 2011). While drug toxicity is understood to be an important aspect of HIV treatment there are few reporting mechanisms (Margolis et al., 2013). In response to their own revised treatment guidelines, the WHO (2013b) has recommend better surveillance within antiretroviral therapy programmes to monitor ‘the impact of toxicities on treatment outcomes, including treatment discontinuation, medical significance, disability or incapacity, inpatient hospitalization or prolonged existing hospitalization, life-threatening illness and death, and congenital anomalies’. Promisingly, the highly publicized Strategic Timing of AntiRetroviral Treatment (START) study found improved health outcomes for people who initiate treatment earlier, but the study only followed participants for a mean of 3.0 years (The INSIGHT START Study Group, 2015). Minimizing adherence challenges in order to emphasize the benefits of treatment as prevention for public health purposes has been equated with violating core principles of medical ethics vis-à-vis the individual patient: to *do no harm* and to *respect autonomy* (Krellenstein and Strub, 2012). Exploring the ethical implications of increased testing and treatment, Bayer (2010: 301) asked: ‘what level of surveillance would be necessary to assure levels of treatment adherence compatible not only with reducing population level viral loads, but also with the prevention of the emergence of resistant viral strains?’ We now take up this question, focusing on modes of surveillance that operate to discipline individuals and regulate populations.

Viral Load and Surveillance

For people who test positive, the HIV antibody test is the beginning in a series of ongoing tests to monitor the progress of the virus, including HIV viral load testing to measure the number of virus particles within a sample of blood or other body fluids (e.g. semen, vaginal secretions, etc.) (Gagnon and Guta, 2014). The test detects the

level of viral replication, but also treatment success. For some, achieving an undetectable viral load is a marker of personal pride, as evidenced by increased options to identify as undetectable in online cruising forums and even wearing T-shirts, buttons and bracelets that read 'undetectable'. While having an undetectable viral load is described as easily attainable, Gardner et al. (2011: 795) reported that 'HIV-infected individuals with undetectable viral loads constitute just 19% of the HIV-infected population in the United States'. Prescribing a specific viral load goal for all people living with HIV disregards the unique biophysiological and socio-contextual differences between individuals, as well as structural issues such as access to care and treatment. The prescribed ideal viral load becomes the 'norm', a one-size-fits-all approach around which to mobilize. In Foucault's terms (2003a: 50), the 'norm's function is not to exclude and reject. Rather, it is always linked to a positive technique of intervention and transformation, to a sort of normative project'. This project effectively positions the subject in relation to the norm, inculcating that subject as a wilful and responsible participant, and rendering him or her as visible and subject to ongoing inspection, evaluation and judgement – and it necessitates access to a cadre of health care service providers and a complex biomedical and biopharmaceutical infrastructure. The positive messaging about treatment as prevention achieving an 'AIDS free generation' belies the stigmatizing effects of these initiatives. Or, according to Strub (2012), 'it contributes to the further demonization of people with HIV, and see[s] us solely through our potential to transmit a virus, as viral vectors, as potential infectors'.

The individual tends to disappear as a function of population health; she or he becomes 'massified', swept up into the logics of the 'species-body' (Foucault, 2003b), with diminishing regard for particular biophysiological or socio-contextual differences. Treatment as prevention assumes, as many HIV initiatives have erroneously done, that sex is relatively stable and monogamous, and that the target audience will obey the intent of public health interventions. Yet, clinical trial findings, collected under specific conditions, are being taken up in unexpected ways by gay men, particularly in major urban centres, who use their viral load to negotiate condom use depending on the known or perceived HIV status of their partners (Van Den Boom et al., 2013). Achieving viral suppression in the blood does not

necessarily correlate with viral load in the genital tract or other parts of the body (Hosein and Wilson, 2011). Kalichman (2013) has warned that treatment as prevention could lead to decreased condom use and increases in new or re-emerging chronic STIs (e.g. herpes simplex virus type 1), which in turn lead to viral load spikes in the genital tract despite an undetectable blood viral load. The recommended 'solution' is ongoing viral load testing and monitoring to ensure such 'blips' can be identified. The production and collection of such surveillance data reflect what Haggerty and Ericson (2000: 611) have observed as a trend towards the decorporealizing of the body to create a 'data double'. Indeed, viral load monitoring for clinical purposes has become reportable to public health agencies for use in epidemiological surveillance in a growing number of jurisdictions (Terzian et al., 2012). Here an individual's viral load becomes his or her 'data double', constituted by what are popularly termed 'their counts' (viral load, CD4, etc.), escaping the confines of the clinic to become community viral load.

Community Viral Load Mapping: The Individual and the Collective

The epidemiological surveillance of viral load evokes Armstrong's (1995: 401) notion of 'surveillance medicine', which is less interested in the space of the clinic and more interested in 'the grid of interactions between people in the community'. Das and colleagues (2010: 2) have combined individual viral loads into 'an aggregate biological measure of viral load for a particular geographic location', advancing the concept of community viral load to describe this aggregate measure. Much as individual viral load is considered an indicator of adherence and treatment success, community viral load is considered a marker of the success of treatment as prevention (Castel et al., 2012). These data are now being combined with Geographic Information System (GIS) technologies to locate 'viral concentrations' at the aggregate level through a process of 'community viral load mapping' intended to identify epidemiological 'hot spots' (Gagnon and Guta, 2012). However, questions have been raised about community viral load mapping over selection issues, data interpretation and the risk of ecological fallacy where individual-level effects are inappropriately attributed causally to group-level effects

(Miller et al., 2013). While these criticisms are timely and appropriate, our interests, in keeping with Gagnon and Guta (2012), centre on the construction and deployment of an intercorporeal ‘community’ as a means to mobilize and govern people living with HIV through lab values and the demarcation of ‘risky’ spaces.

Invoking ‘community’ has long been a strategy in the governance of people living with HIV (Miller and Rose, 2008), but its affective dimensions have been under-theorized. Responding to this, we ask: What does it mean to conceive of a neighbourhood in terms of viral concentration? And what are the implications for those who live within its boundaries? Race (2010) has argued that ‘affective climates’ are produced in relation to experiences of connection and isolation when people living with HIV are identified in the spaces created by online cruising forums. These forums enable certain kinds of HIV prevention and strategies for self-representation and partner selection to emerge. With respect to community spaces constructed by community viral load mapping, however, we worry that affect will be organized and exploited through the logic of High-Impact Treatment and Prevention in ways that may promote fear, shame and stigma on collective as well as individual levels. While the CDC (2013) claims that community viral load mapping data allow for more focused and cost-effective interventions – costly sophisticated technologies and statistical modelling notwithstanding – this labelling of ‘good’ and ‘bad’ spaces harkens back to the early days of the epidemic when certain groups and spaces were deemed inherently ‘risky’ (e.g. gay men in bathhouses, injection drug users in ‘shooting galleries’). The same communities that have historically experienced poverty, stigma, marginalization and a disproportionate burden of HIV are still those most likely to show up as ‘concentrations’ on these maps. Yet this mapping exercise is characterized as neutral, and the evidence-based data supposedly ‘speaks for itself’ (Murray et al., 2008). What is perhaps silent in this speech is that individual and collective viral load mapping has emerged in the context of growing rates of stigma and the criminalizing of HIV (Mykhalovskiy et al., 2014). Following Michael and Rosengarten (2012: 4) we ‘treat the ethical and political status of both the contraction and the proliferation of affective relations, and the sorts of bodies that emerge out of these patterns, with circumspection’.

Community viral load links individual biomarkers and health indicators within an aggregate formation that takes shape in spaces – cities, neighbourhoods, streets, etc. Within community viral load mapping we see the formation of what van Loon describes as ‘epidemic space’, where ‘expert systems of epidemic management’ attempt to colonize ‘every contingency’ (2005: 50). We are concerned by the potential of community viral load mapping to exacerbate ongoing HIV stigma within gay communities, which impacts mood and emotional well-being and has been linked to community fragmentation (Smit et al., 2011). We further worry that these communities will be considered a risk to the immunity of those living within, and in proximity to, its borders. In time, some may come to understand themselves in terms of where they are located in these viral borderlands and ghettos. Earlier, Armstrong (1995: 403) warned that within such a milieu ‘self and community begin to lose their separateness’. In this respect, by ‘treating’ individuals with the goal of ‘prevention’ at the level of the population, treatment as prevention collapses traditional distinctions between individual, community and population. The individual’s body is reduced to his or her viral load, and is kept intact by a drug regimen that simultaneously treats and harms, and is mapped in the body and against the population. One salient issue is how the subject is mediated through the techniques of treatment as prevention, particularly in relation to the intercorporeal categories of the virally suppressed/unsuppressed.

Embodiment, Performativity and Suppression

We opened this article with two distinct pro-treatment-as-prevention media campaigns, both of which provide the occasion for a critical assessment of normative embodiment and subject-formation within the rhetorics of viral suppression. In the British Columbia Centre for Excellence in HIV/AIDS video and the ‘HIV STOPS WITH ME’ campaigns, the message is one of empowerment through a transformative engagement with the HIV biomedical apparatus – a forward movement achieved through technology and progress, from darkness to light. While these campaigns target different audiences, each provides an image with which the viewer is intended to identify: desirable subject-positions available to be taken up, affectively incorporated, and lived in full colour. In brief, the images of the

transformed bodies they propose are synecdochal for a normative and desirable subject-position, the 'virally suppressed', while the normalizing forces of suppression remain covert. Foucault (1982: 212) describes subjectivity as a dual process of subjection and subjectivation:

there are two meanings of the word subject: subject to someone else by control and dependence, and tied to his own identity by a conscience or self-knowledge. Both meanings suggest a form of power which subjugates and makes subject to.

The virally suppressed subject is subject *to* biomedical control and dependence, but also subjected *by* the very identity of the subject-position that such control and dependence produces and ultimately repackages as desirable, natural and good. Butler's (1990) theory of performativity helps us to read the forces that animate these campaigns and to understand the ways in which they coordinate a set of desirable corporeal effects and affects – emergent norms in and through which the subject will be transformed. Achieving viral suppression is depicted as a free choice coming from the subject. As another 'HIV STOPS WITH ME' campaign boldly proclaims, 'I am the cure'. The 'I' is sovereign in these campaigns; the subject is interpellated as a singular and free agent. The promised transformation seems to come from within, emerging from an inner, essential, natural or 'true' identity – there is little mention of the forms of surveillance we have described above. In Butler's terms, then, we might say that the illusion of freedom and agency is a performative *effect* of our regimented actions, rather than their cause. 'Such acts, gestures, enactments, generally construed', Butler writes, 'are *performative* in the sense that the essence or identity that they otherwise purport to express are *fabrications* manufactured and sustained through corporeal signs and other discursive means' (1990: 136). While Butler is writing about gender identity, in the context of treatment as prevention we might say that the subject is recruited into a social performance obedient to treatment as prevention's protocols and objectives, but which nevertheless seems to be the free expression of the 'true' subject – the inner truth, which is always coded as 'suppressed' or 'undetected'. Scott's (2010: 163) notion of 'performative regulation' is relevant here, for, in the absence of explicitly

coercive power, treatment as prevention ‘relies upon the willingness of individuals to discipline themselves through mutual surveillance, by internalizing and enacting the panoptical gaze in their encounters’. In some sense, the vast apparatus of testing and ongoing surveillance requires this identity as a component of affective compliance; the subject’s affective identity is both the effect and the means or mechanism of discursive regulation.

In the British Columbia Centre for Excellence in HIV/AIDS campaign, recall that the luxury sports car transforms *itself*, autonomously, while in the ‘HIV STOPS WITH ME’ campaign we read the models from left to right as progressing from black-and-white to colour, from obsolete to modern technologies, from detectable to undetectable. While ‘undetectable’ might be said to describe a biological or viral ‘truth’ that is internal, private and not immediately legible on the surface of the body, what remains de facto undetectable in the photographs has less to do with the models’ interior lives or the hidden biology of their bodies, and everything to do with the invisible surveillance and subjectivation of the biomedical and pharmaceutical apparatus that regulates their lives according to population health norms and protocols – the complex political and discursive origins of the subjective identity they represent. This apparatus produces a frame within which particular kinds of bodies can be visible, recognizable and available to be taken up and performatively enacted, as others are rendered invisible, unrecognizable, unliveable. Virological markers that determine whether a subject ‘succeeds’ in being virally suppressed (‘undetectable’) or ‘fails’ in this are performatively ‘transformed’ into the naturalized and normalized signature of a subject-position. Critique is, as it were, foreclosed from the start. In Butler’s (1990: 111) terms:

The displacement of a political and discursive origin . . . onto a psychological ‘core’ precludes an analysis of the political constitution of the . . . subject and its fabricated notions about the ineffable interiority of its sex or of its true identity.

In other words, the political and discursive origin of ‘viral suppression’ is hidden behind a subject who performatively embodies that subject-position, thereby immunizing (we might say) the larger political and discursive apparatus from any sort of critique. Cause and

effect are tactically inverted, much as individual and population, prevention and treatment, also enter into catachresis. Indeed, the positive affective dimensions of being individually undetectable may conflict with collective affect at the community level.

As a speech act, a self-identification, declaring oneself 'undetectable' is a troubled performative, as it circulates in divergent ways across diverse contexts, from health promotion materials to social networking applications for MSM, such as Grindr. Who speaks here? And from what subject-position? Is 'undetectable' voiced as a clinical marker or in the mode of confession, where one expresses an 'inner truth' about oneself, a truth that, on the surface of the body, must paradoxically be detected as undetectable? Or is this utterance not in some sense performative, spoken from elsewhere, relying on the kind of subjectivation that is produced through biomedical, pharmaceutical and epidemiological discourses? In other words, is this speech act not less about the 'expression' of some interior truth and more about the repeated, performative production of a phantasmatic – and promised – subjectivity and affect? It is worth recalling the confessional technologies as described by Foucault (1978) and more recently taken up by Nguyen (2010) to contextualize efforts to make people living with HIV more visible. While these started as public testimonials to humanize people with HIV and reduce stigma (consider the undetectable ambivalence of the 'HIV Positive' T-shirts), the new 'confession' takes place in relation to viral status. Flowers (2010: 117) has framed it as 'externalising ambivalent and viral identities'. And this ambivalence may reflect, in part, the reality that the person who is virally suppressed may actually feel unwell as a consequence of the impact of antiretroviral therapy on their daily functioning (Race, 2001 cited in Rosengarten, 2005: 84). Paradoxically, the HIV+ subject's 'freedom' to do and to be comes through his or her own suppression, both virally and on a somatic and performative register. For some, being adherent is difficult, depressing and even disembodiment, while for others it may offer a sense of 'empowerment' as they identify with their blood plasma viral load in ways that enable their sexuality (Strong, 2009). Yet there are those who never achieve this freedom. What of those disaffected bodies that do not respond well to medications, who are non-adherent and who 'fail' to be suppressed?

Contradictions and Casualties: Beyond the Suppressed/Unsuppressed Binary

As HIV researchers, we first encountered open discussions on the virally unsuppressed at a Canadian HIV conference in 2012, where a group of delegates differentiated between the suppressed and the unsuppressed within their sample. This was an important moment, at least for us, as social scientists, witnessing in real time the emergence of a new category of social deviant – the virally unsuppressed HIV+ subject. Revisiting the ‘HIV STOPS WITH ME’ campaign, the ‘detectable’ images on the left half are accompanied by quotations that emphasize words and phrasing like ‘uninformed’, ‘killing’, ‘virus takes over’ and ‘isolating’. The ‘undetectable’ half includes: ‘loves myself’, ‘everything better’, ‘honest’, ‘power’ and ‘back to life’. Unsurprisingly, such messaging has had effects within targeted communities. Grace et al. (2015: 346) have observed the importance of being ‘undetectable’ among HIV positive gay men who are identifying with this prevention category in complex ways, leading the authors to emphasize:

the importance of considering the psychosocial ramifications for those persons who do not/are unable to ‘achieve’ an undetectable viral load, including some persons who are adherent to medication. The new elite status of undetectable may in fact create further stigmatization and in-group marginalization within communities of gay men.

Yet such complexity does not appear to be taken into account in public health programming, or in clinical care where the central importance of viral load is evidenced by calls to provide financial incentives for adherence (Galárraga et al., 2013). For example, ‘gift vouchers linked to HIV viral load’ are combined with ‘motivational interviewing’ to help ‘vulnerable individuals’ achieve and maintain antiretroviral therapy adherence (Foster et al., 2014). Such initiatives, of course, are unable to address the root causes of poverty that drive the need for incentives in the first place, or the implications of managing such an identity in relation to one’s sexual network and broader community.

While viral suppression is linked to non-infectiousness, this sense of oneself as un-infectious may have unanticipated consequences that could undermine the preventative benefits of treatment as

prevention. Those identified as virally suppressed may be less likely to use condoms (Beougher et al., 2012). This potentially exposes them to other sexually transmitted infections and more drug-resistant forms of HIV. Kalichman (2013) has noted that treatment as prevention, an epidemiological projection tool, is being used by individuals to make important health decisions. For example, in what has been termed 'risk compensation' (Cassell et al., 2006) some men are engaging in more condomless sex because of their viral load (Kalichman et al., 2015). Recently, an event was held in Vancouver, Canada billed as the 'Undetectable Party: For Undetectable Guys and Guys Liking Undetectable Guys', where attendees could wear bracelets that read 'undetectable' or 'undetectable friendly'. Events such as these also assume that decisions about serosorting might be made because of a partner's last known viral load, possibly measured six months before. Clearly these gay men are not passive bodies here; rather, they are styling themselves as undetectable in order to achieve desirability and a sense of community. If we are to glean anything from this, it is that to be 'undetectable' is also to be healthy, happy, fulfilled and virile. These too are worth celebrating, and it is perhaps no coincidence that people are becoming more open about their viral load; but, once again, this can be framed somewhat differently. If the luxury sports car functions as a corporeal sign for the gay male health consumer, reproducing a phantasmatic masculinity alongside the exaltation of an ostensibly autonomous self-transformation, we must nevertheless begin to account for the nonautonomous conditions under which such images can circulate, come to life, and invoke somatic and subjective identification. Reading the luxury sports car alongside the photographs highlighting the detectable/undetectable binary opens for us a morass of deeply problematic relations, injustices, and complicitous conditions of possibility.

We appreciate that the goals of treatment as prevention include making testing and treatment more accessible; however, we are concerned that people living with HIV are being inundated with confusing and contradictory messaging about their risk of transmitting HIV to others. Modelling by Wilson et al. (2008) has shown that, over a 10-year period, individuals who are undetectable and do not use condoms could be four times more likely to transmit the virus than individuals who use condoms. In the Swiss HIV cohort study, from which came the 'Swiss Statement' which first popularized the

relationship between viral load and decreased infectiousness, all types of participants have since reported less frequent condom use (Hase et al., 2010) and the MSM participants showed an 18-fold increase in Hepatitis-C over 13 years (Wandeler et al., 2012). However, it is worth noting that other studies have shown that risk compensation is not an issue (Mattson et al., 2014). Finally though, the transmission of drug-resistant forms of HIV continues to be an issue among MSM globally (Pham et al., 2014). Ultimately, treatment as prevention may serve to weaken decades of public health prevention efforts if it fails to deliver an ‘AIDS free generation’ and, worse, unintentionally lead to fewer treatment options.

Additionally, treatment-as-prevention-related viral load surveillance must be considered in relation to HIV criminalization. In the Canadian context, for example, viral load was included in a Supreme Court decision about when a person living with HIV has a legal duty to disclose his or her HIV status (Symington, 2013). This encourages people who are sexually active to engage in ongoing viral load monitoring for therapeutic purposes but also to obtain evidentiary support should they be prosecuted for not disclosing their status. Among these prosecutions for HIV non-disclosure, research indicates a pattern of racial bias, with racialized men being more likely to be prosecuted and convicted (Mykhalovskiy and Betteridge, 2012). As viral load surveillance becomes increasingly implicated in HIV criminalization, it may interlock with existing patterns of racialization and other forms of systemic discrimination, and amplify or create new divisions within and across communities affected by HIV. We are concerned that those categorized as virally unsuppressed by this new form of classification will be marked as increasingly dangerous.

Finally, if the suppressed subject holds a privileged place in the clinical and public health realms, then the unsuppressed subject may become relegated to the margins – in effect, a failed neoliberal subject who has rejected the invitation to be ‘better’. We anticipate who these individuals are likely to be, at least in the Canadian context: racialized, poor, injection drug using, homeless, rural, etc. For example, Indigenous peoples in Canada have disproportionate rates of infection, experience high levels of stigma (including from health care providers) and are less likely to remain adherent (McCall and Lauridsen-Hoegh, 2014). Similar patterns have been observed elsewhere with racialized groups (Meditz et al., 2011) and people living

in poverty (McMahon et al., 2011). We wonder how their unsuppressed status registers and is embodied within their affective worlds, considering the many competing issues they face. Do they feel ashamed and guilty for ‘failing’ themselves and others? Undeserving of love, intimacy and affection? These so called ‘failed’ individuals, a problematic notion challenged by Rosengarten, 2005: 83, are produced as the human remainders of treatment as prevention’s constellating forces – bodies captured in systems of surveillance, technology and biomedicine. Indeed, the category of the virally suppressed necessitates the unsuppressed, in a binary logic of success and failure, where the intimate experience of ‘failed’ human lives is lost through the shifting markers that police this binary, and reify it as a structure of a desire that remains unattainable for some, or attainable for a time only later to fail. In sum, treatment as prevention requires both subject-positions, suppressed and unsuppressed, success and failure. We need to better understand how these subject-positions are produced and enacted, to understand the terms and conditions of compliance or resistance.

Conclusion

Our goal in this article was to theorize the ways that treatment as prevention imposes an onto-logic of numeracy and discrete categorization onto bodies that are in flux and malleable. Clinical lab values that once reflected an individual’s illness trajectory now serve the public health interests of differentiating between suppressed/unsuppressed bodies and communities. Much of this talk of viral status ignores the individual body’s inherent differences and limitations. Can a body really be reduced to such discrete binaries as suppressed/unsuppressed, infectious/un-infectious and, if so, at what cost and for how long? Further to concerns about the subject’s self-formation, we are concerned that the public health goals of treatment as prevention will result in a kind of viral-privileging in clinical care where the detectable (unsuppressed) become marked and subject to new forms of surveillance and shaming. Such a concern responds to continued stigma from care providers towards people living with HIV (Rutledge et al., 2011). Yet, to end on a more positive note, we consider Murphy’s (1995) early assertion that while bodies with AIDS are imbued with cultural manifestations of the disease and

its biomedical logics, they also invite thinking about freedom in relation to viral load as a logic imposed and embraced, and the possibility of re-imagining how these terms are used and deployed. Here there may be new occasions to think about ethics, the affective world of embodied subjectivities and communal forms of resistance not yet imagined. We hope that by identifying contradictions in treatment as prevention we will encourage others to further theorize these issues and their implications for different groups affected by HIV.

Notes

1. The video can be seen on YouTube: <https://www.youtube.com/watch?v=s-t33a61VMk>
2. See: <http://www.hivstopswithme.org/>
3. See: <http://www.its-different-now.org/>

References

- Anderson B (2012) Affect and biopower: Towards a politics of life. *Transactions of the Institute of British Geographers* 37(1): 28–43.
- Armstrong D (1995) The rise of surveillance medicine. *Sociology of Health & Illness* 17(3): 393–404.
- Arno PS and Feiden K (1992) *Against the Odds: The Story of AIDS Drug Development, Politics, and Profits*. New York: HarperCollins.
- Bauer S and Olsén JE (2009) Observing the others, watching over oneself: Themes of medical surveillance in post-panoptic society. *Surveillance & Society* 6(2): 116–127.
- Bayer R (2010) Mass testing and mass treatment for epidemic HIV: The ethics of medical research is no guide. *Public Health Ethics* 3(3): 301–302.
- Beougher SC, Chakravarty D, Garcia CC, Darbes LA, Neilands TB and Hoff CC (2012) Risks worth taking: Safety agreements among discordant gay couples. *AIDS Care* 24(9): 1071–1077.
- Burgoyne RW and Tan DHS (2008) Prolongation and quality of life for HIV-infected adults treated with highly active antiretroviral therapy (HAART): A balancing act. *Journal of Antimicrobial Chemotherapy* 61(3): 469–473.
- Butler J (1990) *Gender Trouble: Feminism and the Subversion of Identity*. New York: Routledge.

- Cassell MM, Halperin DT, Shelton JD and Stanton D (2006) Risk compensation: The Achilles' heel of innovations in HIV prevention? *British Medical Journal* 332(7541): 605–607.
- Castel AD, Befus M, Willis S, Griffin A, West T, Hader S, et al. (2012) Use of the community viral load as a population-based biomarker of HIV burden. *AIDS* 26(3): 345–353.
- CDC (Centers for Disease Control and Prevention) (2011) *High-impact HIV Prevention: CDC's Approach to Reducing HIV Infections in the United States*. Available at: www.cdc.gov/hiv/strategy/dhap/pdf/nhas_booklet.pdf (accessed 1 December 2015).
- CDC (Centers for Disease Control and Prevention) (2013) Prevention benefits of HIV treatment. Available at: <http://www.cdc.gov/hiv/prevention/research/tap/> (accessed 1 December 2015).
- Cohen J (2011) Breakthrough of the year. Available at: <http://www.sciencemag.org/content/334/6063/1628.full> (accessed 20 March 2014).
- Cohen MS, McCauley M and Gamble TR (2012) HIV treatment as prevention and HPTN 052. *Current Opinion in HIV and AIDS* 7(2): 99.
- Das M, Chu PL, Santos G-M, Scheer S, Vittinghoff E, McFarland W, et al. (2010) Decreases in community viral load are accompanied by reductions in new HIV infections in San Francisco. *PLoS ONE* 5(6): 1–9.
- Featherstone M (2010) Body, image and affect in consumer culture. *Body & Society* 16(1): 193–221.
- Flowers P (2010) HIV transitions: Consequences for self in an era of medicalisation. In: Davis M and Squire C (eds) *HIV Treatment and Prevention Technologies in International Perspective*. Basingstoke: Palgrave Macmillan, 109–125.
- Foster C, McDonald S, Frize G, Ayers S and Fidler S (2014) 'Payment by results' – Financial incentives and motivational interviewing, adherence interventions in young adults with perinatally acquired HIV-1 infection: A pilot program. *AIDS Patient Care and STDs* 28(1): 28–32.
- Foucault M (1978) *The History of Sexuality: An Introduction*. Volume I. New York: Vintage Books.
- Foucault M (1982) Afterword: The subject and power. In: Dreyfus HL and Rabinow P (eds) *Michel Foucault: Beyond Structuralism and Hermeneutics*. Chicago, IL: University of Chicago Press, 208–226.

- Foucault M (2003a) *Abnormal: Lectures at the Collège de France, 1974–1975*. New York: Picador.
- Foucault M (2003b) *'Society Must Be Defended': Lectures at the Collège de France, 1975–76*. London: Penguin.
- Foucault M (2005) *The Hermeneutics of the Subject: Lectures at the Collège de France, 1981–1982*. Basingstoke: Macmillan.
- Gagnon M and Guta A (2012) Mapping HIV community viral load: Space, power and the government of bodies. *Critical Public Health* 22(4): 471–483.
- Gagnon M and Guta A (2014) HIV viral load: A concept analysis and critique. *Research and Theory for Nursing Practice* 28(3): 204–227.
- Galárraga O, Genberg BL, Martin RA, Laws MB and Wilson IB (2013) Conditional economic incentives to improve HIV treatment adherence: Literature review and theoretical considerations. *AIDS and Behavior* 17(7): 2283–2292.
- Gardner EM, McLees MP, Steiner JF, del Rio C and Burman WJ (2011) The spectrum of engagement in HIV care and its relevance to test-and-treat strategies for prevention of HIV infection. *Clinical Infectious Diseases* 52(6): 793–800.
- Grace D, Chown SA, Kwag M, Steinberg M, Lim E and Gilbert M (2015) Becoming 'undetectable': Longitudinal narratives of gay men's sex lives after a recent HIV diagnosis. *AIDS Education & Prevention* 27(4): 333–349.
- Grierson J, Koelmeyer RL, Smith A and Pitts M (2011) Adherence to antiretroviral therapy: Factors independently associated with reported difficulty taking antiretroviral therapy in a national sample of HIV-positive Australians. *HIV Medicine* 12(9): 562–569.
- Haggerty KD and Ericson RV (2000) The surveillant assemblage. *British Journal of Sociology* 51(4): 605–622.
- Hasse B, Ledergerber B, Hirschel B, Vernazza P, Glass TR, Jeannin A, et al. (2010) Frequency and determinants of unprotected sex among HIV-infected persons: The Swiss HIV cohort study. *Clinical Infectious Diseases: An official publication of the Infectious Diseases Society of America* 51(11): 1314–1322.
- Hosein SR and Wilson DP (2011) Decision-making by people living with HIV requires communication from clinicians about the risks of transmission despite undetectable plasma viral load. *HIV Medicine* 12(8): 516.

- Johnston C (2013) *Shifting the Paradigm: The History of the Vancouver STOP HIV/AIDS Project*. Available at: http://www.catie.ca/sites/default/files/stop_EN_2013_10_07.pdf (accessed 1 December 2015).
- Johnston KM, Levy AR, Lima VD, Hogg RS, Tyndall MW, Gustafson P, et al. (2010) Expanding access to HAART: A cost-effective approach for treating and preventing HIV. *AIDS* 24(12): 1929–1935.
- Kalichman SC (2013) *HIV Treatments as Prevention (TasP): Primer for Behavior-based Implementation*. New York: Springer.
- Kalichman SC, Cherry C, Kalichman M, Washington C, Grebler T, Hoyt G, et al. (2015) Sexual behaviors and transmission risks among people living with HIV: Beliefs, perceptions, and challenges to using treatments as prevention. *Archives of Sexual Behavior* online first.
- Krellenstein J and Strub S (2012) The ethical implications of ‘treatment as prevention’ in the United States. *HIV/AIDS Policy & Law Review* 16: 11–14.
- Lima VD, Johnston K, Hogg RS, Levy AR, Harrigan PR, Anema A, et al. (2008) Expanded access to highly active antiretroviral therapy: A potentially powerful strategy to curb the growth of the HIV epidemic. *Journal of Infectious Diseases* 198(1): 59–67.
- Margolis AM, Heverling H, Pham PA and Stolbach A (2013) A review of the toxicity of HIV medications. *Journal of Medical Toxicology* 10(1): 26–39.
- Mattson CL, Freedman M, Fagan JL, Frazier EL, Beer L and Huang P (2014) Sexual risk behaviour and viral suppression among HIV-infected adults receiving medical care in the United States. *AIDS (London, England)* 28(8): 1203–1211.
- McCall J and Lauridsen-Hoegh P (2014) Trauma and cultural safety: Providing quality care to HIV-infected women of Aboriginal descent. *Journal of the Association of Nurses in AIDS Care* 25(1, Suppl.): S70–S78.
- McMahon J, Wanke C, Terrin N, Skinner S and Knox T (2011) Poverty, hunger, education, and residential status impact survival in HIV. *AIDS and Behavior* 15(7): 1503–1511.
- Meditz AL, MaWhinney S, Allshouse A, Feser W, Markowitz M, Little S, et al. (2011) Sex, race, and geographic region influence clinical outcomes following primary HIV-1 infection. *Journal of Infectious Diseases* 203(4): 442–451.

- Michael M and Rosengarten M (2012) Medicine: Experimentation, politics, emergent bodies. *Body & Society* 18(3–4): 1–17.
- Miller P and Rose NS (2008) *Governing the Present: Administering Economic, Social and Personal Life*. Cambridge: Polity.
- Miller WC, Powers KA, Smith MK and Cohen MS (2013) Community viral load as a measure for assessment of HIV treatment as prevention. *The Lancet Infectious Diseases* 13(5): 459–464.
- Murphy JS (1995) The constructed body: Living with AIDS. In: Murphy JS *The Constructed Body: AIDS, Reproductive Technology, and Ethics*. New York: SUNY Press, 63–84.
- Murray SJ, Holmes D and Rail G (2008) On the constitution and status of ‘evidence’ in the health sciences. *Journal of Research in Nursing* 13(4): 272–280.
- Mykhalovskiy E and Betteridge G (2012) Who? What? Where? When? And with What Consequences? An analysis of criminal cases of HIV non-disclosure in Canada. *Canadian Journal of Law and Society* 27(1): 31–53.
- Mykhalovskiy E, Betteridge JG, Sanders C and Jones M (2014) *The Public Health Implications of Criminalizing HIV Non-disclosure, Exposure and Transmission: Report of an International Workshop*. Toronto, Canada, 27–28 April. Available at: <http://www.hivlawandpolicy.org/resources/public-health-implications-criminalizing-hiv-non-disclosure-exposure-and-transmission> (accessed 1 December 2015).
- Nguyen V-K (2008) Antiretroviral globalism, biopolitics, and therapeutic citizenship. In: Ong A and Collier SJ (eds) *Global Assemblages: Technology, Politics and Ethics as Anthropological Problems*. Malden, MA: Blackwell, 124–144.
- Nguyen V-K (2010) *The Republic of Therapy: Triage and Sovereignty in West Africa’s Time of AIDS*. Durham, NC: Duke University Press.
- Nguyen V-K, Bajos N, Dubois-Arber F, O’Malley J and Pirkle CM (2011) Remedicalizing an epidemic: From HIV treatment as prevention to HIV treatment is prevention. *AIDS* 25(3): 291–293. Available at: http://journals.lww.com/aidsonline/Fulltext/2011/01280/Remedicalizing_an_epidemic__from_HIV_treatment_as.2.aspx (accessed 1 December 2015).
- Patton C (2011) Rights language and HIV treatment: Universal care or population control? *Rhetoric Society Quarterly* 41(3): 250–266.

- Pham QD, Wilson DP, Law MG, Kelleher AD and Zhang L (2014) Global burden of transmitted HIV drug resistance and HIV-exposure categories: A systematic review and meta-analysis. *AIDS* 28(18): 2751–2762.
- Race K (2010) Click here for HIV status: Shifting templates of sexual negotiation. *Emotion, Space and Society* 3(1): 7–14.
- Race K (2015) ‘Party and play’: Online hook-up devices and the emergence of PNP practices among gay men. *Sexualities* 18(3): 253–275.
- Rosengarten M (2004) Consumer activism in the pharmacology of HIV. *Body & Society* 10(1): 91–107.
- Rosengarten M (2005) The measure of HIV as a matter of bioethics. In: Shildrick M and Mykitiuk R (eds) *Ethics of the Body: Postconventional Challenges*. Cambridge, MA: MIT Press, 71–90.
- Rutledge SE, Whyte J, Abell N, Brown KM and Cesnales NI (2011) Measuring stigma among health care and social service providers: The HIV/AIDS provider stigma inventory. *AIDS Patient Care and STDs* 25(11): 673–682.
- Scott S (2010) How to look good (nearly) naked: The performative regulation of the swimmer’s body. *Body & Society* 16(2): 143–168.
- Sepkowitz KA (2001) AIDS – the first 20 years. *New England Journal of Medicine* 344(23): 1764–1772.
- Smit PJ, Brady M, Carter M, Fernandes R, Lamore L, Meulbroek M, et al. (2011) HIV-related stigma within communities of gay men: A literature review. *AIDS Care* 24(4): 405–412.
- Strong T (2009) Vital publics of pure blood. *Body & Society* 15(2): 169–191.
- Strub S (2010) Medical ethics and the rights of people with HIV under assault. Available at: <http://blogs.poz.com/sean/archives/2010/04/> (accessed 1 December 2015).
- Strub S (2012) Treatment as prevention: Is it time for action? Paper presented at the International AIDS Conference, Washington. Transcript available at: <https://kaiserfamilyfoundation.files.wordpress.com/2012/07/aids-2012-treatment-as-prevention-transcript.pdf>
- Symington A (2013) Injustice amplified by HIV non-disclosure ruling. *University of Toronto Law Journal* 63(3): 485–495.
- Terzian AS, Bodach SD, Wiewel EW, Sepkowitz K, Bernard M-A and Braunstein SL (2012) Novel use of surveillance data to detect HIV-infected persons with sustained high viral load

- and durable virologic suppression in New York city. *PLoS ONE* 7(1): e29679.
- The INSIGHT START Study Group (2015) Initiation of antiretroviral therapy in early asymptomatic HIV infection. *New England Journal of Medicine* 373(9): 795–807.
- Tobias S (2005) Foucault on freedom and capabilities. *Theory, Culture & Society* 22(4): 65–85.
- UNAIDS (2014) *The GAP Report: People Living with HIV*. Geneva: UNAIDS.
- Van Den Boom W, Stolte IG, Witlox R, Sandfort T, Prins M and Davidovich U (2013) Undetectable viral load and the decision to engage in unprotected anal intercourse among HIV-positive MSM. *AIDS and Behavior* 17(6): 2136–2142.
- van Loon J (2005) Epidemic space. *Critical Public Health* 15(1): 39–52.
- Vonn M (2012) British Columbia's 'seek and treat' strategy: A cautionary tale on privacy rights and informed consent for HIV testing. *HIV/AIDS Policy & Law Review* 16: 16–18.
- Waldby C (2004) *AIDS and the Body Politic: Biomedicine and Sexual Difference*. London: Routledge.
- Walwyn D (2013) Patents and profits: A disparity of manufacturing margins in the tenofovir value chain. *African Journal of AIDS Research* 12(1): 17–23.
- Wandeler G, Gsponer T, Bregenzer A, Günthard HF, Clerc O, Calmy A, et al. (2012) Hepatitis C virus infections in the Swiss HIV cohort study: A rapidly evolving epidemic. *Clinical Infectious Diseases* 55(10): 1408–1416.
- Widdington J, Payne B, Medhi M, Valappil M and Schmid ML (2011) The significance of very low-level viraemia detected by sensitive viral load assays in HIV infected patients on HAART. *Journal of Infection* 62(1): 87–92.
- Wilson DP, Law MG, Grulich AE, Cooper DA and Kaldor JM (2008) Relation between HIV viral load and infectiousness: A model-based analysis. *The Lancet* 372(9635): 314–320.
- WHO (World Health Organization) (2013a) WHO issues new HIV recommendations calling for earlier treatment. Available at: http://www.who.int/mediacentre/news/releases/2013/new_hiv_recommendations_20130630/en/index.html (accessed 1 December 2015).

WHO (World Health Organization) (2013b) *Surveillance of Antiretroviral Drug Toxicity within Antiretroviral Treatment Programmes*. Geneva: WHO.

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This article is part of a special issue of *Body & Society* on Surveillance and Embodiment: Dispositifs of Capture, edited by Martin French & Gavin Smith.