



Mapping HIV community viral load: space, power and the government of bodies

Marilou Gagnon^{a*} and Adrian Guta^b

^aFaculty of Health Sciences, School of Nursing, University of Ottawa, 451 Smyth Road, Ottawa, ON K1H 8M5, Canada; ^bDalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada

(Received 7 May 2012; final version received 31 July 2012)

HIV plasma viral load testing has become more than just a clinical tool to monitor treatment response at the individual level. Increasingly, individual HIV plasma viral load testing is being reported to public health agencies and is used to inform epidemiological surveillance and monitor the presence of the virus collectively using techniques to measure ‘community viral load’. This article seeks to formulate a critique and propose a novel way of theorizing community viral load. Based on the salient work of Michel Foucault, especially the *governmentality* literature, this article critically examines the use of community viral load as a new strategy of government. Drawing also on the work of Miller and Rose, this article explores the deployment of ‘community’ through the re-configuration of space, the problematization of viral concentrations in specific micro-locals, and the government (in the Foucauldian sense) of specific bodies which are seen as ‘risky’, dangerous and therefore, in need of attention. It also examines community viral load as a necessary precondition – forming the ‘conditions of possibility’ – for the recent shift to high impact prevention tactics that are being scaled up across North America.

Keywords: community; governmentality; HIV; power; space; surveillance; viral load

Introduction

Since the introduction of antiretroviral therapy in 1996, the clinical management of HIV infection revolves around a complex assemblage of potent pharmacological molecules that inhibit viral replication. The goal of this lifelong treatment regimen is to achieve (and maintain) viral suppression and to reach a threshold where copies of the virus are no longer ‘detectable’ in the blood – the lowest level of detection generally considered 40–75 copies/mL (HHS 2011). An undetectable plasma viral load is widely interpreted as the marker of individual therapeutic success and is also used extensively to conceptualize health in the context of HIV (Persson *et al.* 2003). The person living with HIV who is able to achieve this kind of viral suppression through strict adherence can be understood as a ‘good patient’ and deserving of the ongoing investment in their health, irrespective of the complexity of their lives and the numerous barriers to

*Corresponding author. Email: marilou.gagnon@uottawa.ca

adherence many individuals face (Remien and Mellins 2007). However, in recent years, plasma viral load testing has become more than just a clinical tool to monitor treatment response at the individual level. Increasingly, individual plasma viral load testing is being reported to public health agencies and is used to inform epidemiological surveillance and monitor the presence of the virus collectively (Terzian *et al.* 2012). A recent ‘advancement’ in particular need of critical appraisal is the development of techniques to measure, map and monitor ‘community viral load’. This new epidemiological technology blurs the traditional boundaries of clinical care and public health work, thus raising questions about its implications.

For the purpose of this article, we argue that community viral load should be examined in relation to the theoretical framework of ‘governmentality’ (Foucault 2003). Foucault (1984) coined this concept to account for the ways through which capillary forms of power insert themselves into actions, attitudes, and discourses to produce a particular kind of person and population-productive, but docile and easily governed. Miller and Rose (2008, p. 63) describe governmentality as ‘a domain of strategies, techniques and procedures through which different forces seek to render programmes operable, and by means of which a multitude of connections are established between the aspirations of authorities and the activities of individuals and groups’. These tactics, in their programmatic form, act directly and indirectly on the population (and individuals who compose it) to improve its conditions, welfare, wealth, longevity, health and so on (Foucault 1991). These tactics become inseparable from a knowledge and understanding of processes related to population (Foucault 1991). This form of governance is particularly concerned with processes that modulate health collectively rather than individually; and this is why these processes have to be understood and managed using a broad range of tactics (Foucault 1991). To govern, therefore, implies an ideological shift from the isolated person to the existing relations that are known to interfere with the production of a healthy population: ‘relations between people and people, people and things, people and events, [people and spaces]’ (Rose *et al.* 2006, p. 87). These relations can then be administered directly or indirectly through tactics that make possible the optimization of health and so forth (Foucault 1991). This particular mode of administration is integral to the logic of governmentality.

Based on the work of Foucault (1991, 2003), this article critically examines the use of community viral load as a new strategy of governmentality. Also drawing on the work of Miller and Rose (2008), this article further reconceptualizes ‘community’ as ‘a new territory of government’ (p. 88). Specifically, it explores the deployment of ‘community’ through the re-configuration of space, the problematization of viral concentrations in specific micro-locales, and the government (in the Foucauldian sense) of specific bodies which are seen as ‘risky’, dangerous, and therefore in need of attention. It also examines community viral load as a necessary precondition – forming the ‘conditions of possibility’ – for the recent shift to high impact prevention tactics that are being scaled up across North America.

Defining community viral load

Das *et al.* (2010, p. 2) describe community viral load as ‘an aggregate biological measure of viral load for a particular geographic location – for example the city of

San Francisco or a particular neighborhood – and for a particular group of people who share socio-demographic characteristics’. In order to determine the community viral load of any particular group or area of interest, one must take into account two distinct measures; *mean* community viral load and *total* community viral load (Das *et al.* 2010). Mean community viral load is the average of the most recent viral load of all reported HIV-positive persons in a particular target(ed) population or geographical area (Das *et al.* 2010). Total community viral load is the sum of the most recent viral loads of all reported HIV-positive persons in a particular target(ed) population or geographical area (Das *et al.* 2010). These measurements make it possible to determine the mean average viral burden and the absolute level of the virus in any given population or geographical area.

Community viral load is a relatively new concept but has gained significant momentum in the field of HIV in recent years. This is due in part to the implementation of ‘Seek, Test and Treat’ (now ‘Seek, Test, Treat and Retain’) initiatives which rely on the premise that scaling up treatment collectively will result in a dramatic reduction of HIV transmission (Montaner *et al.* 2010). Community viral load is considered by many researchers and clinicians to be a valuable marker of the direct relationship between HIV concentration (in specific populations and geographical areas) and overall HIV incidence (Wood *et al.* 2009, Das *et al.* 2010, 2011, Montaner *et al.* 2010, Castel *et al.* 2011, 2012, Kirk *et al.* 2011, Laraque *et al.* 2011, Forgiione and Torian 2012). For this reason, community viral load has become an important concept under which to advocate for the expansion of testing and surveillance in the community and, most importantly, the reconceptualization of treatment as a prevention tool (Montaner *et al.* 2010).

Community viral load research in Vancouver, San Francisco, New York and Washington

Recent studies in Canada and the United States have demonstrated the value of measuring and mapping HIV viral load at the community level. In Vancouver and across the province of British Columbia (Canada), community viral load is increasingly being used as an epidemiological surveillance tool and an evaluation tool to monitor the outcomes of initiatives for the expansion of testing and treatment coverage (Montaner *et al.* 2010). Building on research findings, which suggest that community viral load is correlated with HIV incidence (Wood *et al.* 2009), these initiatives were implemented across the province (and more aggressively in the Downtown Eastside of Vancouver) and have led to a progressive decline in community viral load (Montaner *et al.* 2010; Lourenco *et al.* 2012). In some postal code areas of the province, however, ‘the proportions of potentially infectious individuals’ (as stated by the authors) remain high regardless of the expansion of testing and treatment coverage (Lourenco *et al.* 2012).

Similar findings have been reported in San Francisco (California, United States) following the intensification of surveillance, the expansion of testing and earlier initiation of treatment (Das *et al.* 2011). In addition to a documented decline in community viral load and new reported cases of HIV, the Department of Public Health was also able to map areas with the highest concentration of viral load and

further target them to produce improved outcomes (Das *et al.* 2010). Areas such as Tenderloin, South Market, Mission and Castro were subsequently identified as ‘hotspots’ (as stated by the authors) or areas with particularly high risk of HIV transmission due to the distribution of community viral load (Das *et al.* 2010). It was, therefore, recommended that more community-level interventions be implemented in these areas and that more aggressive prevention efforts (including the use of treatment as a prevention tool) be deployed to reduce community viral load.

A similar mapping exercise was conducted in Washington (District of Columbia, United States) over a period of 4 years (Castel *et al.* 2011, 2012). For the purpose of their analysis, Castel *et al.* (2012) included the most recent viral load data in the city, two indicators of socioeconomic status (income and education), and race. Their data were statistically analyzed and presented on various maps of the city of Washington. These maps showed that the neighbourhoods with the worst socioeconomic indicators also had the highest HIV/AIDS prevalence rates (Castel *et al.* 2012). These maps, explain Castel *et al.* (2012), can inform surveillance and the implementation of interventions that target populations with the highest viral load burden. It was determined that community viral load and its geospatial distribution are particularly useful to inform targeted public health interventions (Castel *et al.* 2011, 2012).

Similar arguments are presented by researchers who conducted studies on community viral load in New York City (New York, United States) from 2005 to 2009 (Laraque *et al.* 2011, Forgione and Torian 2012, Terzian *et al.* 2012). Based on their findings, they suggest that community viral load is valuable to public health agencies because it has the potential to identify high risk groups and target interventions to the groups ‘whose viral control – if achieved – will most likely result in a rapid lowering of community viral load’ (Terzian *et al.* 2012, p. 2). Furthermore, it has the potential to identify groups at risk for ‘sustained high viral load’ such as Bronx residents who, according to Terzian *et al.* (2012), are more likely to have a detectable viral load and suffer from HIV-related disparities. Identifying groups who are at risk or known to have ‘sustained high viral load’ can thus provide an opportunity for the implementation of ‘outreach’ initiatives in the community and the ‘scale-up’ of efforts to educate, test, treat and engage members of the community in HIV care (Terzian *et al.* 2012).

To our knowledge, the inner workings of community viral load have not been critically examined in the HIV literature. The aim of this article is to interrogate the use of community viral load through a deductive process – using theory to analyse empirics. Theory makes it possible to engage in a critical analysis of a relatively new tool in the field of HIV and a limited body of empirical literature. It also allows us to disrupt normalizing discourses in the field of HIV and challenge the ways in which community viral load has been introduced as seemingly benign. This is particularly important considering that community viral load is now becoming normalized, standardized, and deployed in various public health agencies, without its assumptions and claims having been interrogated. In our view, it is imperative that researchers engage in discussions and debates around the use of community viral load and how it is intrinsically linked to the logics of governmentality. For this reason, we argue that a theory-based analysis of community viral load is of great value to these discussions and debates.

Mapping community viral load

Community viral load links individual biomarkers and the concentration of the virus collectively through the production of particular kinds of spaces. These spaces are calculated, reconfigured, and imagined, with new levels of sophistication. First, community viral load signals an important shift in the way viral load is seen, imagined and represented both visually and spatially. Specifically, we draw upon Philo's (2000) reading of Foucault to expose three distinctive but interconnected representations of viral load. The first representation has to do with the tabulation of laboratory results that can attest to the progression of HIV and the response to treatment at the individual level. It draws a picture of how viral replication actually appears at every stage of HIV infection and what response is to be expected once treatment is initiated. Here, tables and graphics of viral load patterns provide a reference point to assess individuals in the clinical setting and systematically position each of them accordingly in relation to an 'ideal patient' with optimal viral suppression. The second representation concerns the actual mapping of viral load in the human body. It tracks viral replication within the body and penetrates its deepest recesses to expose the amount of copies of the virus in the blood, the breast milk, the sperm, the genital tract, the brain, the lymph nodes and so on. Viral load is no longer seen as a laboratory value but rather as an evidence of viral activity in the body and a measure of infectiousness at the individual level. Finally, the third representation allows for HIV to be located in space through mapping techniques. The location of the virus in space is compatible with Foucault's analysis of the shift from leper colony to plague city, wherein the risk of transmission is already present and requires the segmentation of space (Foucault 1990). Foucault explicitly linked 'mapping and government, and the need to have a rational plan to manage space' (Crampton 2007, p. 224). In fact, he identified the ordering of space as central to the strategy for containment of biological risks and the government of processes that modulate health collectively rather than individually (Foucault 1990, Legg 2005).

These particular kinds of spaces take the form of specific neighbourhoods and locations where HIV is highly concentrated – often located in geographical areas marked by high levels of marginalization, poverty, oppression and social exclusion. What is important here is not just that these spaces are rendered visible through viral load mapping and thus governable (Brown and Knopp 2006, 2010), but the particular ways in which they are constructed based on the average viral burden of populations who occupy them and the absolute level of the virus that circulates among them. Huxley (2006) explains that in order to better appreciate the articulation of spatial rationalities in the fabrication of governable spaces, we must pay close attention to the way authorities imagine these spaces and make them amenable to regulation. Expanding on Foucault's work, Huxley (2006) identifies three spatial rationalities: dispositional, generative and vitalist. For the purpose of this article, we will only refer to the dispositional and generative spatial rationalities. A dispositional rationality has to do with the production of boundaries and the spatial disposition of bodies (Huxley 2006). It operates through the logics of quadrillage (a term coined by Foucault) to prevent the spread of diseases and ensure a more effective regulation of processes that are responsible for epidemics (Huxley 2006). In other words, it allows for the segmentation of space and the management of bodies to achieve a given end. Dispositional rationality, explain Brown and Knopp (2010, p. 393), also 'entails systems or surveillance, as these are seen as essential to

enforcing the ordering of spaces and bodies'. Generative rationality, on the other hand, concerns the effects of space on contagion, health, disease and death (Huxley 2006). Here, the problem is not so much the disposition of spaces but the concentration of diseased bodies in geographical areas (Huxley 2006). These areas 'are seen in this imagination as particularly vulnerable and in need of attention' (Brown and Knopp 2010, p. 394). With this in mind, biomarkers become an important tool to circumscribe infectiousness and transmissibility (or the risk thereof) geographically. The emphasis is no longer on the disposition of diseased bodies in space but rather on areas where disease is highly concentrated and where the risk of transmission is intensified (Huxley 2006).

Based on the work of Huxley (2006), we contend that the production of these spaces follows both dispositional and generational rationalities. By this, we mean that community viral load aims at drawing boundaries and mapping areas where the virus is 'unsuppressed' – areas that are then identified as 'vulnerable' and in need of attention. We make a point here of referring to the virus because it is the real focus of this geographical (and political) undertaking even though we acknowledge that it reduces the bodies of people living with HIV to vectors of disease (Brown 1995). Community viral load, in fact, draws a rather partial and incomplete portrait of the HIV epidemic and continues to ignore the effect of context on HIV vulnerabilities – how the virus moves within a population and how it circulates across specific networks (Brown 1995). What it does, however, is provide the necessary arguments to intensify surveillance, testing and prevention efforts in areas where we can find a number of people living with HIV whose viral load is 'unsuppressed'. While our objective is not to portray people living with HIV as vectors of disease, we do have to stay true to the imaginations and rationales of those who see in community viral load a promising way to circumscribe infectiousness and transmissibility geographically. With this in mind, it is important to recognize that community viral load is increasingly being used as a tool to signal the existence of particular kinds of spaces, locate these spaces geographically, and allows for public health authorities to become more knowledgeable about the populations who occupy them. This knowledge generates new possibilities for the government of certain bodies which are seen as 'risky', dangerous, and in need of attention (Lupton 1995). Not surprisingly, it has led to the deployment of more aggressive interventions to lower the collective risk of acquiring or transmitting HIV, with little further consideration of the realities of people living with HIV on the ground, i.e. routine testing in institutions located in targeted areas, point of care testing in certain neighbourhoods, treatment as prevention initiatives in specific locations, and so forth. We shall now examine how community viral load cultivates specific ties between persons and communities through these new programmes of interventions.

Governing through communities

Expanding on the work of Michel Foucault, Miller and Rose (2008) explain that the 'birth of the community' marks a departure from governing a supposed collective social body to defining a new territory for the administration of collective life. This new territory has a number of significant features (Miller and Rose 2008). First, it calls on a particular re-configuration of space – from a single, collective space to discrete communities which can be located geographically or constructed virtually

(i.e. lifestyle communities, moral communities, risk communities and so on; Miller and Rose 2008). Second, it operates through 'the instrumentalization of personal allegiances and active responsibilities' (Miller and Rose 2008, p. 90). In other words, it makes use of allegiances and specific ties between individuals and communities to regulate, reform and mobilize (Miller and Rose 2008). From this perspective, members of particular communities are encouraged to practice active personal responsibility and conduct themselves accordingly (Miller and Rose 2008). As a sign of social citizenship, 'they must take responsibility, they must show themselves capable of calculated action and choice, they must shape their lives according to a moral code of individual responsibility and community obligation' (Miller and Rose 2008, p. 105). Third, it concerns the identification of individuals as members of particular communities and the work required to make these individuals aware of their allegiances, for example, with the disability community, the gay community or the AIDS community. Here, the sense of community is created and promoted through 'the work of educators, campaigns, activists, manipulators of symbols, narratives and identifications' (Miller and Rose 2008, p. 92). That is to say that these particular communities are created and marketed despite the fact that they may appear to be natural and may resonate with our own personal identity (Miller and Rose 2008). Drawing on a number of examples, Miller and Rose (2008) explain that 'government through community works, even when it works upon pre-existing bonds of allegiance, transforms them, invests them with new values, affiliates them to expertise and reconfigures relations' (p. 93) in a productive way.

Miller and Rose (2008) explain that the construction of community involves various strategies for making individuals aware of their personal allegiances. One of these strategies is to raise awareness (i.e. awareness campaigns), educate (i.e. community training sessions), communicate (i.e. media and other communication tools), and make sure that individuals identify themselves as members of that community (Miller and Rose 2008). Drawing on health promotion programmes in HIV and AIDS, Miller and Rose (2008) explain that government through community produces new personal allegiances and works upon pre-existing ones to make individuals aware of their collective affiliations. These affiliations, explain Miller and Rose (2008), 'are to be celebrated, encouraged, nurtured, shaped and instrumentalized in the hope of producing consequences that are desirable for all and for each' (p. 93). Affiliations to particular communities, then, create new relations of identification and, incidentally, 'new relations of mutual obligation' (Miller and Rose 2008, p. 88). As such, they open up questions of personal responsibilities and obligations. These questions are particularly relevant to our analysis because community viral load is not just a means of identification and community affiliation. It is also used to govern individuals who are located here and not there, that can be expected to behave and engage in certain ways and not others, and whose distribution is spatially correlated with other characteristics that makes them part of 'risk communities' (viral load, serological status, gender, ethnicity, socio-economic status, sexuality, etc.) (Brown and Knopp 2010). From this perspective, members of 'risk communities' must practice active personal responsibility and are expected to 'shape their lives according to a moral code of individual responsibility and community obligation' (Miller and Rose 2008, p. 105). Those who do not exercise caution and live according to this moral code, however, are generally found in the margins of communities and 'their particular difficulties thus need to be addressed through the activities of various specialists each of whom is an expert in a particular

problem' (Miller and Rose 2008, p. 104). These relations of expertise, explain Miller and Rose (2008), operate at the level of the community.

Government through community makes room for new relations of expertise. These relations require an extension of the 'professional gaze', where expertise now 'focuses on conduct itself and the cognitive and moral organization of perception, intention, action and evaluation' (Miller and Rose 2008, p. 106). In these relations, the subject of expertise is conceived as an individual who 'lacks cognitive, emotional, practical, and ethical skills to take personal responsibility for rational self-management' and fulfill his moral obligations (Miller and Rose 2008, p. 106). This form of governance relies on the deployment of expert knowledge from various fields (i.e. nursing, social work, medicine, etc.) and practices of empowerment. Empowerment, then, is 'a matter of experts teaching, coaxing, requiring their clients to conduct themselves' within their respective communities, according to certain prescribed codes of active personal responsibility and moral obligations (Miller and Rose 2008, p. 106). Not surprisingly, very similar themes are taken up and promoted in 'Seek, Test and Treat' initiatives which have recently been implemented in both Canada and the United States, including 'community as a unit of identity', 'responsibilization and autonomization of people who reside in certain neighbourhoods', 'empowerment of individuals located in the margins', and 'expert management and outreach in risk communities'. Despite a seemingly emancipatory or rights-based agenda and the will to empower individuals who have been traditionally labelled as 'hard to reach' (Patton 2011), the deployment of these initiatives is indicative of the very form of government that Miller and Rose (2008) describe: *The subject* constituted through techniques of empowerment is being shaped into a better functioning and more responsible neoliberal actor – empowered to make better decisions, able to fulfill moral obligations, and capable of committing to the health of his community. *The experts* are working directly 'in the community', relaying messages to individuals who have to be made aware of their personal allegiances to particular 'risk communities' and what these allegiances entail. *The community*, as imagined through community viral load and the distribution of bodies in space, is now something to be programmed, researched and managed.

Beyond the rhetoric of community

The use of the term community is a powerful rhetorical tool and appeals to a common sense of belonging – indeed, do we not all belong to some community? Yet, public health is not interested in all communities equally. As mentioned earlier, community viral load is part of a larger public health programme to promote 'high impact prevention' 'using combinations of scientifically proven, cost-effective, and scalable interventions targeted to the *right* populations in the *right* geographic areas' (Centers for Disease Control and Prevention 2011, p. 1) (italics added for emphasis). Within this new prevention framework, public health agencies are asked to identify communities where concentrations of the virus overlap with concentrations of substance users, gay and other men of have sex with men, transgender persons and racialized persons. Community viral load provides a new tool for public health authorities to imagine particular communities (Legg 2005) in ways that are flexible, fluid, and can be adapted to different needs (Brown and Knopp 2006). This is inclusive of virtual communities of individuals who share particular risk factors but

are geographically dispersed to communities of individuals who share geographical coordinates and whose virus is ‘unsuppressed’. What is important to understand here is not just that community viral load allows for these communities to be imagined, but that it is part of a large-scale operation to seek, test and treat more aggressively in target areas with the highest community viral load. This is part of the inner workings of community viral load; it generates new knowledge, maps the presence of the virus collectively, makes room for a new form of surveillance, and in the end allows for the creation of specific targets, which are clustered around predominantly impoverished and marginalized neighbourhoods.

‘Seek, Test and Treat’ initiatives are arguably the best examples of high impact prevention efforts that specifically target such neighbourhoods and use on-site outreach to implement more aggressive forms of testing, surveillance and treatment – including mass testing fares with incentives meant to draw in the most marginalized. The rationale for these initiatives is largely based on the need to know community viral load and its geographic distribution. These initiatives appeal to the *discourse* of community (Lynn 2006), with its shared culture, needs, and responsibilities, and relations of expertise (Miller and Rose 2008). We are particularly interested here in how community viral load creates or builds on existing personal allegiances and specific ties between individuals and communities to support the implementation of ‘Seek, Test and Treat’ initiatives (Miller and Rose 2008). Not only is community viral load a potent tool to re-configure space (as previously discussed) and justify the need for public health to intervene more aggressively in certain neighbourhoods and locations, but it is also used as a device of identification. On the one hand, it concerns the identification of individuals who reside in areas where HIV is most heavily concentrated as members of a ‘community’. On the other hand, it reinforces the personal allegiances that these individuals may have to this community based on their serological status, their viral load, or the fact that they share a common fate – as residents in neighbourhoods and locations where HIV is ‘unsuppressed’ (Miller and Rose 2008). These individuals may, in turn, become actively involved in the deployment of community-level initiatives and engaged in outreach efforts to scale up HIV prevention. They may also become increasingly politicized. While this phenomenon may be beneficial for particular communities, it also tends to extend and reinforce the instrumentalization of personal allegiances and active responsibilities (Miller and Rose 2008).

It should be noted that ‘Seek, Test and Treat’ initiatives rely on the assumption that individuals who are made aware of their personal allegiances with a community will be more inclined to enrol, mobilize and act more responsibly (Miller and Rose 2008). One way to practice active personal responsibility is to take part in testing and link with prevention services. Another way to practice active personal responsibility is to initiate antiretroviral treatment as soon as possible after diagnosis and demonstrate optimal treatment adherence. With this in mind, it is important to understand that ‘Seek, Test and Treat’ initiatives make room for new relations of expertise and new opportunities for experts to intervene directly ‘in the community’. In fact, these initiatives rely on a re-configuration of space and re-location of interventions traditionally done in clinical settings; *testing* is now conducted in vans, shelters, community centres, gay bathhouses and drop-in services, results are communicated right away, and linkage to care is automatically provided, *surveillance* data are broadened and include geospatial analysis, individual viral load, census information and indicators of socioeconomic status, and *treatment* is initiated

rapidly after diagnosis followed by ongoing follow-up and adherence counselling in the community. They also rely on the ongoing presence and visibility of experts in the community, working in neighbourhoods and locations that are most affected by the HIV/AIDS epidemic. Again, this may be beneficial for some communities but it is important to acknowledge that the expansion of testing and treatment coverage 'are not substitute to the removal of vulnerabilities that place people at risk of infection in the first place (which incidentally, overlap with vulnerabilities preventing access to [HIV care and] treatment' (Nguyen *et al.* 2011, p. 292).

While our goal is not refute the scientific evidence in support of high impact prevention, which is the guiding framework for 'Seek, Test and Treat' initiatives, we consider that these programmes require more reflection. In this article, we have acknowledged that this new framework is closely tied to the introduction of community viral and the need for more effective ways to govern bodies that are seen as contributing to the spread of HIV. In light of our analysis, we consider that this new framework has very little to do with the care of individuals who live with HIV/AIDS and much more to do with the production of a healthy population and the control of certain bodies. In fact, it has everything to do with the calculated government of 'risky' bodies who contribute to rising concentrations of viral loads collectively. It is concerned with matters of life and death, with health and illness, with infectiousness and transmissibility, and with the collective processes that contribute to the spread of HIV. It acts upon the health of the population as a whole by targeting geographical areas where HIV is highly concentrated, seeking and testing populations conceived as inherently risk-prone, vulnerable or unstable, and treating individuals who are found to be HIV positive in order to achieve individual viral suppression. Therefore, in keeping with Foucault's (2003) work, we consider that community viral load has both individualizing and massifying effects. It was introduced to the field of HIV as a way to act upon communities who are located in specific geographical areas rather than individuals themselves. However, in order for it to be effective, it has to create specific ties between individuals who reside in areas where HIV is most heavily concentration and their respective 'risk communities'. This has important implications for people living with HIV/AIDS, and may have broader implications for everyone who is being forced into these particular geographical areas – these 'new ghettos' that are marked by HIV and are under the radar of public health authorities. As such, we are concerned that community viral load has become a proxy for naming 'risk communities', but with new levels of sophistication. In particular, we are concerned with the potential to increase stigma directed at populations who occupy areas that are identified as 'highly virulent'. This phenomenon has yet to be addressed in the literature and in research conducted on community viral load.

Final remarks

The objective of this article has been to formulate a critique and propose a novel way of theorizing community viral load through a Foucauldian analytics of governmentality – with an attention to the role of space and community. We have shown that particular kinds of spaces are being reconfigured through a combination of clinical measures and epidemiological techniques to map the distribution of infected and 'risky' bodies. These spaces then become key targets of public health

intervention in the form of high impact treatment and prevention technologies that necessitate an unprecedented investment in identifying individuals in need of treatment (Nguyen *et al.* 2011). Once on treatment, individuals become part of the community viral load loop – their individual viral load becomes used to assess their ‘community’s’ progress and collective danger posed to the rest of society. We have also shown that the term ‘community’ and its uses represents a discursive terrain imbued with power and ideology and requires unpacking to surface how it is being used and to what ends (Lynn 2006).

In light of our analysis, we are struck by what appears to be a shift back to the beginnings of the AIDS epidemic when various groups were singled out as infectious (Novitsky and Essex 2012) and characterized as ‘dangerous’ [for historical overview and critique of this, see Epstein 1996, Patton 1996]. The concern became that identifying people in this way perpetuated stigma and could result in the potential for an even greater number of infections (Parker and Aggleton 2003, Peretti-Watel *et al.* 2007). In response to these critiques, epidemiology moved to monitoring risk behaviours as a way of de-stigmatizing these groups. With the invention and deployment of community viral load, we see a return to this previous logic, but resting on the seeming neutrality of space – as if all people freely inhabit spaces of their own choosing. The implications of this, some of which we have explored, are only speculative at this time as calculating community viral load in all jurisdictions has various logistical and policy challenges. There are however concerted efforts underway to reduce these remaining barriers as suggested by the most recent National HIV/AIDS Strategy in the United States (Office of National AIDS Policy 2010) and guidelines published by the Centers for Disease Control and Prevention (2012) on community viral load measures, definitions and methods for calculation.

This return to previous ways of thinking about, and managing HIV, albeit through more sophisticated techniques than were available at the beginnings of the epidemic, raises important questions about how HIV is being seen by governments, policy makers and public health agencies. Patton (2011) argues that, ‘Seek, Test and Treat’ initiatives ‘require testing and mandatory treatment on a scale seen only in dictatorships’ (p. 263). However, this bold statement fits within larger debates about HIV as a threat to inter/intra state security (Elbe 2005, 2009). How do the changing politics of HIV and the growing interest in the securitization of health and illness help inform our thinking about mapping community viral load? What are the implications of these clinical advancements for other health issues, and the potential outcomes to those who reside in spaces characterized by high rates of HIV and other forms of chronic illness. What will happen to such spaces? We hope that by closing on such a note that others will be encouraged to revisit HIV, and these new treatment and new prevention technologies, as a site for critical debate.

References

- Brown, M., 1995. Ironies of distance: an ongoing critique of the geographies of AIDS. *Environment and Planning D: Society and Space*, 13 (2), 159–183.
- Brown, M. and Knopp, L., 2006. Places or polygons: governmentality, scale, and the census in The Gay and Lesbian Atlas. *Population, Space and Place*, 12, 223–242.
- Brown, M. and Knopp, L., 2010. Between anatomo- and bio-politics: geographies of sexual health in wartime Seattle. *Political Geography*, 29, 392–403.

- Castel, A.D., *et al.*, 2011. Use of community viral load as population-based biomarker of HIV Washington, DC, 2004–2008 (paper no. 1023). *In: 18th conference on retroviruses and opportunistic infections*, 27 February–2 March, Boston, MA.
- Castel, A.D., *et al.*, 2012. Use of the community viral load as a population-based biomarker of HIV burden. *AIDS*, 26 (3), 345–353.
- Centers for Disease Control and Prevention, 2011. High-impact HIV prevention: CDC's approach to reducing HIV infections in the United States [online]. Available from: <http://www.cdc.gov/hiv/strategy/hihp/index.htm> [Accessed 8 January 2011].
- Centers for Disease Control and Prevention, 2012. Using viral load data to monitor HIV burden and treatment outcomes in the United States [online]. Available from: http://www.cdc.gov/hiv/topics/surveillance/resources/factsheets/viral_load.htm [Accessed 1 March 2012].
- Crampton, J.W., 2007. Maps, race and Foucault: eugenics and territorialization following World War I. *In: J.W. Crampton and S. Elden, eds. Space, knowledge and power: Foucault and geography*. Aldershot, Burlington, VT: Ashgate, 223–244.
- Das, M., *et al.*, 2010. Decreases in community viral load are accompanied by reductions in new infections in San Francisco. *PLoS ONE*, 5 (6), 1–9.
- Das, M., *et al.*, 2011. Success of test and treat in San Francisco? Reduced time to virologic suppression, decreased community viral load, and fewer new HIV infections, 2004 to 2009 (paper no. 1022). *In: 18th conference on retroviruses and opportunistic infections*, 27 February–2 March, Boston, MA.
- Elbe, S., 2005. AIDS, security, biopolitics. *International Relations*, 19 (4), 403–419.
- Elbe, S., 2009. *Virus alert: security, governmentality, and the AIDS pandemic*. New York: Columbia University Press.
- Epstein, S., 1996. *Impure science: AIDS, activism, and the politics of knowledge*. Berkeley, CA: University of California Press.
- Forgione, L. & Torian, L., 2012. Trends in community viral load, new diagnosis, and estimated incidence of HIV: New York city, 2005–2009 (paper no. 1123). *In: 19th conference on retroviruses and opportunistic infections*, 5 March–8 March, Seattle, WA.
- Foucault, M., 1984. Space, knowledge, and power. *In: P. Rabinow, ed. The Foucault reader*. New York, NY: Pantheon Books, 239–256.
- Foucault, M., 1990. *The history of sexuality: an introduction*. New York, NY: Vintage Books.
- Foucault, M., 1991. Governmentality. *In: G. Burchell, C. Gordon, and P. Miller, eds. The Foucault effect: studies in governmentality*. Chicago, IL: The University of Chicago Press, 87–104.
- Foucault, M., 2003. *“Society Must Be Defended”: lectures at the college De France 1975–1976*. New York, NY: Picador.
- HHS, 2011. US Department of Health Services Health and Human Resources (HHS), Health Resources and Service Administration, AIDS Bureau. *Guide for HIV/AIDS clinical care* [online]. Available from: <http://hab.hrsa.gov/deliverhivaidscares/clinicalguide11/> [Accessed 1 July 2011].
- Huxley, M., 2006. Spatial rationalities: order, environment, evolution and government. *Social and Cultural Geography*, 7 (5), 771–786.
- Kirk, G.D., *et al.*, 2011. Decline in Community viral load is strongly associated with declining HIV incidence among IDUs (paper no. 484). *In: 18th conference on retroviruses and opportunistic infections*, 27 February–2 March, Boston, MA.
- Laraque, F., *et al.*, 2011. Disparities in community viral load among HIV infected persons in NYC (paper no. 1024). *In: 18th conference on retroviruses and opportunistic infections*, 27 February–2 March, Boston, MA.
- Legg, S., 2005. Foucault's population geographies: classifications, biopolitics and governmental spaces. *Population, Space and Place*, 11, 137–156.

- Lourenco, *et al.*, 2012. Declines in community viral load are uniformly distributed across geographic areas: British Columbia, Canada (paper no. 1122). *In: 19th conference on retroviruses and opportunistic infections*, 5 March–8 March, Seattle, WA.
- Lupton, D., 1995. *The imperative of health: Public health and the regulated body*. London: Sage.
- Lynn, M., 2006. Discourses of community: challenges for social work. *International Journal of Social Welfare*, 15, 110–120.
- Miller, P. and Rose, N.S., 2008. *Governing the present: administering economic, social and personal life*. Cambridge: Polity Press.
- Montaner, J., *et al.*, 2010. Association of highly active antiretroviral therapy coverage, population viral load, and yearly new HIV diagnoses in British Columbia, Canada: a population-based study. *The Lancet*, 376 (9740), 532–539.
- Nguyen, V.-K., *et al.*, 2011. Remedicalizing an epidemic: from HIV treatment as prevention to HIV treatment is prevention. *AIDS*, 25, 291–293.
- Novitsky, V. and Essex, M., 2012. Using HIV viral load to guide treatment-for-prevention interventions. *Current Opinions in HIV and AIDS*, 7 (2), 117–124.
- Office of National AIDS Policy, 2010. National HIV/AIDS strategy for the United States [online]. Available from: <http://www.aids.gov/federal-resources/policies/national-hiv-aids-strategy/nhas.pdf> [Accessed 1 July 2011].
- Parker, R. and Aggleton, P., 2003. HIV and AIDS-related stigma and discrimination: a conceptual framework and implications for action. *Social Science and Medicine*, 57, 13–24.
- Patton, C., 1996. *Fatal advice: how safe-sex education went wrong*. Durham: Duke University Press.
- Patton, C., 2011. Rights language and HIV treatment: universal care or population control? *Rhetoric Society Quarterly*, 41 (3), 250–266.
- Peretti-Watel, P., *et al.*, 2007. Discrimination against HIV-infected people and the spread of HIV: some evidence from France. *PLoS ONE*, 2 (5), e411.
- Persson, A., Race, K., and Wakeford, E., 2003. HIV health in context: negotiating medical technology and lived experience. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine*, 7 (4), 397–415.
- Philo, C., 2000. The birth of the clinic: an unknown work of medical geography. *Area*, 32 (1), 11–19.
- Remien, R.H. and Mellins, C.A., 2007. Long-term psychosocial challenges for people living with HIV: let's not forget the individual in our global response to the pandemic. *AIDS*, 21 (Suppl 5), S55–63.
- Rose, N., O'Malley, P., and Valverde, M., 2006. Governmentality. *Annual Review of Law and Social Science*, 2 (1), 83–104.
- Terzian, A.S., *et al.*, 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), 1–8.
- Wood, E., *et al.*, 2009. Longitudinal community plasma HIV-1 RNA concentrations and incidence of HIV-1 among injecting drug users: prospective cohort study. *BMJ*, 338, b1649.