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Is the backlash against AIDS-specific funding justified? An examination of the health systems impacts of AIDS spending and a critical review of proposed alternative funding methods

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1. Introduction

This paper responds to the recent backlash against AIDS-specific funding by setting out the key claims and examining the evidence to determine which criticisms are justified, and which are not. The backlash against international funding for AIDS has taken a number of forms, with some suggesting that the extent of the problem (the HIV epidemic) has been exaggerated and others arguing that UNAIDS programme efforts have been misdirected. A key claim however, is that AIDS-related funding has undermined health systems in developing countries. A primary contributor to the backlash has been Roger England, who asserts that the international AIDS response has produced "the biggest vertical programme in history" and that this funding "could be more effective if used to strengthen public health" (England, 2007: 344).

The reasoning behind this argument has been that the sheer scale of international funding for AIDS has not only been unwarranted, but that it has damaged health systems in developing countries by diverting resources from other areas of the health sector (see argument summarised in Nattrass and Gonsalves (2009: 1)). Ultimately the recommendation is that AIDS-specific funding must be curtailed and the resources instead channelled through sector-wide general budget arrangements to support health systems more generally and to allow domestic priorities to direct spending decisions.

Global funding for AIDS has indeed increased dramatically in recent years; from US $292 million in 1996, rising to $8.9 billion in 2006 and $13.7 billion in 2009 (Dambisya et al., 2009: 4). This substantial increase was largely driven by the creation of the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) in 2002 and the American President's Emergency Plan for AIDS Relief (PEPFAR) in 2003. Along with several private foundations, these organisations collectively expanded HIV prevention and treatment measures into developing countries. This marked increase in AIDS programmes substantially

increased access to life-saving drugs in developing countries. To illustrate, by the end of 2008 over four million people infected with HIV in low- and middle-income countries had access to treatment, compared to only three million one year earlier (UNAIDS, 2009a: 2). It is important to note that the dramatic rise in global funding for AIDS has not necessarily been to the detriment of other health interventions as aggregate donor funding for health and population overall quadrupled between 1992 and 2005, which may have mitigated some of the crowding out effects (Shiffman, 2008).

The expansion in funding for AIDS throughout the 2000s in response to increasing recognition of the scale of the problem has of course reduced the *proportion* of total health budgets going elsewhere. A recent study by Shiffman, Berlan and Hafner (2009) finds that from 1998 to 2007, HIV/AIDS control increased its share of international aid for health from 5.5% to almost half, while funding for health systems strengthening over this period fell from 62.3% to only 23.9% (Shiffman, Berlan & Hafner 2009: S45). However, before naively concluding that AIDS funding has therefore displaced health systems strengthening, it is important to recognise that this analysis assigns each grant to a single expenditure category according to its primary purpose (ibid: S46). As a result, unless funding for AIDS control has no knock-on benefits for health systems generally and disbursements for AIDS projects contain no subsidiary health systems requirements, such a conclusion remains unfounded. The following discussion therefore seeks to establish the extent to which such health systems effects are in fact built into AIDS spending programmes, whether by design or by result. This paper does not address the allegation that AIDS funding has been *relatively* excessive and unwarranted, but instead focuses on whether it has been at the cost of the broader health sector.

To assess the robustness of the argument that AIDS spending is damaging health services more generally, it is necessary to look beneath these high level funding figures to understand the various mechanisms at play. The main backlash argument can be broken into two discrete questions that will be addressed in turn:

(i) Does AIDS-specific funding weaken or strengthen health systems?
To assess the argument that spending on AIDS directly displaces spending on other health services it is useful to consider the extent to which AIDS programmes are taking place within existing healthcare systems and the net effect they have on these. A broad review of the literature is undertaken, identifying specific case studies where appropriate.

(ii) Would general health sector funding be more effective in achieving health objectives?

The second relevant claim of the backlash against AIDS funding is that channelling spending through governments to strengthen health systems more generally would be more efficient. The efficiency of donor funding for AIDS programmes is therefore examined before assessing whether general budget support (GBS) is likely to achieve better results.

2. Does AIDS-specific funding weaken or strengthen health systems?

The net effect of AIDS programmes on primary healthcare (PHC) systems continues to be debated in the literature. On the one hand it is argued that extensive scale-ups in antiretroviral treatment (ART) programmes divert healthcare personnel from other sectors, while on the other, the nature of the disease is such that successful delivery of treatment programmes require substantial upgrading that cuts across virtually the entire ambit of healthcare services. This section reviews the literature to establish the extent to which these conflicting effects have been observed in practice, with a view to establishing the balance of evidence.

The combination of three of the eight Millennium Development Goals (MDGs) specifically targeting health outcomes, and concern about the severe health challenges faced by the world's poorest countries, has generated increasing momentum within the field of global health (Travis, et al., 2004). However, the evidence suggests that, based on current trends, many low-income countries will struggle to meet the MDG health targets by 2015, despite progress being made (United Nations, 2008). There is growing consensus that achieving the MDGs is in many cases constrained by weak health systems that are too fragile and fragmented to deliver much needed services in the required volume or quality (Travis, et al., 2004: 900). Despite the substantial opportunities presented by targeted interventions for health systems strengthening, without certain basic capacities in place, concentrating resources in specific programmes could induce a dislocation in health service provision. Rather than making a judgement on the horizontal versus vertical approach debate, this paper instead seeks to understand the nature of AIDS-related programmes and the complex interplay between these and the healthcare workforce that must deliver them.

2.1 The horizontal versus vertical debate

Healthcare infrastructure in developing countries is widely recognised to be underfunded and it is common to find overcrowded clinics lacking basic access to reliable water or electricity supplies and which are equipped with outdated laboratory equipment (Loewenson & McCoy, 2004; Kober & Wim, 2004). This situation of overstretched and underfunded health systems certainly goes some way toward explaining why, despite dramatic increases in funding and support for HIV programmes, basic healthcare infrastructure in its existing form is struggling to deliver on the MDG objectives. Coovadia & Hadingham (2005) identify two alternative approaches to tackling this problem: either (i) address constraints specific to the disease across all aspects of the health system or (ii) deal with particular weaknesses of the health system across all diseases.

Disease-specific programmes have the advantage of building appropriate skills and developing effective management structures that allow health services to cope with the demands placed upon them by particular diseases. The unique nature and magnitude of the HIV epidemic is such that it is generally the most pressing health challenge faced by most developing countries. An approach grounded in addressing the disease as a priority may thus be the most effective way of building capacity in countries in need (Coovadia & Hadingham, 2005). Such an approach allows for immediate returns while also addressing targeted weaknesses in the health system in a more manageable way, rather than attempting to tackle everything at once.

Coovadia and Hadingham (2005) also recognise the multiple overlaps between HIV and other medical issues; specifically, that prevention of mother to child transmission (PMTCT) cannot be isolated from broader antenatal care, and frequent co-infections between HIV and tuberculosis (TB) provide strong grounds for seeking complementarities. Yet they conclude that these overlaps justify avoidance of disease-specific programmes, as a system-wide approach can benefit a range of diseases and prevent other health challenges being overlooked (ibid: 8). The longer-term approach allows overall system strengthening, despite a longer timeframe for results. However, these complementarities and the inescapable embeddedness of HIV care in existing PHC systems are not grounds for avoiding disease-specific programmes but rather for integrating AIDS programs into health systems in ways which promote efficiency and effectiveness.

A key difference between the approaches outlined is that only by addressing disease-specific constraints can immediate disease-specific results be achieved. In the case of a devastating yet potentially manageable transmissible disease

such as HIV, this could be a critical distinction. Ooms et al. (2008) provide a compelling case for such a 'diagonal' approach that pursues disease-specific results while simultaneously tackling the relevant generic issues such as human resources, drug supply, financing and quality assurance. Support for this approach can be found in a variety of studies: Embrey et al. (2009) find that AIDS programmes are generating improvements in drug supply chain management and administration throughout the health system and Myer and Akugizibwe (2009) outline the spillover benefits for women's reproductive health flowing from roll-out of HIV treatment services.

The persistent lack of consensus in the debate on stand-alone (vertical) versus general healthcare (horizontal) interventions implies that there is no simple answer but rather that some objectives, such as mass immunisation, will require a concerted and specialised effort whereas others are better served by a strengthening of health systems more generally. With the pendulum swinging back toward support for strengthening health systems it seems timely to ask whether AIDS programmes can leverage this support and deliver on the twin outcomes of disease-specific *and* general systemic objectives.

Having contextualised the debate, it is useful to examine the existing literature to ask whether AIDS programmes to date have actually demonstrated this diagonal approach or whether the assertion that AIDS-specific programmes are damaging healthcare systems is, on balance, justified.

2.2 Delivery of PMTCT and antenatal care

Undoubtedly one of the most important advances in the fight against HIV has been the discovery of simple, cost effective methods for preventing transmission from mother to child. Even single dose intrapartum and neonatal Nevirapine, the most common strategy in resource-limited settings, reduces the risk of mother-to-child transmission by over 40% (UNAIDS, 2009b). Access to PMTCT programmes for HIV-positive mothers is far from universal but as coverage increases, the potential for linkages with maternal and antenatal services more generally is substantial.

HIV infection increases both the risk of contracting TB and exacerbates its adverse effects in pregnancy, increasing the chance of maternal death (Druce & Nolan, 2007: 191). Research conducted in 2006-07 found that, in many cases, HIV interventions continue to be financed, managed and supervised as additional or poorly integrated stand alone activities (Druce & Nolan, 2007). Moreover, in their global progress report on scaling up access to HIV treatment,

the World Health Organisation (2009a: 87) find that in 2008 only 24% of pregnant women in low- and middle-income countries known to be HIV positive received CD4 tests to determine whether they would be eligible to receive ART for their own health; however, this figure was up from 12% in 2007. If this proportion can continue to rise, this represents a substantial opportunity for providing a comprehensive package of treatment services that combines all aspects of maternal and child health into one comprehensive healthcare strategy.

Over time, efforts to enhance antenatal services and scale up access to PMTCT should increase the proportion of pregnant women accessing antenatal care and reduce infant and maternal mortality. Yu et al (2008) identify a number of examples of PMTCT programmes being successfully integrated into existing health services. In Kenya, for example, the PMTCT strategy and its implementation are incorporated into existing reproductive services and in Rwanda, HIV care has been subsumed within primary health centres, facilitating an increase in the use of maternal and reproductive health, prenatal, paediatric and general healthcare (Yu et al., 2008: 3).

Opportunities for synergies between HIV prevention in infants, treatment of infected mothers and broader antenatal care are clearly considerable and although the evidence suggests that this opportunity is not always being realised, the trend seems to be in the right direction. The sharing of best practice regarding what does and does not work and concerted effort to embed PMTCT programmes within existing heath systems would go a long way to maximising the potential gains from integrated PMTCT care.

2.3 HIV and TB: complexities and opportunities

As the leading infectious killer in people living with HIV (Gasana, et al., 2008), TB is inextricably linked with HIV such that any comprehensive treatment strategy must simultaneously address both diseases. Individuals with latent TB infection are at greater risk of progression to active disease if they are co-infected with HIV, with the risk increasing to over twenty times that of HIV-negative people as immunosuppression worsens (Reid, et al., 2006: 483). As this occurs, the individual becomes infectious and able to spread the TB bacillus to others (UNAIDS, 2009c). HIV also causes recent TB infection to progress more rapidly to disease (Daley, et al., 1992: 231). In sub-Saharan Africa, more than 80% of TB patients are also HIV positive (Reid, et al., 2006: 486). Furthermore, HIV has led to an increasing feminisation of the TB epidemic across Africa on account of the disproportionate prevalence among females. Rising TB in women has direct implications for the next generation as TB in pregnancy contributes to

low birth weight, prematurity and perinatal TB (Pillay et al., 2004: 157). Although TB does not seem to accelerate HIV disease progression, TB is the cause of around 13% of HIV-related deaths globally (UNAIDS, 2009c).

Despite the World Health Organisation (WHO) recommending a joint approach to tackling TB and HIV in 1988, there has been little evidence of collaboration between TB and HIV programmes and the HIV epidemic, exacerbated by chronic underfunding of health systems, has brought a reversal of the gains in TB control achieved in the early 1980s (Reid, et al., 2006: 483). However, opportunities for joint working are now emerging in line with the greater availability of resources through the Global Fund, World Bank and PEPFAR and a common need to increase access to comprehensive services to achieve the MDGs for HIV and TB. ProTEST projects in Zambia, Malawi and South Africa exemplify how close collaboration between TB and HIV programmes can be mutually advantageous and benefit those served by each programme (Godfrey-Fausset & Ayles, 2003). Yu et al. (2008) also identify the "four pillars" approach to HIV prevention and care in rural Haiti as an exemplar of the potential effectiveness of an integrated approach.

TB programmes are an ideal entry point to HIV care in Africa; they can also assist in the planning, delivery and monitoring of ART down to the lowest level health facilities. Many countries have begun implementing collaborative TB/ HIV activities starting with coordination and planning. Cohort studies have shown substantial reductions in TB incidence in HIV-infected people on ARVs, although the decrease may be less in those that start ART at higher CD4 cell counts (Reid, et al., 2006: 490). A recent study of a peri-urban township in South Africa's Western Cape finds that, between 2003 and 2008, as HIV treatment was scaled up the incidence of TB among HIV positive persons fell by almost 80%, providing strong support for the view that, where TB services are satisfactory, scale-up of HIV treatment can bring considerable reductions in TB among affected communities (Middelkoop, et al., 2009).

The close interrelationship between TB and HIV provides a clear need for integrated health services and there is evidence that this is increasingly happening as new TB and HIV programmes are initiated (World Health Organisation, 2009a). Furthermore, the clear synergies strongly support the notion that funding for AIDS and funding for 'other' health services is not in fact a zero sum game and that while there may be some instances of crowding out, there may also be potential for, crowding *in*; where AIDS programmes actually draw resources toward addressing other issues. As noted by the WHO, the nature of the AIDS response has highlighted health systems weaknesses and generated substantial action toward improving, for example, workforce capacity,

infrastructure and health financing, which benefits broader health systems delivery (World Health Organisation, 2009a: 121). Moreover, a recent analysis of international health financing finds that, at the global level, AIDS funding has not displaced other health spending and in fact it may have expedited additional funding for health issues (Lieberman et al., 2009: S39).

2.4 AIDS programmes and healthcare personnel

The world is facing a chronic shortage of healthcare workers and this crisis is felt most acutely in those countries experiencing the gravest public health threats. The Global Health Workforce Alliance estimates that addressing the current health workforce shortfall in Africa will require an additional 1.5 million trained health staff in sub-Saharan Africa (World Health Organisation, 2009a: 120). The problem is further exacerbated in countries worst affected by the HIV epidemic as HIV and AIDS pose a 'triple threat' to healthcare professionals by simultaneously exposing them to infection, increasing workloads and straining morale (Chen, et al., 2004: 1984). The backlash proponents argue that the rapid and substantial scale-up of AIDS treatment interventions has drawn healthcare workers in developing countries into AIDS clinics and programmes to the detriment of other areas of the already fragile public health sector. In addressing this concern, it is important to recognise the complex and multifaceted relationship between a scale-up in AIDS programmes and the healthcare workforce that must deliver it.

Between 1999 and 2005, Botswana lost 17% of its health workforce to AIDS (World Health Organization, 2007: 1). In many sub-Saharan African countries, between 18% and 41% of the total workforce is infected with HIV (Narasimhan, et al., 2004: 1470). This fact alone is critical in assessing the extent to which AIDS programmes can be considered 'vertical' as any intervention that reduces transmission and morbidity will not just benefit 'society' broadly but also the labour force, such that the impact of AIDS programmes on a country's healthcare workforce cannot only be negative. Testing and treatment programmes have considerably reduced healthcare workforce attrition, not only by keeping workers alive but also through reduced absenteeism due to illness, caring for sick family members and funeral attendance (Dambisya et al, 2009).

Moreover, evidence from developed countries and Brazil has shown that, as effective HIV treatment programmes are rolled out, hospitalisation rates drop significantly and hospital beds are freed up (Yu et al., 2008: 2). Despite a general presumption that AIDS programmes have been detrimental to other health services by absorbing health workers, the literature is largely silent on the

impacts on service delivery of this trend. Before reviewing the evidence it is useful first to ask exactly which services constitute the 'other'. AIDS treatment and prevention programmes operate across a broad cross-section of the health system including: drug procurement systems, laboratory capacity, patient follow up systems, counselling services, reproductive health and family planning, antenatal care and treatment of opportunistic infections such as TB. Integrated AIDS programmes would therefore be expected to impact on personnel requirements across a broad range of services. Nevertheless, as ART programmes particularly are delivered through nurse-based PHC clinics, it is useful to consider the potential displacement effects within the health sector more broadly.

2.4.1 Financial and non-financial incentives for AIDS personnel

At the national level, El-Sadr and Adams (2007) note that extensive training and mentoring activities around HIV programmes for healthcare workers have provided workers in sub-Saharan Africa with access to new information as well as opportunities for professional development, which may in the future contribute to the retention of domestic healthcare workers (El-Sadr & Abrams, 2007: S67). The authors identify a study in the Free State province of South Africa in which nurses expressed enthusiasm for their work despite substantial challenges. Findings suggest that the patient-centred approach required to deal with HIV may provide nurses with a more satisfying role than standard task-oriented approaches (ibid).

Narasimhan et al. (2004) provide further support for the idea that a major push factor in the migration of health workers overseas is the lack of professionally rewarding work opportunities in low-income countries. If this is the case, the increase in availability of more fulfilling positions may positively impact on the retention of staff at the national, or at least regional, level. The greater levels of job satisfaction are all the more pronounced when one considers the situation facing healthcare personnel prior to the emergence of ARVs. Before AIDS became, in principle at least, a manageable disease, the increasing numbers of AIDS-sick patients presenting themselves for treatment to a workforce that was largely powerless to treat them understandably had detrimental impacts on the attraction of a career in healthcare (Yu et al., 2008: 2). HIV and AIDS programmes also lead to indirect benefits for staff retention by reducing attrition through altering the perception of work in this field from burnout and overburden to one of respected and fulfilling work (Dambisya et al., 2009: 25).

However, health workers possessing valuable HIV experience will be in demand and may be encouraged to leave their home countries for higher paying jobs or more attractive jobs outside of the public sector. This worry has increased the need for governments and the public health sector to set and maintain appropriate salary levels for all health workers (El-Sadr & Abrams, 2007: S67). A review of Malawi's response to critical health worker shortages notes that government, in collaboration with international donors, developed an Emergency Human Resources Programme to address the staffing crisis in the public health sector (Palmer, 2006). This programme, initiated in 2005, includes incentives for recruitment and retention of all health sector staff through salary top ups, increased domestic training, and enhanced monitoring and evaluation capacity (ibid). These initiatives are not limited to HIV scale up, but do have important implications for the success of Malawi's AIDS response.

A literature review of research in countries with generalised HIV epidemics and healthcare worker shortages finds that both financial and non-financial incentives are used to attract healthcare workers to AIDS programmes (Dambisya et al., 2009). Even when no additional salary is available, existing health workers may be drawn to AIDS programmes for a number of reasons, including better programme organisation, stronger morale, the greater prestige involved in AIDS work or opportunities for training and personal advancement (ibid). In a longitudinal analysis of ART roll out in the Free State province of South Africa, van Rensburg et al (2008) find that the vacancy rate for nurses within the ART programme was half that of the public health system overall, despite uniform wage rates. Across the province as a whole, one in five professional nurses appointed to the ART programme were legitimately new entrants to the area's public healthcare workforce, with the remainder being drawn from within the system (van Rensburg et al., 2008: 7).

In a review of Global Fund performance in its first five years, it was found that at that time, around half of the Fund's total resources were committed to capacity building activities, such as staff training and equipping health centres (Feachem & Sabot, 2006: 540), all of which will impact on a wide range of diseases and health services, beyond those the Global Fund actively targets. Over one and a half million health workers and community volunteers had been trained through Global Fund finance by mid-2006 as well as investing in the retention of existing staff through salary support and non-financial incentives (ibid: 540). PEPFAR has also supported general health system development in, for example, Namibia, Zambia and Kenya (Dambisya et al., 2009).

2.4.2 Task Shifting: a response to critical workforce shortages

In 2006 the WHO launched their "Treat, Train, Retain" initiative in a bid to strengthen and develop the health workforce by tackling both the causes and the effects of AIDS on health workers in low income countries (World Health Organization, 2007). While expanding places in training colleges and medical schools is important, it takes several years to complete training such that a more radical approach is required to provide urgently needed services. The 'Task Shifting' approach therefore advocates the delegation of tasks to less specialised health workers, where appropriate, to make more efficient use of the current stock of human resources.

When doctors are in short supply, it is possible to train qualified nurses to prescribe and administer ART. Or to free up nurse time, community health workers can be trained to deliver a wide range of HIV services, such as counselling and support. Given the immediacy of the problem, the potential benefits of this approach are clear: it takes around three to four years to train a nurse, whereas a new community health worker can be trained in only one week, depending on the tasks required (World Health Organization, 2007: 4). In several cases, people living with HIV can themselves be trained to take responsibility for their own care and act as 'expert patients' by delivering counselling and education programmes to peers (Dambisya et al., 2009). This has the added advantage of building closer links between the providers of healthcare and the community, increasing accountability in delivery and the demographic reorganisation required moves healthcare closer to communities where it is needed. With more local services comes increased uptake, earlier detection of disease and improved adherence to treatment (World Health Organization, 2007).

It is also worth noting that, when HIV/AIDS tasks are shifted down the chain from nurses to community health workers and lay counsellors, these non-clinical workers are effectively recruited into the healthcare system as entirely additional staff. Given the extensive potential role of lay health workers in delivering AIDS programmes, the emergence of task shifting as a recommended response to critical labour shortages is, to a certain extent, enlarging the existing stock of healthcare workers, which has implications that extend much wider than HIV and AIDS services.

A potential indirect benefit of task shifting may be in mitigating the international brain drain of healthcare workers, as greater reliance is placed on locally sourced support workers who lack internationally recognised qualifications.

Zachariah et al. (2009: 552) note that a study of task shifting in obstetric care in Mozambique found that, after seven years, 90% of non-physician staff members were still employed by the district hospital, whereas virtually all doctors had left. Added to this is the consequent reduction in burnout and improvement in morale among higher tiers of the workforce, further supporting retention of existing staff. Additionally, it is generally observed that the brain drain effect is highest among the most highly qualified staff, partly due to increased demand in foreign countries. It follows then that greater reliance on lower levels of qualification could reduce the percentage of overall workforce leaving the country.

Despite the significant potential benefits, successful implementation of task shifting requires overcoming several challenges to ensure that overall healthcare quality is not undermined. An important example is health legislation, which may not currently be conducive to task shifting. For example, if only doctors are permitted to prescribe ARVs, this prevents qualified nurses from doing so, even where they are fully capable of the task. For example, the experience of Médecins sans Frontièrs (MSF) in Khayelitsha and Lusikisiki in South Africa has shown that, unless the skills of professional nurses at primary care level can be utilised to deliver ART, clinics will continue to face overcrowding which both negatively impacts patient care and greatly reduces the numbers that can benefit from available treatment (Treatment Action Campaign, 2009). Drawing on the experiences of MSF in scaling up ART in three Southern African countries, including the Lusikisiki programme, Zachariah et al. (2009) find that the number of patients initiated on ART rose considerably when nurses were able to initiate and administer treatment. In Lusikisiki, however, this task shifting was reversed in early 2006, leading to a dramatic drop off in patient enrolment after this point (Zachariah, et al., 2009: 550).

Although a task shifting approach can bring significant potential cost savings, additional resources are required in the beginning, which may be difficult to implement in the face of expenditure ceilings intended to preserve macroeconomic stability. In several cases such constraints have led to a freeze on health sector recruitment and salary increases, which would seriously impede the effective roll out of a task shifting programme. This can create a situation of severe shortages in the workforce alongside unemployed qualified health professionals present in the country but unable to work. For example, Zambia, Kenya, Tanzania and Rwanda all have large numbers of unemployed nurses and clinicians in their capitals (Philips et al., 2008: 683). Clearly then, task shifting requires the appropriate political climate. The primary obstacles are recruitment and salary restrictions imposed by the IMF or national governments.

One of the main concerns of task shifting in the provision of HIV and AIDS programmes is how to maintain the quality of care when tasks are delegated to less qualified staff. However as noted by MSF, it is important to consider what we mean by quality of care as the most important measure of quality in advanced AIDS patients is survival. Therefore, any standard of treatment that allows survival could be argued to compare positively to a no treatment scenario (Philips et al., 2008).

The evidence of how task shifting is working on the ground is somewhat limited, although Sherr et al. (2009) outline how the approach has been implemented with considerable success in Mozambique. The authors describe how the use of non-physician clinicians has increased availability and quality of ART by integrating HIV care services into the PHC system (Sherr, et al., 2009). There is clear potential for maximising the efficiency of the existing healthcare workforce through this approach; however, it must take place as part of an overall strategy that includes longer term solutions. For example, to be sustainable, health workers must be paid a reasonable salary that reflects the level of responsibility undertaken and regular supervision visits will be vital to maintain motivation (Zachariah, et al., 2009). The renewed interest in task shifting has arisen out of the urgency of AIDS but it offers great potential to improve patient care across the entire range of health services.

The impact of AIDS programmes on healthcare services is clearly complex and to argue that the scale-up of interventions to address the disease has displaced health workers from other services seems to be somewhat simplistic and largely unconstructive in the absence of a clear illustration of the consequences. While it may well be the case that AIDS programmes are more attractive to healthcare workers on account of either financial or non-financial incentives, there is little discussion in the literature on how such movements impact on service delivery. On the other hand, hard evidence does exist to support the fact that AIDS programmes have had a large and positive effect on the healthcare workforce by keeping staff alive as well as providing more rewarding work. The potential for a task shifting approach to enhance this effect by sharing the burden with lay counsellors and community health workers has been shown to be effective in several cases; if good practice can be widely circulated, this approach has considerable potential for improving efficiency and creating genuinely additional cohorts of PHC workers.

2.4.3 AIDS, Activism and Accountability

In addition to severe resource constraints, the ability to improve service delivery in public health systems is also strongly influenced by domestic policy and the political environment. In some instances broad institutional and policy constraints can actually create greater challenges than those already posed by resource limitations. While health systems alone are limited in the extent to which these environmental constraints can be tackled, certain health-system structures may be better able to mitigate their consequences than others (Travis, et al., 2004). In an environment that lacks clear and transparent lines of accountability in governance, a system that develops stronger mechanisms to hold the key providers of health care (most often the state) accountable to health consumers would be better able to alleviate this policy constraint and lead to more equitable outcomes.

The importance of developing a closer relationship between the providers and consumers of healthcare becomes starkly apparent in examining the highly effective role of AIDS activism. These AIDS-focused social movements have emerged with the primary objective of making ARVs publicly available. The Treatment Action Campaign (TAC) in South Africa provides a notable example of the potential power of social movements in compelling governments to act. Formed around the objective of lobbying the South African government to provide ART publicly, the TAC has expanded its remit in response to the broader issues affecting AIDS treatment and care, such as confronting global pharmaceutical firms' pricing strategies and challenging AIDS dissident science (Robins, 2006; Nattrass, 2007).

One of most high-profile successes of the TAC has been taking the South African government to court for failing to provide its citizens with ART, including the provision of PMTCT provision, directly contributing to the subsequent decision to provide Nevirapine to pregnant women through the public health system. Despite the success of civil society groups in compelling governments to commit to scaling up AIDS programmes, existing weaknesses in healthcare systems remain a major obstacle to realising their objectives (Sanders, Todd, & Chopra, 2005). AIDS activist groups such as the TAC and ActionAid in Kenya are motivated not just by a shared belief in a cause but by a common desire to generate an outcome that, literally, their lives depend on. With this in mind, civil society organisations clearly have a vital role to play in mobilising various groups to provide the resources needed to deliver effective treatment.

Although AIDS activist movements promote the public delivery of ART to HIV positive people, the extent of their influence undoubtedly reaches beyond the infected population. By taking a stand and attempting to hold their governments to account, the subsequent improvements in service delivery, however incremental, are likely to benefit everyone through more reliable drug supply, cheaper medicines and better equipped clinics, not to mention greater accountability in governance. Levine and Oomman (2009) highlight a potentially powerful outcome of such increased accountability in the delivery of health services: if AIDS programmes raise community confidence in the ability of PHC to respond to their needs, demand-side barriers to delivery may also be overcome. The authors note that the availability of AIDS treatment and ability to keep people alive has significantly improved public views of the formal health sector and that this momentum could be built on in several other health priorities (Levine & Oomman, 2009: S4). The case of Brazil also shows clearly how the drive and commitment of AIDS activism can spill over in significant ways beyond HIV/AIDS services to contribute to increased citizen engagement and enhanced citizen control of health care services in general (Parker, 2009: S50).

2.5 The impacts of AIDS programmes on health systems – a summary

Based on their survey of the evidence, Yu et al. (2008) find that on the whole, the direct impact of AIDS-specific funding on healthcare systems is primarily positive although there is considerable potential to boost this effect through increased synergies. A broader survey of the data seems to support this result and finds that such synergies are being increasingly pursued (World Health Organisation, 2009b). The evidence implies that focusing on health systems more generally instead of disease-specific interventions might lead to an overall improvement in PHC provision but ultimately this is a long term objective and it would take several years, even decades for the benefits to be felt.

The systemic benefits of a diagonal, disease-led approach on the other hand may take longer to deliver fully developed health systems but has the advantage of quickly delivering results in addressing pressing health concerns. When the pressing health concern in question is AIDS, particularly in the hyper-epidemic countries, consideration must be taken of the impacts of delaying direct action. If ART was not made available until nurse-based PHC systems are deemed sufficiently strong to deliver it then policymakers must be prepared to accept that, as time goes on, the pressures on health systems will probably increase as opportunistic infections crowd waiting rooms and babies are born HIV positive to suffer persistent illness in infancy before premature death. With such an

approach, the system quite simply may never be ready. In other words, when it comes to assessing the option for tackling AIDS in the hyper-epidemic countries, it is not the case that the 'do nothing' approach will simply maintain the present situation; delaying action will only make the problem progressively worse.

Reviewing the evidence has highlighted a growing trend toward greater emphasis on health systems strengthening over time, with all the major funders of AIDS programmes, including the Global Fund, PEPFAR and the World Health Organisation, now considering this a priority (Shiffman, Berlan, & Hafner, 2009: S47). This trend bodes well for the future and suggests that lessons are being learnt and potential synergies increasingly capitalised on to ensure that, wherever possible, AIDS programmes attempt to complement rather than conflict with the PHC systems that must deliver them.

3. Does the evidence support a shift to general budget support for healthcare?

Having assessed the current evidence on the health systems effects of AIDS-related funding, the second component of the backlash arguments can now be addressed; namely whether donor money would be better spent on investment in health infrastructure more generally. There has been a shift in the preferred method of delivering aid in recent years; rather than supporting specific projects, several major donors including DFID and the EU are providing increasing volumes of official aid as GBS (Sanders, Todd, & Chopra, 2005). The most commonly cited advantages of this method of delivery are that it increases 'ownership' of aid by developing countries, promotes investment in a single national strategic programme and improves sustainability of the programme. However, while greater budget support has led to improvements in a number of important health outcomes in some countries, the overall picture is mixed (Sanders, Todd, & Chopra, 2005).

The criticism of AIDS specific funding asserts that funding for AIDS is displacing other health spending and the explicit recommendation is a move toward greater autonomy for national governments to allow health priorities to be set at the domestic level. At the same time, there has been a general shift in the donor community toward favouring programmatic delivery methods intended to increase government ownership and strengthen accountability (de Renzio, 2006). To understand if this approach is indeed more effective at delivering health results, it is useful first to explore whether there is any

evidence for the backlash claim that AIDS programmes are indeed inefficient, before examining the evidence on the relative efficacy of the proposed sector wide approaches.

3.1 Are AIDS programmes inefficient?

There are undoubtedly some grounds for the claim that AIDS programmes are not always efficient, particularly given the large number of discrete projects taking place concurrently in recipient countries. It is estimated that Zimbabwe, for example, has around 9,000 registered organisations offering HIV and AIDS services (Dambisya et al., 2009: 9). While this is likely to be partly a result of the inadequacy of the public health system in that country, it seems reasonable to conclude that a large number of separate and disparate programmes could potentially be more effective if they co-ordinated activities and worked together within a shared framework. The recent assessment of the World Bank's funding for AIDS programmes found that "only 29 percent of the freestanding HIV/AIDS projects approved and completed during fiscal years 1997-2006 had satisfactory outcomes" (World Bank, 2009b: 37). A major driver of this poor performance was found to be overly complex project design involving too many distinct partners (ibid).

When considering outputs, such as the number of people receiving ARVs, it is important to recognise that the input in question, AIDS funding, does not operate in a vacuum. There are other factors at work that can potentially constrain the success of even the most well-designed and coordinated AIDS programmes, and these would not necessarily be overcome by a move to general health budget support. The structural adjustment programmes demanded of many developing nations during the 1980s and 1990s included reform of the public sector with the stated objective of increasing access to high-quality healthcare. In reality however, many of the reforms focused on reducing public expenditure. As a result, health sector reform has impacted on delivery of public health services through a number of its key strategies, most clearly the pursuit of efficiency through personnel rationalisation and delivery of a core set of essential services (Sanders, Todd, & Chopra, 2005).

There is certainly evidence to support the assertion that countries involved in the Heavily Indebted Poor Countries (HIPC) initiative, the successor of structural adjustment, may experience barriers to the effective implementation of AIDS programmes. In some countries the associated spending targets have, at least in the short term, served as spending ceilings such that if a particular sector receives any new funds in addition to that budgeted for, then the equivalent

amount is fully displaced from government spending (Ooms & Schrecker, 2005). This results in a disincentive for external funders to offer financing as no additional results would be achieved. For those countries involved, this situation presents a clear problem when it comes to expanding the healthcare workforce and these knock-on effects should be borne in mind, as GBS for healthcare would by no means overcome this problem.

Evidence of a growing number of partnerships bringing together a range of interest groups challenges the suggestion that AIDS programmes, in general, are poorly coordinated and disjointed. Such partnerships exist between governments, NGOs, faith-based organisations and international organisations involved in the delivery of AIDS services (Dambisya et al., 2009). In Namibia, for example, collaboration between the health ministry, international donors and a private human resources firm initiated the recruitment and employment of healthcare personnel, including those for ART programmes (ibid). The collaborative Health Workforce Expansion Project recruited and deployed healthcare and support staff to government facilities and ensured the same salaries and benefits were awarded to those hired through donor mechanisms as to those through government ones to minimise displacement (see Dambisya et al., 2009: 33).

At the international level, in 2007 the International Health Partnership and Related Initiatives (IHP+) was launched by a group of international funding bodies, including PEPFAR and the Global Fund, with the remit of promoting nationally-determined action to increase access and take-up of health services towards the health-related MDGs (Dambisya et al., 2009). The objective of this initiative is to enable countries to share knowledge and resources in promoting health system development as a means of achieving health objectives. Given the specific focus of MDG 6 on combating AIDS, malaria and TB, this approach is strongly aligned with the diagonal approach discussed previously. So while it would be wrong to say that AIDS programmes are always delivered in the most efficient way possible, it is important to recognise that many of the obstacles faced are not unique to the *method* of delivery.

3.2 Are sector wide approaches delivering better health outcomes?

A recent evaluation of the World Bank's support for health, nutrition and population (HNP) found that a majority of its AIDS programmes since 1997 have been unsuccessful, largely on account of over-complexity in programme design (World Bank, 2009b: xix). A key finding of the evaluation is that

likelihood of success was considerably diminished by a failure to take account of the political economy of reform and to prepare a practical strategy that takes such issues into account (ibid: xviii). Factors identified as having been neglected include political risk and individual stakeholders' interests (ibid).

Given the importance of political economy in understanding the likely outcomes of the various alternative approaches to health interventions, a further conclusion of the report is perhaps not surprising: "SWAps [sector wide approaches] have contributed to greater government leadership, capacity, coordination, and harmonization within the health sector, *but not necessarily to improved efficiency or better health results*" (World Bank, 2009b: xviii). This finding is highly significant in the context of the debate around the relative merits of disease-specific funding versus GBS to achieve health objectives. The evaluation reports that adopting the sector wide approach does not automatically achieve better implementation or effectiveness of the government's health programmes and "only a third of Bank projects that supported health SWAps have performed satisfactorily on meeting their health objectives" (ibid: xviii). It is therefore recommended by the report that programmes must be realistic and prioritised to avoid excessively complicated inter-sectoral relationships.

One of the main justifications for the move toward budget support rather than disease-specific funding is that the former allows national governments to determine the most efficient allocation of resources at the national level. However, Sanders et al (2005) argue that cost effectiveness analysis is increasingly employed in order to define essential services, yet many potential indirect effects are often excluded from the analysis as they are difficult to measure. This finding presents a difficulty as, if there is reason to believe that national government prioritisation is not in fact based on country need, the rationale for budget support for health is considerably weakened.

3.3 Health objectives and the principal-agent problem

Relying on country systems and procedures naturally calls for assurance of their robustness and capacity to avoid leakage and corruption as well as to deliver on poverty reduction or specific programmatic objectives, such as scale-up of access to ART. In a survey of evaluations of GBS programmes, de Renzio (2006) teases out a number of crucial observations regarding the shortfall between the theoretical expectations of a move to GBS and the outcomes in practice. Among the most significant findings are that GBS is found to have no bearing on underlying political realities and that the political structures of

recipient countries are often incompatible with the participatory processes and transparency of administration that underpins the rationale for GBS.

This finding is critical as it suggests that donor funding for particular health objectives channelled through national governments could potentially be affected by the principal agent problem, where the incentives for the agent (state governments) are incompatible with the objectives of the principal (donors). If this is the case, the question of whether country 'ownership' is desirable as an end in itself or whether it has been intended as a means to the end of more efficient delivery of locally-sensitive development objectives becomes pertinent. In other words, do donors favour country ownership because they want to support national governments' priorities regardless of what they may be, or is greater government control pursued because it is assumed that state objectives are socially optimal? If the latter, it should be borne in mind that, unless government unambiguously acts in society's best interest, 'country ownership' may not in fact maximise the welfare of the country as a whole and donors are likely to find that the needs of the poorest members of society are no more closely aligned with government expenditure patterns than that of international donors. Perhaps one of the most illustrative examples of government preferences being incompatible with social welfare, with regard to AIDS, was President Mbeki's distrust of HIV science and related reluctance to use antiretrovirals for either HIV prevention or AIDS treatment in South Africa (Nattrass, 2007).

3.4 The importance of political economy

So what does the evidence tell us about the revealed priorities of governments? De Renzio (2006), supported by the recent findings of the World Bank (2009b), highlights the importance of political economy when implementing aid programmes channelled through domestic governments and the need to take account of underlying factors influencing governments' willingness to initiate various reforms when designing donor interventions (de Renzio, 2006). Moreover, the key assumptions regarding the efficacy of GBS are underpinned by belief in domestic support for reforms generating increased accountability, whereas the evidence suggests that such support may not necessarily be present. (de Renzio, 2006: 634).

De Renzio cites two studies which analyse a range of countries and conclude that in many cases, networks of patronage are the principal means of government and formal democratic structures are merely a useful facade for systems that consider the state as a source of rents as opposed to an agent of development. In such environments, aid can still play a positive role but

channelling it through government is unlikely to be the most effective means of achieving this. Evidence to support these contentions can be found in a study of the budget process in Malawi, which relates the 'theatre' of adherence to formal rules and processes which takes place in tandem with the prevalence of informal practices that determine the way in which budgets are really allocated (Rakner et al cited in (de Renzio, 2006)).

The main points to emerge from the literature are that donors must be more attentive to political economy factors underpinning the incentives of recipient governments and how their actions may impact on the domestic political landscape. The theoretical benefits of GBS may not always be realised in practice and, even where they are, the desired outcomes in health objectives are by no means assured. In some cases GBS may offer an efficient and effective method of achieving improved health outcomes but it is by no means a 'one size fits all' prescription and the view that such an approach would be universally and unconditionally better for overall health services than AIDS programmes does not appear to be validated by the evidence.

3.5 Donor support and the concept of sustainability

It is often argued that sector wide approaches and GBS are more 'sustainable' than disease-specific interventions by international donors. This is a powerful argument that enjoys a lot of credence so it is worth evaluating carefully in order to understand whether such approaches are indeed better for the health outcomes of people in developing countries.

The traditional notion of sustainability in health system development projects, and indeed in foreign aid interventions more widely, requires international assistance to phase itself out and leave the recipient country government responsible for financing the project. However, while this is arguably the ultimate objective of any foreign aid project, the fragility of healthcare systems in most AIDS-affected countries is so grave that demanding this narrow definition of sustainability is liable to exacerbate the problem and undermine the effectiveness of AIDS programmes.

The Global Fund, recognising the limitations of a sustainability criterion that requires national governments to finance their entire AIDS portfolio alone, has instead implemented an alternative concept of sustainability that involves a balance of domestic resources and reliable, long term foreign support (Ooms et al., 2008). Applicants to the Global Fund do not have to guarantee self-sufficiency by the end of the project, making effective and realistic interventions

considerably more likely to be financed. The Commission on Macroeconomics and Health estimated the minimum required to finance an adequate level of healthcare in low-income countries to be around $35 per person per annum (Ooms, 2006: 1204). Many governments in sub-Saharan Africa would have to spend over 100% of their entire budget on health alone if they are to achieve this target (ibid). It seems clear therefore that greater financial commitment to healthcare is required from both national and international sources and sustainability, where defined as independent from foreign aid, is an unrealistic and potentially damaging objective.

Of course one rationale for seeking reduced reliance on international funding for AIDS programmes is to reduce recipient country vulnerability to fluctuations in donor financing, such as the impending cutbacks that are expected to result from the current global recession. Given the lifelong commitment required of ART patients, this is undoubtedly a crucial issue for AIDS treatment programmes. A recent report by the World Bank estimates that as many as 1.7 million people on ART in developing countries are at risk of treatment interruption due to the global economic recession (World Bank, 2009a). The associated costs of such a scenario are significant in both health and monetary terms as treatment interruption increases the potential for drug resistance and the need for second line regimens.

However, even if sufficient funds could somehow be raised in domestic public budgets, it does not necessarily follow that reduced reliance on foreign assistance is a necessary condition to lowering vulnerability of country level AIDS programmes and individual patients; after all, recipient governments are just as susceptible to financial downturns and political cycles as donor countries, if not more so. With this in mind, perhaps the most 'sustainable' funding mechanism for AIDS programmes would actually involve long term commitments from a diverse range of sources channelled through a single coordinated funding body, such as the Global Fund.

4. Conclusion

It is undoubtedly true that HIV and AIDS programmes will not work effectively as purely vertical, stand alone projects, and in that sense the backlash protagonists are right to question whether vertical programmes are appropriate for delivering health objectives. Treatment clearly cannot be delivered independently from health systems and so, beyond a certain threshold of intervention, system-wide constraints begin to be felt and only by addressing these broader constraints can AIDS programmes go further. However, it is

neither accurate nor ethical to use this fact to argue that the only alternative to stand alone, disease-specific interventions is a longer term, system-wide approach delivered through GBS for healthcare. The critical issue, particularly in the hyper epidemic countries, is timing and the cost of delay and inaction on AIDS can be catastrophic. Waiting until PHC services are deemed ready to roll-out AIDS treatment programmes is simply not an option. The alternative solution that the backlash proponents do not discuss is better integration of treatment and prevention into the existing system which strengthens capacity while immediately tackling the disease.

It is surely also the case that uncoordinated and fragmented foreign aid programmes are not the most efficient way to achieve results but again this is a well-known fact and adds little in the way of meaningful debate. There has been a shift in recent years toward a more coordinated approach to the AIDS epidemic, illustrated by the emergence of the Global Fund as a coordinating funding body, and the increasing harmonisation bodes well for the future.

Given the complexity and scale of the AIDS problem in developing countries, it is not surprising to find evidence of some unsuccessful programmes, and indeed the recent World Bank evaluation provides the somewhat disturbing result that only 18% of World Bank AIDS projects in Africa had satisfactory outcomes (World Bank, 2009b: 20). However, it is important to recognise that an evaluation such as this cannot legitimately be used to condemn AIDS programmes generally without careful inspection of the findings. There are a number of reasons that a programme evaluation may demonstrate failure: perhaps the implementing agency was not the right one for the job; or there were fundamental problems in the design or implementation of the intervention. The latter was indeed found to be a major problem in the World Bank case with insufficient risk analysis, lack of recognition of political economy issues and overly complicated design all present in the failed projects. None of these possibilities allow the evaluator to decisively conclude that the objectives themselves, that is the direct treatment of HIV and AIDS, were at fault. After all, if a road-building programme was evaluated and found to have failed, we would be unlikely to conclude that roads should not be built in the first place.

There is little doubt that the countries worst affected by the AIDS epidemic need investment in their PHC system, especially human resources, in order to have any chance of extending coverage of programmes to all who need them. However, focusing on this broader issue in isolation is likely to inhibit the achievement of urgent health objectives, including the MDGs. Given the pledges made by governments, of both developed and developing countries, to the MDGs and the provision of treatment, further delaying the roll out of ART

would be ethically indefensible. The focus must be on the best way to achieve the commitments made rather than reneging on them completely by shifting to an entirely long term system-wide approach. Research to date provides strong support for the integration of AIDS programmes into existing healthcare services and this should certainly be sought in project design. However, in the face of specific and urgent health objectives, the current weight of evidence simply does not support the abandonment of AIDS specific programmes in favour of a broad systemic approach.

References

Chen, L., Evans, T., Anand, S., Boufford, J. I., Brown, H., Chowdhury, M., et al. (2004). Human resources for health: overcoming the crisis. The Lancet, 364, 1984-1990.

Coovadia, H. M., & Hadingham, J. (2005). HIV/AIDS: Global trends, global funds and delivery bottlenecks. Globalization and Health, 1 (13).

Daley, C. L., Small, P. M., Schecter, G. F., Schoolnik, G. K., McAdam, R. A., Jacobs, W. R., et al. (1992). An outbreak of tuberculosis with accelerated progression among persons infected with the human immunodeficiency virus. An analysis using restriction-fragment-length polymorphisms. New England Journal of Medicine, 326 (4), 231-325.

Dambisya, Y. M., Modipa, S. I., Nyazema, N. Z., & Group, H. S. (2009). A review of the impact of HIV and AIDS programmes on health worker retention. Discussion Paper Series 71: Regional Network for Equity in Health in East and Southern Africa (EQUINET).

de Renzio, P. (2006). Aid, budgets and accountability: a survey article. Development Policy Review , 24 (6), 627-645.

Druce, N., & Nolan, A. (2007). Seizing the big missed opportunity: linking HIV and maternity care services in sub-Saharan Africa. Reproductive Health Matters, 15 (30), 190-202.

El-Sadr, W. M., & Abrams, E. J. (2007). Scale-up of HIV care and treatment: can it transform healthcare services in resource limited settings? AIDS Volume 21 Supple 5, S65-S70.

Embrey, M., Hoos, D., & Quick, J. (2009). How AIDS Funding Strengthens Health Systems: Progress in Pharmaceutical Management. Journal of Acquired Immune Deficiency Syndrome, 52 (Supplement 1), S34-37.

England, R. (2007). Are we spending too much on HIV? British Medical Journal, 334, 344.

Feachem, R. G., & Sabot, O. J. (2006). An examination of the Global Fund at 5 years. The Lancet , 368, 537-540.

Gasana, M., Vandebriel, G., Kabanda, G., Tsiouris, S. J., Justman, J., Sahabo, R., et al. (2008). Integrating tuberculosis and HIV care in rural Rwanda. The International Journal of Tuberculosis and Lung Disease , 12, S39-S43.

Godfrey-Fausset, P., & Ayles, H. (2003). Can we control tuberculosis in high HIV prevalence settings? Tuberculosis , 83, 68-76.

Kober, K., & Wim, V. D. (2004). Scaling up access to antiretroviral treatment in southern Africa: Who will do the job? The Lancet , 364, 103-107.

Levine, R., & Oomman, N. (2009). Global HIV/AIDS Funding and Health Systems: Searching for the Win-Win. Journal of Acquired Immune Deficiency Syndrome , 52 (Supplement 1), S3-S5.

Lieberman, S., Gottret, P., Yeh, E., de Beyer, J., Oelrichs, R., & Zewdie, D. (2009). International Health Financing and the Response to AIDS. Journal of Acquired Immune Deciciency Syndrome , 52 (Supplement 1), S38-S44.

Loewenson, R., & McCoy, D. (2004). Access to Antiretroviral Treatment in Africa. British Medical Journal , 328, 241-242.

Middelkoop, K., Wood, R., Myer, L., Whitelaw, A., Kaplan, G., McIntyre, J., et al. (2009, July 19–22). Widespread ART is associated with decline in TB prevalence [abstract no. WELBB105]. Presented at: 5th International AIDS Society Conference on HIV Pathogenesis, Treatment, and Prevention , Cape Town, South Africa. Available at: http://www.ias2009.org/pag/Abstracts.aspx?AID=3844: Accessed on November 22, 2009.

Myer, L., & Akugizibwe, P. (2009). Impact of HIV Treatment Scale-Up on Women's Reproductive Health Care and Reproductive Rights in Southern Africa. Journal of Acquired Immune Deficiency Syndrome , 52 (Supplement 1), S52-S53.

Narasimhan, V., Brown, H., Pablos-Mendez, A., Adams, O., Dussault, G., Etzinga, G., et al. (2004). Responding to the global human resources crisis. The Lancet , 363, 1469-1472.

Nattrass, N., & Gonsalves, G. (2009). The Unwarranted Backlash Against AIDS-Specific Funding. unpublished .

Nattrass, N. (2007). Mortal Combat: AIDS Denialism and the Struggle for Antiretrovirals in South Africa. Durban: University of KwaZulu-Natal Press.

Ooms, G. (2006). Health Development versus Medical Relief: The illusion versus the irrelevance of sustainability. PLoS Med , 3 (8), e345.

Ooms, G., & Schrecker, T. (2005). Expenditure ceilings, multilateral financial institutions, and the health of poor populations. The Lancet , 365, 1821-1823.

Ooms, G., Van Damme, W., Baker, B. K., Zeitz, P., & Schrecker, T. (2008). The 'diagonal' approach to Global Fund financing: a cure for the broader malaise of health systems? Globalization and Health , 4 (6).

Palmer, D. (2006). Tackling Malawi's Human Resource Crisis. Reproductive Health Matters , 14 (27), 27-39.

Parker, R. G. (2009). Civil Society, Political Mobilization, and the Impact of HIV Scale-Up on Health Systems in Brazil. Journal of Acquired Immune Deficiency Syndrome , 52 (Supplement 1), S49-S51.

Philips, M., Zachariah, R., & Venis, S. (2008). Task shifting for antiretroviral treatment delivery in sub-Saharan Africa: not a panacea. The Lancet , 378, 682-684.

Pillay, T., Khan, M., Moodley, J., Adhikari, M., & Coovadia, H. (2004). Perinatal tuberculosis and HIV-1: considerations for resource-limited settings. The Lancet Infectious Diseases , 4 (3), 155-65.

Reid, A., Scano, F., Getahun, H., Williams, B., Dye, C., Nunn, P., et al. (2006). Towards universal access to HIV prevention, treatment, care, and support: the role of tuberculosis/ HIV collaboration. The Lancet , Volume 6, 483-495.

Robins, S. (2006). From "rights" to "ritual": AIDS activism in South Africa. American Anthropologist , 108 (2), 312-323.

Sanders, D. M., Todd, C., & Chopra, M. (2005). Confronting Africa's health crisis: more of the same will not be enough. British Medical Journal , 331, 755-758.

Sherr, K., Pfeiffer, J., Mussa, A., Vio, F., Gimbel, S., Micek, M., et al. (2009). The Role of Nonphysician Clinicians in the Rapid Expansion of HIV Care in

Mozambique. Journal of Acquired Immune Deficiency Syndrome, 52 (Supplement 1), S20-S23.

Shiffman, J. (2008). Has donor prioritization of HIV/AIDS displaced aid for other health issues? Health Policy and Planning , 23, 95-100.

Shiffman, J., Berlan, D., & Hafner, T. (2009). Has Aid for AIDS Raised All Health Funding Boats? Journal of Acquired Immune Deficiency Syndrome , 52 (Supplement 1), S45-S48.

Travis, P., Bennett, S., Haines, A., Pang, T., Bhutta, Z., Hyder, A. A., et al. (2004). Overcoming health-systems constraints to achieve the Millennium Development Goals. The Lancet , 364, 900-906.

Treatment Action Campaign. (2009, April 6). Time for task-shifting: 999 days to close the HIV/AIDS treatment gap. Retrieved May 14, 2009, from Treatment Action Campaign: http://www.tac.org.za/community

UNAIDS (2009a). Global Facts and Figures Fact Sheet. Retrieved January 26, 2010, from UNAIDS: http://www.unaids.org/en/KnowledgeCentre/HIVData/EpiUpdate/EpiUpdArchive/2009/default.asp

UNAIDS. (2009b). Prevention of mother-to-child transmission of HIV. Retrieved May 3, 2009, from UNAIDS: http://www.unaids.org/en/PolicyAndPractice/Prevention/PMTCT/

UNAIDS. (2009c). Tuberculosis and HIV. Retrieved May 3, 2009, from UNAIDS: http://www.unaids.org/en/PolicyAndPractice/HIVTreatment/Coinfection/TB/default.asp

United Nations. (2008). The Millennium Development Goals Report 2008. New York: United Nations.

van Rensburg, D. H., Steyn, F., Schneider, H., & Loffstadt, L. (2008). Human resource development and antiretroviral treatment in Free State province, South Africa. Human Resources for Health , 6 (15).

World Bank. (2009a). Averting a human crisis during the global downturn - Policy options from the World Bank's Human Development Network. World Bank.

World Bank. (2009b). Improving effectiveness and outcomes for the poor in health, nutrition and population. World Bank.

World Health Organisation. (2009a). Towards Universal Access: Scaling up priority HIV/ AIDS interventions in the health sector. Progress Report 2009. Geneva: WHO Press.

World Health Organisation. (2009b). An assessment of interactions between global health initiatives and country health systems. The Lancet , 373, 2137-2169.

World Health Organization. (2007). Task Shifting to Tackle Health Worker Shortages. World Health Organization.

Yu, D., Souteyrand, Y., Banda, M. A., Kaufman, J., & Perriens, J. H. (2008). Investment in HIV/AIDS programs: Does it help strengthen health systems in developing countries? Globalization and Health, 4 (8).

Zachariah, R., Ford, N., Philips, M., Lynch, S., Massaquoi, M., Janssens, V., et al. (2009). Task shifting in HIV/AIDS: Opportunities, challenges and proposed actions for sub-Saharan Africa. Transactions of the Royal Society of Tropical Medicine and Hygiene , 103, 549-558.