

Turning off the Tap



UNDERSTANDING AND OVERCOMING
THE HIV EPIDEMIC IN SOUTHERN AFRICA

2031 HYPER-ENDEMIC PILLAR

aids2031[®]

aids2031 is a consortium of partners who have come together to look at what we have learned about the AIDS response, as well as consider the implications of the changing world around AIDS, in order to chart options for the long term response. This initiative is preparing for today and for tomorrow. We are looking at what we can do differently now to prepare for, as well as change, the face of AIDS by 2031.

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DISCLAIMER:

This paper is the result of a collaboration of the Hyper-Endemic Working Group, Co-Chairs, Working Group, Secretariat and Readers. The opinions expressed herein are those of the authors.

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INTRODUCTION

This text examines a series of interlocking questions about the HIV epidemics that are raging in Southern Africa, with the aim of identifying top-priority, evidence-based actions that can turn the tide.

Why have the HIV epidemics in Southern Africa been so exceptionally severe? Is it mere coincidence or do these so-called hyper-endemic countries share certain features that put them especially at the mercy of HIV/AIDS? What do we know of the damage that is being done to these societies, and what changes can we anticipate? How best can that damage be mitigated and, eventually, overcome? What approaches have worked to contain or reverse HIV epidemics of the kinds under way in these countries?

Background to the study

Southern Africa remains at the epicentre of the global HIV/AIDS epidemic. The area – comprised of Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe – has an adult HIV prevalence exceeding 15%.

aids2031 convenes nine multi-disciplinary working groups – including economists, epidemiologists, and biomedical, social and political scientists – to question conventional wisdom, stimulate new research and spark public debate around the epidemic.

The Hyper-Endemic Working Group, co-chaired by Nelson Mandela Foundation CEO Achmat Dangor and Leonardo Simão of the Joachim Chissano Foundation, looks at the major challenges around HIV/AIDS facing Southern Africa. The working group explores the following themes:

- Context: Why has sub-Saharan Africa become a hyper-endemic area? What are the impediments to the effective implementation of the HIV/AIDS response, from prevention and treatment to governance and the role of the community?
- Future scenarios: What will the hyper-endemic countries look like in 2031? Is an alternative development paradigm needed to address the epidemic and its impact?
- Macroeconomic issues: What are the macroeconomic issues affecting HIV/AIDS, including migration, poverty and equality?
- Sociology of HIV/AIDS: What have we ignored about sex and the disease in the region, from cultural and socio-psychological issues to sexuality and gender?

This text examines a series of interlocking questions about the HIV epidemics that are raging in Southern Africa, with the aim of identifying top-priority, evidence-based actions that can turn the tide

CHAPTER 01

01

1. Why are the HIV epidemics in Southern Africa so severe?

Nowhere in the world – including elsewhere in Africa – has national HIV prevalence reached the levels seen in the hyper-endemic countries of Southern Africa, where it reached or exceeded 15% in 2007 in Botswana, Lesotho, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. In two more countries in Southern Africa – Malawi and Mozambique – national adult prevalence was at least 12%. Overall, Southern Africa contained about 2% of the world’s population but was home to 35% of all HIV-infected people and accounted for 33% of all AIDS deaths in 2007 (UNAIDS, 2008).

The vast majority of HIV infections in these countries occur during unprotected heterosexual intercourse. A small minority of infections occurs during unprotected sex between men and (mostly in Mozambique and South Africa) when intravenous drug users share contaminated injecting equipment. In each of these countries, women are disproportionately affected in comparison with men, with disparities in HIV prevalence especially stark between young women and men (Gouws & Stanecki, 2008).

1.1 Physiological and biomedical factors

HIV epidemics are driven by complex interplays between social, cultural and economic factors (which help shape behaviours, including with whom and on what terms individuals have sex), and biological and physiological factors (which can affect the efficiency of HIV transmission during sex). The line separating these two categories of “risk factors” can blur.¹

It is generally assumed that the odds of HIV transmission during unprotected heterosexual intercourse are approximately 0.001 (one transmission per 1 000 sexual “contacts”). But several factors increase or decrease the infectivity of HIV – and narrow or widen those odds (Powers et al., 2008)

1.1.1 Women’s physiology

All else being equal, women’s physiology places them at higher risk of acquiring HIV during sex, compared with their male partners (Nicolosi et al., 1994; O’Brien et al., 1994). In the case of girls and young women, the immaturity of their genital tracts is believed to increase their chances of infection even further.

1.1.2 Male circumcision

There is strong evidence that male circumcision dramatically reduces the risk of HIV acquisition in men during heterosexual intercourse – by up to 60%, according to randomised controlled trials in Kenya (Bailey et al., 2007), Uganda (Gray et al., 2007) and South Africa (Auvert et al., 2005). The low prevalence of male circumcision in the hyper-endemic countries is believed to be a major part of an explanation of why HIV infection levels in these countries are roughly five times higher than in West Africa (where circumcision is more common). Alone though, male circumcision is an insufficient explanation; it is equally prevalent – or rarer – in India and Europe, for example, where HIV prevalence has remained very low in comparison with Southern Africa (Halperin & Epstein, 2007).

¹ A physiological factor such as male circumcision, for example, usually is rooted in social and cultural contexts.

1.1.3 Sexually transmitted infections

A strong association has been observed between HIV infection and the presence of other sexually transmitted infections (STIs), especially genital ulcer diseases. Herpes simplex virus type 2 (HSV-2) has been shown to double, even triple the chances of acquiring HIV, and to quintuple the odds of transmitting it (Freeman et al., 2006; Wald & Link, 2002). However, herpes suppression has not been found to have a protective effect against HIV (Watson-Jones et al., 2008; Celum et al., 2008). Other infections, such as bacterial vaginosis and *Trichomonas vaginalis*, are believed also to increase the risk of HIV infection (Kapiga et al., 2007; Taha et al., 1998).

1.1.4 Viral load

HIV viral load² is highest in the first few weeks after infection has occurred and rises again during late stages of infection, making people more infectious during these periods (Pilcher et al., 2004; Wawer et al., 2005). Modelling by Pilcher et al. (2004) indicates that the probability of a boy or man infecting a girl or woman increases eight- to tenfold between three and six weeks after the male has been infected. Depending on how often they have sex, infected males would infect 7%-24% of susceptible female partners during the first two months of infection. The predicted infection rate could exceed 50% if either partner has an STI (Pilcher et al., 2004). This is probably one of the reasons why concurrent, or overlapping, sexual partnerships might be such critical factors in the spread of HIV (see below).

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1.1.5 Genetic factors

Although evidence is suggestive at best, there is ongoing speculation and research into the possibility that genetic factors may result in a stronger predisposition to HIV infection in some groups of people (Donfack et al., 2006; Ma et al., 2005; Mombo et al., 2003; Philpott et al., 2003; Gonzalez et al., 2001; Williamson et al., 2000).

1.1.6 Pregnancy

An association between pregnancy and HIV risk has been postulated in studies in Rwanda, Uganda and Zimbabwe (Leroy et al., 1994; Gray et al., 2005; Mbizvo et al., 2001). It is believed that hormonal changes during pregnancy might affect the body's immune response and increase susceptibility to HIV infection. However, a study among women in Uganda and Zimbabwe found that neither pregnancy nor lactation placed women at increased risk of HIV infection (Morrison et al., 2007).

1.1.7 Malnutrition and parasite infections

It has been suggested that malnutrition and parasite infections may increase a person's susceptibility to HIV infec-

² The amount of HIV found in the blood. The viral load indicates how fast the virus will damage the immune system.

tion by compromising the body's immune response (Stillwagon, 2006). Although plausible, very little research has been done to confirm or discount such a link. There is evidence that malarial infection can increase the likelihood of HIV transmission (Abu-Raddad et al., 2006), but studies examining the effect of placental malaria on mother-to-child HIV-1 transmission show conflicting results (Idemyor, 2007). Moreover, malaria is comparatively rare in Botswana, South Africa (where it occurs mainly in parts of two provinces) and Swaziland, and it does not occur in Lesotho.

1.1.8 HIV subtypes

Other factors, such as the possibly varying infectiousness of different HIV subtypes might affect the likelihood of HIV transmission. It has been postulated that the predominant strain of HIV-1 in Southern Africa, subtype C, is more aggressive than others, but there is insufficient evidence to confirm this.

1.1.9 Other factors

Although biologically plausible mechanisms exist, there is no conclusive epidemiological evidence that “dry sex” increases women's susceptibility to HIV infection (Myer et al., 2006 & 2005; McClelland et al., 2006; Gausset et al., 2001). “Widow cleansing”, meanwhile, tends to be practiced mainly in rural areas, where HIV infection levels are typically lowest (Epstein, 2007).³

1.2 The materiality of sex

Sexual liaisons seldom arise from autonomous, purely individual decisions. They are formed on the basis of various norms, beliefs, values and valorisations, and are shaped by prevailing material conditions and social relations. They are, therefore, also intertwined with the terms on which power, opportunity and entitlements are distributed, and on which desires and needs are pursued.

There is wide agreement that HIV and sex in the hyper-endemic countries have to be understood in the context of harsh gender inequalities, material disparities (amid popular cultures that celebrate consumption), conceptions of masculinity in which sexual conquest is valorised and active but constrained female agency. Highlighted in such an understanding is the “materiality of sex” – the many ways in which changing material conditions and social relations help shape who we have sex with, and why and how we have sex with them.

1.2.1 Concurrent partnerships

Having unprotected sex with more than one partner significantly increases the chances of HIV transmission (Malamba et al., 1994; Wawer et al., 1994; McFarland et al., 1991). However, behavioural surveys show that men in African countries are no more likely to have multiple sexual partners than men in many other parts of the world. Studies have shown that men in Africa generally have fewer sexual partners during their lifetimes than men in, for example, Europe or the USA (Wellings et al., 2006; Caraël, 1995). Men in Thailand and Rio de Janeiro, Brazil were more likely to report five or more partners in

³Although a narrow emphasis on “exoticised” cultural practices seems misplaced (Gausset et al., 2001), wider constructions of “culture” – particularly those that endorse and reproduce sexist ideology – feature centrally in the hyper-endemic countries' epidemics (see below).

the previous year than men in Kenya, Lesotho, Tanzania and Zambia (Caraël, 1995), while other research has shown men and women in Africa reporting the same number or fewer multiple partners than their counterparts in many industrialised countries (Halperin & Epstein, 2004).

There is also evidence that multiple partnerships in at least some African countries often are overlapping (or concurrent), rather than consecutive. In a WHO study in Tanzania, Lusaka (Zambia) and Lesotho, 18%, 22% and 55% of men, respectively, reported having two or more regular, ongoing sexual partnerships in the previous year – compared with 3% of men in Thailand and 2% in Sri Lanka. In the same study, 9%, 11% and 39% of women, respectively, in Tanzania, Lusaka (Zambia) and Lesotho reported two or more regular partnerships in the previous year, compared with just 0.2% and 1% of women in Thailand and Sri Lanka (Caraël, 1995). In a more recent study in Zambia, such overlapping relationships were less prevalent, but still comparatively common (8% of rural and 6% of urban men had more than one ongoing relationship in 2003) (Sandoy, Dzekedzeke, Fylkesnes, 2008). In South Africa, at least one study has found that having concurrent sexual partners is common among young people aged 20-30 years (Parker et al., 2007).

It is highly plausible that concurrent partnerships, in combination with high viral load during acute HIV infection, variable rates of male circumcision and high rates of other sexually transmitted infections may have contributed significantly to the rapid spread and unusually high prevalence levels of HIV in Southern Africa (Halperin & Epstein, 2007).

Having several overlapping sexual relationships may substantially increase the chances of HIV transmission (Chen et al., 2007; HELLERINGER & KOHLER, 2007; Adimora, Schoenbach, Doherty, 2007; Adimora et al., 2004; Adimora et al., 2003; Lagarde et al., 2001). This is partly due to the fact that viral load (and, therefore, infectivity) reaches a peak in the first few weeks after infection (Pilcher et al., 2004), substantially boosting the chances that anyone else in the person's sexual network during that period will also be infected.

Mathematical modelling done by Morris and Kretzschmar (2000) compared a population in which serial monogamy was the norm against one in which long-term concurrency was common. The modelling showed much more rapid HIV transmission in the population with long-term concurrency, which resulted in an HIV epidemic 10 times larger than in the population with serial monogamy. Subsequent modelling and empirical evidence seem to confirm that concurrent partnerships (compared with serial partnerships) could increase the size of an HIV epidemic, the speed at which it infects a population, and its persistence in a population (Mah & Halperin, 2008). However, an earlier study in five cities in sub-Saharan Africa, for example, failed to confirm an association between concurrency and HIV prevalence levels (Lagarde et al., 2001).

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⁴ The surveys were conducted in Burkina Faso, Cameroon, Ghana, Kenya, Lesotho, Malawi, Tanzania and Uganda.

⁵ Poverty was measured against an asset index.

But what underlying factors promote the rates of partner change, concurrency and unprotected sex that are necessary to generate and sustain epidemics of such intensity?

1.2.2 Poverty

Analysis of data from eight countrywide surveys in sub-Saharan Africa⁴ by Mishra and colleagues (2007) does not support the contention that a consistent relationship exists between poverty and HIV risk.⁵ But other, more localised evidence (including studies in Brazil, India, Kenya and the USA) does seem to indicate a relationship between various forms of deprivation and HIV risk (Lopman et al., 2007; Dandona et al., 2006; Cardoso et al., 2005; Fonseca et al., 2003; Leone et al., 2005). Research in three South African townships, for example, found that HIV risk was embedded in various “social ills” that included poor education, unemployment, discrimination, crime and violence (Kalichman et al., 2006). Young women living in areas with lower-level socioeconomic status in Ndola, Zambia, had higher HIV prevalence than those in better-off areas (Gabrysch, Edwards, Glynn, 2008).⁶

Poverty should not be viewed simplistically as a singular driver of the HIV epidemic. The relationship between impoverishment and HIV risk is complex and variable. At the national level, the association between income inequality and HIV prevalence in Africa is considerably stronger than the much weaker association between absolute poverty levels and HIV (Piot et al., 2007; Gillespie et al., 2007). Income disparities are unusually large in several of the hyper-endemic countries, including Botswana, Namibia and South Africa (UNDP, 2007). But income gaps are even wider in some other regions, notably Latin America, where HIV prevalence has remained low. The relationship of income inequality to HIV transmission, therefore, is also not simple. The distribution of entitlements and resources, systems of social regulation, social divisions of labour, gender norms, patterns of migration – all this might feature among the underlying factors that help shape terrains of sexual networking that favour severe HIV epidemics.

1.2.3 Migration

The norms governing sexual liaisons in Southern Africa are the products of the centuries-long dominance patriarchy (predating the advent of colonialism) and the recasting of those social orders during the eras of colonialism and apartheid. A central feature shared by all the hyper-endemic countries was the rapid, forced proletarianisation of males, the establishment of circular migratory patterns and, post-independence, large-scale urbanisation. The warping of social orders and dismantling of normative regulation helped create a social and ideological terrain that strongly favoured the spread of sexually transmitted infections (Hargrove, 2008; Walker, Reid, Cornell, 2004; Kark, 1949).⁷

Being away from home appears to be associated with concurrency of partnerships and an increase in risk behaviours (Coffee et al., 2005; Mwaluko et al., 2003; Nyanzi et al., 2004). Employment-related migration links people to wider social and sexual networks, increasing their risk of HIV exposure. Potentially protective factors such as normative regulation and social surveillance usually are less prominent in areas of intense economic activity and circular migration, which may contribute to increased HIV risk in such settings. In South Africa’s burgeoning urban “informal settlements”, for example, HIV rates are reported to be twice the national average (Shisana et al., 2005a).

⁶ Socioeconomic status was measured against availability of running water and electricity, and educational, employment and occupational characteristics of residents.

⁷ There was an acute awareness of this in South Africa, for example, where elders imposed a regime of strict sexual discipline among migrant African men, prohibiting them consorting with “city women” (who were stigmatised as carriers of disease), on pain of severe sanction in their home villages (Delius, 1996; Delius & Glaser, 2002). That regime weakened, however, as large-scale circular migration and urbanisation accelerated in the 1920s and encompassed ever-greater numbers of women in the subsequent two decades (Bonner, 1990; Mager, 1999; Walker, Reid, Cornell, 2004).

Recent research from South Africa, focusing on sexuality since the mid-1980s, has expanded on this analysis and identified several interlinked dynamics critical to understanding the scale of the HIV epidemic in South Africa and, by implication, in other countries in Southern Africa with similar economic and social trajectories.

Those dynamics are:

- Rising unemployment and social inequalities against a backdrop of collapsing agrarian and waged livelihoods, which are leaving some groups, especially poor women, extremely vulnerable;
- Steeply falling marital rates; and
- Increasing numbers of women migrating to urban and peri-urban areas, and periodically returning to rural areas. In South Africa, for example, migration has intensified and increasingly involves young women (Crush, 2001). Female entrants into the labour market rose by 2-million in 1995-1999, while median wages for women fell sharply (Casale, 2004) – against a backdrop of collapsing agrarian and wage livelihoods generally – with important consequences for household formation, marriage, sexual networking patterns (Hunter, 2007) and HIV risk. A KwaZulu-Natal study, for example, found very high levels of HIV infection among migrating young women – 23% among sexually-active 17- to 18-year-olds and 65% among 22- to 24-year-olds (Coffee et al., 2007).

1.2.4 Transactional liaisons and age-mixing⁸

Sex work occurs in all of the hyper-endemic countries, but it is a minor factor in their overall epidemics.⁹ An arguably more powerful factor is the informal exchange of sex for favours, goods or services, often as part of a relationship (as opposed to a one-off encounter) – or “transactional sex”.¹⁰

Transactional sex is not unique to Southern Africa (Maganja et al., 2007; Khan et al., 2008a & 2008b; Luke & Kurz, 2002), but it appears to be relatively common in many of the hyper-endemic countries (Chatterji et al., 2005; Gregson et al., 2002; Luke & Kurz, 2002; Population Reference Bureau, 2001; Machel, 2001; Meekers & Calvés, 1997; various DHS). In many of these countries, traditionally polygamous and patrilineal systems (in which bride-wealth conferred authority and rights over women and children) still provide a normative basis for sexual networking, but they do this in the context of harsh material disparities (often in contexts that celebrate consumption) and of conceptions of masculinity in which sexual conquest is valorised. In such analysis, multiple concurrent partnerships can be understood as a modified form of polygamy (Leclerc-Madlala, 2008).

A combination of high unemployment, declining marriage rates¹¹ and burgeoning migration of women who are marginalised in the labour market has encouraged women to resort to sexual liaison as a livelihood tactic or as a lever for fulfilling consumptive and other aspirations (Hunter, 2007; Dunkle et al., 2004; Hallman, 2004; LeClerc-Madlala 2008 & 2003; Kaufman & Stavrou, 2002). These liaisons frequently link younger women and older men, which heightens HIV risk (as explained below).

In South Africa’s KwaZulu-Natal province, economic disadvantage has been found to correlate with higher odds of ex-

⁸“Age mixing” is sometimes referred to as inter-generational sex, an inaccurate term, since differences of 5-10 years do not constitute generational gaps.

⁹In particular locations, however, such as border crossings and towns along major transport routes, sex work can be a powerful driver of HIV transmission.

¹⁰“Transactional sex” is sometimes (unhelpfully) defined broadly enough to include commercial sex work. Mostly it is defined more narrowly, as the “exchange of sex for material gain among women in the general population” (ie women who are not commercial sex workers) (Dunkle et al.; 2004). However, as Hallman (2004:17) points out, “the distinction between commodified exchanges of sex and receiving gifts that are considered a normal part of a dating relationship is not always clear.”

¹¹The median age of marriage in several of the hyper-endemic countries is considerably higher than in the rest of the continent: 25.7 years in Botswana, 26 years in Swaziland, 26.7 years in South Africa and 28.9 years in Namibia (Bongaarts, 2006).

changing sex, having multiple sexual partners and having experienced forced sex (Hallman, 2004). In southern Zambia, droughts and employment insecurity ranked high among the factors associated with apparent increases in transactional sex (Byron et al., 2006). A study in Botswana and Swaziland found that women who had experienced food insecurity in the previous year were much more likely to have engaged in transactional sex, to have had unprotected sex with a man other than their primary partner or to have had sex with someone significantly older than them (Weiser et al., 2006).

Each of those factors has been found to be associated with increased risk of HIV infection. For example, a young woman's chances of becoming infected tend to increase with the age gap between her and her partner (Shisana et al., 2005; Luke, 2005; Kelly et al., 2003; Kelly et al., 2003; Gregson et al., 2002; Glynn et al., 2001). Epidemiological evidence in Southern Africa shows clearly that older men are more likely to be HIV-positive than younger men (Gouws & Staneki, 2008). The dependencies built into such relationships can severely curtail women's ability to protect themselves from HIV infection (Gregson et al., 2002; Preston-Whyte et al., 2000).

The evidence does not consistently bear out the stereotype of "powerless" women exploited by "venal" men. Hunter (2007), Nkosana & Rosenthal (2007), Steinberg (2008) and Leclerc-Madlala (2008) have described how disadvantaged young women often defy the stereotype of victimhood and powerlessness, and exercise their agency by pursuing sexual liaisons that involve various forms of material (and emotional) "reward". The liaisons can involve complex reciprocal arrangements and varied forms of emotional attachment, can be a source of social, emotional, symbolic and financial capital (Leclerc-Madlala, 2008), and often are used to foster kinship ties (Hunter, 2007). However, women's agency can be highly circumscribed and risky, not least when exercised in the context of aggressive constructions of masculinity that valorise sexual risk-taking and the domination of women, and especially so in the midst of raging HIV epidemics. Yet, awareness of HIV risk in such relationships remains low (Leclerc-Madlala, 2008).

From women's perspective, the rewards include a mix of subsistence needs (for themselves and/or other dependents), consumptive desires and self-affirmation, and the liaisons are often used to increase long-term life chances. As such, the networking functions as an important mechanism for redistributing formal and informal earnings from men to women (Hunter, 2007).

These relationships therefore remain grounded in gender inequalities and serve as a reminder that sexuality, survival and consumption have become closely entwined in Southern Africa (Delius & Walker, 2002).

Fundamentally, transactional sex and age mixing need to be understood within the broader context of men's generally superior economic position and access to resources (Jewkes & Wood, 2002), and of conceptions of masculinity that place high value on sexual conquest and control of women (Dunkle et al., 2007).

1.2.5 Violence against women

Gender-based violence is common throughout the world, and it is widespread in Southern Africa (Jewkes et al., 2009; Kalichman et al., 2007b; Dunkle et al., 2006; Jewkes et al., 2006; Brown et al., 2006; Garcia-Moreno et al., 2005).

Several studies have shown intimate partner¹² violence, sexually risky behaviours and HIV infection to be closely linked. Women

subjected to intimate partner violence are up to three times more likely to acquire HIV than women who have not experienced such violence, according to studies in South Africa and Tanzania (amfAR, 2005; Dunkle et al., 2004b; Maman S et al., 2002). Perpetrators are more likely to engage in transactional sex (Dunkle et al., 2006; Jewkes et al., 2006) and are at significantly higher risk for HIV transmission than men who do not commit intimate partner violence (Kalichman et al., 2007b).

Both sexual violence and transactional sex involve attempts to exercise control over women. But gender-based violence is not simply a manifestation of women's powerlessness; it can also be associated with shifts in power between men and women, and is seen to be fuelled by unemployment, impoverishment and alcohol abuse (Strebel et al., 2006).

HIV prevention interventions must explicitly address the links between the perpetration of intimate partner violence and HIV risk behaviour among men, as well as the underlying gender and power dynamics that contribute to both (Gupta et al., 2008). This is a massive challenge: including perpetrators and victims, perhaps one third of the Southern African population is involved in the gender-based violence-HIV dynamic (Andersson, Cockcroft, Shea, 2008).

1.2.6 Alcohol abuse

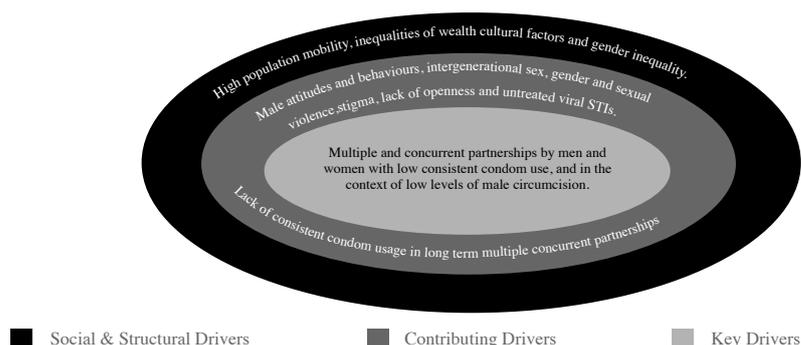
The evidence from sub-Saharan African shows a consistent association between alcohol use and heightened risk for HIV infection (Kalichman et al., 2007c), with that risk increasing in people who consume greater quantities of alcohol (Kalichman et al., 2006; Morojele et al., 2006). This points clearly to a need for interventions that can reduce sexual risk-taking by men and women who drink alcohol (Simbayi et al., 2004), with particular emphasis on persons who consume large amounts of alcohol in single sittings.

1.3 Summary

An array of factors fuels HIV epidemics in the hyper-endemic countries. It is difficult to weight those factors with any precision and the relative contribution of each seems to vary from place to place. The evidence suggests that two factors converge in the hyper-endemic countries (and combine with other HIV risk factors) with extraordinary potency.

- A generalised lack of male circumcision. Research evidence and modelling suggests that male circumcision may be one of the most promising “new” prevention interventions (see below).
- Multiple concurrent partnerships. Reducing multiple, overlapping sexual partnerships should be a priority for reducing new HIV infections. Alongside this stands the ongoing need to popularise correct and consistent condom use.

Figure 1: Drivers of the HIV Epidemic in SADC



Source: SADC expert think-tank meeting on HIV prevention in high-prevalence countries in Southern Africa. May 2006

¹²⁴“Intimate” partner refers to marriage or co-habiting partner.

2. What are the epidemics doing to our societies?

HIV writing has been prone to lax claims and predictions about the epidemic's impact. Thankfully, a tendency to attribute all manner of catastrophe and adversity to AIDS has yielded to a recognition that the epidemic's impact, while potentially ruinous, is not easily distinguished from other shocks or systemic processes. This has led to a reluctance to indulge in long-term forecasts or scenarios of the impact of HIV/AIDS, despite the drama these might conjure. No

The epidemic's impact is fundamentally interlaced with the patterns and trends of inequality in the hyper-endemic countries.

matter the level – household, sectoral or society-wide – the variables that shape both the impact and responses are so numerous, convoluted and opaque that any scenario picturing a hyper-endemic country 20 years hence has to carry a health warning. This does not mean that damage wrought by this epidemic is unknowable. The evidence presented and the analysis applied in this section points to these overriding conclusions:

- The epidemic's impact is fundamentally interlaced with the patterns and trends of inequality in the hyper-endemic countries. These effects overlay and compound the existing, unequal distribution of entitlements, resources, power and responsibilities in these societies.
- The impact is not distributed “equally” or “fairly” across societies: it is most grievous in impoverished households, families and communities, where it is largely borne by women and girls.
- As capacities – individual, household, institutional – are undermined, those effects feedback into society. The more impoverished and marginalised sections of society are least equipped to manage or overcome the effects of these corroded capacities, while the more privileged sections have the means to sidestep or vault those obstacles. Inequality deepens.

2.1 Demographic changes

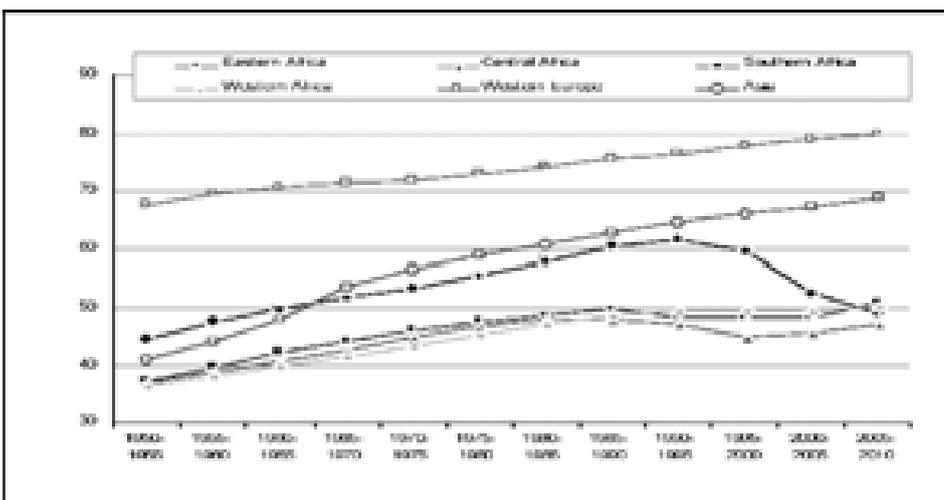
The hyper-endemic countries bear a disproportionate share of the global burden of HIV: they were home to 28% of all people living with HIV in 2007, and 27% of all AIDS deaths in the same year occurred in them. If one adds Malawi and Mozambique (where national adult HIV prevalence exceeded 10% in 2007), these proportions increase to 35% and 33%, respectively (UNAIDS, 2008).

In South Africa, total deaths (from all causes) increased by 87% between 1997 and 2005 (Statistics South Africa, 2005; Statistics South Africa, 2006). During this period, death rates more than tripled for women aged 20-39, and more than doubled for males aged 30-44, with at least 40% of deaths believed to be attributable to HIV (Dorrington et al., 2001; Bradshaw et al., 2004; Actuarial Society of South Africa, 2005; Medical Research Council, 2005; Anderson & Phillips, 2006). Mortality

rates in Swaziland almost tripled in a decade – from 8 deaths per 1 000 in 1994, to 23 per 1 000 in 2004 (Haacker, 2005), as they did in northern Namibia from 1991 to 2003, according to parish registers (Notkola, Timaeus & Siiskonen, 2004).

Average life expectancy at birth in the hyper-endemic countries has declined to levels last seen in the 1950s; it is now below 50 years for Southern Africa as a whole, and below 40 years in Swaziland and Zimbabwe (WHO, 2006). The probability that a 15-year-old Swazi will reach the age of 50 is now estimated at 28% (males) and 22% (females) (Whiteside et al., 2006). South Africa, the richest country on the continent, is now one of only 12 countries in the world where child mortality is worsening and maternal mortality rising – largely because of the HIV epidemic (Every Death Counts Writing Group, 2008). The death rate among children younger than five years has risen to 69 per 1 000 and maternal mortality has risen from 117 per 100 000 in 1998 to 147 per 100 000 in 2004 (Barron, 2008).

Figure 2: Life expectancy at birth by region, 1950-55 to 2005-10

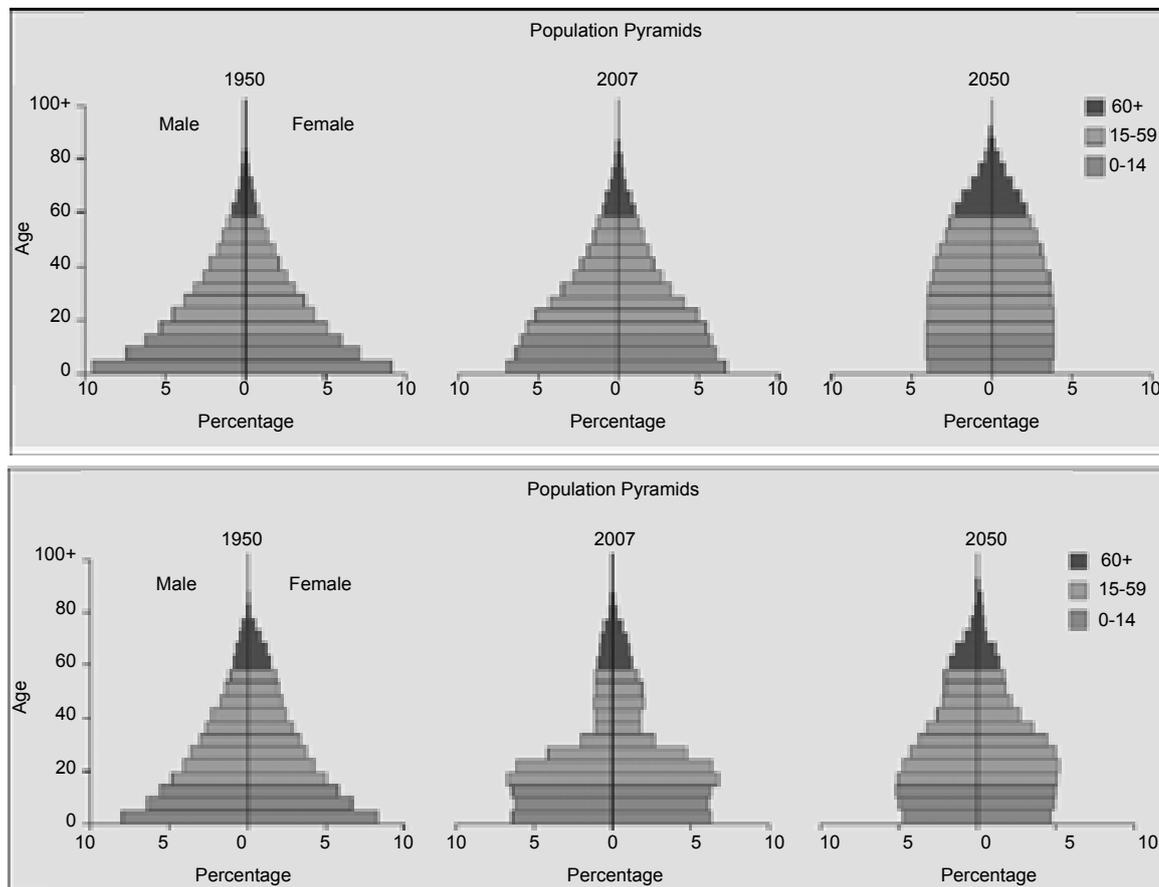


Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2008). *World Population Prospects: The 2006 Revision and World Urbanization Prospects: The 2005 Revision*. <http://esa.un.org/unpp>

Fertility rates and marriage patterns were undergoing substantial changes before the HIV epidemics began (Hosegood, 2008), but HIV is now compounding those changes. In eastern Zimbabwe, total fertility is now 8% lower than would be expected without an HIV epidemic, due to early mortality and the effects of HIV infection on fertility. In the worst-affected areas, the population growth rate is considerably lower than it would have been without an epidemic (1% instead of 2.9%) (Gregson et al., 2007). The rate of population growth in South Africa has fallen from 1.38% in 2001-2002 to 1.07% in 2008-2009 (Statistics South Africa, 2009), while Swaziland's annual population growth rate is projected to decline from 2.9% in 1997 to about 2.1% by 2015 (Whiteside et al., 2006).

Population structures are being forced into new shapes. In Lesotho, for example, the age groups most heavily affected by HIV are infants and young children, and the 30-50 age group, as seen in Figure 3. The latter normally constitute the core of countries' economically active and child-raising populations. By contrast, the population pyramid of Ghana, where HIV infection levels are much lower, reflects a more conventional structure in a low-income country.

Figure 3: Changes in population structure: Ghana and Lesotho, 1950-2050



Source: United Nations Department of Economic and Social Affairs, Population Division

Pressures of social change, along with increased mortality, are causing changes in household structures in several of the hyper-endemic countries. A study tracking household changes over 10 years in the north-east of South Africa found that the proportion of households with foster children increased and that dependency ratios for children and elders decreased (Madhavan & Schatz, 2007). However, population-based studies across the region are revealing low rates of child-headed households (Hill et al., 2008; Hosegood et al., 2007; Madhavan & Schatz, 2007) – seldom more than 1%-2% – and these often reflect data errors. The studies are finding that child-headed households tend to be temporary and are able to draw on kin and community support. Skipped-generation households also are rare, with the majority of older persons living in three-generation households (Madhavan & Schatz, 2007; Hosegood & Timaeus, 2005). Studies confirm a strong tendency for households to survive rather than dissolve (Hosegood, 2008).

The epidemics might also be affecting migration patterns. There is evidence (from north-eastern South Africa and Manicaland in Zimbabwe) that increasing numbers of labour migrants are becoming ill in urban areas and returning to families in rural areas to be cared for (Clark et al., 2007; Smith et al., 2007). This implies an increased burden on those families, in addition to their possible loss of remittance support from ill relatives. The trend would have consequences for the allocation of healthcare resources (Clark et al., 2007).

2.2 Orphans

A total of 4.3-million children orphaned by AIDS (defined by UNAIDS as children who lost a mother or both parents to AIDS) were living in the hyper-endemic countries in 2007 – approximately 29% of the global total (UNAIDS, 2008).

There is a tendency to automatically equate orphanhood with vulnerability and risk, but in the (Southern) African context, a more elastic definition of “orphan” is needed. Research in southern Africa shows that almost 90% of children deemed “orphans” have a surviving parent (JLICA, 2009; Hosegood, 2008) and that the vast majority of children defined as “AIDS orphans” are, in fact, cared for by families or extended kin (Richter & Desmond, 2009). As noted above, several studies have found little or no evidence of significant increases in the prevalence of child-headed households in various Southern African countries (Hosegood et al., 2007; Desmond, 2006).¹³ Much more relevant would be a definition that captures children who are without homes and families – or “social” orphans (children lacking a family).

There is, however, a gender dimension to take into account. Generally, it is women – the surviving mother, a grandmother or other female relative – who take care of children who have lost a parent (Monasch & Snoch, 2003). Maternal orphans in East and Southern Africa are much less likely to be living with their fathers than their counterparts in other regions of the world (Ainsworth and Filmer, 2002). Importantly, because so many children live with relatives for varying durations, the illness or death of such a foster parent can have as great an impact on a child as the death of a natural parent.

Not all orphans are necessarily “vulnerable children” (Meintjies et al. 2003)¹⁴, nor are children orphaned by AIDS necessarily in distress (Richter & Desmond, 2009). And those children whose circumstances do merit that description do not necessarily become vulnerable only when orphaned; with terminal conditions such as AIDS, the process can start long before a parent or care-giver dies (Giese et al., 2003). These understandings have important policy implications. Children’s needs – not their orphan or HIV status – should be the primary concern (JLICA, 2009).

It is generally believed that orphans (and especially girl orphans) are at greater risk of malnutrition, illness, early school termination, physical and sexual abuse, and sexual exploitation. The available evidence is equivocal (Richter & Desmond, 2009; Evans & Miguel, 2007; Meintjies et al., 2003; Stein, 2003). In impoverished communities, the differences in socio-economic circumstances and life prospects of orphans and non-orphans are small and tend to be eclipsed by the hardships and deprivation those children share (JLICA, 2009).

There is evidence, however, that children orphaned by AIDS are prone to social ostracism, as well as psychosocial difficulties (Cluver, Gardner, Operario, 2007; Rusakaniko et al., 2006; Simbayi et al., 2006; Cluver, 2003). But the research does not support the contention that large-scale AIDS orphanhood is leading, or will lead, to rising rates of juvenile delinquency and social disorder (Bray, 2003), even though the epidemics almost certainly will transform childhood into an ordeal for many more children in poor communities (Richter & Desmond, 2009; Richter, 2004; Killian, 2004).

The central issue is less the “condition” orphanhood than the social arrangements that permit the exclusion, abandonment

¹³Desmond’s research in KwaZulu-Natal found that households with only children tend to be infrequent and typically involve boys who live alone and receive support from outside.

¹⁴As Giese et al. (2003) note, in some cases the vernacular definition of an orphan refers not to the parental status of the child but to fact that the child is being neglected by his or her parents.

and abuse of children, orphaned or not. This holds huge policy implications. The overriding concern should be how children – including orphans – are treated, the conditions they live in, the emotional and other support they receive, and the opportunities they can grasp (Richter & Desmond, 2009; Desmond, 2006). Relief and support to poor children, irrespective of whether or not they are living with their biological parents, are then called for, and constantly reducing the number of children who are in need has to be the long-term goal.

In the context of the HIV epidemic, the most effective short- to medium-term way of reducing the numbers of orphans will be a sustained and effective roll-out of antiretroviral treatment (ART), linked with tuberculosis (TB) case detection and treatment. Importantly, this requires greater emphasis on early detection of HIV infection (Hosegood, 2008). More effective prevention would, in the long term, obviously be the most effective way to reduce orphaning.

The main, immediate policy and programmatic challenge should be to provide appropriate support to families that raise and care for children, many of which endure extreme poverty. Current responses, which typically involve small-scale, poorly-designed projects run by non-governmental organisations, charities and churches, are inadequate when set against the scale of the problem. Large-scale, state-led assistance to families and communities is needed (JLICA, 2009). Such assistance should be based on need, not on HIV or orphan status.

2.3 *The damage being done*

Much has been written about the epidemic's expected effects on societal functioning. Forecasts include stunted economic growth, dysfunctional state institutions, “derailed development” (Feldbaum, Lee, Patel, 2008; National Intelligence Council, 2000), erosion of democratic governance, attrition in civil society (Youde, 2001) and worse. Focusing on Southern Africa, the HIV/AIDS epidemic is expected to mesh with other destabilising factors and increase competition for limited resources and inter-group tensions, while weakening state capacities by draining human and financial resources (Fourie & Schonteich, 2004; Pharoah & Schonteich, 2004; International Crisis Group, 2004; Altman, 2003; National Intelligence Council, 2000). It has been suggested that the epidemic is rupturing traditional mechanisms for transferring knowledge and values (Bell, Devarajan & Gersbach, 2004).

In truth, we don't yet possess the tools to assess whether such phenomena are under way, and whether or to what extent AIDS is a causal factor.

In truth, we don't yet possess the tools to assess whether such phenomena are under way, and whether or to what extent AIDS is a causal factor.

To date, the epidemics have not caused any national economy to crash, nor have they threatened the viability of any national government (De Waal, 2007). Although the appearance of “normality” (to the extent that societies in which more than half the population lives in poverty can be deemed “normal”) may conceal severe stress and tension, it is difficult to disentangle the epidemic's effects from other causes of wretchedness, such as growing inequality, deteriorating service infrastructure and systems, disadvantaged terms of trade, growing inequality, poor governance, debt and climate change.

The impact and costs of HIV/AIDS are not distributed evenly across societies, nor do they necessarily spill far across the boundaries of poor households and communities. The burden of care, for example, is absorbed largely by the unpaid labour of women and girls. The impact is also not automatically transmitted from micro- to macro-levels. Putative workplace-related costs often are externalised through HIV screening of workers, retrenchment of ill employees, restrictive or absent health insurance, and more.

A disproportionate share of the impact of HIV/AIDS is borne by already impoverished and stressed individuals, households and communities – especially those who are unable to deflect and redistribute the costs. An analysis of the damage done by HIV/AIDS requires an understanding of the ways in which the unequal distribution of privilege, risk and responsibility in societies shapes and funnels the epidemic's impact – and how that impact might reinforce those patterns of inequality (Marais, 2007a).

2.3.1 Economic impact

It seems indisputable that the epidemics will negatively affect long-term economic growth – but to what extent is proving very difficult to determine. Estimates of economic impact vary substantially (Bell et al., 2003; Haacker, 2002; MacFarlan & Sgherri, 2002; Arndt & Lewis, 2000; Bonnel, 2000; ING Barings, 2000; Cuddington, 1993; Over, 1992). Bonnel (2000), for

example, estimates that 20% national HIV prevalence would cause a 1.2% reduction in annual gross domestic product growth, while modelling by Bell et al. (2003) anticipates much greater damage due to loss of human capital and disrupted knowledge transfers between generations.

The disagreements stem from varying assessments of the epidemic's demographic impact, of the channels along which HIV/AIDS affects the economy and of the nature of the effects themselves (including

on labour supply and productivity). The estimations are complicated further by the fact that most of the high-prevalence countries have experienced profound macroeconomic, political and social changes since the epidemics began. The onset of a global economic recession obviously blurs the picture further. It is difficult, therefore, to achieve accurate, general conclusions about HIV/AIDS's impact on economic growth, now or in the future.

Arguably, more can be discerned by investigating the impact from a different perspective – that of working people and their households and communities (see below).

The direct costs of HIV/AIDS to organisations and businesses tend to take the form of higher healthcare costs and more expensive workers' benefits, while the indirect costs take the form of reduced productivity, loss of skills, experience and institutional memory, as well as (re)training and recruitment time and expenses. Indirect costs are potentially significantly higher for skilled workers, as are employee benefit costs (Whiteside & O'Grady, 2003). In a serious HIV/AIDS epidemic, such costs can resemble a hidden employment or payroll tax (De Waal, 2003), and can add up to 6% to companies' annual salary and wage bills (Rosen et al., 2004).

Some large companies in Southern Africa have introduced ART programmes for some of their employees (and, occasionally, for their partners and children), and many have added prevention activities of some or other type.

¹³Desmond's research in KwaZulu-Natal found that households with only children tend to be infrequent and typically involve boys who live alone and receive support from outside.

¹⁴As Giese et al. (2003) note, in some cases the vernacular definition of an orphan refers not to the parental status of the child but to fact that the child is being neglected by his or her parents.

Some large companies in Southern Africa have introduced ART programmes for some of their employees (and, occasionally, for their partners and children), and many have added prevention activities of some or other type. But many firms are able to sidestep a great deal of the impact of HIV/AIDS (Rosen & Simon, 2003). Indeed, research among small- and medium-sized enterprises in Kenya, South Africa and Zambia found low HIV/AIDS-related worker attrition and little concern among managers about the impact of the disease on their firms (Rosen et al., 2006; Connelly & Rosen, 2005). South Africa's Bureau of Economic Research has made similar findings (Ellis, 2007). At only two of the 14 large companies surveyed in Ethiopia, Kenya, South Africa, Uganda and Zambia did the estimated labour cost increases attributable to HIV/AIDS exceed 3% (Rosen et al., 2006).

It is important to appreciate the context in which this is happening. The past three decades have seen profound shifts toward labour-saving work methods and technologies (Rosen et al., 2006), the outsourcing of jobs, and the erosion of workers' rights and benefits (Nattrass, 2002; Rosen & Simon, 2003, Simon et al., 2006) – a trend that predates HIV/AIDS but which has had a huge effect on workers' abilities to cushion themselves and their families against HIV/AIDS and other shocks (Nattrass, 2002). A minority of workers, including in South Africa (Shisana et al., 2005b; Torres et al., 2001), have access to subsidised medical care, but medical benefits typically are capped at levels (or even replaced with fixed cash pay-outs) much too low to cover the costs of serious ill health or injury.

While larger companies are able to sidestep or deflect a good deal of the epidemic's impact, micro enterprises lack similar evasive abilities – especially those that depend on the custom of poor households and which are typically operated by vulnerable households themselves.

On average, poor households spend less on healthcare, but those expenditures constitute a bigger share of their overall income than they do for wealthier households (Russel, 2003).

Reduced discretionary household spending would also limit investment in such enterprises. Such outcomes could deepen the livelihood insecurity of poor households.

2.3.2 The uneven impact on households

It is difficult to isolate the impact of HIV/AIDS on households and families from other secular dynamics already under way (Hosegood, 2008). We do know, however, that households affected by chronic illness tend to be poorer than other households, sometimes by a wide margin. Those battling serious illness in Zambia's Kafue district, for example, had annual incomes 46% lower than other households (Topouzis, 2000). This is partly due to the fact that healthcare costs impose a larger burden on poor households than on their better-off counterparts, as well as to lost labour and/or income previously contributed by persons who have fallen ill.

On average, poor households spend less on healthcare, but those expenditures constitute a bigger share of their overall income than they do for wealthier households (Russel, 2003). This highlights how health prospects and outcomes tend to be a function of the distribution of resources and power in society (Wilkinson, 1996). Because impoverished households spend large proportions of income on food (up to 80%), extra expenses tend to reduce food consumption, which in turn can

precipitate or exacerbate illness, especially among children and the elderly.

The impoverishing effects of AIDS illnesses are well documented, as is the fact that those effects tend to be most severe in already-poor households (Hosegood et al., 2007; Collins & Leibbrandt, 2007). HIV/AIDS robs households of income earners and carers, distorts expenditures patterns, depletes savings and assets, and erodes livelihoods (Gregson, Mushati, Nyamukapa, 2006a; Barnett & Whiteside, 2002; UNDP, 2001). AIDS illness incurs significant additional expenses, which poor households are least able to bear. Even where HIV/AIDS treatment services are ostensibly free, patients often remain

liable for considerable out-of-pocket costs in the form of co-payments, user fees, transport costs, and uncovered items (for example, medications for opportunistic infections) (International Treatment Preparedness Coalition, 2007).

According to Aliber (2003), by 2010 HIV/AIDS can be expected to push between one-quarter and one-third more South African households into chronic impoverishment than would have been the case in the absence of the epidemic.

Data from Botswana show that HIV/AIDS results in an average decline in per capita household income of 10%, with average income losses almost twice as high for

households in the lowest income level (Greener, 2005). In South Africa's Free State province, HIV/AIDS-affected households' income and expenditure were 10%-20% lower than unaffected households' and they spent 20%-30% less on food (Booyesen & Bachmann, 2002).

According to Aliber (2003), by 2010 HIV/AIDS can be expected to push between one-quarter and one-third more South African households into chronic impoverishment than would have been the case in the absence of the epidemic. In Botswana, modelling suggests that HIV/AIDS has increased the proportion of households below the poverty line by 6%, and increased the percentage of individuals living in poor households by 4% (Greener, 2004).

Some studies have found that school attendance can be lower in households affected by HIV/AIDS. The cause is usually financial, with households unable to afford school and related fees due to a variety of factors that can include HIV/AIDS-related expenses. Among "AIDS-affected" households surveyed in South Africa's Free State, Gauteng, KwaZulu-Natal and Mpumalanga provinces, about 5% of boys and 10% of girls were out of school. The main reason was lack of money for school fees, uniforms and books – as well as pregnancy, in the case of girls (Steinberg et al., 2002).¹⁵ Opportunity costs may be another factor, when households weigh the costs of financing a child's education against the perceived low-level benefits of keeping the child in school.

In tracing the epidemic's impact, it is important not to regard households as undifferentiated units. The inequalities of power and welfare within households must be considered (Gillespie, Kadyale, Greener, 2007; Beall & Kanju, 1999; Folbre, 1986), as these help determine how the effects of shocks such as HIV/AIDS are distributed, what kinds of responses are mounted, who benefits and who sacrifices.

¹⁵It is likely that once one controls for pregnancy, the gender discrepancy in school attendance found in this study would narrow.

In all countries, women and girls perform the lion's share of social reproduction work – raising and nurturing children, schooling them in norms and values, managing their introduction into wider society, performing domestic labour, tending the ill and much more (Hunter, 2008). Most of this labour is not remunerated. In societies defined by extensive labour migration systems—such as those hardest hit by the HIV/AIDS epidemic in Southern Africa – women also head a large share of households. Home- and community-based care is melded into this largely invisible and taken-for-granted labour that women perform in the care economy. It is unremunerated, often bereft of institutional support and probably contributes to the feminisation of poverty in these countries.

Care and support

The palliative care provided at public health facilities in Southern Africa is, to put it generously, variable, and public health systems are poor at doing outreach work. Limited or inconsistent opening hours of health facilities frustrate and discourage future use, especially when the possibility of encountering locked doors or “stock-outs” (medical supply shortages) has to be weighed against the transport and other costs the visit entails.

In South Africa, for example, the management and administrative systems linking clinics and hospitals with provincial departments are in disarray (Von Holdt & Murphy, 2007), and clinics often lack sufficient supplies. Patients and caregivers are often forced to shuttle between clinics and hospitals to access various services or to acquire various medicines. User fees deter or postpone visits until health complaints deteriorate. Unhelpful and dismissive staff attitudes (especially towards people living with HIV) are a regular source of complaint.

Studies show that patients and their caregivers often subsidise many aspects of care provision themselves, in addition to paying the costs of not receiving the levels of care and support they require. Essential needs – such as food and money for basic necessities – often go unmet (Hunter, 2008; Mills, 2004; Campbell, Nair, Maimane, 2004). When surveyed, caregivers routinely cite the mental and emotional strain their work entails and the lack of institutionalised support they can draw on as major problems (Hunter, 2008; Giese et al., 2003; Ogden et al., 2004). On the other hand, interactions with healthcare workers who do provide information, encouragement and emotional support typically have a morale-boosting and empowering effect on patients and caregivers (Giese et al., 2003).

By contrast, home- and community-based programmes in Uganda sought to professionalise care provision and greater efforts were made to co-ordinate and network the various types and levels of care-giving activities. Volunteers played a pivotal role in identifying and supporting ill persons and providing them with basic care, and they in turn were supported by mobile teams of professionals. As a result, according to Akintola (2004), the programmes in Uganda were “community oriented”, whereas those in much of Southern Africa (especially South Africa) tend to be “community based”.

The “continuum of care” has to be conceived of as contributing to a more encompassing “continuum of well-being”. Better co-ordination and stronger collaboration between different government departments (principally health, education and social development, as well as local development, housing, home affairs, correctional services and justice) is needed at the provincial and district levels.

Another basic need is the decommodification of essential services (including free basic healthcare, with a particular empha-

sis on palliative care), as well as stronger measures to combat hunger and malnutrition, and ensure food security among the poor. It is vital that the state support and strengthen the assets of other sectors of society (especially community organisations and networks), and provide better and more reliable support to poor households and communities that are engaged in community-level responses (see below).

2.3.3 Food security

HIV/AIDS can affect food security by reducing food availability (via falling production, loss of land and other resources), reducing food access (due to falling income), and undermining the stability and quality of food supplies (by reducing labour productivity) (Loewenson & Whiteside, 2001). HIV/AIDS would seem to threaten food security in the hyper-endemic countries (Drimie, 2002; Mutangadura, Jackson, Mukurazita, 1999), but its actual impact is difficult to gauge.

Assessing the impact of HIV/AIDS on food security, generally, and on agricultural production, specifically, has been difficult because of the wide range of factors that can affect output and consumption. Livelihood systems in Africa have undergone profound changes in the past three decades, partly as a result of the adoption of structural adjustment programmes, the removal of agricultural subsidies and the dismantling of parastatal marketing boards (Patel, 2007; Chopra, 2004). As a result, non-agricultural income sources (including remittances) have become increasingly important and livelihood strategies have been diversified (Drimie, 2002). Rural production, though, remains an important part of rural livelihoods in most of the hyper-endemic countries.

In 2002/2003, for example, the food crisis in Southern Africa was widely attributed to HIV/AIDS. The reasoning hinged mainly on reduced labour inputs in agriculture production (due to illness and death of working-age adults). But labour ranks among a wide range of factors needed to achieve food security – including marketing systems, food reserve stores, rain patterns, soil quality, affordability of seeds, fertilisers and pesticides, security of tenure, food prices, marketing systems, income levels, and access to financing and the terms thereof, etc (Patel, 2007; Oxfam, 2002, Patel & Delwiche, 2002). As a factor of production, labour seldom contributes more than 50% of output (Wiggins, 2005).¹⁶ The difficulty of unscrambling the effects of HIV/AIDS on rural communities and food security from economic, climatic, environmental and governance factors is evident in Lesotho, for example, where a combination of stagnating real wages, decreasing job opportunities (including migrant work in neighbouring South Africa), droughts and price increases for staple foods threatens food security (Lesotho Vulnerability Assessment Committee, 2007; FAO & WFP, 2007). Add to that the effects of exceptionally high morbidity and mortality rates in the midst of dual HIV and TB epidemics, however, and the prospect of chronic food insecurity does loom for large parts of the population.

In some direct respects, however, the effects of an AIDS death can be calamitous, especially for women. Discriminatory legal frameworks, institutional cultures and social regimes mean that the death of a husband sometimes plunges the surviving spouse into even more precarious circumstances. Access to productive resources such as land, credit, knowledge and skills, training and technology is often decided along gender lines, with women typically discriminated against (UN Secretary General's Task Force, 2004). Deprived of access to the land, house, livestock and other assets a widow helped develop and maintain, she then has to assemble a new set of supportive arrangements.

¹⁶Calculating the epidemic's likely effect on agricultural production in Zimbabwe, an Overseas Development Institute study estimated that if it takes an average of eight years from initial HIV infection to AIDS death (with a person incapacitated during the final two years and sporadically ill for a total of one year before that), about 9% of the labour force would be out of action at any one time. Were one to assume "this translates into the same loss of agricultural production, then the epidemic causes losses of less than 10%," the study found, and "at this rate, the epidemic cannot account for more than [a] minor proportion of the harvest losses seen" (Wiggins, 2005:10).

2.3.4 *The impact on institutions and governance*

The epidemic is believed to contribute to the weakening of state capacities in the hyper-endemic countries, chiefly through human resource attrition (Barnett & Whiteside, 2002). Given that unsteady, fragile capacity in the public sector is a major barrier to development and a source of public disquiet, this effect should not be underestimated.

Much of the research into public sector impact has focused on the health and education sectors, with studies confirming substantial human resource losses due to HIV/AIDS-related absenteeism and death (Barnett & Whiteside, 2002; Birdsall & Hamoudi, 2004; Shisana et al., 2005b). A serosurvey in two public hospitals in South Africa found that 11.5% of healthcare workers were HIV-positive, including nearly 14% of nurses (Connelly et al., 2007; Shisana et al., 2003). Increasing demand for HIV/AIDS-related health services is also compromising the quality of healthcare. In health facilities throughout Swaziland, for example, diversion of staff is “crowding out” care for other patients. There and elsewhere, increased demand for healthcare is being accompanied by a reduction in the capacity to supply those services (ERCHA, 2009).

In the same country, in-service deaths among educators increased by 30% between 1997/1998 and 2003/2004; in Kwa-Zulu-Natal, there was an 80% increase in the same period. Along with contract termination and resignations, mortality now ranks among the top causes of staff losses in the country (Shisana et al., 2005b). Training capacity lags behind need, with management and administrative skills replenishment especially weak (Vass, 2003b).

Similarly, HIV/AIDS appears to be corroding other institutions' capacities to provide predictable, consistent and acceptable standards of service.

Similarly, HIV/AIDS appears to be corroding other institutions' capacities to provide predictable, consistent and acceptable standards of service. Already saddled with heavy workloads and compromised capacity, the police, correctional and judicial services, as well as administrative services at local government level are especially vulnerable. Research in Zambia's judicial system found that 25% of personnel attrition was due to chronic disease, with early age of the losses suggesting AIDS as a major cause (Feeley et al., 2006). So, too, have the many community-based organisations that play vital welfare roles at local level— and which often are heavily reliant on the work of a few key individuals – been affected.

There is some evidence that the epidemic could be undermining democratic governance in some of the hyper-endemic countries. In Zambia, for example, deaths of parliamentarians were the cause of 14 by-elections between 1964 and 1984, but 39 between 1993 and 2003 (when AIDS mortality was rising). In Zimbabwe, more than half the by-elections held for the national parliament between 2004 and 2007 were to replace Members of Parliament who had died of illnesses. Such attrition has considerable cost implications in direct election systems, where a new by-election has to be called to replace a deceased or retired legislator. This can be avoided in proportional representation systems, where a replacement can be selected from a party list (Chirambo, 2007). In South Africa, 233 local councillors in the 22- to 49-year-old age group died in office between early 2001 and end-2007 (Chirambo & Steyn, 2009).

Strand et al. (2005) have argued that stigma associated with HIV deters candidates for public office or elected parliamentary members from leading a strong national HIV/AIDS response. The perceived HIV status of candidates is frequently used as a

political weapon to cast doubt on the suitability of another party's candidate. In the seven African countries studied, including some with HIV prevalence exceeding 20%, researchers could identify no Member of Parliament or cabinet minister who was openly living with HIV (Chirambo, 2007).

There are also claims that high mortality rates will deplete voters' rolls and diminish voter participation in elections, especially in the younger age groups (Strand et al., 2005). However, voter registration for South Africa's 2009 national election, showed a large increase in the number of young people registering to vote. In that country, too, there is an argument to be made that HIV/AIDS activism, spearheaded by formations such as the Treatment Action Campaign, has assisted in democratic consolidation.

Overall, though, the evidence suggests that AIDS – in concert with other, more longstanding factors – is corroding institutions' capacities to provide predictable, consistent and acceptable standards of service. Already saddled with large workloads and compromised capacity, certain sectors of the state (most obviously health and education, but also home affairs, police, correctional and judicial services) seem especially vulnerable to additional debilities.

2.4 Deepening inequalities

Will HIV/AIDS tip countries into collapse? Some analysts argue that the epidemic, along with an array of other factors, has helped cause Zimbabwe's disintegration by simultaneously affecting the demographic, economic and governance domains (Price-Smith & Daly, 2004). Vague and speculative, such claims prompt only more questions: Why then, for example, have Lesotho or Swaziland not experienced similar collapses? Why have

Botswana and South Africa experienced some of strongest surges in economic growth in their recent histories? The research tools of social and political science seem inadequate for answering such questions at the moment. It may be that the catastrophic outcomes are yet to unfold or (more likely) that various dynamics actually filter, dissipate and redistribute a good deal of the impact.

The full impact of HIV/AIDS on individual workers and their families is not automatically transmitted to the rest of society.

Whiteside (2008) suggests that where AIDS affects mainly the poor and marginalised, the epidemic, in fact, may not be the major driver of crisis. It may be that the inequalities that shape the social and economic architectures of the hyper-endemic countries also act as barriers and filters that prevent the impacts of HIV/AIDS from snow-balling into systemic collapse.

The full impact of HIV/AIDS on individual workers and their families is not automatically transmitted to the rest of society. The privileged and more powerful sections of society seem capable of "gating" themselves, perhaps to a considerable extent, against at least some of the epidemic's effects. A great deal of HIV/AIDS's impact appears to be compressed and contained within the lives and communities of the poor.

In some respects, though, the impact does travel to macro realms – in ways that are likely to aggravate inequalities. The hy-

¹⁶Calculating the epidemic's likely effect on agricultural production in Zimbabwe, an Overseas Development Institute study estimated that if it takes an average of eight years from initial HIV infection to AIDS death (with a person incapacitated during the final two years and sporadically ill for a total of one year before that), about 9% of the labour force would be out of action at any one time. Were one to assume "this translates into the same loss of agricultural production, then the epidemic causes losses of less than 10%," the study found, and "at this rate, the epidemic cannot account for more than [a] minor proportion of the harvest losses seen" (Wiggins, 2005:10).

per-endemic countries have highly stratified labour markets, marked by shortages of highly-skilled workers and a surplus of low- and medium-skilled workers. Increased demand for an already-limited pool of skilled and highly skilled labour could push up wages and salaries at that end of the labour market (Vass, 2003), while a surfeit of labour available at the other end of the market would continue to depress wages – thus widening income inequalities. HIV/AIDS almost certainly is reinforcing that dynamic, especially in a country like South Africa, which is following affirmative action policies.

In countries with dual education systems, further weakening of public school systems would limit the social mobility prospects of impoverished students

who cannot afford to attend private schools, which have the means to attract and replace highly-skilled educators and administrators.

Against a backdrop of continuing marginalisation – and overall polarisation – of the poorest households, social mobility will be hobbled.

Deeper marginalisation of the very poor, especially women, is a likely outcome. Our analysis of the impact of HIV/AIDS – and efforts to manage that impact – must be sensitive to the dynamics that reproduce or reduce inequality.

Healthcare systems exemplify such trends. Roughly 9% of South Africa's gross domestic product is spent on healthcare – but in a dual system. About 60% of the funds pay for the healthcare of the 15% of (typically wealthier) South Africans who belong to private medical schemes and who use the well-resourced, for-profit private health system. Annual per capita expenditure on healthcare in the private sector is almost six times larger than that in the public sector (Benatar, 2004). Dual health systems exist in all the hyper-endemic countries.

An additional dimension of inequity involves the loss of healthcare workers to industrialised countries that pay higher salaries and, often, provide better working conditions. As a general rule, income determines the quality of healthcare people receive, and HIV/AIDS appears to be entrenching that rule.

All this underlines the prospect for heightened marginalisation of the very poor – and women, especially. The ability to participate in networks of reciprocity, entitlement and responsibility is an essential tool of survival and advancement in impoverished settings. But participation depends on whether a person can marshal the time, energy and other means for remaining a part of the social circuitry of reciprocity (Pieterse, 2003). The poorest households, especially those headed by women, find themselves pushed back in the queue of entitlement (Lundberg et al., 2000; Baylies, 2002). A Tanzanian study, for example, found that poorer households had to rely more on loans than less-poor households, which had greater recourse to reciprocal arrangements (Lundberg et al., 2000).

Deeper marginalisation of the very poor, especially women, is a likely outcome. Our analysis of the impact of HIV/AIDS – and efforts to manage that impact – must be sensitive to the dynamics that reproduce or reduce inequality.

3. *What works? What's to be done?*

In addition to the effectiveness of prevention efforts, the extent of the epidemic's impact ultimately will be decided by the extent to which ART is made available and adhered to, and the extent to which the effects of wide-scale illness and death are mitigated.

Efforts to reach and sustain increased treatment provision, however, are encountering daunting challenges. Prime among these are weak and dysfunctional health systems, and fiscal constraints that will tighten due to the global economic recession.

Ahead lie uncharted waters, including a steadily growing need to shift more ART patients to exceedingly expensive second-line treatment regimens. Also ahead lie the social and psychosocial effects of having very large numbers of people, many of them clustered together in households, trying to adhere to tough treatment regimens. That, in turn, highlights the need for much greater institutional and coordinated backing for household- and community-based care and support.

These – and other emerging challenges – are surmountable. But they will require combinations of innovation and prioritisation that, arguably, have not been the hallmark of HIV responses up to now.

A handful of lessons stand out:

- ART prolongs lives, boosts productivity, improves the life-chances of children in affected households, and – if provided and sustained on large-enough scale – reduces an array of corrosive effects across communities and societies. The moral, social and political imperatives for expanding ART are unimpeachable. The costs of failing to provide sustained ART will be colossal.
- Providing more and better treatment and care will amount to Sisyphean exertions unless new HIV infections are quickly and drastically reduced to manageable levels. There is no sign of this occurring yet in any of the hyper-endemic countries. An overhaul of prevention strategies is urgently needed.
- Resources must be maximised and deployed to implement interventions with proven effectiveness or a strong evidence base. They must also be appropriate to the epidemics under way in the hyper-endemic countries, which will require, as a first step, further improvement of HIV/AIDS surveillance systems and analysis.
- Interventions must be prioritised. Current evidence points to a strategy in which two interventions become special priorities: the introduction of large-scale, voluntary male circumcision, and the reduction of multiple concurrent partnerships. These are not standalone interventions, but are the priority components of a broader prevention package. They are discussed in detail, below.
- Attention must be paid to the growing body of evidence about the relative merits and limits of prevention components that customarily are regarded as essential, and this should guide prioritisation.



- The best strategy for managing the impact of the epidemic is to expand support to impoverished families and households across the board. This is also the best way to support children affected by AIDS. A range of proven, feasible and affordable interventions is available. These are discussed below.
- The social, socioeconomic and sociocultural contexts in which these epidemics flourish have to be tackled. Ultimately, this will determine the outcome of the HIV epidemics and of our efforts to manage their effects. In a region where half or more of the population lives in poverty and amid wide socioeconomic inequalities, where women generally remain second-class citizens at home, at work and before the law, and where food insecurity remains a chronic menace, there exists an indisputable need for much greater rights realisation. The unrivalled scale and intensity of the HIV epidemics in these countries is one among several vital reasons for increasing social protection, reducing poverty and inequality, and strengthening the status of women.
- The bottom line is a focused strategy, which prioritises:
 - o A rapid and large-scale roll-out of male circumcision, combined with a concerted drive to reduce multiple concurrent sexual partnerships;
 - o Interventions that will enable children, especially girls, to complete their secondary schooling;
 - o Continued expansion of ART, alongside the strengthening of health systems and resources, and improved institutional support (from state and civil society) for treatment and care provision; and
 - o The introduction or expansion of social-protection packages, centred on cash transfer programmes, that can protect impoverished persons and households.
- The financial feasibility – and sustainability – of such a focused strategy is a major issue, particularly in the context of a global recession.
- Given the severity of the crisis under way in the hyper-endemic countries, there is an urgent need for increased and sustainable flows of foreign development assistance. The amounts needed are paltry when set against the massive and repeated bailouts of western financial institutions and corporations. The scale of these “rescue packages” and the speed of their implementation are a reminder that the affordability or otherwise of development assistance and debt cancellation, ultimately, is a political, rather than a fiscal matter.
- The current classification of countries according to income category is inappropriate and distorts decision making around development assistance. With respect to development assistance, debt relief and debt cancellation decisions, the hyper-endemic countries should be classified according to their ranking on the human development index.

This section reviews and synthesises current evidence of HIV responses, and is divided into three sections. In each, key action points are highlighted as “bulleted text”. Interventions that require regional collaboration or region-wide, coordinated action are marked as “regional”. Other interventions need to be appropriate to country (including sub-national) specificities, and are marked as “national”. Many of the “national” interventions will be similar across the hyper-endemic countries, but

they need to fit local realities and should be managed at national level.

These overall guiding principles are proposed:

- Interventions must reflect solid understandings of the epidemics.
- Resources must be maximised and deployed to implement interventions with proven effectiveness or a strong evidence base.
- Interventions must be prioritised.

3.1 Know the epidemic

HIV/AIDS surveillance systems and information gathering have improved dramatically in the past decade, leading to more accurate understandings of the patterns and trends of HIV epidemics. These improvements have been especially evident in countries with generalised epidemics (Lyerla, Gouws, Garcia-Calleja, 2008), where national population-based HIV surveys now provide more accurate pictures of the overall extent and patterns of countries' HIV epidemics. But those high-cost surveys cannot be repeated often enough to provide trend data and as access to ART increases survival rates among people living with HIV/AIDS, it is becoming more difficult to discern recent infection trends from antenatal clinic data.

Improved HIV/AIDS surveillance is aiding the emergence of increasingly refined understandings of the epidemics, such as the high urban concentration of HIV infections in several of the hyper-endemic countries. Urban populations in sub-Saharan Africa are growing at about 4% per annum (Kessides, 2005) and the number of new urban residents is expected to grow by 300 million between 2000 and 2030.¹⁷ This accelerating urbanisation trend is reflected in the distribution of HIV infections in sub-Saharan Africa, where infection levels are consistently higher in urban than in rural areas.

About 14% of all people in the world with HIV/AIDS live in 14 cities in East and Southern Africa; only three countries have more people living with HIV/AIDS than the adjacent cities of Johannesburg and Pretoria in South Africa's Gauteng province, for example.¹⁸ There are more people living with HIV/AIDS in Durban than in the whole of Brazil or China, more in Cape Town than in the whole of Vietnam or Indonesia, more in Harare than in Ghana or Myanmar, and more in Maputo than in the entire Caribbean. On current trends, the HIV epidemics in East and Southern Africa will increasingly be concentrated in urban areas, with at least 50% and, in several countries, as many as 60%-75% of people with HIV/AIDS living in cities (Van Renterghem, 2009). This has implications for resource allocation, and for prioritising within HIV programmes.

- HIV/AIDS surveillance systems generally need to be strengthened further. Many countries, including some hyper-endemic countries, still have poorly functioning HIV/AIDS surveillance systems.
- Improved information and analysis needs to guide priority-setting in HIV responses.
- Accurate technologies and methodologies for determining HIV incidence must be developed and introduced as a priority.

¹⁷This speeded-up urbanisation is occurring in the context of two powerful trends: the collapse of rural livelihoods (due to the restructuring of agricultural production, removal of subsidies and support systems, climatic instability, falling commodity prices, disease etc.) and increasing urban precariousness (due to diminishing industrial activity, increasing unemployment, rising prices and widening inequality) (Davis, 2006).

¹⁸An estimated 1.5-million people live with HIV/AIDS in the predominantly urban Gauteng province, more than in the entire Mozambique or Kenya (1.4-million), Tanzania (1.3-million) or Zimbabwe (1.2-million).



3.2 Maximise expenditure and effort on proven priority interventions

The main, long-term priority must be to reduce new HIV infections drastically to manageable levels.

3.2.1 Prevent the sexual transmission of HIV

There is some evidence of declining HIV infection levels among young people in some of the hyper-endemic countries, as well as some

Until now, prevention programmes have focused on counselling and testing, condom promotion, treatment of other sexually transmitted infections and abstinence.

evidence of behaviour change (UNAIDS, 2008; Hallett et al., 2006; Gregson et al., 2006b). However, on current trends these are unlikely to prove significant enough to reverse the epidemics. Moreover, there remains a debate over the extent to which trends can be attributed to prevention efforts, to the natural evolution of HIV epidemics (as those sections of populations who are most susceptible to HIV/AIDS infection become ill and die) (Nagelkerke et al., 2009; Kimani et al., 2008; Parkhurst, 2008; Hallett et al., 2007; Shelton, Halperin, Wilson, 2006), or to other factors (such as mass emigration, in the case of Zimbabwe).

Until now, prevention programmes have focused on counselling and testing, condom promotion, treatment of other sexually transmitted infections and abstinence. In Swaziland, for example, a great deal of prevention interventions still focus on changing knowledge, attitudes and beliefs among the general population of young people, while essential messages concerning partner reduction and multiple concurrency are drowned out (NERCHA, 2009). Overall, those approaches have not had the desired impact in any of the hyper-endemic countries.

There has been a long-running debate about how Uganda achieved its (temporary) success in reversing HIV trends. The latest survey of evidence indicates that people restricted their sexual activity outside long-term marital and cohabiting relationships (the “zero-grazing” campaign), and then increased condom use with casual sexual partners when condom availability improved in the early 1990s. For several years, strong and voluble political leadership helped sustain that momentum. In other words, there was no single, “silver bullet”. A shifting combination of approaches and strategies led to Uganda’s (temporary) reversal of its epidemic. In addition, high rates of AIDS-related mortality up until the wide-scale introduction of ART in the mid-2000s were an important factor. HIV incidence in Uganda peaked in 1987-1988 and then began declining, which it did most rapidly after 1992-1993 (Kirby, 2008).

Provide male circumcision on a large scale

Modelling suggests that large-scale male circumcision eventually could reduce HIV incidence by 25%-35% in sub-Saharan Africa (Williams et al., 2006), depending on the level of coverage achieved and whether onward transmission from circumcised men is also reduced. It could avert 5.7-million new HIV infections and 3 million deaths over the next 20 years in sub-

Saharan Africa, including among women and non-circumcised men (Williams et al., 2006). In the hyper-endemic countries, adult male circumcision is likely to be a cost-effective HIV prevention strategy, even with low coverage (White et al., 2008). Evidence from Botswana and Swaziland suggest male circumcision services are acceptable and desired (Westercamp & Bailey, 2007).

Gender dynamics must be factored in. At population level, women would gain some protection against HIV infection (via the “herd immunity” effect) (Hallett et al., 2008; Williams et al., 2006). But it is unclear what, if any, protective effect male circumcision may have on individual women. An early study in Uganda found a slightly lower rate of male-female HIV transmission in circumcised men, compared with their uncircumcised counterparts (Gray et al., 2000). However, a later study in Uganda and Zimbabwe found circumcision neither increased or decreased women’s risk of becoming infected (Turner et al., 2007), although it appears that the risk may increase slightly before the circumcision wound is fully healed (Wawer et al., 2008).

There are concerns that some circumcised men, aware that their risk of acquiring HIV is reduced, might be disinclined to practice safe sex – thus putting their female partners at risk. Such “risk compensation” could offset some of the potential benefit of male circumcision, although modelling suggests that only very large increases in risk behaviour would lead to more infections overall.

Male circumcision is not a “magic fix” for preventing HIV transmission, but it is potentially one of the most powerful interventions available to hyper-endemic countries to help protect men and women from infection – and, in the long-term, lead to reduced AIDS deaths and reduced need for ART (Weiss et al., 2008).

- There should be large-scale provision of male circumcision – not as a stand-alone HIV prevention strategy, but in combination with promotion of partner reduction and consistent condom use (Potts et al., 2008; Weiss et al., 2008; Hallett et al., 2008; SADC, 2006).¹⁹
- Steps and systems must be introduced to ensure circumcision is performed in a clinically safe and hygienic manner.
- A policy of “opt-out” neo-natal male circumcision should be considered.

Reduce multiple concurrent partnerships

Reduced multiple sexual partnerships, especially concurrent partnerships, will have a dramatic effect on HIV transmission (Shelton, 2007; Halperin & Epstein, 2007; SADC, 2006). Uganda’s “zero-grazing” campaign is credited with a reduction of more than 50% in the number of people with multiple partners between 1989 and 1995 (Shelton et al., 2004) and helped reverse the country’s HIV epidemic. However, there is no single replicable approach for reducing multiple concurrent partnerships (Potts et al., 2008).

- Approaches to reduce multiple concurrent partnerships will have to emerge from and be adapted to specific settings.

¹⁹Note, however, that the observational data on HIV risk and circumcision status among men who have sex with men, do not suggest the strong protective effect seen for men who have sex with women (Millett et al., 2008).

But a common element would be clear and repeated explanations of how the risk of acquiring or spreading HIV increases exponentially when one has several partners at the same time.

- This should occur against the backdrop of programmatic efforts to strengthen women's economic autonomy, social status, physical security and legal protection.

In addition, a more effective prevention package would include the following, other key components.

Reduce infections in and beyond long-term relationships

Increasingly large shares of HIV transmission occur within long-standing relationships or marriages. Prevention strategies, however, do not reflect this trend. Research in 12 East and Southern African countries has revealed high rates (36%-85%) of discordant couples, ie where only one person in the relationship is infected with HIV (Magaret et al., 2008). Strikingly, women were the infected partners in 34%-62% of the surveyed couples, depending on the country (Shelton, 2007; De Walque, 2007). In other words, between one-third and two-thirds of HIV-infected women who were married or cohabiting had not been infected by their current partner. Analysis of urban Zambian data suggests that 60% of new heterosexually-acquired HIV infections occur within marriage or cohabitation (Kristin et al., 2008).

- Community mobilisation is needed to encourage couples to test for HIV as couples, rather than as individuals, and to ensure quality counselling.

Correct and consistent condom use

Consistent and correct condom use can be an effective component of HIV prevention, especially in concentrated epidemics that centre on sex work (as seen in Cambodia and Thailand, for example). In generalised epidemics, however, condom use appears to have a less singular impact in reducing HIV infections (Potts et al., 2008; Shelton, 2007).

Even where increased condom use is achieved, consistent and correct use remain massive challenges. A study among young people in South Africa found that condom use was widespread, but that inconsistent and incorrect use was common and contributed to continuously high HIV infection rates (Parker et al., 2007). Among patients attending an STI clinic in Cape Town, more than one-third of men and women reported "condom failure" (tearing, breaking or slipping off) (Simbayi & Kalichman, 2007).²⁰

There is a strong reluctance to use condoms with spouses or long-term partners (De Walque, 2007; Chimbiri, 2007; Maharaj & Cleland, 2004; Hearst & Chen, 2004). Even among young South Africans with concurrent partners, condom use declines rapidly with a "main" partner, and is inconsistent even with "other" partners (Parker et al., 2007). This poses a special problem in older HIV epidemics, where the numbers of discordant couples increase and HIV transmission within long-term relationships becomes a powerful factor (Cleland, Boerma, Carael, 2004).

²⁰These failure rates are similar to those reported by adolescent males in the USA (Crosby et al., 2005).

While condom promotion remains an important cornerstone for HIV prevention, in the present context of high HIV prevalence in conjunction with exposure to concentrated sexual networks, the focus should be on reducing concurrency.

- Promoting condoms as contraceptive tools rather than as disease protection devices may be more effective than current approaches (Botswana Central Statistical Office, 2005; Shisana et al., 2005a).
- Condom promotion should focus intensively on correct and consistent condom use (Parker et al., 2007).
- Female condoms, especially newer versions, are an under-exploited prevention technology.

Positive prevention

Studies in Botswana, South Africa, Uganda and elsewhere suggest HIV risk taking decreases when ART is provided, especially in combination with prevention counselling and partner testing (Kaida et al., 2008; Kennedy et al., 2007; Simbayi et al., 2007; Bunnell et al., 2006; Montaner et al., 2006; Fougelberg et al., 2006). Conversely, men and women who have tested HIV-positive (but are not yet on antiretrovirals) have difficulty consistently practicing safer sex (Simbayi et al., 2007; Bunnell et al., 2006).

Because ART suppresses viral load, it also has been surmised that massive scale-up of ART provision could avert significant numbers of new HIV infections (since persons on treatment would be less infectious). However, it's not clear to what extent this might affect HIV incidence and prevalence at population level. Some modelling indicates that even if ART were provided to pre-AIDS patients, the absolute number of infections averted would remain small (Baggaley, Garnett, Ferguson, 2006).

- “Positive prevention” opportunities must be utilised. This will require multiple approaches, including expanded ART provision, intensive prevention counselling and partner testing, along with reduced stigma.

Testing and counselling

HIV testing and counselling is the gateway to a potentially effective ART programme.

Yet, testing access and uptake in many Southern African countries is poor and knowledge of HIV status therefore remains low. In 2007, less than 10% of adults in Lesotho, Mozambique and Zimbabwe, for example, had taken an HIV test in the previous 12 months and knew the results.²¹ In Botswana, in contrast, that figure stood at 22% (WHO, UNAIDS, UNICEF, 2008) and in South Africa it exceeded 30% (Shisana et al., 2005).

Lack of access to care, support and treatment services is another major deterrent. So is the fear of stigma and discrimination: many people shy away from testing due to concerns about confidentiality (Burns et al., 2004; Spielberg, 2003; Day et al., 2003), while the fear of discovering that one is HIV-positive is another important discouraging factor. Yet, even in countries

²¹UNGASS reporting data, shared by UNAIDS.

with very serious epidemics, a surprising proportion of people do not believe they are at risk of HIV infection – and therefore do not see any point in taking an HIV test. In South Africa’s 2005 national household HIV survey, for example, the main stated reason for not undergoing an HIV test was a belief that HIV infection was unlikely (Shisana et al., 2005a).²²

Same-day mobile HIV testing, combined with community mobilisation, could help circumvent some of these barriers (Khumalo-Sakutukwa et al., 2008; Morin et al., 2006). So could routine testing and counselling. Botswana’s shift to routine HIV testing and counselling in medical settings has led to substantial increases in the uptake of testing and PMTCT services (Creek et al., 2007), and to earlier assessment for antiretroviral treatment (Steen et al., 2007) – without detectable adverse consequences. Similar outcomes have been observed in Zimbabwe (Chandisarewa et al., 2007).

Given indications that ART can reduce infectivity, and that persons receiving ART are more likely to avoid risky sex, widespread testing also could indirectly help reduce HIV transmission – if coupled with an extensive ART programme. But there is no evidence of consistent risk reduction in persons who test HIV-negative (Barnighausen et al., 2009; Shelton et al., 2007; Cassell & Surdo, 2007) and studies have found no population-level impact of voluntary counselling and testing on HIV incidence (Denison et al., 2008).

- Routine (“opt out”) testing and counselling should be adopted (regional):
 - For all patients whose clinical presentation might result from underlying HIV infection;
 - As a standard part of medical care for all patients attending health facilities (regardless of whether the patient presents with underlying signs or symptoms of HIV infection or the patient’s reason for presenting to the health facility).
- A routine testing approach requires more effective community outreach and mobilisation, stronger supply chain management of diagnostic and treatment equipment and products and the lifting of service fees.²³

Vaccines and microbicides

To date, vaccine development has brought disappointing results. This might change, but current prevention strategies cannot be premised on such a prospect. Similarly, there have been strong hopes for female-controlled prevention methods such as microbicides. After a series of failures of microbicide candidates (Gray & Wawer, 2007), a recent trial (Abdool Karim et al., 2009) has shown promise. An effective microbicide could be a valuable element in a prevention strategy. However, by some estimates it is likely to have lower effectiveness than condoms (Potts et al., 2008).

- The ultimate impact of technological innovations such as microbicides and vaccines will depend on extraneous factors, including health systems functioning and community mobilisation.

Summary

Prevention efforts should prioritise a combination of male circumcision, reduction of multiple (especially concurrent) partnerships, and consistent and correct use of condoms.

²²One in two respondents already infected with HIV believed they would probably or definitely not become infected.

²³Experience in the United Republic of Tanzania, for example, has shown that waiving fees for HIV testing services can significantly increase use of the services and their cost effectiveness (Thielman et al., 2006).

3.2.2 Prevent mother-to-child transmission of HIV and provide paediatric treatment

HIV transmission from mothers to their babies can be prevented and paediatric HIV infection can be treated.

Without antiretroviral treatment, the progression of HIV infection in children is particularly aggressive and many HIV-infected children die at a young age (Taha et al., 2000; Newell et al., 2004; Brahmabhatt et al., 2006). In 2007, an estimated 270 000 [250 000-290 000] of HIV-infected children died because of AIDS – more than 90% of them in sub-Saharan Africa (WHO, UNAIDS, UNICEF, 2008). In the hyper-endemic countries, between 41% and 57% of deaths in children under five years in 2000 were attributable to AIDS (WHO, UNAIDS, UNICEF, 2008).

Available interventions can reduce of mother-to-child transmission to 2%. In high-income countries, paediatric HIV has been virtually eliminated, while the survival rates of HIV-infected infants have soared (more than 80% of them now live past the age of six) (Resino et al., 2006). In resource-poor settings, too, mother-to-child transmission can be limited to 2%-4%, as shown in Abidjan, Cote d'Ivoire (Tonwe-Gold, 2005). Botswana's prevention of mother-to-child transmission (PMTCT) programme reaches over 90% of HIV-positive women and the number of new HIV infections in children declined from 4 600 in 1999 to about 900 in 2007 (Stover et al., 2008). Impressive achievements have also been made in South Africa's Western Cape province. PMTCT coverage remains very low elsewhere in Southern Africa.

Many pregnant women are reluctant to use PMTCT services, due to the double stigma of pregnancy and HIV infection, concerns about confidentiality and fears of testing HIV-positive.

Generally, however, uptake is low even in places where more services have been introduced.

A study among pregnant women in Bulawayo, Zimbabwe, highlights practical constraints that must be overcome to achieve universal access to PMTCT programmes. Although HIV testing and counselling, ART and counselling and support for safe infant feeding were available free of charge, basic pre-natal, delivery and post-natal services were not free – and only women using the latter services were eligible for free testing and counselling (Chivonivoni, Ehlers, Roos, 2008).

Many pregnant women are reluctant to use PMTCT services, due to the double stigma of pregnancy and HIV infection, concerns about confidentiality and fears of testing HIV-positive. Healthcare workers' judgmental and dismissive attitudes towards pregnant adolescents are a key reason for poor uptake of PMTCT, according to a South African study (Varga & Brookes, 2008).

- Routine ("opt-out") HIV testing and counselling should be adopted in all antenatal clinic settings;
- Women, HIV-positive or not, must be able to make informed choices about bearing children; and
- All adolescents must receive "family planning" and reproductive health education, and have access to simple and cost-effective interventions, such as contraceptives and safer fertility technologies.

It is estimated that up to 4-million children younger than 15 could benefit from treatment with the inexpensive antibiotic

²¹UNGASS reporting data, shared by UNAIDS.



cotrimoxazole (Boerma et al., 2006). In Zambia, for example, it has been shown to reduce mortality in children with HIV by more than 40% (Chintu et al., 2004). Treatment costs about US\$0.03 a day, or about US\$10 a year per child (Ryan et al., 2008). Yet only a fraction of those in need currently receive the drug.

- Cotrimoxazole prophylaxis must be incorporated into essential healthcare packages of the hyper-endemic countries.

3.2.3 Treatment and care

Provide and sustain antiretroviral therapy

The life-prolonging effects of ART are manifest in both industrialised and “developing” countries. In the USA, ART led to a decline in AIDS deaths by 80% between 1990 and 2003 (Crum et al., 2006), while in Brazil, AIDS mortality rates decreased by 50% and AIDS-related hospitalisations fell by 80% between 1996 and 2002 (Okie, 2006). In Botswana, the annual number of adult deaths declined from a peak of over 15 500 in 2003 to under 7 400 (5 000-11 000) in 2007, mainly due to coverage of ART that now reaches about 80% of people in need (WHO, UNICEF, UNAIDS, 2008; Bussmann et al., 2008). In Namibia, almost 90% of people in need are being reached with ART.²⁴

On current trends, AIDS mortality and morbidity – and therefore the overall impact of the epidemic – will not be diminished nearly to the extent possible, and the broader social and economic benefits of ART will not be realised.

None of the other high-burden countries in Southern Africa has achieved ART coverage higher than 50%, even though coverage has more than doubled in Lesotho, Mozambique, Zambia and Zimbabwe. Less than one-third of people needing ART were getting it in Lesotho, Mozambique, South Africa and Zimbabwe in 2007 (WHO, UNAIDS, UNICEF, 2008). An estimated 600 000 South Africans have started ART since the national programme was introduced in 2005 (Department of Health, 2008). But the failure to introduce a timely antiretroviral drug treatment programme in South Africa in the early 2000s cost approximately 330 000 lives, according to modelling (Chigwedere et al., 2008).²⁵

On current trends, AIDS mortality and morbidity – and therefore the overall impact of the epidemic – will not be diminished nearly to the extent possible, and the broader social and economic benefits of ART will not be realised. For example, modelling based on South African data indicates that even if 2.1-million people (65% of those in need) were receiving ART by 2011 (the country’s current projected timeline for scale-up), nearly 1.5-million would still have die of AIDS through 2012 (Walensky et al., 2008).

Meanwhile, the numbers of people needing ART will continue to increase for the foreseeable future. The average period between HIV infection and treatment eligibility is approximately eight years (WHO, UNAIDS, UNICEF, 2008). This means that there is a lag of almost a decade between prevention successes that decrease rates of new HIV infections, and reduced

²⁴UNGASS reporting data, shared by UNAIDS.

²⁵The modelling did not estimate the potential lost benefits from the possible impact that treatment could have had on HIV prevention via secondary transmission.

need for ART. Even if the decreasing HIV prevalence being observed among young people in some of the hyper-endemic countries (UNAIDS, 2008) does augur a steady decline in the rate of new infections, the treatment, care and support needs will remain colossal for at least another generation and, very probably, beyond.

The need for ART in Botswana, for example, is projected to increase by 60% by 2016, with an estimated 24 000 people joining the ranks of the treatment-eligible each year because of the high number of infections in the past (Stover et al., 2008). By 2016, 220 000 people would need to be on ART, up from the 145 000 currently on treatment.

Further scale-up requires that several major challenges be met.

In several hyper-endemic countries, including South Africa, it is highly doubtful whether ART access can be expanded and sustained in the medium term unless health systems and resources are strengthened considerably (Barnighausen, Bloom, Humair, 2007).

Even though studies suggest treatment adherence in some African countries is as good as in industrialised countries, adherence can be difficult due to structural impediments (treatment access and transport costs, and stigma) and individual difficulties (drug side-effects, co-morbidity). A study in Nigeria, Tanzania and Uganda found that the biggest obstacle to adherence was a lack of money to pay for transport to clinics and to buy food (Ware et al., 2009).

Tracking and monitoring antiretroviral provision is weak, and pharmacovigilance is poor. There is growing concern about patient retention, which in sub-Saharan Africa generally averages at about 60% after two years. The main causes of attrition appear to be loss to follow-up and death (Rosen, Fox, Gill, 2007). The majority of ART patients in sub-Saharan Africa start treatment late (ART-LINC, 2008), which limits the overall impact of ART programmes (Hallett et al., 2008). The infrastructure, systems and staff required to monitor properly treatment retention and loss are becoming increasingly inadequate, as programmes are scaled up.

Early treatment mortality is a major problem, partly because of late HIV diagnosis, late initiation of therapy and inequitable access to healthcare.

User fees on HIV/AIDS services are undermining sustainability, efficiency and equity, and they rank among the main barriers to ART adherence. Treatment interruption or abandonment appears to be especially high in fee-for-service systems (Brinkhof et al., 2008). Doing away with user fees has been shown to increase survival rates among ART patients.

Research is also revealing the importance of other social determinants of treatment adherence, including community support initiatives (involving treatment “buddies” and community health workers, for example) (Wouters et al., 2008) and the ability to sustain strong social networks (Ware et al., 2009).

The future affordability of diagnostic equipment and systems and antiretroviral drugs is a major concern, given the scale and long duration of treatment and the fact that increasing numbers of ART patients would need to shift to second-line regimens



(which, at present, are exorbitantly priced in the hyper-endemic countries). For several first-line antiretroviral drugs, further price reductions are currently possible (Pinheiro et al., 2006),²⁶ but most second-line drugs (such as abacavir, lopinavir/ritonavir, nelfinavir, saquinavir) are still under patent and mass provision of those drugs is unaffordable at current prices.²⁷

Cross-border migration between and beyond hyper-endemic countries has to be factored into strategies for the provision of treatment, care and other HIV/AIDS services. The regularisation of migrants' status – at the very least, enabling equitable access to essential health services – is a potentially vital dimension of a regional response to the epidemics. Such an approach presumes – and would need to go hand-in-hand with – the pursuit of greater regional equity with respect to basic livelihood security.

External financing of ART programmes might diminish or not keep pace with growing need due to the global economic recession. Faced with declining revenues, hyper-endemic countries themselves will find it very difficult to increase domestic funding of those programmes.

There is a significant danger that scale up that compromises the quality of treatment and care will decrease programme benefits in the long-term and could result in the growth of viral resistance (Hirschhorn & Skolnik, 2008).

- Earlier initiation of ART is essential to reduce mortality. Patient tracing procedures and systems must be improved, and better understandings of the causes of loss-to-follow-up are required.
- Health system infrastructure and capacity needs to be strengthened considerably in order to extend coverage further, ensure reliable supply and distribution chains, and to achieve proper monitoring of patient adherence, retention and response. Weak mid-level management capacity and inappropriate management systems appear to be significant problems in at least some of the countries, including South Africa (Von Holdt & Murphy, 2007).
- The necessary infrastructure, systems and staff must be put in place to achieve proper monitoring of patient adherence, retention and response.
- Free care at point of service can increase survival rates among ART patients.
- Abolition of user fees should be carried out in combination with financing mechanisms such as risk pooling, which can promote equity by gathering funds from those sectors of the population that are able to pay for healthcare (Souteyrand et al, 2008).
- ART provision needs to shift from an individualised focus (on the “patient”) to incorporate people’s families and households. Such an approach might include the disclosure and testing of partners, as well as children, couple and family counselling.
- Food security boosts treatment adherence, as studies in Zambia (Cantrell et al., 2008) and elsewhere have confirmed. Food supplementation for households is an important element of a sustainable ART programme.
- Procurement and supply management must be strengthened, and (national and/or regional) back-up arrangements are needed to prevent stock-outs. A regional rapid response facility must be created to prevent stock-outs of antiretrovirals and other essential medicines (regional).
- There should be renewed and continual efforts to secure price reductions that can make the mass provision of antiretrovirals (including second-line drugs) affordable in hyper-endemic countries (regional).

²⁶In low- and middle-income countries, the average price per person per year of the most commonly used first-line antiretroviral regimens (stavudine, lamivudine & nevirapine) was US\$92 in 2007, and the prices of most first-line regimens had decreased by 30%-64% between 2004 and 2007, depending on the country (WHO, UNAIDS, UNICEF, 2008).

²⁷In low- and middle-income countries, the average price per person per year in 2007 of the most commonly-used second-line regimen (didanosine, abacavir and ritonavir-boosted lopinavir) was US\$1 214. Prices vary, though: South Africa was paying an average US\$1 600 for that regimen in 2007, while El Salvador was paying US\$3 448 (WHO, UNAIDS, UNICEF, 2008).

- Countries in the region should pursue a more diligent strategy for jointly invoking compulsory licensing powers to render key second-line antiretroviral drugs affordable (regional).
- South-South collaboration around generic production of antiretrovirals and other life-prolonging pharmaceuticals must be strengthened as a matter of urgency (regional). This could centre on the research and development, and productive capacities of countries such as Brazil, India and South Africa.²⁸

HIV and TB

The emergence of multidrug and extreme drug-resistant strains of TB has magnified these threats. TB is the most frequent life-threatening opportunistic disease among people living with HIV, including those receiving antiretroviral therapy, and

The evidence shows that conventional HIV responses in the hyper-endemic countries are inadequate, partly because the choices they seek to promote are often short-circuited by powerful underlying factors.

is a leading cause of death (d'Arminio Monforte et al., 2005). Sub-Saharan Africa accounts for 85% of people with both TB and HIV, with a disproportionately heavy burden in Southern Africa. South Africa, for example, has 0.7% of the world's population but accounts for more than one quarter (28%) of the world's people with both HIV and TB, and 33% of all cases in sub-Saharan Africa (WHO, UNAIDS, UNICEF,

2008). In Swaziland, there was a fourfold increase in the number of TB patients between 1990 and 2004, and TB ranked among the top two causes of mortality in both 2006 and 2007 (CSO, 2007).

- Combating TB in people living with HIV should focus on intensified case-finding for TB, isoniazid preventive therapy to prevent TB and infection control for TB (all closely linked with screening for the disease).
- Combating HIV in people with TB requires HIV testing and counselling, intensifying prevention efforts, introducing cotrimoxazole preventive therapy and providing ART.
- Greater effort and resources must be invested in directly-observed therapy for TB (DOTS), to avoid an unbalanced approach in which comparatively too much is spent on combating multidrug-resistant TB because of underinvestment in first-line TB treatment.

3.3 Structural interventions

The evidence shows that conventional HIV responses in the hyper-endemic countries are inadequate, partly because the choices they seek to promote are often short-circuited by powerful underlying factors. Sexual behaviour, people's use of health and other services, and the manner and extent to which they are able to respond to shocks such as AIDS are influenced by a range of factors that extend beyond individuals' immediate control

²⁸For example, Uganda has started production of eight generic antiretrovirals through a public-private partnership arrangement involving the government and a private Ugandan pharmaceutical company operating under license from India's CIPLA pharmaceutical company.

(JCLA, 2009; Wellings et al., 2006). Structural approaches to HIV prevention seek to change the wider social, economic, political, or cultural factors – such as various forms of inequality, material deprivation, social norms, discriminatory laws and policies, and more (Gupta et al., 2006).

A dichotomy that separates “conventional”, behaviour-focused interventions from those that tackle social relations and structural factors is misplaced. An approach that tackles those factors in combination with enhanced behavioural and bio-medical interventions is required.

The sensible approach is to set priorities and then to devise strategies for achieving them over the short, medium and long term. What, for example, should the priority targets for 2015 be? What should be achieved by 2031?

The priorities should be strategies that support and safeguard the livelihoods (especially the food security) of distressed communities and households, programmes that boost the social and economic autonomy of women, reduce inequalities, enable and encourage learners (especially female learners) to complete at least their secondary schooling, reduce violence against women, and reduce alcohol and substance abuse. These measures can mitigate the worst of the epidemic’s impact, as well as create the conditions and momentum necessary for sustained prevention success. But they are not simply top-down interventions; they depend fundamentally on broader and stronger social mobilisation and activism (Allen & Heald, 2005), and on more committed and better-informed leadership and support from political leaders at all levels.

3.3.1 Emergency interventions?

The combination of very high HIV infection rates and deep impoverishment would seem to call for special mitigation measures in some areas. However, styling and targeting such efforts as AIDS interventions could spark “perverse effects”, including greater stigma and ostracisation. Typically, these areas will be experiencing multiple shocks, disease among them, meriting special support measures that include some specific HIV/AIDS services (notably treatment and care), but also extend to broader livelihood support.

What about situations where entire countries might require such emergency measures? Assessed against indicators used by humanitarian agencies to detect emergencies²⁹, significant parts of Lesotho and Swaziland, for example, appear to have crossed the “emergency threshold” (Owusu-Ampomah, Naysmith, Rubincam, 2008). Declaring an “HIV-induced emergency” in such cases might win some respite in relation to debt repayments or strengthen the case for debt cancellation, allow for the invoking of provisions for public health emergencies under the Trade-Related Aspects of Intellectual Property Rights (Trips) agreement, and avoid bureaucratic delays in providing emergency support to communities in distress. But the “emergency” is actually rooted in a range of encompassing and enduring structural fragilities, in addition to disease epidemics. The emergency response therefore has to be buttressed by a series of structural changes and repairs; at the same time, the emergency could add momentum to those structural adjustments.

²⁹In this case, crude death rates and under-five mortality rates.

3.3.2 Strengthen social protection

Alongside other systemic forms of deprivation, the AIDS crisis underscores the need for strategies that strengthen livelihoods, realise rights and increase equality. Specifically, the need for stronger social protection is self-evident. The exceptional levels of income inequality in most of these countries also highlight the need for strategies that redistribute wealth and entitlements in favour of the most vulnerable sections of societies. The Gini coefficient³⁰ in each of the hyper-endemic countries was at least 50, and it exceeded 60 in three of those countries (UNDP, 2007).³¹ The prolonged and severe HIV epidemics underscore these imperatives.

International and local experiences show that income-transfer programmes are highly effective social protection tools – in terms of outcome, cost and speed of scale-up – and are comparatively simple to administer. Efficient design and management of these programmes is within the means of each of the hyper-endemic countries.

Should social protection schemes be targeted or universal? That debate is far from settled, although strong equity and efficiency arguments have been made in favour of a universal approach (Mkandawire, 2005).

Unconditional transfers are easier to administrate and access. However, Brazil's bolsa escola, which is conditional on school enrolment, was found to increase school enrolment among 10- to 15-year-olds by 60% (Bourguignon, Ferreira, Leite, 2003), while Mexico's conditional PROGRESA programme was also found to be highly effective (De Janvry & Sadoulet, 2006).

Studies in Lesotho, Namibia and South Africa show that the old-age pension benefits entire households and is also used for education and orphans (Croome, 2006), while the Mchinji cash-transfer programme in Zambia has enabled children to remain in school (Adato & Bassett, 2008), and Malawi's Dowa Emergency Cash Transfer contributed to better access to healthcare and dietary intake (Brewin, 2006; Devereux et al., 2007). South Africa's Child Support Grant is credited with reducing the severity of poverty by 75%, while Mozambique's GAPVU reduced the severity of poverty by an estimated 44% (Adato & Bassett, 2008).

However, in the context of a global economic recession – in addition to existing fiscal strictures and competing demands for funding – a debate about the affordability of social protection programmes cannot be avoided. This should be an informed debate and it should fit the conditions and capacities of each specific country. For example, South Africa, as the largest economy on the continent, has considerable scope for expanding its social protection system. A similar case might be made for Botswana. More inventive approaches might need to be sought in the other high-burden countries.

Supported by modest external assistance, each of the hyper-endemic countries can afford an expanded social protection package. According to an International Labour Organization (ILO) costing exercise, a national poverty-targeted cash transfer scheme need cost no more than 0.5% of gross domestic product (GDP) (Pal et al., 2005) – a finding supported by a Unicef analysis in Mozambique. A more extensive package (comprising a small universal old-age pension, universal primary education, free primary healthcare and a child benefit of US\$0.25 per day) would cost 1.5%-4.5% of GDP, according to the ILO.

³⁰A value of 0 represents absolute equality; a value of 100 represents absolute inequality.

³¹Botswana, Lesotho and Namibia.



- Most appropriate in the hyper-endemic countries would be child support grants, old-age pensions and cash transfers to households living in extreme poverty. Targeting cash-transfer programmes adds administrative and logistical costs and burdens, and can lead to high rates of exclusion (Mkandawire, 2005; Case, Hosegood, Lund, 2005).
- Designating women to receive and manage these transfers has been shown to have clear benefits – including strengthening their economic status, contributing to fairer distribution of decision-making power in families and households, increased spending on food and education, and better outcomes for children.
- Support for orphans is best provided through broader programmes that support poor children and their families. The goal should be to provide appropriate support to families that raise and care for children, based on need and not on HIV or orphan status.
- Child protection services must be expanded. The services should incorporate community networks that include traditional authorities, health and education services, and religious and other local organisations.
- Investments in children’s wellbeing and development before they reach school-going age have massively positive effects on individual and social wellbeing and public health (JLICA, 2009). Greater attention to child nutrition, early cognitive and motor development and early educational support is vital. Community-based centres can supplement pre-schooling if provided with infrastructure, training and structured curricula, and if tasked with providing a focused set of services (Whiteside et al., 2006).

3.3.3 Expand and improve education

Although education often has been described as a “social vaccine” against HIV, early studies (especially prior to 1996) pointed to increased risk of HIV infection in more educated persons (Hargreaves & Glynn, 2002). But that apparent relationship has shifted over time. Evidence from sub-Saharan Africa now shows that, in older epidemics, HIV risk is lower among better-educated persons and HIV prevalence is falling more consistently among highly-educated persons (Hargreaves et al., 2008; Mmbaga et al., 2007; Michelo, Sandoy, Fylkesnes, 2006; De Walque et al., 2005; Ministry of Health and Child Welfare [Zimbabwe], 2006). In a rural community in South Africa, for example, women were 7% less likely to acquire HIV for each year of education attained (Bärnighausen et al., 2007).

The sheer fact of attending school also appears to have a protective effect. Girls who attend school are less likely to have sex at an early age and are more likely to use condoms when they do have sex. A study among 2 000 students in rural South Africa found that young female learners were less likely to engage in HIV-related risk behaviours and were about one-tenth as likely to be pregnant, compared with their counterparts who had left school (Hargreaves et al., 2007). So there is compelling evidence that getting girls into school and enabling them to complete their schooling can significantly decrease their chances of becoming infected with HIV (Hargreaves et al., 2008; Jukes, Simmons, Bundy, 2008).

- Access to primary and secondary schooling must be expanded equitably for girls in Southern Africa, and special steps must be taken to enable them to complete secondary schooling. Those steps could include the waiving of school fees or cash transfers conditional on school enrolment or attendance, etc.
- Adolescent girls and boys must be provided with quality reproductive health and HIV education throughout their

secondary schooling years (Jukes, Simmons, Bundy, 2008).

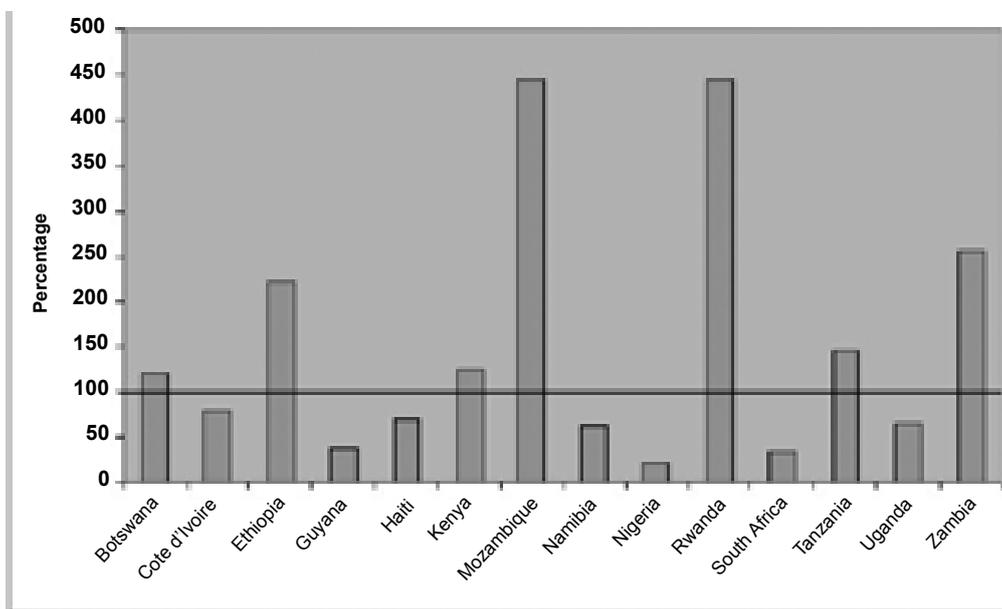
- The physical safety of girls en route to and from school – and at school – must be guaranteed.

3.3.4 Rebuild health systems

Public health systems in the hyper-endemic countries are in dire need of repair. Fiscal constraints, an exodus of health workers abroad and/or to the private sector, poor management systems, difficult working conditions, low morale and a high burden of infectious diseases have severely damaged health systems. Botswana is estimated to have lost 17% of its health workers to disease from 1999-2005, for example. In Malawi, only 10% of healthcare facilities were capable of providing a basic minimum standard of care (McCoy et al., 2008), while researchers have declared South Africa's public health system to be in a disastrous state (Von Holdt & Murphy, 2007).

As shown in Figure 4, below, full ART coverage would be impossible in several African countries, even if they devoted 100% of their current health sector workforce to such scale-up (Smith, 2005).

Figure 4: Percentage of existing doctor workforce required for full ART coverage in 10 years and 14 sub-Saharan African countries



Several efforts are under way to strengthen human resources in Southern Africa, including Malawi's "Emergency Human Resource Programme" (McCoy et al., 2008). Task-shifting seems to be an increasingly attractive option. It entails the delegation of medical and health service responsibilities from higher to lower levels of health staff and, in some cases, to non-professionals (Miles et al., 2007). The approach is not without risks and care must be taken to avoid undermining the primary objectives of improving patient benefits and public health outcomes (Zachariah et al., 2008). But technical adjustments will not be enough: the strength and functionality of health systems is closely tied to community strength and vitality.

Source: Smith (2005)



- Each of the hyper-endemic countries needs to conduct operational research into the functioning of its health systems, to lay an accurate basis for remedial actions.
- Better long-term planning is needed to train – and retain – new cadres of mid-level managers and administrators.
- The vertical integration of health system operations has to be improved. Generally speaking, budgeting decisions are poorly aligned to operational needs and decision making, information systems are fragmented (making referral functions unrealistic), and accountability tends to be segmented and trapped at different levels. All this undermines the kinds of systemic responses that the HIV epidemic – and public health generally – demands.
- Task-shifting could improve the workforce skills mix and health-system efficiency, boost the role of the community and reduce attrition. But it brings its own challenges, including maintaining quality and safety, dealing with professional and institutional resistance, and sustaining motivation and performance (McCoy, McPake, Mwapasa, 2008; Zachariah et al., 2008; Miles et al., 2007). Task-shifting works best when supported by standardised protocols, appropriate training, regular supervisory support and when it slots into potentially meaningful career paths (Samb et al., 2007).
- Other steps could include rehiring retired healthcare staff on short-term contracts and extending the roles of nursing assistants.
- Strategies are needed to bridge the widening gaps between the public and private health sectors, and to achieve greater synergies that can benefit the public sector.

3.3.5 Strengthen institutional support for families and caregivers

The tasks of care and support are not distributed fairly. The ultimate burden and costs of care befall family caregivers (typically women and girls) who seldom have the training, equipment and support they need to perform those tasks. Ostensibly, the mainstay of the hyper-endemic countries' HIV/AIDS care strategies – home- and community-based care – receives paltry financial support from national and/or provincial budgets (Hunter, 2007).

- Primary healthcare facilities and services must be repaired and resourced so that they can provide consistent, reliable and quality services, especially in rural areas.
- Institutional services and systems must be strengthened and expanded to support the care-giving capacities of families and households by providing basic care-giving education, materials and psychological help. Home visits by trained community health workers are one promising route, especially in rural areas.
- Community health workers are a vital asset, but they themselves need stronger institutional support (Suri, Gan, Carpenter, 2007).
- Each household has to have access to affordable basic needs (such as clean water and sanitation).

3.3.6 Achieve and safeguard food security

Food insecurity threatens vast numbers of individuals and households in all the hyper-endemic countries, and levels of hunger, poor nutrition and malnutrition are worsening (Chopra, 2004). Food security has been shown to increase HIV risk and

undermine individuals' abilities to adhere to ART regimens. This insecurity occurs in the context of powerful global (and domestic) forces that have reorganised food production, aligning it not to domestic need and consumption but to globalised market pressures.

In Southern Africa (and elsewhere), structural adjustment programmes were an important instrument for introducing and entrenching these changes (Patel, 2007; Patel & Delwiche, 2002). State subsidies for non-export crops have been cut or removed, while state marketing boards and institutional support services have been dismantled or restructured. This has occurred in the wider context of uneven and unfair trade liberalisation. Small-scale agricultural production has been radically affected. Control over seed stocks and other inputs has been removed from households (and women), dependence on other forms of income (typically waged income) has increased, and shifts to less demanding (in terms of labour and other input costs) but also less nutritious crops have occurred (Chopra & Darnton-Hill, 2006).³²

Few large-scale interventions have been implemented, or evaluated, to mitigate the epidemic's impact on agricultural sectors and food security.

- Nutritional assistance must be built into both ART and social protection services.
- Regulatory interventions in food production, distribution and marketing chains are needed to help ensure basic food needs are affordable to all (regional).
- Improvements in support services and facilities for small- and medium-sized food producers are needed.
- More rural employment opportunities, underpinned by basic labour rights, need to be created.

3.3.7 Reduce gender inequalities, and protect women and girls against violence

In many of the hyper-endemic countries, a majority of women remain second-class citizens. The status of women has to be improved radically, from the legal and juridical realm to wider socioeconomic dimensions.

Some intensive, small-scale interventions have brought promising results. One project built around income enhancement and gender training, for example, reduced both gender-based violence and HIV risk behaviours, while a learning programme trial reported a slight reduction in HIV incidence and in male risk behaviours (Andersson, Cockcroft, Shea, 2008). The Stepping Stones programme has been shown to reduce men's risk behaviours, problem drinking and the perpetration of intimate partner violence; however, it did not reduce HIV incidence over a two-year period (Jewkes, Nduma, Levin, 2008).

A combined microfinance and training programme in South Africa's Limpopo province measurably increased women's empowerment, reduced intimate partner violence and appeared to be associated with reductions in HIV risk behaviour (Pronyk et al., 2008 & 2006). Protecting women's property and inheritance rights would also increase women's economic independence (Mendenhall et al., 2007). In isolation, such small-scale programmes on microfinance, livelihood training and efforts to safeguard women's food security and access to property are unlikely to lead to significant national impacts. However, their localised impact should not be discounted (Kim, Pronyk, Barnett, Watts, 2008).

- Reducing violence against women – especially intimate partners – requires society-wide mobilisation, underpinned by

institutional changes in the police, judicial and social services systems, and the introduction and enforcement of appropriate laws and legal measures. The perception (and reality) of perpetrator impunity has to be ended.

- Strengthen the legislative environment, by reviewing and adapting where necessary statutes and policies that regulate sexual offences, marital rights, maintenance obligations and estate management.
- Norms and behaviours of men that allow them to exploit or abuse women and girls with impunity must be combated.



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