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Are People Aware of Their HIV-positive Status Responsible for Driving the Epidemic in Sub-Saharan Africa? The Case of Malawi

Erasmus U. Morah*

Many have alleged that those who are now aware that they are HIV-positive are driving the epidemic. This article reports the results of a study in Malawi that provides empirical evidence of differences in knowledge, attitudes and behaviour between HIV-positive people and those unaware of their sero-status. It comes to three conclusions: HIV-positive people report better knowledge and attitudes; there is substantially higher safer-sex practice among those aware of their HIV-positive status; and the assertion that the epidemic is spread by those aware of their positive sero-status is unsubstantiated. The overall message is that there is a need to accelerate both HIV testing and positive-prevention work.

1 Introduction

Despite two decades of awareness-raising and public education campaigns, less than 10% of the 26 million Africans estimated to be infected with HIV know that they are infected. In the near future, however, the number of Africans living with the knowledge of their HIV-positive status is likely to grow immensely. This will be largely due to widespread access to rapid testing, spurred in part by the increased availability of antiretroviral drugs and waning stigma and discrimination. Within this context, and the fact that HIV is fast becoming another chronic condition for millions of Africans, it is no longer possible to avoid the highly sensitive issue of the role of HIV-positive people in maintaining the epidemic.

A national survey in 2003 of *perceptions* of the official response to HIV in Malawi found that a staggering 94% of the adult population agree with the proposition that 'HIV is spread by people who know they are HIV-positive, but cannot or will not change their behaviour'. Surveys elsewhere show similar results: in Swaziland, 85% concurred with the proposition, as did 78% in South Africa and 72% in Botswana (Zogby and Schneidmann, 2005). While not necessarily valid, these results have immediate implications for the fight against the stigma associated with people living with HIV (PLHIV).

* UNAIDS Country Co-ordinator and Representative to UN Headquarters and Regional Initiatives in Kenya, who served in Malawi from July 2002 to June 2006. He is grateful to Professor Susan Watkins, Alfred Dzilankhulani, Sam Matemba, Charles Chasela, Jacqueline Kabambe, Dr Tiwonge Loga, Cosby Nkwazi and a distinguished African development scholar and global HIV strategist, who must remain anonymous. The findings and conclusions in this article are those of the author and do not necessarily represent the views of UNAIDS. Correspondence: Joint United Nations Programme on HIV/AIDS (UNAIDS), PO Box 30218-00100 GPO, Nairobi, Kenya (morahe@unaids.org).

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This article examines the potential consequence of a substantial increase in the number of people in sub-Saharan Africa living with the knowledge of their HIV-positive status. In particular, it reports on a follow-up study in Malawi[1] designed to provide evidence that would permit assessing whether those aware of their HIV-positive infection are responsible for driving the epidemic in the country. In other words, how valid is the implication that people aware of their HIV-positive status behave differently from those who are unaware of their sero-status? In addition, the article attempts to examine some of the obvious determinants of safer sex in HIV-positive persons. The policy question is obvious: is there a need to develop specific interventions targeted at HIV-positive people who know their status?

Overall, the evidence presented here suggests much greater attention to the large majority of HIV-positive people who do not know their status. At the same time, however, the sexual practices of those knowingly living with the virus also require increased and more systematic research and programmatic attention. There is no need to infringe the human rights of HIV-positive people to continue to enjoy a healthy sex life and full reproductive rights. The motto for doing much more 'positive-prevention work' at this time is that being HIV-positive in Africa today is not the same as being HIV-positive in the West, or in Africa in the late 1980s or 1990s.

Section 2 of this article discusses the Malawian study environment, including sampling, data analysis and field issues. Before delving into the study results and ensuing discussions, section 3 provides an overview of the literature on why HIV researchers, strategists and policy-makers in Africa and elsewhere have remained reluctant for so long to investigate the role of HIV-positive people in the progression of transmission. Sections 4 and 5 then present and discuss the key findings of the study, while section 6 attempts some conclusions on the HIV-infection risks among sero-positive people as compared with those unaware of their status.

2 Study environment, subjects and methods

2.1 Malawi and the HIV situation

According to UNAIDS (2005), Malawi has the tenth highest HIV prevalence in the world. It is also one of the 10 poorest countries (GDP per capita was estimated at $165 in 2005), with low literacy rates (74% for men, 49% for women). The population is predominantly rural (85%), with most depending on subsistence farming supplemented by small-scale retailing and casual labour. There has long been substantial labour migration to other countries in the region as well as between rural and urban areas; this undoubtedly facilitated multiple sexual partnerships and, thus, the spread of sexually transmitted infections in the colonial period, as well as the spread of HIV in the past two decades. More than half a million Malawians have died of AIDS-related complications, and approximately 500,000 children have lost at least one parent to HIV. National

1. Conceived and supervised by the present author, the study was conducted in May 2005 with the involvement of the Malawi National AIDS Commission, the Joint UN Programme on HIV and AIDS, the Malawi Network of People Living with HIV, the National Association of People Living with HIV in Malawi and the Malawi Inter-faith AIDS Association.

average life expectancy at birth has declined to just 39 years of age, whereas, without HIV, it would have been about 56 years today, a net change of 17 years.

The official rate of national HIV prevalence among adults in 2005 was estimated to be 14% (range: 12-17%; urban, 18-26%; rural, 10-15%), representing roughly 930,000 adult Malawians currently living with HIV. A much higher proportion of those infected are women at younger ages (15-24). At the highest level of infection among the 30-39 age bracket, both men and women are infected in roughly equal proportions. Data from the 2004 Malawi Demographic and Health Survey (MDHS) that included HIV testing, shows a slightly lower national prevalence level (12%: 11% rural and 17% urban) than the official projected figures based on testing of pregnant women at selected antenatal clinics. A contemporaneous population-based study conducted in rural Malawi by a team from the University of Pennsylvania and the College of Medicine, University of Malawi, found an HIV prevalence of approximately 8% in its rural sample, suggesting that the official projections for the rural population may be overestimates (Susan Watkins, pers. comm., 2005).

It is encouraging that the official estimates have remained stable over the past seven years, suggesting that the epidemic may have peaked. In addition, there has been rapid progress in expanding access to both free HIV testing and treatment in the country, such that the number of people knowing their HIV status and the number on antiretroviral therapy have both increased dramatically, and can be expected to increase even further in the near future. Between 2004 and March 2006, the number of Malawians ever placed on antiretroviral therapy rose from less than 4,000 in six sites to about 46,700 in 66 sites, respectively. This translates to roughly 27% of those estimated to be in need of treatment; women account for about two-thirds of those currently on treatment. Similarly, the number of those taking up HIV testing and counselling jumped from 150,000 in 70 sites in 2002 to 441,000 in 249 sites by the end of 2005.

But does knowledge of one's HIV-positive status have implications for prevention? In the 2004 MDHS, 14% of Malawians reported *ever* having been tested and received results for their HIV status, with less than 6% having been tested and received their results in the previous 12 months. So, what do we know about this small but growing group? Is their sexual behaviour sufficiently different from that of those who do not know their status to justify mounting specific programmes of education and support for them? (GoM, 2006a; b; c; 2005a; UNDP, 2005; UNAIDS, 2005).

2.2 Subjects and methods

The study assessed the knowledge, attitudes and practices of 743 respondents, consisting of two distinct groups: 327 sero-positive people living openly with HIV, and 416 individuals unaware of their HIV status.

Ideally, a representative population sample would generate a sufficient number of HIV-positive respondents to permit meaningful statistical analysis. Given the small proportion of Malawians who know their results, however, this sample would have to be quite large. We therefore chose to select the HIV-positive respondents from the members of Malawi's two big organisations of PLHIV – the Malawi Network of People Living with HIV (MANET+) and the National Association of People Living with HIV in Malawi (NAPHAM). These respondents cannot be taken as a representative sample

of the HIV-positive, since less than 10% of those estimated to be aware of this are affiliated with these organisations; they are also disproportionately from the lower-income quintile and lower social strata. To control for this factor, it became necessary for us to sample the comparison group of sero-status unaware respondents from the same locations and similar populations as MANET+ and NAPHAM members. Since HIV-infection risks are shown to be greater among the higher and more upwardly mobile classes in Malawi, our total sample does not adequately represent these groups (GoM, 2005a: 231-2).

There are also important differences in the characteristics of the two groups with respect to gender, region, urban/rural residence, marital status and age. An analysis of the available records of MANET+ and NAPHAM showed that the majority of their members are females and concentrated mostly in the southern region, followed by the northern and central regions. Employing proportional probability techniques, an appropriate sample size for the study groups was calculated to encompass 19% urban and 81% rural populations. There were differences in the gender composition of the two groups: fewer HIV-positive male respondents were reached in the HIV-positive group than in the comparison group (31% and 69%, respectively). Another area of significant differences is marital status. The large majority of the HIV-positive respondents are widowed (78%) or divorced/separated (73.5%), compared with 22% and 26.5%, respectively, for those unaware of their HIV status.

There were also other significant differences. The HIV-positive respondents were on average eight years older, fewer reported formal employment (33%) or consuming drugs or alcohol (33.7%), as compared with 67% and 66.3%, respectively, for the comparison group. Both groups possessed comparable percentages of respondents able to read, approximately 50% each.

2.3 Field instruments, data analysis and field issues

A mostly close-ended, multiple-choice questionnaire of six parts and 177 propositions was used in the survey. First constructed in English, the questionnaires were pre-tested in the Lilongwe area of Kawale. They were then further refined and translated into Chichewa for use in the southern region (Blantyre, Chiradzulu, Thylo) and central region (Lilongwe), and into Tumbuka for use in the northern region (Mzimba, Nkhata Bay and Karonga). A team of 15 experienced enumerators (8 females and 7 males) conducted the interviews over a period of two weeks during May 2005, eight of them BAs and the rest with a minimum of a college diploma.

How valid are the data? After the data were entered, 50 hardcopy questionnaires were selected at random and crosschecked against the electronic database. Chi-square (X^2) test and T-test were used to establish the statistical significance of the results. This check, however, did not address the greatest threat to data quality, which is that the sexual practices of respondents were self-reported. As pointed out by one of the informal reviewers of this article:

> The issue of reporting bedevils all survey questions about sexual behaviour, and not enough attention is paid to this in Malawi. Why in the world would the respondents tell us they had six partners last month when they think we

> come from the government, which is telling them they should be faithful? The Malawians working in the field of HIV agree that it is likely respondents lie about it [or do not tell the whole truth]. But somehow when it comes to looking at a table with numbers in a report, [we] believe the numbers. There is a disconnect in the thinking. For these reasons, generally, the view of the experts is that the reporting of multiple sex partners [and condom use] is very poor in Malawi.

Two noteworthy issues that arose during field implementation buttress the above viewpoint. In general, respondents from the two study groups showed surprising willingness and openness in answering the questions. It is, however, relevant for this study that 5-10% exhibited some reluctance to report the number of sexual partners they had had in the previous 12 months; it is thus likely that more may have reported fewer partners than they actually had. If willingness to report accurately on sexual behaviour varies across the two groups that are the focus of this study, our comparison would be biased. Our data do not permit us to examine any variation in mis-reporting, but the potential for differential mis-reporting needs to be taken into consideration when interpreting the results. Consent forms to be signed by the respondents were the other concern, as several respondents needed 'some convincing' before they agreed to sign, arguing that the fact they had agreed to answer such sensitive questions should be proof enough of their consent.

Equally noteworthy is the fact that the study focuses on individuals who are not just aware of their sero-positive status, but also belong to a support group – in this case NAPHAM and MANET+. It means that the findings may well differ for those who are knowledgeable about their sero-status, but do not belong to a support group. HIV support groups normally teach their members condom utilisation steps, as well as emphasising how they should behave with regard to HIV prevention. It is possible that, because of this, members would be better able to report on prevention knowledge in the expected manner.

3 Why the silence on the sexual behaviour of people who know they are HIV-positive?

From both an epidemiological and a targeted-programming point of view, it made sense to undertake more in-depth investigations into the sexual behaviour of HIV-positive individuals who know their status. Why, then, have global HIV strategies and related discourses ignored this obvious causal linkage? Here we explore briefly what some of the historical contexts and compelling reasons might have been, and how the evolution of events since the early days of the epidemic may now warrant a different response.

Although focused on research on HIV-positive persons in developed countries (North America, Europe and Australia), Schiltz and Sandfort (2000) offers the best and most comprehensive treatment of the subject to date. Their analyses of the historical development of strategies in response to the epidemic seem to explain, with equal validity, the African reality. This should hardly be surprising, given that 'approaches to the prevention and control of HIV epidemic in Africa have been heavily based on early

experiences and policies from industrialised countries, where the disease affects specific groups' (De Cock et al., 2002: 67).

According to Schiltz and Sandfort (2000: 1572, 1575), it was only in 1995 at the International Conference of PLHIV in Cape Town, South Africa, that 'HIV-positive persons publicly spoke out about the problem they had maintaining safer sex'. But it was not until the 12th World AIDS Conference in Geneva in 1998 'that the issue of sexuality and HIV-positive people received more systematic attention'. Unfortunately for Africa, however, there has only been limited progress in this regard since then, though a small but growing body of literature is now emerging on the acceptance of voluntary counselling and testing (VCT) and its effects on sexual risk behaviour and HIV acquisition (Matovu et al., 2005). Screening and follow-up of sero-discordant couples has also begun receiving increased attention (Wawer et al., 2005), despite the serious ethical challenges entailed.

Essentially, there are two broad rationales underlying past reluctance to pay due attention to the more direct involvement of HIV-positive people who know their status in prevention dialogues and control measures.

3.1 The death model and high stigma characterising the early days of the epidemic

Up to the mid-1990s, to be diagnosed with HIV virtually meant an inescapable death sentence for people in the Western world, let alone Africa. Early therapies in the late 1980s could offer an average life expectancy of only one to two years at best to AIDS patients. In this context, the sex life of those infected would seem to be not only a minor issue, but probably inconceivable (Schiltz and Sandfort, 2000: 1572-3). At that time too, there was not the distinction between the stages of living with HIV and having full-blown AIDS. The situation changed only as from 1996 when new, more effective treatment options to prolong life became available. Also, thereafter, prices of AIDS cocktail drugs began to fall at an unprecedented pace, putting for the first time the prospects of scaled-up treatment in resource-poor settings within the realm of plausibility.

Combined with the death model above is the fact that the earliest epidemiological evidence of HIV was brought to the world stage as an unmitigated health disaster predominantly affecting already vulnerable and highly stigmatised population groups in America. According to Kaler (2004a: 105), this stigmatisation focused typically on 'the notorious "four Hs" – hookers, Haitians, homosexuals, and heroine users – who populated UN discourse on HIV in the early days of the epidemic'. In those early days, there were even elements of racial overtones as to the real origin of the virus, buttressed by some of the Western medical models and socio-cultural constructs of the epidemic that were soon to emerge thereafter (Marshall, 2005).

Therefore, to guard against further marginalisation and social branding of members of these minority groups, particularly the American gay community, a set of global 'solidarity strategies' evolved, predicated on advocating and protecting the human rights of those infected and affected by the epidemic. This included aggressively supporting HIV-positive people in upholding their rights to non-discrimination and full participation in all aspects of the HIV response. Safeguarding individual civil and

political rights – particularly the rights to confidentiality, privacy and informed consent – became paramount.

In the case of Malawi prior to 2004, for instance, HIV testing could only be performed in a voluntary and confidential process. For surveillance and research purposes, HIV testing could be done only on an anonymous and unlinked basis (for example, screening pregnant women in antenatal clinics in which the pregnant women screened are not offered their test results). Similarly, in screening potential blood donors, clients whose blood is found to be HIV-positive are generally advised that they do not fulfil the eligibility criteria and that another donor is required. Patients presenting with lucid clinical signs of AIDS were not to be tested without first being referred for VCT.

When a client is found HIV-positive, the counsellor is recommended to 'ensure that the client is truly willing and ready to receive his or her results'. The counsellor is then supposed to proceed with full post-test counselling, which includes reinforcing the risk-reduction plan negotiated in the pre-test session, identifying sources of support, assessing priority needs and providing referrals, and providing condoms and assisting with building skills for condom use, etc. (GoM, 2002; 29). The subject of partner notification is not explicitly addressed, except for a mention that only through self-disclosure or informed consent can a partner of an infected individual be alerted to the possibility of an ongoing risk of infection. Thus, because of the high stigma and poor medical prognosis during the early days of the epidemic, HIV became exceptionally exempt from being a 'notifiable' sexually transmitted infection with the concomitant force of contact tracing.[2]

Firmly taking on board this rights-based approach, both the first National Strategic Framework on HIV (GoM, 1999) and the Malawi Inter-Ministerial Committee on Human Rights and Democracy (2002: 13-14) stressed that: 'the interest of public health should not justify the infringement of the right to privacy … A person should have the freedom to voluntarily disclose his [or her] HIV status to people of his [or her] choice … Every human being has the freedom of choice in the conduct of his or her life.' While all well and good, this orientation inadvertently goes too far in placing the rights of the individual above the health interest of the community at large. For maximum effectiveness, both individual rights and responsibilities in HIV needed to be balanced as much as possible.

3.2 Philosophy of positive encouragement and individual responsibility for one's own health

According to Schiltz and Sandfort (2000: 1573), 'all the Western European countries favored a policy of positive encouragement ... which would avoid reliance on coercive public health measures'. This liberal consensus was not unrelated to the fact that HIV

2. In October 2003, Malawi developed a highly innovative policy on HIV (GoM, 2004a), which subsequently contributed to a global shift in policy on HIV testing and counselling (UNAIDS/WHO, 2004), calling for a much more generalised testing beyond the traditional VCT model, through health provider-initiated HIV testing or a routine offer of testing in various health contexts, and a more balanced approach to individual rights and duties, including the possibility of beneficial disclosure (GoM, 2005b).

became the first global epidemic ever to be fought within the context of human rights, the doctrine of which gained rapid worldwide acclaim in the immediate aftermath of the collapse of the communist bloc in the 1990s.

Only Sweden and Bavaria adopted the more classic public-health approach to HIV with 'contact tracing' and the possible force of mandatory disclosure of one's sero-positive status to unsuspecting partners. Cuba was the other country in the Western hemisphere, albeit a very poor one, that also opted to institute traditional public-health control measures to curb what it perceived as a public-health emergency. Although widely regarded as draconian in its mandatory testing and confinement of citizens, Cuba is acknowledged by some experts to have 'succeeded in heading off the epidemic where others have failed' (Putzel, 2003: 39), and to date it has one of the lowest HIV prevalence rates in the world. But, for the rest of the world, the emergent and dominant HIV prevention paradigm came to be founded on the notion that 'you are the master of your own health'. As such, 'each individual person had to do whatever he or she could to avoid [infection]. If [infection] did occur, the major part of the blame fell on the [uninfected] person who, despite being aware of his [or her] responsibility [and vulnerability], failed to protect his or her own health' (Schiltz and Sandfort, 2000: 1573).

As indicated earlier, at no point in the discourse was there an attempt to counterbalance with arguments about the rights of the uninfected; or to exhort the HIV-positive persons' social responsibility to take measures to act in the community's best interest and not infect others. The emergent prevention strategy had to assume the logic that everyone is infected, which made good sense in view of the insignificant number of infected people aware of their sero-status at the time. It was also unlikely that any arguments of self-protection from re-infection among HIV-positive people, in order to delay the onset of full-blown AIDS, would have been heeded in those early days riddled with blind fear and anxiety.

The strategy of assuming universal infection further assisted with the quick build-up of adequate mass HIV awareness in everybody, as opposed to just those who feared exposure. By making the uninfected individuals the protagonists in the HIV prevention drama, the strategy helped to keep the epidemic in the open and not drive it underground. This being said, it is probable that this particular historical development may have precluded a different and, possibly, more robust strategy of prevention emerging in sub-Saharan Africa, where there are excessively high levels of the epidemic (up to 10-40% of the adult population).

By way of summarising the historical development of HIV prevention approaches in the West, Schiltz and Sandfort (2000: 1575) write:

> Until quite recently, the death image and solidarity strategies erased the sero-positive person from sex prevention discourse. What is more, a highly simplified view of attitudes towards risk had made it difficult to explore the problems experienced by people – who were, in fact, capable of passing on the virus – in adopting and persevering with safe practices. The fear of exposing a group identified as being dangerous to animosity had severely inhibited any thinking on the subject … This refusal had the admitted advantage of restraining discrimination against infected persons, but it also

made it difficult to acknowledge their individual difficulties with regard to prevention.

4 Study results

4.1 General knowledge and awareness of HIV

Asking several multiple-choice questions on prevention, treatment and care tested respondents' overall knowledge on HIV-related issues. Based on the correct answers attained, respondents were scored on a scale of 0.0-1.0 (0-100%), and grouped into low, medium and high knowledge categories. Results for the scale are given in Table 1.

Table 1: HIV-related knowledge

Knowledge category	Sero-status category		Total
	HIV-positive	*Sero-status unaware*	
Low (0 to 0.4999)	0.0	0.5	0.3
Medium (0.5 to 0.7499)	6.6	14.5	11.1
High (0.75 to 1.0)	93.4	85.5	88.6
Total	100.0	100.0	100.0

The median and mean knowledge scores of 0.88 and 0.86 (SD = 0.11) indicate high levels of knowledge among the two study groups. However, knowledge and awareness are significantly higher among the sero-positive respondents than the comparison group $t(741) = 6.63$, $p<0.001$.

Table 2 shows differences between the two groups for each knowledge question. In general, the differences are substantively small. The only surprise, and a crucial one at that, is that slightly more members of the HIV-positive group (9.2% vs 7.7% for the comparison group) agree with the statement that 'people with HIV infection but who are taking antiretroviral drugs cannot transmit the virus'. This perhaps provides a measure of confirmation for recent suspicions emerging from staff at treatment centres across Malawi that some AIDS patients, once stabilised on treatment, 'begin to carry on sexual activities as usual'.

The other differences in responses do not seem to be due to the differences in background characteristics noted earlier: only literacy was statistically significant. This is reassuring since, as noted earlier, there were some differences in these characteristics between the two groups. Perhaps differences in knowledge can be explained by taking into account that the facilitators of support groups are likely to expose their members to more information than is readily available to the general public.

Table 2: Knowledge about HIV prevention and care and treatment

Knowledge statement		% responding					
		HIV-positive			*Sero-status unaware*		
		True	*False*	*Don't know*	*True*	*False*	*Don't know*
1.	HIV and AIDS are different	89.8	9.2	0.9	69.7	26.2	4.1
2.	Expectant mothers can pass the HIV virus to their children during birth	92.6	6.1	1.2	83.7	12.0	4.3
3.	A mother can pass the HIV virus to her child through breastfeeding	95.1	4.0	0.9	89.2	8.4	2.4
4.	Sharing razors or needles cannot facilitate HIV transmission	16.0	84.0	0.0	13.1	86.9	0.0
5.	A person may be infected through witchcraft	13.1	82.0	4.9	15.9	76.3	7.7
6.	Correct and consistent condom use can prevent HIV transmission	95.7	2.8	1.5	81.4	15.2	3.4
7.	A person who looks healthy may have the HIV virus	98.5	0.9	0.6	98.1	1.7	0.2
8.	A person can get infected by drinking from the same cup as an infected person	7.7	90.5	1.8	15.0	82.6	2.4
9.	AIDS has no cure	95.1	3.7	1.2	94.7	4.1	1.2
10.	There are drugs that can help prolong the life of an infected person	98.2	0.9	0.9	88.0	3.8	8.2
11.	Eating a balanced diet can prolong the life of an infected person	99.7	0.3	0.0	96.6	2.7	0.7
12.	People with HIV but on ARV treatment do not transmit the virus	9.2	89.6	1.2	7.7	82.6	9.7
13.	Taking mind-altering substances (alcohol or drugs) does not increase the chances of contracting HIV	16.9	81.0	2.1	14.5	81.9	2.9
14.	Having sexually transmittable diseases does not increase chances of contracting HIV	14.1	84.7	1.2	15.2	81.9	2.9
15.	Traditional practices such as *chokolo* (wife inheritance) or *fisi* (sexual initiation after puberty) promote transmission of the HIV virus	97.2	2.1	0.6	94.0	5.3	0.7

4.2 Knowledge of proper condom utilisation

Respondents' knowledge of proper condom utilisation was quantified by counts of the correct number of recommended steps described by each respondent, as provided on the questionnaire checklist. In general, Table 3 shows poor knowledge and awareness of these steps among the two study groups. One-third of all respondents (33.2%) did not

know how to use a condom. Again, however, a comparison of the two groups shows that the HIV-positive respondents know more than the comparison group.

At the same time, the low condom knowledge among HIV-positive respondents is striking. For instance, only 7.7% reported knowing how to check the condom expiry date, while up to 17.3% did not know how to use a condom at all. After sex, less than half knew to withdraw the condom while the penis was not too flat (42.8%), and to take off the condom away from the vagina (36.7%). This suggests that, if support groups are providing prevention information, they are not focusing on correct condom use. As expected, these results were far worse among those respondents unaware of their sero-status. Only 1.4% of them reported knowing to check the condom expiry date; nearly half (45.2%) did not know how to use a condom at all or to put on the condom while the penis was erect (47.1%).

Table 3: Knowledge of proper male condom utilisation steps

Steps in proper condom use		% Responding		
		HIV-positive	*Sero-status unaware*	**Total**
1.	Check expiry date	7.7	1.4	4.2
2.	Packet containing condom should not be punctured (be filled with air)	42.5	13.2	26.4
3.	Open condom container on right corner (as shown on packet)	56.8	34.6	44.8
4.	Condom properly packed when container is opened	32.4	14.9	22.9
5.	Pull tip of condom to expel air	44.7	18.8	30.5
6.	Put the condom on when penis is erect	72.2	47.1	58.8
7.	After sex, withdraw the condom while penis is not too flat	42.8	22.1	31.6
8.	After sex, take off condom away from the vagina to avoid semen spillage	36.7	15.9	25.3
9.	Tie the condom before disposal	52.0	28.9	40.0
10.	Don't know how to use a condom[a]	17.1	45.2	33.2

Note: a) Although the answer to this question can be argued as contained in some of the other steps listed, it was felt that its inclusion still provided unique and relevant information.

4.3 General attitudes in relation to HIV

Sixteen attitude-related questions were asked and scored from 0.0 to 1.0 (0.0-100%). Table 4 shows that, as with knowledge and awareness, there were high positive levels in both groups, with a significant edge in favour of HIV-positive respondents. Comparing the two sets of scores, it seems that the respondents from both groups scored higher in knowledge than attitude.

Table 4: HIV-related attitude category

Knowledge category	*HIV-positive*	*Sero-status unaware*	Total
Poor (0 to 0.4999)	0.6	3.6	2.3
Good (0.5 to 0.7499)	19.4	36.7	29.1
Very good (0.75 to 1.0)	79.9	59.7	68.5

Table 5 indicates that both study groups have an overall positive attitude towards people impacted by HIV, in terms of their welfare and participation in society, including involvement in economic and social development. Almost all respondents agree with the statements that they would be willing to care for a relative AIDS patient in their home (97.6-99.7%), buy vegetables from a vendor who is infected with HIV (92.5-99.3%), and allow HIV workers to continue to work (86.5-96%).

Most respondents also resoundingly disagree that having sex with a virgin cures HIV, and that it is acceptable for either men or women to have multiple sexual partners. Particularly relevant for the government's roll-out of testing is the fact that the vast majority of both groups said that it was useful to learn their own sero-status and that of their partner, and that, if they learned they were infected, they would not have unprotected sex.

Perhaps the most surprising aspect of the findings in Table 5 is that 60.3% of the HIV-positive respondents subscribe to the statement that 'the HIV virus is deliberately spread by people who know that they have the virus'. The overall figure for all respondents in the two study groups was 69.4%, as compared with 94% reported by the Zogby and Schneidmann survey in 2003. Why would HIV-positive individuals believe that they are the ones spreading the virus? This is a question that definitely warrants further examination and scrutiny.

Again, the HIV-positive respondents (median = 0.82, mean = 0.83, SD = 0.11) had a significantly more amenable attitude in relation to HIV issues than the sero-status unaware respondents (median = 0.76, mean = 0.76, SD = 0.13). This difference is significant at $p = 0.05$, $t(729) = 8.10$, $p<0.001$. Not surprisingly, those respondents who were able to read exhibit a more positive attitude than those unable to read, with statistical significance at $p = 0.05$, $t(724) = 4.01$, $p<0.001$.

Linking to the central issue of risky sexual behaviour below, those who reported always practising safer sex had a significantly more positive attitude, suggesting that the practice of safer sex is attitude-based. No statistically significant differences in HIV-related attitude exist between the urban and rural-based respondents, $t(729) = 1.24$, $p = 0.22$.

Table 5: Attitudes and beliefs in relation to HIV

Attitude or belief statement		% Responding					
		HIV-positive			*Sero-status unaware*		
		Agree	*Disagree*	*Don't know*	*Agree*	*Disagree*	*Don't know*
1.	HIV is God/Allah's way of punishing the world's immorality	44.3	52.3	3.4	50.7	43.3	6.0
2.	HIV was deliberately manufactured in the West	30.9	51.1	18.0	35.2	45.8	19.0
3.	Whether or not I get infected is predestined by God or Allah	35.3	63.5	1.2	30.7	66.9	2.4
4.	Having sex with a virgin can cure HIV	4.3	94.8	0.9	4.1	91.6	4.3
5.	If I were found to be HIV-positive, I would have unprotected sex	2.1	97.9	0.0	3.6	96.2	0.2
6.	If a relative became sick with HIV, I would be willing to take care of him/her in my house	99.4	0.6	0.0	97.6	2.2	0.2
7.	Workers with HIV should be allowed to continue working	96.0	4.0	0.0	86.5	13.5	0.0
8.	I would buy vegetables from a vendor infected with the HIV virus	98.5	1.5	0.0	92.5	7.2	0.2
9.	HIV is deliberately spread by people who know that they are infected	60.3	37.5	2.2	76.4	21.2	2.4
10.	People infected with HIV should still participate in development	97.5	2.5	0.0	88.2	11.3	0.5
11.	It is acceptable for a man to have more than one sexual partner at a time	1.8	98.2	0.0	2.9	96.6	0.5
12.	It is acceptable for a woman to have more than one sexual partner at a time	1.5	98.5	0.0	2.9	96.9	0.2
13.	Condoms have holes in them that allow the HIV to go through	23.2	69.4	7.3	39.4	39.1	21.5
14.	Condoms are only suitable for use with first-time partners and not with a steady partner	17.5	81.0	1.5	32.9	60.5	6.5
15.	It is not useful for me to know my sero-status	5.5	94.5	0.0	10.8	88.2	1.0
16.	It is not useful for me to know whether or not my sexual partner is HIV-infected	7.7	92.3	0.0	11.6	87.4	1.0

4.4 Sexual behaviours associated with HIV infection risks

Sexual behaviour risks were assessed in terms of multiple sexual partners during the previous 12 months, knowledge of HIV sero-status of sexual partner(s) and frequency of safer sex practices (i.e. reported condom use). Within the study context, 'safer sex' meant using condoms all the time, excluding husband-wife or cohabiting situations where the respondents are sero-status unaware. Respondents were asked: 'in sex with different partners whose sero-status you did not know within the past 12 months, how frequently did you use condoms – always, not always or rarely?' Where a respondent failed to practise safer sex in 1 out of 100 times, it was treated as 'did not always practise safer sex'. Here, it would be interesting to know how this approach to obtaining the information compares with the alternative approach in which the response options are further broken down into: 'always', 'sometimes' and 'never'.

On multiple sexual partners, those respondents unaware of their sero-status reported slightly more sexual partners (median = 1.00, mean = 1.18, SD = 0.76) than the HIV-positive respondents (median = 1.00, mean = 0.99, SD = 0.88). Statistically significant, this implies that the HIV-positive respondents have fewer sexual partners.

Several characteristics of the respondents were related to differences in reported sexual partners. Respondents who reported taking alcohol or drugs also reported a significantly higher number of sexual partners (mean = 1.31, SD = 0.78) than those who do not (mean = 1.06, SD = 0.98), $t(643) = 2.69$, $p = 0.007$. Although urban-based respondents reported a higher number of sexual partners (mean = 1.19, SD = 0.82) than rural-based respondents (mean = 1.07, SD = 0.82), this difference was not statistically significant at $p = 0.05$, $t(648) = 1.43$, $p = 0.15$. Age also matters: younger (15-24) respondents reported more sexual partners within the previous 12 months (mean = 1.21) than the middle (25 to <45) category (mean = 1.13) and the upper category (45 to 69 years) (mean = 0.78). This difference may be due to declining libido with age or to more unembarrassed reporting by the young and unmarried than by heads of families and their wives.

We now turn to the important issue of safer sex. Given that some HIV-positive people may seek out other sero-positive partners (including spouses assumed to be HIV-positive) to have unprotected sex with, it made more sense to examine the frequency of self-reported safer sex with partners whose sero-status was not known. On the basis of the results, we find that those who knew they were HIV-positive (43.4%) were much more likely to report safer sex practice than those who did not know their status (11.9%). This is consistent with all the results concerning knowledge, attitude and behaviour reported above. What is problematic, however, is that the majority of HIV-positive respondents (56.6%) reported not always or rarely practising safer sex while being fully aware of their HIV infection, as opposed to 88.1% of those who did not know their status.

4.5 Health-seeking practices

Are HIV-positive people more likely to be ill or to seek better care for themselves than respondents in the comparison group? And do the former seek health care in different types of facilities from the latter? The questions on health and health-seeking practices

did not specify AIDS-related illnesses, nor did they specify the severity of the illness. Thus, it is somewhat surprising that 80.1% of the total sample reported sickness within the previous 12 months, with the HIV-positive slightly more likely to have been sick than the comparison group. The endemic and resistant malaria strain throughout the country is likely to explain such a high incidence of illness in both groups.

Both study groups were likely to seek treatment when ill: 100% of the HIV-positive respondents as against 94.3% of the comparison group. Evidently, the sero-positive aware were significantly more health-seeking than the unaware, $X2\ (1) = 16.40$, $p<0.001$. Although most HIV-positive Malawians have not yet arrived at the stage where individual denial factors would allow them to more readily link the presence of opportunistic infections associated with AIDS to possible HIV infection, the reported difference between the two groups is probably due to the likelihood that those who are HIV-positive are also more likely to be sick.

Interestingly, there was little difference between the two groups in terms of where they went for health care, with the majority (90.5%) reporting that they sought care in the formal health system (hospital, health centres, dispensary). Other reported sources of treatment included buying or obtaining medicines from grocery stores, NGOs and traditional healers. However, given the experience that respondents will invariably mention a formal health-care setting even if they go elsewhere, it is possible that more respondents may have sought the care of traditional healers.

4.6 Cultural practices affecting sexual behaviour

14.6% of all respondents reported direct or indirect involvement in cultural practices that potentially promote the spread of HIV.[3] Some 4.8% and 3.8% of these practices were in connection with *kuchotsa fumbi* and *fisi*, respectively, while 2.8% to less than 1% were in connection with other practices. Slightly more HIV-positive respondents reported involvement in such cultural practices (17% vs 12.8%), but this difference was not statistically significant.

Geographically, the findings show that cultural practices that potentially promote the spread of HIV are more common in the southern region (69.9%), as compared with the central (15.5%) and northern (14.6%) regions.

5 Discussion

5.1 HIV knowledge and attitudes

While there is need to work continuously at improving HIV knowledge and addressing persisting gaps across groups, and at the same time to deepen understanding towards

3. These can take several forms. *Fisi* is a person, usually male, who engages in sex with young girls immediately after puberty. *Kuchota fumbi* or *kusasa fumbi* is a rite performed in order to 'remove dust' so that a girl has a soft or smooth skin. *Chidyerano* refers to the mutual swapping of spouses, also called *Chimwanamaye* in other areas. *Kulowa kufa* occurs when a relative (usually brother or sister) of the deceased engages in sex with the surviving spouse, in order to 'chase death'. *Chokolo* is the practice of inheriting a wife or husband of a deceased relative.

'comprehensive knowledge' (GoM, 2004b), the findings here corroborate the growing body of evidence that both urban and rural Malawians know a great deal about what needs to be known about HIV prevention in general (GoM, 2005a; Watkins, pers. comm., 2005). Although it is often said that 'they know but they don't change', it is important to understand that sexual behaviour is profoundly cultural, and that cultural change does not immediately follow knowledge, even among the most educated and advantaged citizens. The parallel with the adoption of family planning is instructive. Knowledge of modern methods was widespread years before couples changed their reproductive culture; now Malawi is considered a success story (Solo et al. 2005). Change now appears to be occurring in sexual culture. An ongoing study in rural Malawi has found evidence of significant changes, particularly towards valuing fidelity, understanding the risks of multiple partnerships, and 'appreciating the need' of condom use with partners judged to be risky (Watkins, 2004; Smith and Watkins, 2005).

The same studies find little evidence that rural residents stigmatise those with symptoms of AIDS, or that concerns about stigma are a major barrier to VCT. When VCT was made easily accessible for a sample of approximately 4,000 rural Malawians, 91% agreed to be tested and, of those, 70% received their results (Watkins et al., 2006). To gauge the stigma associated with HIV, the 2004 MDHS integrated questions regarding accepting attitudes towards PLHIV. The questions and the results of the responses include whether respondents would: be willing to care for children of a relative orphaned by AIDS (92-97%); buy fresh vegetables from a vendor with the AIDS virus (63-87%); want a female teacher who has the AIDS virus to be allowed to continue teaching (62-84%); and fear disclosing the status of a family member who became infected with the AIDS virus (63-45%). These results, which reflect the ranges for five different age groups by female-male groupings, confirm that Malawians are indeed becoming more accepting towards PLHIV.

These findings are particularly noteworthy as HIV workers and officials in Malawi (and elsewhere in Africa) are frequently quick to cite 'prevailing stigma' or 'silence and denial' as a fatal reason why a number of new and bold prevention steps can not be taken, or why adequate progress is not being made on the ground. While one cannot dismiss that stigma and discrimination can be real for most PLHIV and that some HIV officials hardly pay any attention to them, the evidence emerging here suggests that there may be a need to approach this justification with caution. One international HIV researcher stated: 'villagers in Malawi are not afraid to talk about AIDS; it is the professional people in towns who are reluctant to talk about AIDS, like the health care workers' (US Center for Disease Control, pers. comm., 2005).

HIV workers and researchers should increasingly undertake to 'unpack' what is meant by stigma, and to address the pivotal question of who is stigmatising whom and why. It might be equally pertinent to ponder how the issue of stigma due to HIV is being separated from individual 'fear' factors and reactions associated with living with any serious bad news. In *Witness to AIDS* (Cameron, 2005), a South African High Court Judge living positively with HIV offers an illuminating personal testimony that challenges the prevailing simplified conventional wisdom on stigma. Viewing stigma as far more complicated in nature, Judge Cameron suggests that it could occur from both within and without, or as a result of personal choice (i.e. 'self-stigma') inspired by a constellation of factors, whether real or imagined. That the emerging data from rural

Malawi provide little support for 'exceedingly' high HIV stigma begs the question: is HIV stigma in the country mainly an urban phenomenon, or is it something that is mostly perceived by the HIV workers and a few HIV-positive people who are open about their sero-status?

5.2 Unsafe sexual practices among HIV-positive people

So, then, are the 100,000 Malawian adults estimated to be aware of their sero-positive status responsible for driving the epidemic in the country, as believed by 94% of the general public or by 60.3% of the HIV-positive people themselves? Even if each member of this group deliberately sets out to infect others, it is highly unlikely that the perception would prove to be valid from an epidemiological point of view. There are two key reasons why.

First, for an epidemic to continue, every infected person has to infect at least one other person, and for the epidemic to increase every infected person has to infect more than one other person (Anderson, 1999). Second, the likelihood of transmitting HIV in a single act of unprotected intercourse between an infected and an uninfected person is very low. The estimated probabilities range from .001 to about .012, depending on the level of the viral load, whether one or the other has an untreated genital ulcer, etc. (Gray et al., 2001). A more recent assessment puts the average rate of transmission per coital act at between .0082 within 2.5 months after sero-conversion and .0015 within 6-25 months (Wawer et al., 2005).

These ratios contrast sharply with those for other common sexually transmitted infections: for gonorrhea, for example, the likelihood of transmission in a single coital act is about 50-50 (Rowley and Seth, 1998). Thus, even with couples in a regular sexual union such as marriage, where one partner is HIV-positive and the other is not, the uninfected spouse, at the prevailing rate of mortality for those infected, has a good chance of remaining uninfected by the time the infected spouse dies. A comparison of five studies on HIV transmission between sero-discordant heterosexual partners in Africa shows an annual sero-conversion incidence of 7.1% for HIV-negative men and 10% for HIV-negative women (cited in Gisselquist, 2003).[4]

These fundamental epidemiological facts lead us to the conclusion that the handful of Malawians aware of their HIV-positive status would have to be extraordinarily sexually active in order to validate the perception that they are solely, or even primarily, responsible for the epidemic. Moreover, most Malawians are not tested until they are at an advanced stage of AIDS, when the chances of successful treatment are minimal. While the viral load, and hence transmission potential, of such patients would be high,

4. Incidentally, this suggests that engagement in presumably harmful cultural practices may not contribute to the spread of HIV as much as was previously thought. Since cultural practices, such as *fisi* or *kulowa kufa*, are one-time sex acts, most females are likely to get through the rituals uninfected. This is assuming the fisi is infected in the first instance, which may not be the case. This reasoning raises some questions about the current enthusiasm in Malawi, and throughout much of sub-Saharan Africa, for focusing on cultural practices, as compared with the more likely culprits of ordinary cultural practices and wealth/mobility profiles. According to MDHS 2004, 13% of working men are HIV-positive compared with 6% of men who are not working. The Infection level among men is nearly four times higher (15%) in the highest wealth quintile than in the lowest quintile (4%).

there is the likelihood that they would tend by then to be less sexually active on average. It is also likely that, by then, their potential sexual partners would become suspicious and avoid them.

On the other hand, it is quite clear from the study evidence that too many HIV-positive people report unsafe sex practices. Even though significantly more HIV-positive respondents reported practising safer sex than in the comparison group (43.4% vs 11.9%), far too many members of the group did not report always practising safer sex (56.6%). It is even likely that more HIV-positive respondents practise unsafe sex, but did not acknowledge doing so in the survey. An earlier study by MANET+ (2001) found that, despite high levels of knowledge and awareness among members of the support organisation, change in sexual behaviour remained an ongoing challenge for them. This raises some concerns epidemiologically, given the natural expectation that those aware of their HIV-positive status would take it upon them to practise safer sex in order to avoid transmitting the virus to unsuspecting partners. But what is perhaps more troubling is the fact that even members of HIV support groups, who presumably are encouraged through positive-prevention work to avoid transmitting the infection, nonetheless do engage in unsafe sex.

Malawi is not unusual. Data from nearby Kenya (Table 6) indicate that only 3-4% of those HIV-positive individuals evaluated for enrolment in treatment programmes at the Moi University Teaching Hospital and Mosoriot Rural Health Centre in 2001-3 regularly used a condom. This is despite their admitting to recent sexual intercourse and extramarital sexual relations. Even if it is assumed that the 3-4% who regularly used a condom fall within the category of the 33-37% reporting sexual encounters in the previous six months, this still translates to a staggering 89.7% who did not consistently practise safer sex. Granted this figure may include the small group (4-6%) who know their spouse to be HIV-positive as well. Data on couples availing themselves of VCT services in the Lilongwe area of Malawi indicate that up to 53% have a discordant status (Masingi, 2004: 29).

The above figure on discordant couples is further corroborated by results from the 2004 MDHS, in which a larger percentage of couples tested (9%) were discordant, compared with 7% who were both sero-positive. Stated differently, of all those couples found to be HIV-positive, nearly 60% were discordant. Since the vast majority of couples in Malawi (85% and above) do not know one another's HIV status, this is a finding with important epidemiological significance for prevention efforts.

Both the Malawian and the Kenyan figures on unprotected heterosexual activities by HIV-positive individuals are borne out by evidence from elsewhere in the developed world. Various studies conducted in the West from 1987 to 1998 (Table 7) show that between 36% and 81% of heterosexual HIV-positive people did not always practise safer sex, with 38-50% as the median range.

However, more recent studies appear to confirm the same basic finding as our Malawian case. A randomised trial study of the efficacy of VCT among individuals and couples in Kenya, Tanzania and Trinidad concluded that both HIV-positive men and women were more likely than uninfected men and women to reduce unprotected sex with both primary and non-regular partners. The same results were also found to apply to couples with discordant status, as compared with couples where both were HIV-negative (*Lancet*, 2000: 103-12). A meta-analysis of high-risk sexual behaviour in

persons aware and unaware that they are infected with HIV in the United States (Marks et al., 2005) similarly concluded that the prevalence of high-risk sexual behaviour is reduced, by as much as 68% after people become knowledgeable about their HIV-positive status.

Table 6: Sexual practices of HIV patients enrolled at the Moi Teaching Hospital and Mosoriot Centre, November 2001-July 2003 (%)

	Moi University Teaching Hospital (N=790)	Mosoriot Rural Health Centre (N=294)	Male (N=348)	Female (N=725)
Patients aware of spouse's HIV status	25	11	32	16
Spouses aware of patient's HIV status	38	20	42	27
Spouses known to be HIV-positive	6	4	4	7
Sexual encounters in past six months	37	33	11	40
Admits to extramarital sex	17	19	38	8
Suspects spouse of extramarital sex	30	32	11	40
Regularly uses a condom with intercourse	4	3	6	3

Source: Diero et al. (2003).

Table 7: Various rates of unsafe sex among HIV-positive people in the West

Year of study/ publication	Target population/group	% of unprotected sex
1987	Sero-discordant heterosexual couples	47
1991-3 (2 studies)	Attendees of sexually transmitted infection clinics	50 (Paris) 66 (England)
1994	Gay and bisexual men	9
1997	HIV-positive women	38-81
1997	HIV-positive youth	36
1998 (2 studies)	Gay men	46 60

Source: Compiled from Schiltz and Sandfort (2000).

5.3 Why do HIV-positive people aware of their status not always practise safer sex?

A likely answer to this question would be: 'probably for the same reasons that HIV sero-status unaware individuals do not practise safer sex'. More than half the HIV-positive respondents (57.5%) indicate 'trusting their partners' as the reason for not using a condom, while another 4.2% reported that they 'love their partner so much' that using a condom would have been considered as a lack of love. Interestingly, of those who reported not always using a condom because their partner(s) refused, 75.5% were female. This adds empirical substantiation to the widespread presumption that female sexual partners tend to have limited influence on decisions as to whether or not to practise safer sex. The 2004 MDHS also found that women were less likely than men to agree that 'a wife can refuse to have sex with her husband if he has an STI' (81% and 74%, respectively).

Table 8: Reasons for failure to use condoms among the positive sero-status aware and unaware in Malawi

		% Responding
		Sero-status of partner unknown
A. Emotional and power relations factors	*(78.2%)*	
1. I trust my partner		57.5
2. I do not like condoms		8.8
3. My partner refused		7.7
4. I love my partner too much		4.2
B. Condom access, know-how and affordability	*(18.4%)*	
5. I did not know where to get a condom		6.1
6. We did not have condom(s) at the time		5.4
7. I do not know how to use a condom properly		6.5
8. I did not have money to buy condoms		0.4
D. Procreation		
9. Family planning		2.7
E. Substance abuse		
10. I was too intoxicated (high) to use a condoms		0.8

As for the reasons behind the predominantly male refusal to use a condom, much has been written about Malawian men's general dislike of condoms. There is the additional fact that 23.2% of HIV-positive people and 39.4% of those unaware of their sero-status believe that condoms have holes big enough to allow HIV to get through. When rural Malawians first became aware that their relatives, friends and neighbours were dying of AIDS, objections to condom use were fierce. Men said that they preferred sex 'plain', that sex with a condom was like not having sex at all, that condoms were not acceptable to God, that condoms were ineffective (Kaler, 2004b). These objections

are widespread in the HIV belt of Africa (see Varga, 1997 for South Africa; Whyte, 1997; Setel, 1999).

In Malawi, however, these attitudes have been changing, such that some men now say that anyone who has unprotected sex with a bar girl is 'deliberately choosing death'. Accordingly, between the 2000 MDHS and the 2004 MDHS, reported condom use for men who had sex with one partner increased from 2% to 14%. The figure on condom use in the most recent sex with a non-cohabiting or non-regular partner also rose significantly from 35% to 38%.[5] It would be interesting to learn to what degree there might be some interaction between any of these positive outcomes and the increased availability of antiretroviral therapy.

Currently, the indications are that the majority of Malawian men are still opting for other forms of protection from HIV infection. First is reducing the number of their sexual partners: whereas previously men justified having multiple partners by saying 'you can't eat only nsima every day', some now say that extra partners are not necessary, since 'one woman is much like another' (Kaler, 2004a; Watkins, 2004). According to the findings here, the other likely reasons for limited condom use revolve around access problems, such as knowing where to get a condom and having one available at the time of need. Surprisingly, lack of money and consumption of alcohol were not reported to be common reasons for failure to always practise safer sex. Of course, Malawians' strong desire for large families cannot be ignored, given the high fertility rate of six children per woman (GoM, 2005a). Approximately 30% of Malawi's estimated 95,000 annual new HIV infections is attributed to a mother-to-child transmission.

Results from our study also suggest a completely different reason why HIV-positive people may have problems practising safer sex. A sizeable segment of both study groups believe that HIV is a punishment from God (44.3-50.7%), and that whether or not one gets infected with HIV is something predestined by God (30.7-35.3%). Such a fatalistic attitude links with Kaler's (2004a) finding that, although Malawian men believe they are personally at risk of HIV infection, some are 'unconvinced that [any] behavioural changes will actually make a difference to their lives'. Some felt 'powerless to avoid getting infected', while others 'believed that they had already been infected with HIV and so any behaviour change would be futile'. Although this may be an excuse for some men not to practise safer sex, or a strategy to advance male prowess,[6] a household survey in rural Malawi that included biomarker data confirmed that a significant number of the 'respondents thought they were HIV-positive but were, in fact, HIV-negative' (Bignami-Van Assche et al., 2005). In their

5. Although popular attitudes towards condoms may be changing, the situation with the Malawian officials remains surprisingly one of ambivalence or non-acceptance. One senior Ministry of Health official told a crowd of more than 100 field implementers in Lilongwe in June 2004: 'with condoms, we are only treating the symptoms. Let every person sleep in his or her own bed. Abstinence is the only workable solution.' Not surprisingly, a condom trial study within the Ministry of Health and the National AIDS Commission in January 2004 attracted only a 3% response rate. A huge billboard appeared in the nation's capital in 2005 with a picture of the President and this slogan: 'Time for action against HIV. From now, it must be abstinence, abstinence and more abstinence.'
6. A study of Malawian truck drivers found that 'truckers refused to engage in behaviours that reduce their risk of contracting STIs and HIV when those behaviours contradicted regulative norms of masculinity' (Matikanya, 2004: 14).

longitudinal study with rural Malawians, Watkins et al. (2005) made a similarly striking finding about the extent to which respondents overestimated the likelihood of being HIV-positive. Of the 30% of men and 21% of women who thought their chance of being HIV-positive was high to medium, 5.6% and 7.9% respectively turned out to be infected.

But the more fundamental problem for HIV-positive Malawians not doing better at practising safer sex may have to do with the lack of a coherent national programme of support for them, including the approximately 37,000 patients currently alive and on antiretroviral treatment at the end of March 2006. When asked by the present author about any existing prevention interventions to support enrolled antiretroviral patients – including any knowledge about their sexual practices and partner disclosure record – both the Head of the HIV Unit of the Malawi Ministry of Health and the Executive Director of the National AIDS Commission offered an almost identical response: 'unfortunately we know little at this point'. When further questioned about any ongoing national intervention alongside the treatment programme to supply the enrolled patients with all the condoms they need free of charge, again the responses were similar. In the words of the NAC Executive Director, 'this is another major gap in our treatment programme at present. We have yet to begin monitoring these important prevention issues and integrating [positive prevention] into the antiretroviral programme.'

Purely psychological factors, such as depression and general emotional stress, have also been linked with engagement in risky sexual behaviour among HIV-positive individuals. For instance, it has been found among gay men in America that the deep anxiety brought on by an HIV infection causes them initially to respond in one of two ways: a period of no sexual activity or increased risky sex with casual partners (Keogh et al., 1998). A more recent study, consisting of mainly African-American heterosexual men and women, confirmed the occurrence of a brief 'surge' in safer sex among recent VCT clients (DiFranceisco et al., 2005).

Finding out about one's HIV-positive status also causes a range of dysfunctions that directly and indirectly affect sexual functioning and gratification. The fear of being shunned and rejected by a prospective partner has been found to rank high among the unspoken reasons why HIV-positive individuals knowingly engage in unprotected sex or fail to disclose their status. Trapped between the fears of being rejected and evading responsibility to others, the path of less consequence to oneself may be preferred. Loss of employment, violence especially against women, and abandonment by families and loved ones are among some of the proven harmful consequences of disclosing one's positive sero-status (WHO, 2004; USAID, 2004). Notably, it has been found that much of the observed violence often occurs in the home and in relationships with a prior history of violence.

Some qualitative data from NAPHAM on why some of its members knowingly practise unsafe sex give an additional sense of the complexity involved. In a video on HIV prevention among young people currently under production, a young man from the northern region of Malawi claims that he knowingly engaged in unprotected sex after he openly told his female partner that he was HIV-positive but she said she did not care. In another situation with a different partner, the same young man claimed that a married woman offered him money for sex, and that he did not bother this time to inform her about his sero-positive status. However, information available on the wider membership

of the support organisation indicates the desire to have children as the principal motivation given for having unprotected sex.

6 Conclusion

To the extent that knowledge and attitudes can be seen to underlie actions, Malawians aware of their HIV-positive status are shown to possess a demonstrable prevention advantage over those who do not know their sero-status. They displayed significantly more knowledge about HIV, as well as a more supportive predisposition, including health-seeking behaviour. Apart from detailed aspects of condom use, knowledge levels among the two study groups were shown to be fairly high. Both groups, however, were found to be just as involved in traditional practices that potentially promote HIV infection, and to harbour some gaps in knowledge about the epidemic.

Regarding the central question of whether adult Malawians aware of their HIV-positive status are the ones driving the epidemic, our findings suggest that this perception is not valid. Not only are the numbers of those aware of their HIV-positive status too small (given the epidemiology of HIV), but they also report practising safer sex significantly more than those who do not know their sero-status. This leads us to our first policy message: that it is crucial that more Malawians have the opportunity to be tested and to learn their status, and possibly to subscribe to a support organisation. Currently, up to 90% of adult Malawians with HIV infection simply do not know it. As indicated, there are many reasons for this. Beyond the persisting stigma, many Malawians believe that they are already infected when they are not, and are deeply ambivalent about taking a test that they think will only confirm their fears. Moreover, the majority of the Malawian population is rural, and even with the current expansion of testing and treatment facilities to district hospitals, these hospitals are far from where most people live, and money and time are therefore required for attendance.

Our findings here, together with results from the 2004 MDHS and from a longitudinal study, further suggest that Malawians at large have grown in their maturity and openness in understanding HIV, and are responding more creatively and boldly to the epidemic than was previously thought. For instance, they talk openly about HIV, and when testing is made available, many are able to overcome their reluctance to be tested and learn their status. In the 2004 MDHS, 78% of those offered testing agreed to be tested. From 17 to 22 July 2006, Malawi conducted an historic national HIV Testing Week with the aim of reaching 50,000 clients. However, by the end of the week, nearly double that number of clients (95,049) volunteered to be tested. Of this total, 10,997, or 11.6%, tested HIV-positive, a fact which, when compared with the national prevalence of 12%, suggests that not only those seeking affirmation of their negative status volunteered to be tested. Many more would have been tested had the majority of testing sites not run out of test kits, or experienced enormous pressure on the few counsellors available. This overwhelming public response has led the Malawi NAC to conclude that the fear of testing has been somewhat exaggerated, and that Malawians are willing and ready to test, if only services are brought close to their own communities and institutions, and the environment for testing is demystified and made free and non-threatening (GoM, 2006c: 2).

Moreover, the ongoing national treatment rollout programme will certainly result in an increasing proportion of the population choosing to be tested and to receive their results. This suggests that the time is right to consider whether substantial funds currently devoted to increasing knowledge and awareness, and to diminishing stigma and denial, should also be devoted to finding creative ways of making testing and treatment even more accessible, especially in the rural areas (for example, mobile VCT clinics, community or national testing days, incentive-based testing schemes).[7] By increasing the number of people exposed to counselling and knowledge of their sero-status, HIV testing as a strategy is likely to contribute to normalising the disease and addressing its associated stigma and discrimination.

It is with respect to behavioural change among those who are HIV-positive that we come to our central finding, namely, that there is much higher safer-sex practice in those people who are aware of their HIV-positive status than those unaware of their status (43.4% vs 11.9%). Furthermore, members of the group report having fewer sexual partners than those who do not know their sero-status. Joining these with findings from elsewhere (*Lancet*, 2000; Marks et al., 2005), our epidemiological evidence leads us to suggest that the majority of HIV in Malawi is spread primarily by the large majority of Malawians who are infected but do not know it, particularly those of them who have recently sero-converted. Nevertheless, given the fact that the majority of the HIV-positive people did not always practise safer sex (56.6%), even when belonging to a PLHIV support group, our second important policy message is that ongoing positive-prevention work in the country needs to be urgently scaled-up and accelerated.

From the viewpoint that the problem of consistent condom use among HIV-positive people is not likely to be solved by expanded testing and treatment services alone, there is a pressing need for research and design of prevention programmes specifically targeted at those people knowingly living with HIV, or on AIDS treatment. And it would be crucial for such efforts to go beyond just prevention issues and include topics on sexual health and reproductive rights, all the more so now that HIV is fast becoming a chronic condition for the rapidly growing number of Africans on antiretroviral therapy. Although the advent of treatment means that more infected people will live several more years, it also means increased infection potential. Africa needs a gestalt shift in both mindsets and strategic responses in order to address the consequences of the waning of the 'death' model of the epidemic and its associated high stigma.

Given the proven positive medical and psychological outcomes of knowing one's HIV status (Grindstead et al., 2001), there is every reason to continue prioritising efforts aimed at fulfilling the right of everyone in a high-prevalence environment to know their

7. Would a policy of minor incentives help those ambivalent (as opposed to those decidedly against) to overcome their reluctance to be tested? The Malawi Diffusion and Ideational Change Project set out to address this question by offering a 'lottery' of small amounts, from 0 to 300 Malawi Kwacha (US$2.50), in which most of the winners received between 10 and 100 Kwacha (less than US$1). Out of 4,000 rural respondents who volunteered and consented to be tested under the scheme, 70% returned for their results several weeks later (Watkins, pers. comm., 2005). Compared with all the expenses of the past 11 years to reach only about 10% of the population, the incentive amounts involved seem very small for the success rate achieved.

sero-status. Based on the weight of the study evidence, this is seen as essential in order for the uninfected majority of Africans to remain HIV-negative. Also essential for the foreseeable future is the need to ensure effective use and meaningful involvement of the growing number of Africans living with the knowledge of their positive sero-status. Several HIV-related services do not require formal qualifications (for example, testing and counselling, especially for the newly diagnosed PLHIV, home-based care, peer educators and advocates). PLHIV should be increasingly relied upon as a core part of the cadre of lay personnel needed for task-shifting to accommodate the growing demand for services in the face of acute shortages of health-care workers in many African countries, Malawi being among the worst affected.

Building on the rights-based statement made by the various global HIV advocates and authorities (for example, UNAIDS and the Office of the High Commissioner for Human Rights, 1998; 2002), there is need for a broader spectrum of positive-prevention efforts to be formulated, re-launched and scaled-up much more aggressively than before. The motto for this new expanded push is that being HIV-positive in Africa today is not like being HIV-positive in the West, or in Africa, in the late 1980s and 1990s. Talking about her vision of an HIV-free Malawi, Chatinkha Nkhoma, a prominent Malawian HIV activist, had this to say about yet another potent dimension of the pay-off to genuinely empowering PLHIV:

> HIV is about people. People like me. Without me, there is no HIV. People like me are not a component of the pandemic. We are the pandemic. [But] we are not the problem. We are the solution. Not a part of the solution, but the only solution. Like it or not, only people living with HIV have the power to stop HIV in its tracks. Since telling people to avoid getting infected is not really working, it is high time we focus on empowering those already infected not to spread the virus. Currently, we are treating the symptoms, not the causes … What needs to be done in Malawi is to empower all [HIV-positive people] to break the chain of transmission. Positive living should be about positive responsibilities … Since being diagnosed in 1998, I can profess that 'my virus' has remained with me and has not been passed on to anybody else. (GoM, 2003: 7)

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