What is driving the HIV/AIDS epidemic in Swaziland, and what more can we do about it?

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Executive Summary

Swaziland is hard hit by the HIV/AIDS pandemic. Various forms of intervention strategies have been adopted by the government as well as civil society to combat the spread of the pandemic and deal with its consequences. However, little change in the trajectory of HIV prevalence has been observed thus far.

This report reviews the documents on behaviour and the epidemic in Swaziland in an attempt to establish what is driving the epidemic. It asks 'What is driving the HIV/AIDS epidemic in Swaziland? What more can we do about it?' The questions posed were:

- Why is HIV prevalence in Swaziland so high?
- What can be done about it?
- What are the innovative responses?

In the first part we look at the basic epidemiology and the data from Swaziland. Are the data – showing very high levels of HIV prevalence in Swaziland – correct? The surveys are excellent and we believe that they do indeed reflect the reality in Swaziland. The second question is 'how unique is the national epidemic?' Here the evidence is that, with the exception of Southern Mozambique the data show Swaziland to be on a par with other countries and provinces in the region. However what makes Swaziland unique is that prevalence rates seem to vary little between rural and urban areas and districts. Will it get worse? The evidence suggests that HIV prevalence rates may be reaching a plateau, but in all likelihood there will be a rise of a few more percentage points.

The second section looks at the drivers of the epidemic. Here we examine biologic and behavioural drivers then go on to look at socio-economic drivers. Swaziland's population is youthful, which means that the epidemic will have an inbuilt momentum and prevention efforts will have to be maintained for the youth. There seems to be a high level of sexually transmitted infections and this will aid the spread of HIV. However there is a lack of information on this and it is an area for further research.

While the level of knowledge is generally good, people feel that they do not know enough, and there is confusion about some things. In addition material is needed in SiSwati. The most striking finding is that in-school youth have low levels of sexual activity (70% are not sexually active); the converse is true for out-of-school youth (more than 70% are sexually active). The lack of employment and recreational opportunities are also highlighted. While apparent levels of condom use are high, the report notes that condom promotion alone is not enough to stop the epidemic (it was certainly not in Uganda – the one success we have).

The social drivers include culture and women's status. This was strongly emphasised at the workshop we held, but very little is written on the role of culture. We feel that this is a very sensitive area which requires involvement and empowerment by Swazi people. There are other factors of importance in Swaziland, including poverty, inequality and mobility. At the moment the economy is going through a very difficult stage and this will contribute to the spread of HIV. We note that it is times of transition that are most problematic.

The report reviews the few recent studies of the impact of AIDS in Swaziland and notes the gaping hole – the lack of assessment of what AIDS means for the health sector. Finally it concludes by looking at drivers of Uganda's success and implications of this for Swaziland.

Our conclusion is that the epidemic in Swaziland is very serious, but we know what is going on. There are some gaps in the research that need to be addressed but there is enough information available now to act. The workshop we held confirmed this. The biggest issues are around poverty and culture. The issue of culture needs to be addressed squarely but sensitively and by the Swazi people. There are signs of hope. The activities of National Emergency Response Committee on HIV/AIDS (NERCHA) and the participants at our workshop were evidence of a unique and exciting mobilisation. This is one of the things that will make a difference.

Background to the Report and the HIV/AIDS epidemic in Swaziland

The first HIV infection was identified in Swaziland in 1986. The government responded by establishing the National AIDS Prevention and Control Programme (NAPCP), later renamed the Swaziland National AIDS/STI Programme (SNAP), with support from the WHO's Global Programme on AIDS. By the end of the 1990's a standard package of interventions had been put in place. As in most countries this was done through the Short Term Plans which evolved into Medium Term Plans. The interventions included mandatory screening of all donated blood; information, education and communication programmes (IEC); condom promotion and distribution; and the establishment of AIDS Information and Support Centres.

For the first seven years of the epidemic the main source of data was notified AIDS cases and there was a steady increase from the earliest AIDS case in 1987 to over 150 in 1993. In 1992 the original national survey of women attending ante-natal clinics (ANC) was carried out, and HIV prevalence in this group was found to be 3.9 per cent. In 1994 prevalence was 16.1 per cent. Since then surveys have been carried out every two years. The most recent data, from the 2002 survey, gives an HIV prevalence of 38.6 per cent among ANC attenders.

The response to the epidemic has been in accordance with international norms, and indeed in many cases has gone beyond them. As early as 1993 the NACP conducted a one-day retreat for the Cabinet at which a commitment was made to fight the disease. Swaziland was one of the earliest countries to make mention of HIV in its national development plans; it was the first to commission a study on the socio-economic impact of HIV/AIDS; and one of the senior government and diplomatic officials was open about his HIV status and the need for behaviour change as early as the mid-1990s.

The inexorable rise in HIV prevalence led to new measures. In 1998 a new HIV/AIDS policy was developed and approved by Cabinet. This policy focuses on the three components: prevention, care and support, and impact mitigation. In February 1999, His Majesty King Mswati III declared HIV/AIDS a national disaster. Two new committees: the Cabinet Committee on HIV/AIDS; and the Crisis Management and Technical Committee were created and launched. The Economic and Social Reform Agenda (ESRA) recognised the threat posed by the epidemic.

The response went beyond government with programmes being initiated by the private sector, NGO's, religious groups and communities. The donor agencies have

been extremely concerned about the epidemic since the earliest years and money has been made available. The constraint (except in treatment and care) is not money but capacity, bureaucracy and innovative ideas on where to spend it.

In 2001 the National Emergency Response Committee on HIV/AIDS (NERCHA) was created and is mandated to coordinate and mobilize resources for an expanded, scaled up and coordinated response in the country.

In early 2003 Swaziland was awarded two grants by the Global Fund for AIDS, TB and Malaria. The total award (over 5 years) is for $56,736,900 but funding is only guaranteed for the first two years and this totals $30,610,400. Disbursement of the balance will be dependent on the Global Fund attracting additional donor commitments.

Purpose and methodology of the Report

Given the response documented above, there are three key questions:

1. Why is HIV prevalence in Swaziland so high?
2. What can be done about it?
3. What are the innovative responses?

This report was compiled in two stages. A draft was prepared using material collected by UNAIDS and NERCHA in Swaziland, documents in the HEARD resource centre, and information collected through literature searches in other data bases and on the web.

The aim of the study as set out in the terms of reference was to:

…comprehensively and critically analyse and synthesize HIV/AIDS/STI/TB and reproductive heath studies to establish critical issues and indicators that may explain the driving forces of the epidemic and trends, both biological and behavioural. The purpose of the review will be to assist NERCHA in the design of their programmes; understanding who and how to target and grasping the systemic interdependent nature of the epidemic. The review will address the issues of prevention; care and mitigation. The framework for analysis will be that developed by Professors Whiteside and Barnett over a number of years. In addition the review will identify the gaps in information and the critical research questions or areas that need to be addressed.

The terms of reference were agreed in January 2003. Following the literature review a draft paper was prepared describing the epidemic in Swaziland – what is driving it and what needs to be done. This submitted and circulated in early March and presented at a workshop on Friday 7th March in Swaziland. During the workshop the participants were asked to comment on what was missing from the report, both in terms of information they knew about that had been excluded and what other information they would have liked to have seen. The second task was to identify the drivers of the epidemic in Swaziland. Participants were not asked to identify interventions, but simply to discuss and report on the key drivers. The final draft was presented in Swaziland at NERCHA on Thursday 3rd April 2003. At this meeting the text and content of this the final version was agreed. This was followed by a meeting on innovative interventions, which is written up separately.

At the March meeting the participants noted the differences in sample size, type of questions, level of analysis and methodology of the different studies synthesised in the report (and listed in the appendix). It was made clear that the purpose of this study is to synthesize what is known and draw out lessons about the drivers of the epidemic. A separate document, available from NERCHA, summarises all the reports accessed [1] .

Basic epidemiology

Any epidemic will follow a similar pattern: a few initial cases followed by further spread until the epidemic peaks at the point when all those who are susceptible to infection have been infected. Then as people recover or die the epidemic curve turns down. An HIV curve is different because people do not recover – they will remain in the pool of HIV positive people until they die. This is important because it means that prevalence (the number of people infected in the population at a given time, expressed as a per cent) may be stable, while the incidence (the number of new infections) remains high. This will happen if the number of new infections equals the number of deaths.

What also sets HIV and AIDS apart from other epidemics is that there are two curves, as shown in Figure 1. With most other diseases, infection is followed by illness within a few days, or at most weeks. In the case of HIV the infection curve precedes the AIDS curve by between five to eight years. This reflects the long incubation period between infection and the onset of illness. This is why HIV/AIDS is such a lethal epidemic compared to, say, cholera. In the latter case, victims of the disease quickly and visibly fall ill, putting the general population and public health professionals on their guard. In addition the incubation period prolongs the time when HIV-infected people may unwittingly spread the infection.

1. Available from National Emergency Response Committee on HIV/AIDS (NERCHA)
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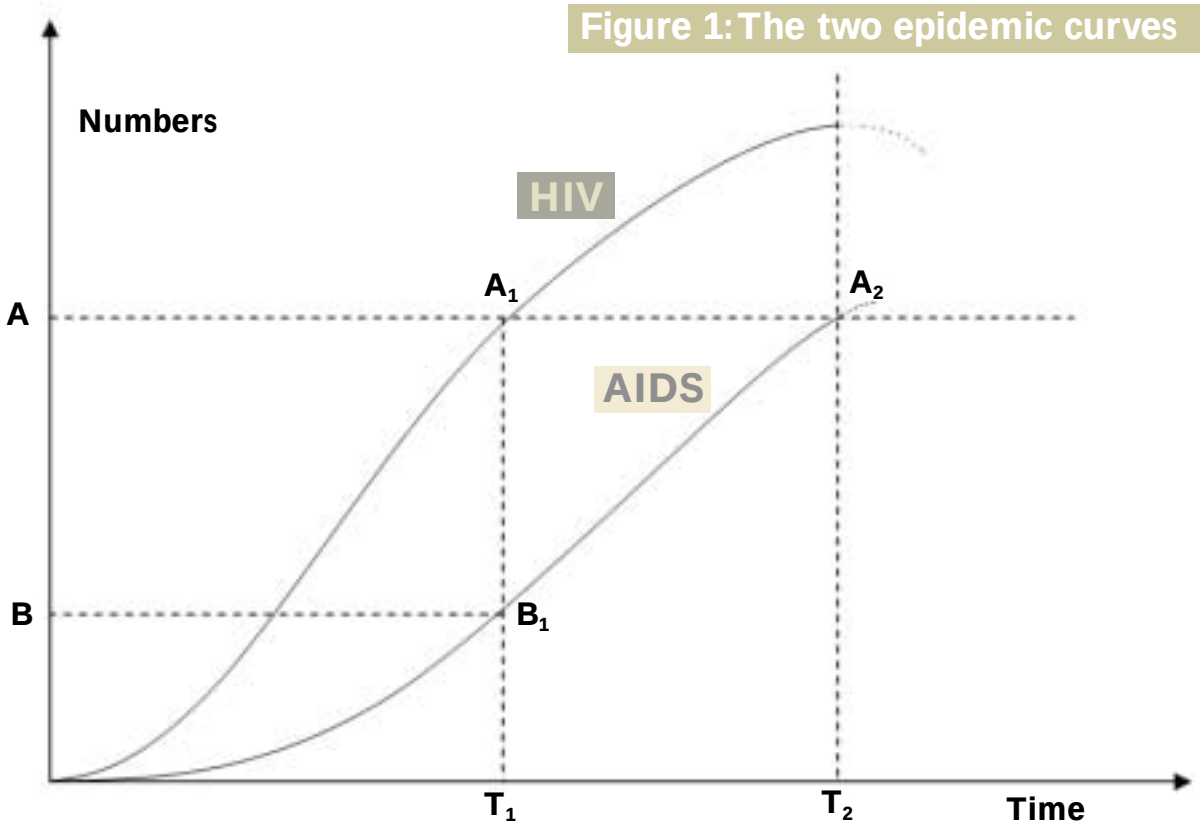
Figure 1: The two epidemic curves



HIV infection moves through a population giving little sign of its presence. It is only later – when substantial numbers are infected – that the number of deaths from AIDS begins to rise. People do not leave the infected pool by getting better as there is no cure. They leave by dying (of AIDS or other causes). Figure 1 illustrates this. The vertical axis represents numbers of infections or cases of illness: the horizontal axis shows time. At time T1, when the level of HIV is at A1, the cumulative number of AIDS cases and deaths will be very much lower, at B1. AIDS cases will only reach A2 (i.e. the same level as A1) at time T2. By then years will have passed and the numbers of people who are infected with HIV will have risen even higher. A third line can be drawn on the graph to the right of the HIV prevalence and AIDS case lines to represent the various impacts that take even longer to evolve.

The figure also shows that while prevention efforts may aim to lower the number of new infections, the reality is that - without affordable and effective treatment - AIDS case numbers and deaths will continue to increase after the HIV tide of new infections has been turned.

Beyond the point T2, the lines are hatched. This is because we do not know how either the HIV or the AIDS curves will proceed. Uganda and Thailand are the only

countries where national HIV prevalence and incidence has peaked and turned down. Figure 1 shows an epidemic curve. But a national epidemic is made up of many sub-epidemics, with different gradients and peaks. These sub-epidemics vary geographically and in terms of their distribution among social or economic groups. Often there is little data on the sub-epidemics, but in Swaziland we have some information that will be discussed.

The data we have from Southern Africa shows that the majority of infections are transmitted through heterosexual intercourse. The next major category of infection is from mother to infant. Some infections occur due to unsafe medical practices both western and traditional contaminated blood and from patient to carer. This is a relatively small source of transmission, although there have been a number of recent articles on it and the WHO is planning a meeting on the topic.[2] While it may not be an issue in Swaziland it points to the need to ensure provision of safe blood supplies, prevent use of unsafe needles, and address related issues of medical safety. Carers providing home-based care need basic safety equipment.

Are the data credible?

Do the data reflect the true scale of HIV infection in Swaziland? Is the epidemic as serious as they suggest?

First we need to look at the data collection and analysis and ask if this is in accordance with good epidemiological sampling and statistical principles. The antenatal survey in Swaziland is conducted in accordance with global best standards. The survey methodology is described in Chapter 4 of the report and it cannot be faulted.[3] For example, it was estimated that a total of 2157 samples would be needed in order to give 95% confidence intervals; in the event 2787 samples were collected. The World Health Organisation only requires one ELISA test for surveys, but in Swaziland, where a sample was positive, an additional test was carried out to confirm the result.

We conclude that the survey provides sound information on HIV prevalence among pregnant women in Swaziland, and the trends over the period since 1992 are clear.

To what extent can these data be a proxy for the general population? As the 2002 survey notes:

> *The use of pregnant mothers attending antenatal clinics raises issues on the representativeness of this sentinel population to the general population or even women in general. Sentinel surveillance in ANC clinics has an inherent selection bias against women using modern contraceptives. Women who have adopted safer sexual behaviours such as consistent condom use are unlikely to*

> *become pregnant and therefore not attend antenatal care. Women with infertility are not likely to be captured in the ANC clinics. Infertility caused by STIs would tend to result in an underestimation of HIV prevalence rates especially in the older age groups where infertility is most common. However, infertility due to STIs and HIV are unlikely to affect the HIV prevalence rates in the young age groups 15-19 years. Fortunately enough the ANC based data has been found to closely reflect the HIV prevalence in the reproductive age group.* (p.21)

Certainly in the rest of southern Africa these data are accepted as providing a good measure of what is going on in the general adult population. Indeed a concern is that ANC data may underestimate HIV prevalence in more mature epidemics because of falling fertility among HIV positive women. A recent study by the Royal Swazi Sugar Corporation (RSSC) of 4183 mainly male workers found HIV prevalence to be 37.5%. This survey used saliva tests and had a 60 per cent compliance. (personal communication RSSC, February 2003). This suggests that the ANC data is representative of infection rates in the adult Swazi population.

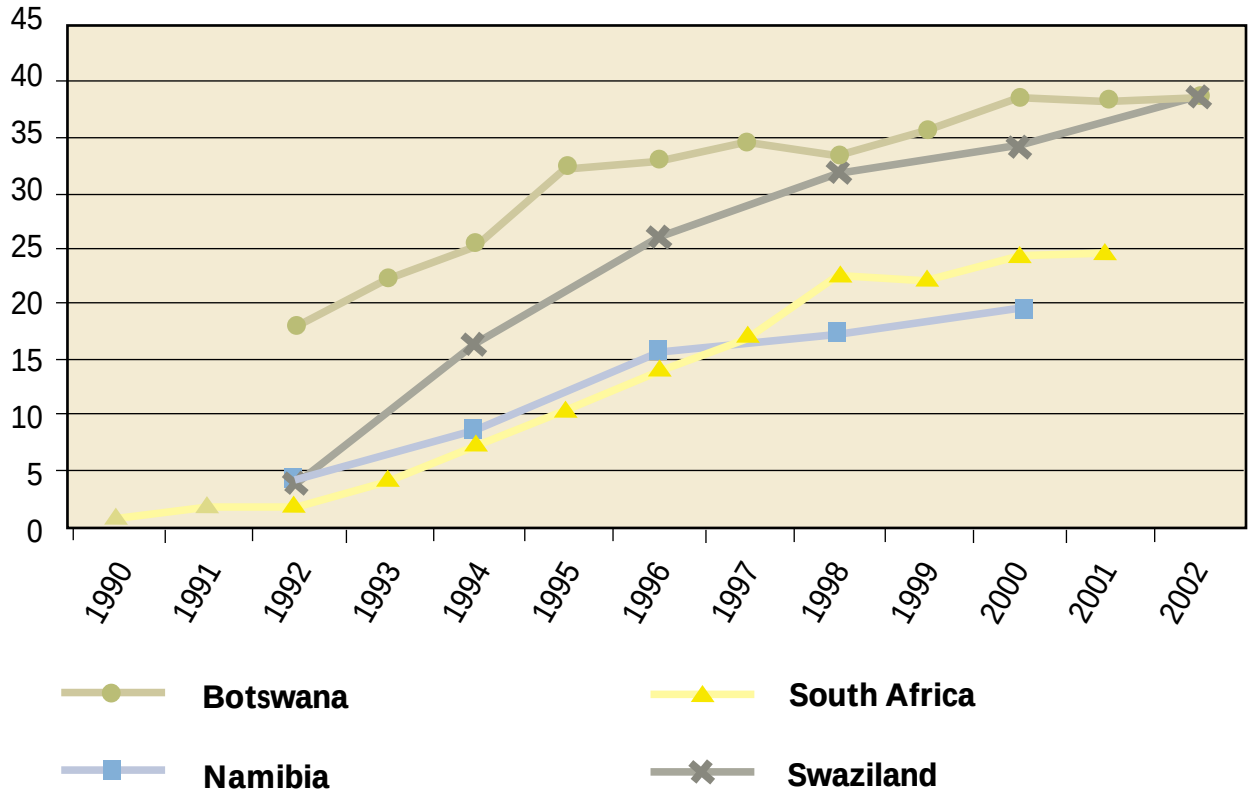
Although we believe that the quality of data on the HIV epidemic is among the best globally, it was evident that other data are confusing. The prime example is the projected population growth. The 1997 census data estimates population growth rate at 2.6%, while the Health Statistics Unit Health Statistical Report 2000 gives population growth as 3.2%.[4] The Development Plan notes that population projections do not incorporate the impact of HIV/AIDS, which the US Bureau of the Census predicts will mean that the actual population will fall.[5-6].

But as importantly people are confused about what is going on in Swazi society, what the social norms are and should be. For example in a Knowledge, Attitudes and Practice baseline study conducted by Family Life Association of Swaziland and UNICEF 2001, 45% of youth self-reported as being sexually active but felt that 70% of their friends were sexually active.[7] Most parents thought youth engage in early sexual activity (as evidenced by early pregnancy). These views are not in accordance with other data we have thus providing further evidence that, although information on the prevalence rate is reliable other statistical information is inconsistent or confusing.

Is Swaziland unique in the region?

We accept the Swazi data as correct. The next question is whether Swaziland is unique in the region in its epidemic trajectory. Comparative national data is available from Botswana, Namibia, and South Africa, as well as data from border areas: southern Mozambique, Mpumalanga and KwaZulu-Natal.

Figure 2: National trends in HIV prevalence



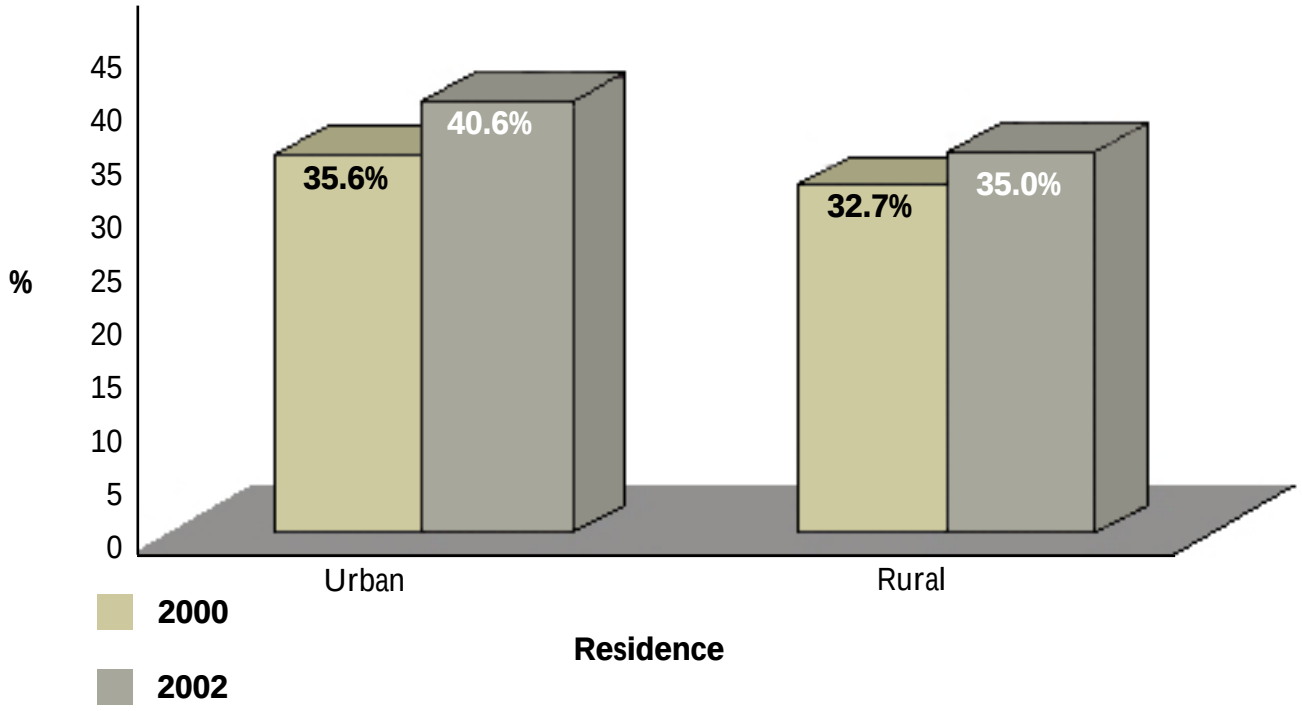
The release of the 2002 survey data puts Swaziland in the unenviable position of having the second highest national ANC HIV prevalence in the world. Botswana is first, but only just, with HIV prevalence of 38.8 per cent.[8] The most recent data from Zimbabwe and Lesotho indicate ANC HIV prevalence of over 35 per cent. In South Africa there is considerable provincial variation. In the 2001 Survey HIV prevalence in KwaZulu-Natal was 33.5 per cent (a slight decline on the 36 percent in previous years) while in Mpumalanga it has consistently been about 29 per cent. The only location with a significantly lower prevalence is Mozambique's Maputo Province which adjoins Swaziland, where HIV prevalence is 9 per cent.

We can therefore conclude that Swaziland is not unique in having these astonishingly high national HIV prevalence rates. However the national rate masks differences between sectors of the population. We must look at these data to understand the drivers of the epidemic.

What is unique in Swaziland is how uniformly bad the epidemic is. There is little difference between rural and urban areas and between districts (see Figure 3). This is indicative of population mobility and close links between rural and urban areas in

Swaziland. (See discussion below.) There is also little difference in HIV prevalence between districts: Hhohho has the lowest level at 36.6%; and Manzini the highest at 41.2%. These are the richer and more urbanised districts while the poorer and more rural districts of Lubombo and Shiselweni have prevalence rates of 38.5 and 37.9% respectively.

Figure 3: HIV prevalence by urban/rural residence, 2000-2002



What we expect to happen – the natural history of HIV

The expectations in the early 1990s were that HIV prevalence would not exceed 25 per cent. The most recent data confounds this. The June 2002 UNAIDS Global Report states:

> *Circulating in southern Africa (where the epidemic is the most severe in the world) has been the hope that the epidemic may have reached its 'natural limit' beyond which it would not grow. Thus it has been assumed that the very high prevalence rates in some countries have reached a plateau. If a natural HIV prevalence limit does exist in these countries, it is considerably higher than previously thought.*[9]

The December 2002 update states plaintively:

The worst of the epidemic clearly has not yet passed, even in southern Africa where rampant epidemics are under way. In four southern African countries, national adult HIV prevalence has risen higher than thought possible, exceeding 30%: Botswana (38.8%), Lesotho (31%), Swaziland (33.4%) and Zimbabwe (33.7%).[10]

The reality is that, as yet, there are no instances where national ANC HIV prevalence has exceeded 40%. Where HIV prevalence has reached the high 30s there seems to be a trend for the epidemic to plateau. It should be noted that there are 'hotspots' where ANC HIV prevalence has reached more than 60 per cent. (The highest we are aware of was 70.7% prevalence in Chiredzi, a sugar plantation area in Zimbabwe in 2000).[11] The present data do not show any such 'hotspots' in Swaziland.

The national trend in HIV prevalence is shown in Figure 4 while Table 1 shows the breakdown by region. (All data from the Ministry of Health and Social Welfare 8th Sentinal Survey).

Figure 4: HIV prevalence among ANC respondents, 1992-2002

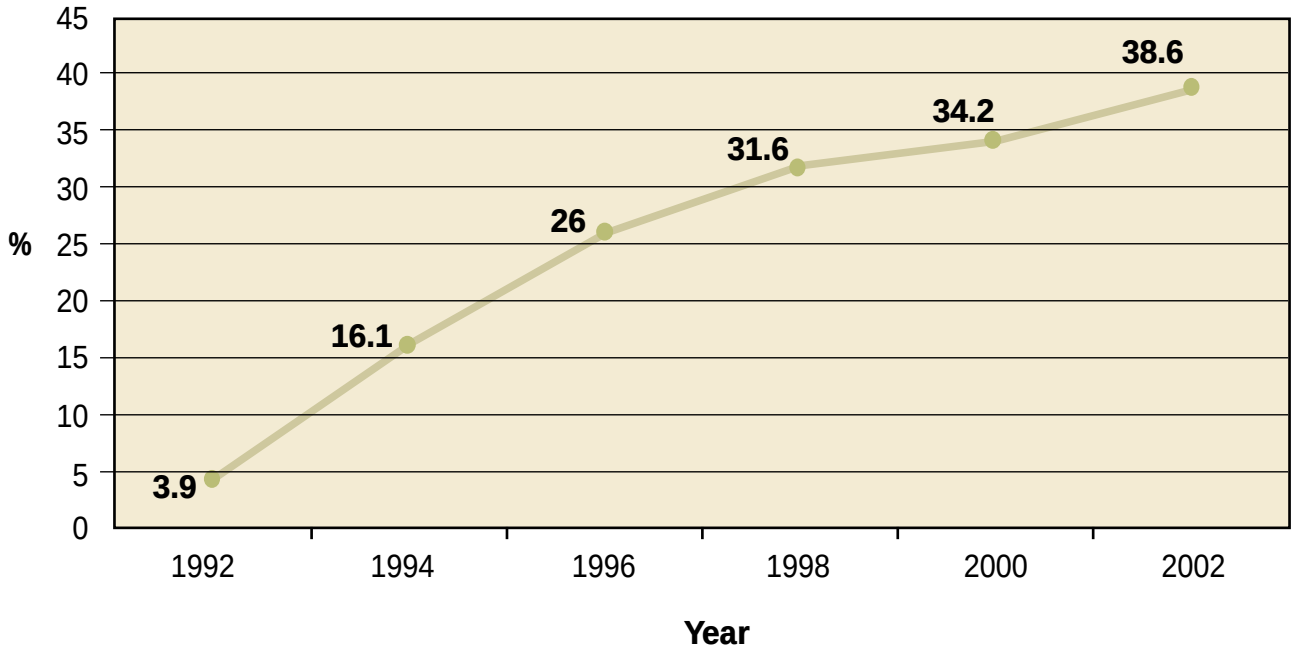


Table 1: HIV infection trends among ANC respondents by region, 1994-2002

Region	HIV Prevalence (%)				
	1994	1996	1998	2000	2002
Hhohho	15.5	26.3	30.3	32.3	36.6
Lubombo	16.8	26.5	31.5	34.5	38.5
Manzini	15.6	27.7	34.8	41.0	41.2
Shiselweni	16.8	23.9	29.6	27.0	37.9

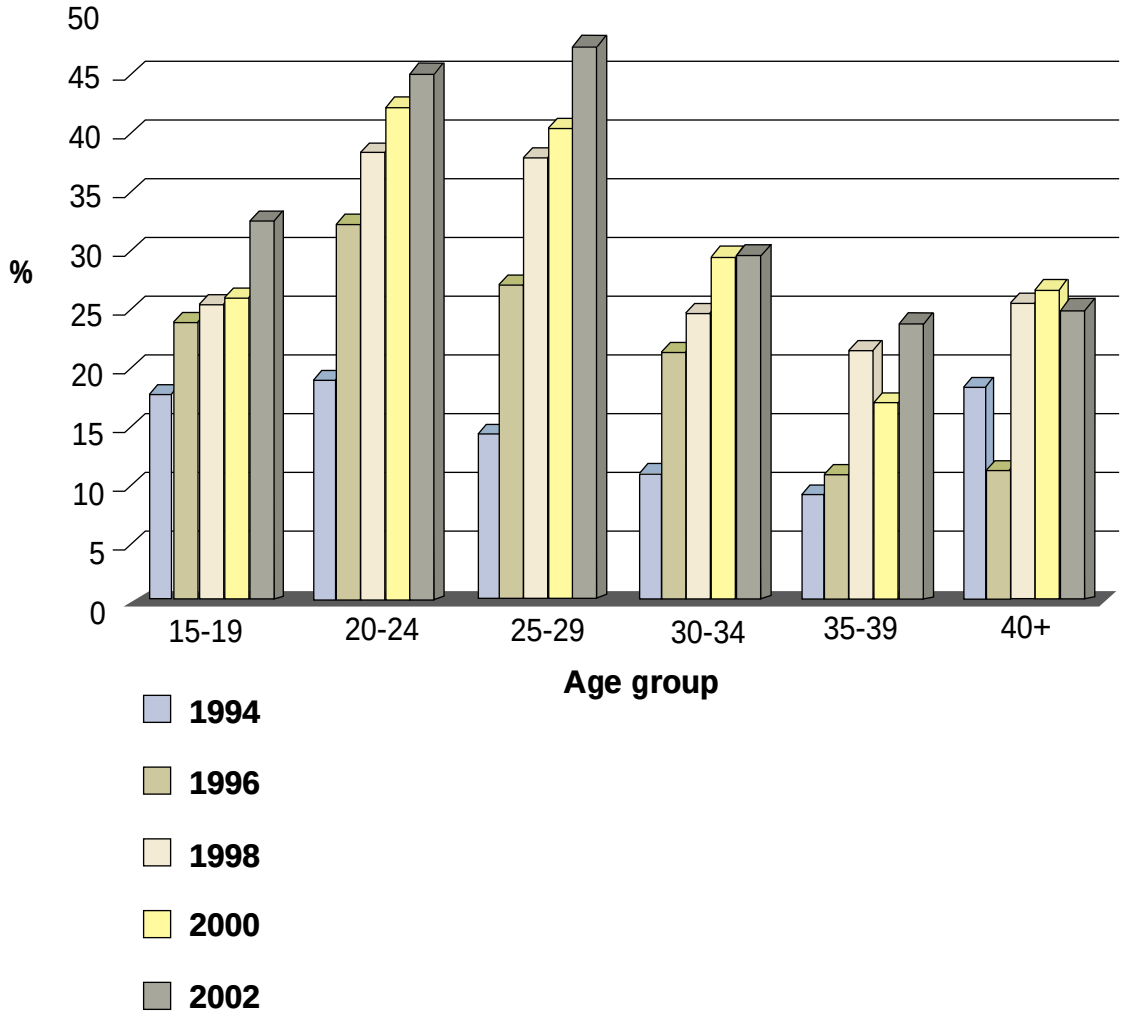
Unfortunately there is little good news in the data. Given that we measure prevalence rather than incidence, an early indication of HIV being brought under control would be in the data for the youngest ages. The data are shown in Table 2 and Figure 5.

The increase in the 15–19 and 20–24 age groups shows that Swaziland still has a long way to go in bringing the epidemic under control. And, significant for long-term planning, there will be rise in illness and death until at least 2008. The long term implications are considerable.

Table 2: HIV prevalence among ANC respondents by age group, 1994-2002

Age group in years	HIV Prevalence (%)				
	1994	1996	1998	2000	2002
15-19	17.8	24.1	25.6	26.3	32.5
20-24	18.8	32.3	38.4	42.5	45.4
25-29	14.3	27.2	38.0	40.7	47.7
30-34	10.8	21.7	24.8	29.7	29.6
35-39	9.1	11.0	21.8	17.0	23.9
40+	18.3	11.7	25.7	26.9	25.0
Total	**16.1**	**26.0**	**31.6**	**34.2**	**38.6**

Figure 5: HIV prevalence among ANC respondents by age group, 1994-2002



The Drivers of the epidemic

Why is the Swazi epidemic so bad? We will concentrate on the HIV/AIDS epidemic resulting from sexual transmission between men and women. Figure 6 shows the proximate and distal causes of the epidemic. [12]

Biologic and behavioural drivers

In order for a person to be infected they need to be exposed to the virus. However even then, exposure does not necessarily lead to infection. Sufficient virus particles must penetrate the body's defences and enter the blood for infection to gain hold. There are a number of biological determinants:

- At the early and later stages of the infection an HIV-positive person has more viruses in their body fluids and this increases exposure of partners.
- Women are more likely to be infected then men (semen enters their bodies and remains there).
- Younger women are more prone to infection as their virginal tracts are less mature and more prone to tearing. Linked to this, violence also increases the chance of infection especially for women.
- There is a growing body of evidence that circumcised men are less likely to be infected and thus infect their partners. (Circumcision is mainly protective if it is carried out prior to sexual debut[i]).
- The presence of other sexually transmitted infections greatly increases the chance of HIV infection. First other STIs create a portal for entry for the HIV virus. Second, the presence of other STIs concentrates the cells the HIV virus targets for infection—at the point where the HIV virus enters a person's body.
- Poor nutrition and bad general health mean the body's immune system is less able to fight any infection, therefore the virus is more likely to gain a hold.[13]

In order for these factors to come into play, people have to have sex with a partner (or partners) who are infected. If someone does not have sex or sticks to one uninfected partner (who also is faithful[ii] to them) then they will not have sexual exposure. Here there are a number of factors we need to consider. They include:

- Number of partners: the more people a person has sex with, the more likely they are to come into contact with someone with HIV.

i. There is a growing literature on this, but as circumcision is not practiced in Swaziland this topic is not covered further.

ii. Terminology is fraught with difficulty, here faithful means does not have any other sexual partners

- The rate of concurrent partnering: If a person has more than one partner at the same time and if any of them are infected, this infection is more likely to be transmitted.
- Sexual mixing patterns: A person who works in Mbabane, has a rural home in Nhlangano, travels regularly to Durban and who has partners in each location could spread any STI very rapidly and widely.
- Some sexual practices are conducive to the spread of HIV. These include 'dry sex' and sex with young partners. Other practices will help prevent its spread – for example consistent, correct and regular use of condoms or late sexual debut.

Let us now review what we know about the biology, knowledge and behaviour in Swaziland.

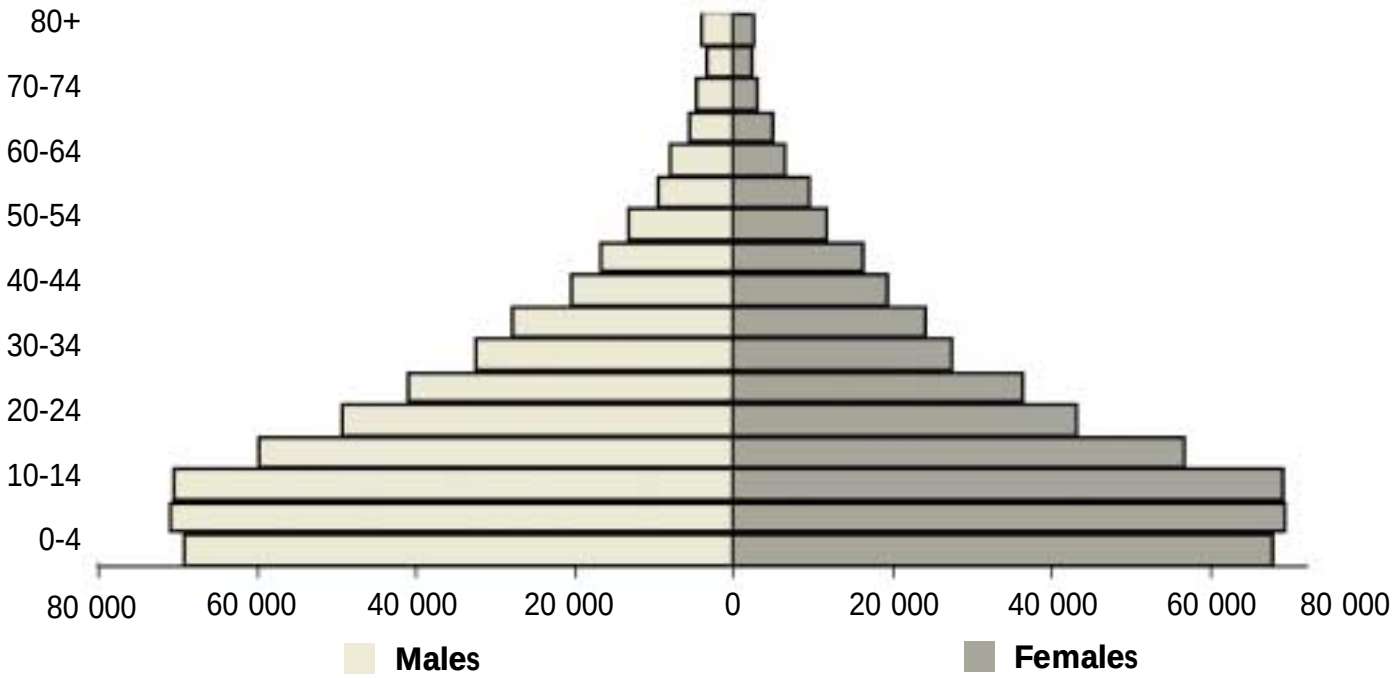
Figure 6: Proximal and distal 'causes' of sexual transmission of HIV/AIDS[14]

Determinants	Distal determinant → Proximal determinants			
	Macro-environment	**Micro-environment**	**Behaviour**	**Biology**
	Wealth or poverty Income distribution Culture Religion Governance	Mobility Urbanisation Education Access to health care Levels of violence Women's rights and status	Rate of partner change Prevalence of concurrent partners Sexual mixing patterns Sexual practices and condom use Age of sexual debut Levels of sexual & physical abuse	Age Stage of infection and Virus sub-types Presence of other STIs Gender Circumcision
Interventions	Social policy redistribution Legal Reform Human Rights Taxation Debt relief Terms of Trade	Social Policy Economic Policy Legal Reform Employment Legislation	Behaviour change communication including: Condom use Delay sexual debut Fewer partners Address abuse and violence	STI treatment Condom Promotion Anti-retroviral therapy during pregnancy Blood safety Post exposure prophylaxis

The age and gender structure of the population

The Swaziland age pyramid and population data shows a youthful population. According to the 1991 Demographic and Housing Survey, 43.5% of the population is below 15 years old. This youthful population is reflected in the population pyramid from the 1997 Census (see figure 7 below). This is a serious concern because it means that without behaviour change, the potential for a sustained epidemic remains.

Figure 7: Swaziland population structure, 1997 census



The Swazi population pyramid shown in Figure 7 is typical of an African population. The reasons for the decrease in 0-4 year olds are not known. However if this pattern continues, AIDS mortality and decreasing fertility will be implicated. The large number of people under the age of 25, clearly shown on the graph, means that HIV spread will be maintained in the absence of effective interventions.

Sexually transmitted infections

The literature reveals a consistently higher HIV prevalence among people with STIs. In 1992 HIV prevalence was 3.9% among ANC attenders and 11.1% among people with STIs. The 2002 survey found that of those who tested positive for syphilis, 53% were HIV positive; among those who tested negative for syphilis, 37.9% were HIV positive. There is however a declining trend in syphilis prevalence. Since 1994 syphilis prevalence among ANC attenders has fallen from 11.6% to 4.2.

Of greater concern for HIV transmission are ulcerative STIs. Here we do have some recent data from the 2003 Behaviour Survey. This is shown on Table 3, for various occupations and on Table 4, for in- and out-of-school youth[iii].

Table 3: STI incidence and behaviours, by occupation, (%)

	Military	Police	Seasonal workers	Watch-men	Kombi Drivers & Assistants	Long Distance Drivers	Female Factory Workers	Female Sex Workers
Reported STIs episode in last 12 months	12.1	6.5	10.0	4.8	4.3	5.7	14.7	16.1
Sex with non non-regular partner in last 12 months	54.8	38.4	30.7	49.1	57.7	28.5	32.5	NA
Condom use at last sex with non-regular partner	59.4	73.2	29.9	59.8	59.8	57.1	48	60

iii. For this National Behavioural Surveillance Survey (BSS), in-school youth aged 15-19 from 30 schools around the country were systematically sampled and interviewed. Out-of-school youth were identified using a PPS sampling technique. Those aged 15-24 unmarried and not cohabiting were selected from 90 Enumeration Areas (EAs) – 30 from each of the three regions covered for in-school youth. (p.18 of the BSS report gives more details.)

Table 4: Behaviour of in- and out-of-school youth by region

Male and female in-school youth				
BSS indicators	**Hhohho**	**Lubombo**	**Manzini**	**National**
Ever had sex	26.8% 86/321	31.1% 37/119	28.6% 151/525	28.3% 274/967
Condom use at first sex	89.5% 77/86*	59.5% 22/37*	69.5% 105/151	74.5% 204/274
Reported episode of STIs in the last 12 months	0 0/321	0.8% 1/119	0.8% 4/528	0.5% 5/968
Sex with non commercial sexual partners in the last 12 months	13.7% 44/321	20.2% 84/528	24/119 15.7%	15.9% 152/968
Condom use with last non commercial partner	96.1% 44/321	83.3% 20/24	83.3% 71/84	84.8% 129/152
Male and female out-of-school youth by region				
Ever had sexual intercourse	73.3% 328/448	71% 489/689	64.6% 413/639	69.3% 1230/1776
Condom use at first sex	38.6% 126/328	33.3% 163/489	41.2% 170/413	37.3% 459/1230
Reported episode of STI in the last 12 months	4.7% 21/448	7.4% 51/689	4.9% 31/639	5.8% 103/1776
Sex with non-commercial partner in the last 12 months	52.7% 236/448	47.8% 329/689	48.4% 309/639	49.2% 874/1776
Condom use with last non commercial partner	52.1% 123/236	41.6% 137/329	57% 176/309	49.9% 436/874

*Sample size too small for any meaningful inferences to be made.

It is alarming to note the very high levels of STIs among female factory workers, female sex workers, seasonal workers and the military and police. Clearly the evidence of the fall in syphilis incidence among ANC attenders is hiding other problems. The difference in the STI rates between in and out of school youth should also be noted. Among youth in school, STI rates are negligible while STI rates are significant among those not in school.

There is one other source of information on STIs that we were able to locate – the Annual Statistical Bulletin. The most recent (1999) shows a small decline in outpatient visits for genital disorders over the period 1997 to 1999.[15] (The drop from 118 93 to 106 05 must be seen in the context of a decline in total outpatient visits from 1 485 685 in 1997 to 1 270 020 in 1999.) Workshop participants identified STIs as one of the drivers of the epidemic in Swaziland, and there is little evidence to show that STI infection is under control.

Knowledge of HIV

The data on knowledge around HIV is encouraging. A number of surveys have been carried out – ranging from the 1991 Project Hope and Family Life Association of Swaziland (FLAS) Knowledge, Attitudes and Practice study[16] to the 2003 National Behavioural Survey[17] and the School HIV/Aids and Population Programme (SHAPE) baseline study[18].

In 1991 41% respondents with high media exposure claimed to know just a little about AIDS, however knowledge about true modes of transmission was high (90-97%). The sources of information on AIDS were ranked as follows: radio (90.4%), clinic (36.9%), newspaper (30.4%), and T.V. (19.1%). Of the respondents 55% acknowledged that AIDS is a serious disease, 70% viewed it as a current threat to the local community, and 73% think it will become a threat, and mostly a serious threat in the future. The ideas of how to avoid it were sound: 80% thought that it could be avoided by behavioural change, 69% said they had made a change, and 9.5% said they intend to change their behaviour.[19]

By 2003 the Behavioural Survey could conclude: 'the Swazi people are highly knowledgeable about HIV/AIDS/ STIs, though this knowledge has not translated into desirable behavioural change'.

However, close reading of the reports shows that while people may be knowledgeable about how HIV is transmitted and how to protect themselves, they are confused about many other aspects of the disease. This echoes the second of the four main findings of the 1999 Education report: 'We are confused'.[20]

> *Findings from extensive field consultations show high levels of self-perceived and actual confusion surrounding HIV/AIDS. Parents and other community*

members were clearly the least informed about the epidemic, but confusion by no means stopped there. Teachers, head teachers and pupils all expressed concerns about their own knowledge and understanding of HIV/AIDS. Indeed, even members of the relatively few anti-AIDS clubs that still existed held deep-seated views that were at odds with the nature and scope of the pandemic. (Executive Summary p. 3)

Interestingly this is echoed in the February 2003 School HIV/AIDS and Population Programme (SHAPE) report.

Pupils' understanding seemed to outrank that of parents and teachers. It was surprising though, that these children got the information from teachers who the latter had shown hazy knowledge on the subject compared to pupils. However, there was a need for constant update on new information and provision of clarifications on certain issues as HIV and AIDS invokes panic and scare in society. This panic sometimes clouds the understanding that one has of the disease. Teachers and parents as well, needed the chance of continuous update, as HIV was a dynamic disease of which new discoveries were made every time.[21]

At the workshop we held there was a consensus that insufficient information is available in Swaziland. There was also consensus that the messages sometimes conflicted and were wrongly targeted. Although it is unclear what additional information is required, one clear message was that material should be available in SiSwati.

Sexual behaviours among youth

The 2003 National Behavioural Surveillance Survey (BSS) study found that the majority of youth were not sexually active. More than 70 per cent of those in school have never had sex (Table 4); by contrast more than 70 per cent of out of school youth have had sex. This partly confirms the 1996 Family Life Association of Swaziland (FLAS) survey which found that only 18.8% of both males and females admitted to having had sexual intercourse (in and out of school).The information on age at sexual debut is somewhat limited. Hard data can only be extracted from the BSS and is shown in Table 5. It is somewhat counterintuitive as in-school youth are shown to have a younger age of debut.

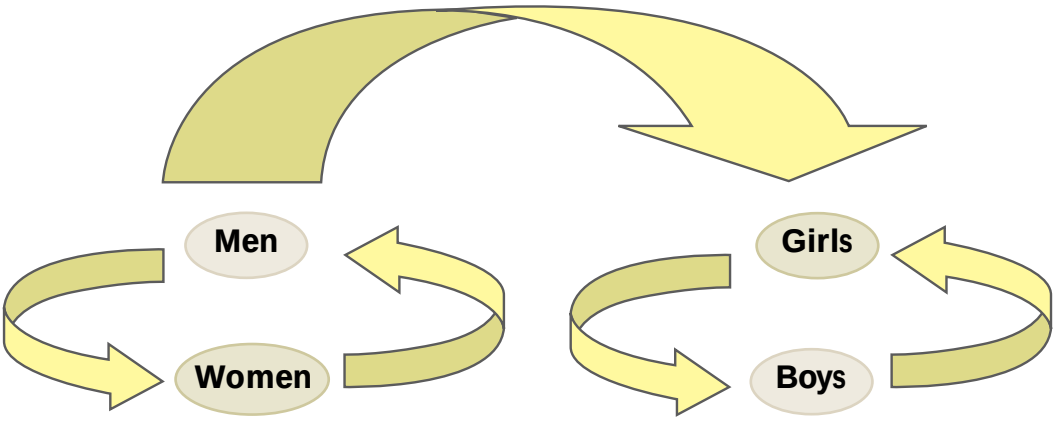
Table 5: Sexual behaviour of in- and out- of school youth

In-school youth			
	Ever had sex	**Age at first sexual intercourse**	**Mean age of sexual partner**
Male	28.3	16.3	15.1
Female	28.3	16.1	20
Out-of-school youth			
Male	69.3	19.8	22.4
Female	69.3	18.3	28.7

Out-of-school youth's sexual debut was at an older age. It is also striking that these people's partners have been uniformly older than was the case for those in school. This is significant because it may indicate exploitative relationships. The relationship between older men and younger women has been identified as crucial in Botswana. This is shown in Figure 8, taken from Botswana's 2000 Human Development Report.[22]

The Government of Botswana noted that in more advanced epidemics, one of the key interventions is stopping the spread of AIDS from one generation to another. Given that prevalence rates have been found to be four to twelve times higher in young females than young males, this particularly means stopping the spread from older men to girls.[23]

Figure 8: The intergenerational transmission of HIV



The arrows indicate the direction of sexual relationships

The recent (February 2003) School HIV/AIDS and Population Programme (SHAPE) report on behaviour of in-school youth tends to confirm this view of low levels of sexual intercourse. (Although of concern is the number who did not answer the question).

Table 6: Percentage having sexual intercourse, by age group

Had Sexual intercourse	Age Group 13 to 15		Age group 16 to 19		Total	
	Girls	Boys	Girls	Boys	Girls	Boys
No	46.9	42.0	18.1	19.1	64.9	61.0
Yes	9.9	16.7	9.5	11.9	19.3	28.6
No answer	11.0	7.8	4.6	2.4	15.6	10.3
Uncodable	.1			.1	.1	.1
TOTAL %	**67.8**	**66.6**	**32.2**	**33.4**	**100.0**	**100.0**

The lesson from these data and the discussions at the workshop is that in-school youth are far less sexually active than out-of-school youth. Indeed it is clear that once youth leave school they become sexually active. Why is this? Part of the reason is the normal rite of passage to adulthood. Once a person leaves school they have more freedom. But there are other factors at work. The majority of youth will not find formal employment. This means they will be forced into poverty and dependence on others and in addition will be unoccupied for much of the time.

The responses are complex. The first goal should be to ensure youth complete schooling – being in school is a protection. The second is to create employment, but that is a national goal. The third, and this was mentioned by a number of participants, is to provide recreational facilities. Finally, if youth are sexually active they must be encouraged to be faithful and use condoms.

The issue of substance abuse has not been widely studied. There is some evidence in the SHAPE Baseline Study that among in school youth about 6% of 13 to 15 year olds and 16% of 16 to 19 year olds used alcohol. There is no data on drugs. However 'substance abuse' was mentioned by a number workshop participants as one of the drivers of the epidemic in Swaziland.

Condom use

There is good evidence of increasing condom use. In the 1991 Family Life Association of Swaziland (FLAS) study, 86% of all respondents knew about condoms, but only 18% had ever used them. By the time the FLAS/ UNICEF 1999 study was carried out, 62.3 per cent of youth said they used condoms when they last had sex. The evidence on condom use in the 2003 BSS study is shown on Tables 3 and 4. In all the occupational groups – except seasonal workers (29.9%) and female factory workers (48%) – most had used condoms at last sex with a non-regular partner. (In the case of the police, the figure was 73.2 % of the time). Among in-school youth, condom use at first sex ranged from 59.5% to 89.5% by district, and from 83.3% to 96.1 % for sex with a non-regular partner. In out-of-school youth, rates were lower: 33.3 to 41.2% at first sex and 41.6 to 57% for sex with non-regular partner.

Concern was expressed by some participants at the workshop at the messages used in the social marketing of condoms in Swaziland. These events promote a lifestyle that many (and particularly out-of -school youth) cannot afford while the promotional events themselves often take place in settings that do not encourage safe behaviours. While this type of social marketing successfully targets wealthier, employed urban young people, it may provide different messages to the majority who are rural, unemployed and come from poor backgrounds.

The SHAPE 2003 survey found that in the 13 to 15 age group, 62.1% of youth (presumably those having sex although this is not clear from the report) used condoms in their first sexual encounter, while in the 16 – 19 age group the rate was 72.6 %. The per cent who did not answer the question was 14.2 % and 8.7 % respectively.

There may be merit in additional promotion of condoms as the primary mode of family planning. The Swaziland Multiple Indicator Cluster Survey in 2000 found condoms are only used by 1.8% of women who are aged 15-49, married or in union and using contraceptives.[24]

Socio-economic drivers

Culture and women's status

Swaziland is a society where polygamy is practiced; indeed the Royal Family has traditionally been one of the main proponents of this way of life. Polygamy does not in itself lead to greater risk. As one of the earlier posters put it: 'Be faithful in your polygamous family'. If the partners are faithful to each other then HIV is not a threat. However if one partner is unfaithful then it is much more likely that an infection will spread through the household. In addition the level of trust has to be greater.

In traditional Swazi society, polygamous unions were no more likely to lead to non-regular partnering than monogamous ones. However in traditional Swazi society sex outside marriage was not allowed. In both Swazi and Zulu culture boys and girls were permitted to experiment but expected to stop short of full intercourse. Virginity was greatly valued. The practice of thigh sex was one mechanism for sexual pleasure stopping short of penetrative sexual intercourse. The SHAPE study found that 10.8% of pupils (presumably those having sex) reported having thigh sex.

In Swazi culture men are superior in strength and law and the upbringing of boys and girls is very different. This has led to a situation in which boys are expected to seek sex and girls are more compliant. It is felt this is no longer appropriate in the current cultural, economic and epidemiological environment.

The issues of gender relations, the relative lack of power of women, women's status, and Swazi culture were raised by all the groups during the report-back session of the workshop. It is clearly a hot issue, but is not mentioned in the literature we have reviewed – with one exception. The United Nations Development Programme produced a report entitled 'Gender focused responses to HIV/AIDS in Swaziland'.[25]

The study found:

> *Women's vulnerability to HIV/AIDS infection is increased by economic, social and cultural factors and by different forms of violence, (particularly sexual), that place them at a disadvantage within relationships, the family, the economy and society at large. Women's economic dependence on men, their high poverty levels and lack of access to opportunities and resources, contribute to their vulnerability to HIV/AIDS infection. Because of the economic dependence on men, women are unable to take control of their lives and protect themselves against HIV infection. This is because the men can withdraw the economic support if women refuse to do as they want.*
>
> *Most cultural expectations and practices were found to contribute to women's vulnerability to HIV/AIDS. The Swazi society expects women to be subordinate and submissive; allows men to have multiple sexual partners; and polygamy, which exposes women to HIV infection, is legal in the country.* (p.1)

This study is based on a very small number of interviews (only 58 in total: 32 women and 26 men). Nonetheless it echoes the concerns of our workshop participants. Notably some cultural practices were viewed as contributing to the spread of HIV: these included polygamy, *kwendziswa* (arranged marriages), *kungenwa* (widow inheritance), *umhlanga* (reed dance). Others were viewed as positive, such as: virginity tests for young women and men, sexual abstinence until later in life when young people are mature enough to make meaningful decisions about their bodies and sexual lives, *lusekwane* (age regiment for boys), and *umcwasho* (the wearing of woollen tassels to indicate virginity by young girls).

Most concerning was the finding that although basic information on HIV/AIDS is available to women, this knowledge does not assist them in making decisions to avoid risky sexual behaviour. This is shown in Table 7. (It should be noted that the anomalous response from Manzini may be because it is the only region where there were more men than women.)

Table 7: Can women use information/knowledge on HIV/AIDS to negotiate safer sex?

Region	Yes %	No %	Don't Know %
Hhohho	17	83	–
Manzini	50	25	25
Shiselweni	33	50	17
Lubombo	33	67	–

Social norms

The idea of what young men and women can expect from relationships is also a source of apprehension. The Family Life Association of Swaziland 1996 study found that when asked what they expect from boys, the most common response from female participants was money (36.2%), sex (30.4%), fidelity (16.9%), gifts and entertainment (5.8%), and 1.8% did not know.[26] When males were asked what they believed girls expected from their boyfriends 38.8% said girls expected money; 18.1% expected sex, 14.3% said they expected love, hugs, kisses and to be cared for, 8.9% said they expected love, sex and money.

Among the females, 87.0% believed that their boyfriend was the one who 'pressured' them into having sexual intercourse. Some 7.8% believed it was no-one's fault, it happened spontaneously; 2.6% admitted to have insisted on having sexual relations; and 1.9% believed it was by mutual consent. On the issue of multiple sex partners, 29.6% of the respondents admitted to having had sex with more than one person in their lifetime. 29.9% (97 out of 324) of the respondents indicated that the primary cause of promiscuity was that 'girls want more money from their boyfriends'. However 69.6% of the female respondents felt that it was not a good idea to engage in

sex before completing one's formal education (school, college or university) and 18.4% thought it was unwise because it could lead to dropping out of school/college/ university due to pregnancy.

Among males, 69.8% said their current girlfriend was not their first sexual partner. More males (65%) than girls (47.5%) admitted to being sexually active.

The only male/female distinction in the BSS is from students at tertiary institutions. Here the data shows that females have marginally better knowledge but are less likely to use condoms with non-regular partners (55.4% for females, 86.9% for males). Females are more likely to report STIs (6.6% for females, 3.7% for males).

It has been suggested that boys 'are pressured at an early age to experience sex and prove their masculinity. The pressure to have sex and many partners is a socially expected competition among youth … [for girls there] is a cultural belief that girls are not women until they give birth'.[27]

Poverty and inequality

Poverty and inequality increases the likelihood that poor women will be forced into transactional sex as a survival strategy.[iv] Orphans and vulnerable children are more likely to be exploited and this may include sexual exploitation and abuse.

A picture of poverty is given in the Afrobarometer survey which presented survey respondents with a list of basic needs and asked: 'In the last twelve months, how often have you or your family gone without (these things)?' The survey has not been carried out in Swaziland but the finding can be applied here.

Table 8 below displays the proportions of people who say that they 'sometimes' or 'often' do without.[28] These data show widespread poverty. Significant proportions say they or their families have gone without basic necessities at least occasionally, if not frequently. Southern Africans were most likely to have been short of cash income (on average, 66 per cent in each country) and least likely to experience homelessness (9 per cent). Between these extremes, significant proportions of people sometimes or often went without food (an average of 49 per cent in each country), medical treatment (46 per cent), clean water (36 per cent) and fuel for heating or cooking (36 per cent).

iv. This includes commercial sex where people sell sex for money as well as situations where a women will exchange sex for food, shelter or protection.

Table 8: Shortages of basic goods and services, Southern Africa, 1999-2000

	Botswana	Zimbabwe	Zambia	Malawi	Lesotho	Namibia	South Africa
Shelter	6	4	5	14	13	16	5
Enough fuel to heat your home or cook food	31	43	29	41	38	40	28
Enough clean water to drink and cook	16	46	30	47	50	41	24
Medicine or medical treatment that you needed	16	38	49	58	69	54	38
Enough food to eat	49	60	38	54	61	50	34
A cash income	52	77	69	69	80	71	47

In the last twelve months, how often have you or your family gone without: _____? Was it often, sometimes, rarely or never? (Percentage saying 'sometimes' or 'often' with reference to the previous twelve months)

World Vision writes:

Poverty assessment surveys done by World Bank and UNDP show that 66% of Swazis live in absolute poverty. For rural areas, the percentage of people living in absolute poverty is even higher in some areas is at 80%. Furthermore, data shows high inequalities in the distribution of income, with 10% of the population obtaining 60% of the country's income, and 90% of the population

receiving only 40% of the income. This gap is increasing. This is one of the major causes of poverty in the country. The high rates of HIV/AIDS have further contributed to the declining standards of living.[29]

The UN Common Country Assessment (from http://www.ecs.co.sz/cca) data show that in 1997 the food poverty line included 47.9 per cent of the national population (29.7 per cent of the urban population and 54.9 per cent of the rural), and the total poverty line included 65.5 per cent (45.4 per cent of the urban population and 70.6 per cent of the rural). Those who are unable to meet the food poverty line are described as 'very poor', those unable to meet the total poverty line as 'poor'. We have no evidence to suggest that the situation has improved and our workshop participants indicated they felt poverty was increasing.

Food production

There is a food crisis in the region. There are 14.4 million people at risk of starvation in six countries: Zimbabwe, Zambia, Lesotho, Swaziland, Malawi and Mozambique. In September 2002 James Morris, head of the World Food Programme (WFP), visited the region and recognized that food is only part of the problem; the heart of the issue is AIDS.

What the mission team found was shocking. There is a dramatic and complex crisis unfolding in Southern Africa. Erratic rainfall and drought can be identified as contributing factors to acute vulnerability, but in many cases the causes of the crisis can be linked to other sources … Worst of all, Southern Africa is being devastated by the HIV/AIDS pandemic. HIV/AIDS is a fundamental, underlying cause of vulnerability in the region, and represents the single largest threat to its people and societies.[30]

A WFP press report states, 'Across the six countries visited, healthcare workers universally emphasised the lethal combination of hunger and HIV – how the convergence of the two calamities sharply increase people's vulnerability to infection and disease. In every country visited the special envoy's team was confronted by a devastating mix of extreme hunger and severe shortcomings in agriculture, health, sanitation and institutional capacity'. The WFP estimated in September 2002 that 144 000 people faced food shortages in Swaziland and 15 000 tons of food per month were needed.

It should also be noted that the current food crisis comes on top of a general decline in the per capita production in the region. This is shown in Table 9 below. Up to 2000 all these countries had seen marked declines in output. Furthermore we know that while drought is a regular phenomenon, the current drought is recent which means its impact is not yet reflected in these indicators.

Table 9: Food Production

Country	Food production Per capita index (average 1989 – 91 = 100)		
	1991	1995	2000
Lesotho	81	80	81
Mozambique	92	89	82
Namibia	100	96	78
South Africa	98	79	92
Swaziland	102	76	67

Crop failure may result in rural urban migration and increased poverty. Stillwagon has shown 'that HIV prevalence is highly correlated with falling calorie consumption, falling protein consumption, unequal distribution of income and other variables conventionally associated with susceptibility to infectious disease, however transmitted.'[31] Malnutrition and parasite infestation depress both specific and non-specific immune responses by weakening epithelial integrity and the effectiveness of cells in the immune system. Protein-energy malnutrition, iron deficiency anaemia, vitamin-A deficiency (which are all poverty related conditions) decrease resistance to disease, including HIV.

Mobility

People's mobility is known to give both the opportunity, and increase the likelihood of having non-regular sexual partners. In a setting where people don't know each other, contacts are more anonymous. When people travel they are likely to be lonelier, drink and behave differently. The people of Swaziland are extremely mobile both within the country and across borders. In 1993 (Land and Housing Survey, MHUD) it was found that 54% of all urban households in informal areas maintained linkages with their rural homestead, visiting these at least once in the past month. While no recent data on internal migration exists, it is not thought that this will have changed substantially.[32] Swaziland is a small country with good infrastructure and as a result it is easy for urban dwellers to maintain contact with their rural homesteads.

In addition there is considerable cross border mobility, particularly to South Africa. There are the migrant miners, formally employed through The Employment Bureau of Africa (TEBA) and who travel as single men for periods of up to a year. There were 10 336 men employed on the mines in 1998. Many other Swazi seek employment in South Africa both formally and informally. They range from unskilled people to highly skilled people with further degrees.

We have an insight into the situation in urban South Africa from the Carletonville study. This important long-term study is based in the mining community of Carletonville about 100 km from Johannesburg and 50 km from Soweto.[33] It began in 1997, and aims to understand social and economic factors contributing to the rapid spread of HIV and AIDS in urban South Africa.

The rate of infection among adolescent girls in the study area is nearly 60 per cent. A large number of men in this community live in mine hostels. There are adjacent 'hot spots' in which more than 50 per cent of the women say they are commercial sex workers. The study shows that a range of factors raise individual susceptibility to infection. These are: active or poorly treated STIs, use of alcohol, and high numbers of life time sexual partners. Among men, protective factors were membership of a sports club, and circumcision (about half the men were circumcised). Among the protective factors for women was membership of a burial society or church. For all, living in a squatter area raised the chance of exposure to infection. All the risk factors are associated with low levels of social cohesion, poor women and relatively better off men.

These preliminary data from a long-term study are entirely predictable. They confirm that if you put people in circumstances where they cannot maintain stable relationships, where they are mobile, where life is risky and pleasures few and necessarily cheap, then sexually transmitted diseases will be rampant. If, further, there are inadequate medical services and little is available in the way of immediate, accessible and effective treatment for STIs, then HIV will spread rapidly . Some of the people in Carletonville – the miners, the sex workers and others – had relatively good incomes, but they had these in a poor community.

The Swazi economy

At the macro-level, GDP growth was fairly consistent up to 2002 (see Table 10). At the moment the outlook is poor. The global climate is not good and Swaziland faces some specific problems around access to the US markets through the African Growth and Opportunities Act (AGOA) and the Generalised System of Preferences (GSP) due to some unforeseen blunders in policy. Taiwanese companies and others in the garment industry have warned government that they will pull out if AGOA/GSP status is lost. Swaziland is not currently an attractive prospect for foreign investment.

Unfortunately there are real issues around both the structure of the economy and the type of employment being created. The number of formal jobs is shown in Table 11. There has been a real decline in the total number of people employed in the formal sector. This means that people are forced to make a living in the informal sector, through agriculture or by moving to South Africa. The Central Bank notes that the majority of jobs have been created in the textile sector – meaning low paid female workers – and the BSS shows that these workers have high levels of STIs, non regular partnering and low levels of condom use (see Table 3). The Environmental Impact Analyses for the garment industry factories (which was undertaken prior to their construction) warned that HIV would be a real problem and IEC and other interventions should be put in place from the beginning. [34]

Table 10: Macro-economic indicators[35]

Gross Domestic Product	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01
Total (E m) at constant (1985) factor cost	1 251	1 304	1 355	1 405	1 483	1 504
% change year on year	3.7	4.2	3.9	3.7	5.6	1.5
Per capita at constant (1985) factor cost	1 399	1 430	1 457	1 485	1 518	1 540
% change year on year	1	2.2	1.9	1.9	2.2	1.4

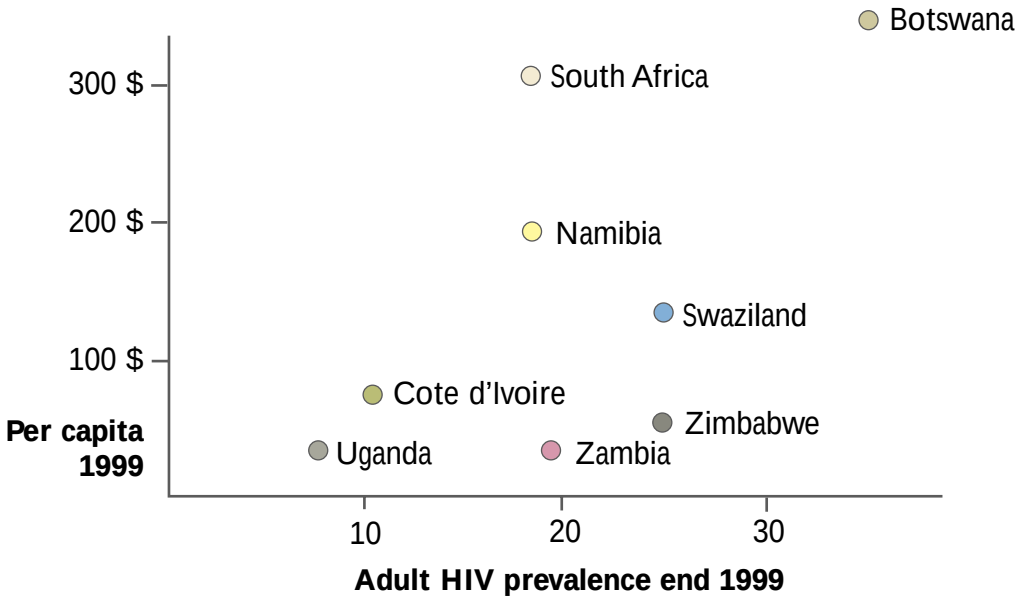
Table 11: Employment in Swaziland[36]

Year	1998	1999	2000	2001
Private sector employment	59 983	61 003	61 613	60 381
Public sector employment	31 891	32 210	32 693	33 216
Total formal employment	91 874	93 213	94 306	93 597
% change		1.46	1.17	(0.75)

Transition

There is not a simple causal relation between the epidemic and poverty. Botswana, with the highest per capita income in Africa, has the highest levels of infection. Part of the answer may lie in the type of economic growth or in economic decline. Rapid economic growth brings its own problems – disruption, deprivation, disease and death. Quick growth disrupts traditional norms as cultures and people cannot adapt to the changes.[37] In addition growth skews income distribution and changes distribution patterns.

Figure 9: Wealth and HIV



But growth alone is not sufficient to explain the spread of the epidemic. For example here has been little real per capita growth in South Africa since 1994. In that year per capita incomes stood at R13 786, in 1997 they were R14 249, but fell to R14 013 in 1999. Yet the epidemic here has spread rapidly. The issue of income distribution is probably as important as economic growth. Although there has been a great deal of work in this area, it has tended not to look at the relation between inequality and communicable disease.

There is an additional wrinkle to the discussion. Economies may change without affecting the macro-indicators. Again we can look at the example of South Africa where output has grown in real terms. However this disguises fundamental changes in the structure of the economy. The primary (agriculture, forestry and mining) and secondary (manufacturing, electricity, gas water and construction) sectors are shrinking as

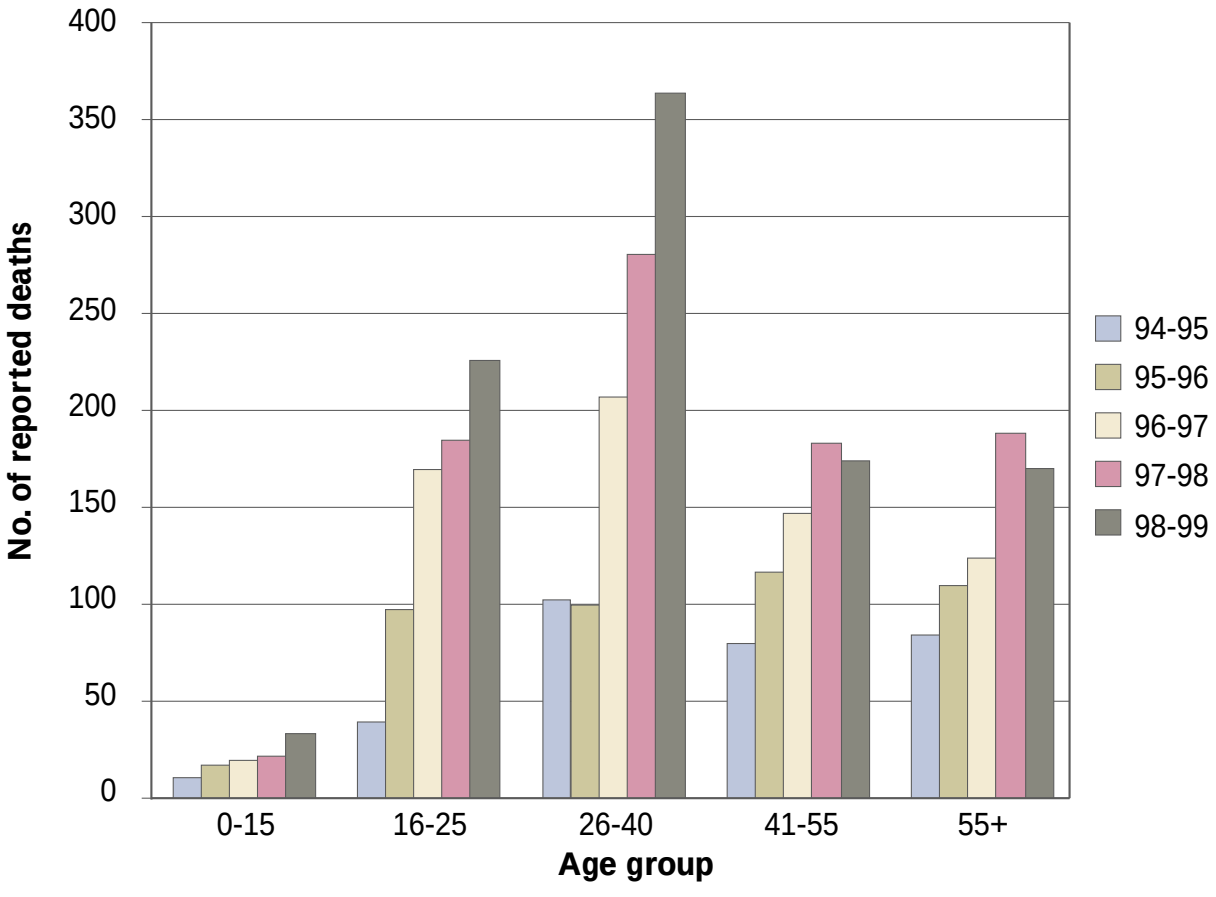
contributors to GDP, while the tertiary sector (all services – banking, insurance, trade and tourism) is growing. This new structure of production has resulted in a real decline in the numbers in formal employment. The unskilled have been worst affected. This is happening at a time when the economically active population is growing. A similar picture is seen in Swaziland: formal employment is stagnant while informal employment is increasing (and the tax base changing). While crisis may be a major driver of the spread of HIV, it is the transition and the transition process that is the most dangerous period.

Impact: what we know

Swaziland is experiencing high levels of HIV infection. Already the impact is being felt. This will manifest itself first in the increased demand for health care, and this is already being seen. There is rising mortality, the number of orphans is increasing and the social and economic impact of the disease will start to evolve. Although this section goes beyond the original brief of the study, it is included for the following reasons:

- Responding to impact – both in terms of care of the sick and dealing with the results of increased morbidity and mortality – is essential if prevention is to work.
- Impacts will start to evolve and will have to be dealt with.
- We have the information to review what is known on this in terms of existing studies.
- We believe that NERCHA will increasingly become involved in impact alleviation.

Figure 10: Reported deaths by age



Health care

The health care sector has to deal with the increased illness associated with AIDS. Over the years there have been reports of growing numbers of beds being occupied by HIV positive patients. The burden for the public sector increases as people exhaust their resources and are unable to access care. There has only been one study in this area in Swaziland. In 1998 the Ministry of Health looked at the HIV prevalence among patients in selected hospitals. The weighted prevalence figures showed that 49.5 % of patients were HIV positive: 52.8% for females and 45.6% for men. The highest levels were in the 20 to 39 age group.

The disease is having an impact on both the demand for health care and the ability of the government to provide it, and there is an urgent need to look further at this.

Increasing mortality

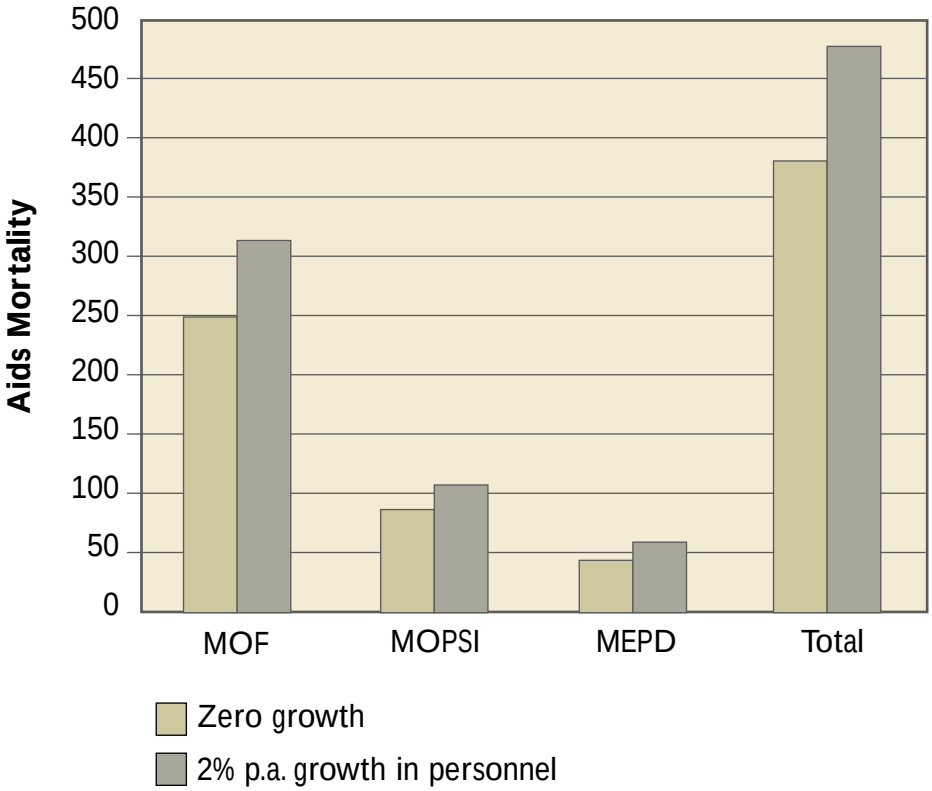
There has been one study of mortality in Swaziland using bereavement notices in *The Times of Swaziland*. These notices include a photograph and some biographical details. The study reviewed death notices in *The Times of Swaziland* from July 1st 1994 to 30th June 1999. The total number of deaths rose substantially during the period, as shown in Figure 10. These figures are consistent with the trajectory of deaths predicted from models. It is apparent that the majority of those dying are aged between 26 and 40.[38]

Central Agencies[39]

In 2001 an assessment was commissioned on the impact of HIV/AIDS on the three Central Agencies of the Government of the Kingdom of Swaziland. These are the ministries of: Finance, Economic Planning and Development, and Public Service and Information. It should be noted that these are three of the smaller government departments in Swaziland.

The demographic impacts of the epidemic presented in this study assumed that HIV prevalence within the three central agencies was lower than that in the general population by some 6% in 2001. Solely as a result of HIV/AIDS the three ministries will lose 32% of the staff complement to the epidemic over the twenty year period.

Figure 11: Projected AIDS mortality, Central Agencies, 2001-2021



As a result, AIDS will require that an additional 1.6% of the staff complement is replaced each year over the period 2001 – 2021 simply to maintain staffing levels.

The epidemic will result in increased pension fund contributions, sick leave, compassionate leave, training and other costs. The present value base cost of the epidemic to the three central agencies is (conservatively) estimated to be E10, 535, 994 over the period 2002 – 2010. This equates to some 1.5% of the annual salary budget for the three ministries.

Education Ministry[40]

In 1999 the Ministry of Education commissioned (with funding from UNICEF) what was possibly the first assessment of the impact of the epidemic on an education sector ever undertaken.

The report projects that primary school enrolment will decline rapidly from 2003 to 2011, and will only begin to level off after 2012. Each successive grade reflects the same trend, but occurring at a later date. Grades 6 and 7 will continue to grow as

access improves (based on past trends), but will begin to be affected by AIDS deaths in the year 2001. By the year 2016, with AIDS, there would be almost 45 000 fewer Swazis of secondary school-going age than without. The number of secondary school age Swazis is thus projected to drop by 22.7% by this year. Ultimately, by 2015 enrolment levels at both primary and secondary levels stabilises at 1999-2001 rates.

It is important to note that the projections assume that affordability of education will not become a problem due to AIDS. Qualitative findings in the study highlighted the enormous lengths families will go to in order to keep their children in school. Nevertheless, with 35 000 AIDS orphans by 1999, and an anticipated rise to 120 000 in less than a decade, severe problems in keeping children in school are foreseen. Many children will drop out of the schooling system simply because their labour is needed at home. The present situation in the schools, particularly in the drought prone areas of Swaziland, bears this finding out.[41]

With regard to the supply of education, the findings from the study were that teacher training would have to be increased. Rather than training 5 093 new teachers during the projection period, over 13 000 will need to be trained. With no expansion in the number of teachers trained and entering the system, the pupil teacher ratio would decline to over 50:1 by the year 2006, and remain at this level for the foreseeable future, reversing gains made since independence, with implications for education quality.

Additional costs to the educational system were predicted to be as high as E400 million for teacher training alone, over the period 1999 - 2016. Sick and death benefit costs to the system for teachers falling ill due to HIV/AIDS and dying of AIDS could rise to E1 billion over the same period. When expanded to the wider educational system (i.e., including the university and teacher training colleges) additional costs for teacher training and sick/death benefits for all may be as high as E1.725 billion over the seventeen year period.

Agriculture and the private sector[42]

The study aimed to establish the significance of HIV/AIDS for agriculture and the private sector. The first step was to gather information on the extent to which the pandemic affects this sector, and subsequently to develop interventionist strategies to combat the spread of the pandemic. The study shows that households and the community will feel the negative socio-economic impact of HIV/AIDS more than any sector. In many instances a decline of family income has occurred because of higher adult mortality and morbidity and additional expenditures on health. The widening of poverty had led to children dropping out of school. The Swazi household proves to be endangered by these factors.

With regard to the private sector the study notes that,

> *Whereas increased morbidity and mortality amongst the workforce in the private sector has increased absenteeism and costs on funerals, there is no evidence that HIV/AIDS has affected the profitability and productivity of Swazi business. The response by Swazi business to the epidemic has focussed mainly on avoidance of costs associated with the pandemic.* (p. 115)

The study therefore highlights the need for the private sector to re-conceptualise this approach so as to effectively address the HIV/AIDS pandemic in that country. A need to invest in comprehensive management of the disease to improve the quality of life amongst the workforce is strongly emphasised and recommended by this study.

Orphans and vulnerable children

It bears repetition that the most serious socio-economic consequence, are at the household level, and particularly for children from households where their parent/s have died or who are otherwise affected by the epidemic (i.e., households where adults are ill or that have absorbed AIDS orphans).

The United States Agency for International Development (USAID) study entitled 'Children on the Brink' emphasises that the disease is causing children to be orphaned on a huge scale. Swaziland is one of the countries where more than 15% of the children below the age of 15 years are orphaned. The projection to 2005 indicates that this will rise to 24%. Research also indicates that this will accelerate through to the year 2010. Present projections indicate that there are 32,000 AIDS orphans in the country (2001) and that by 2010 there will be some 120,000 AIDS orphans.

UNICEF's Swaziland Situation Report (5 August 2002) states that the number of orphans has doubled to 40 000 in the last two years. This is increasing by 10 000 annually due to the HIV/AIDS epidemic. Those orphans at highest risk are children in child-headed households.

With the increasing numbers of children orphaned by HIV/AIDS in Swaziland, organisations including NGOs and the government child welfare department are investigating ways to support and care for such large numbers. It is universally accepted by these organisations working in child support programmes that:

- Such support should be child-centred.
- Children should remain in their parental home where they have the possibility of some community support, retain ownership/property rights and thus have a more secure future.
- Families must be given support to strengthen their capacity to cope with the problems they face.

- Communities should be mobilised and strengthened to respond to the needs of children orphaned by HIV/AIDS.
- Children themselves should be strengthened and supported to meet their own needs.
- Collaboration between organisations is essential as no single group or individual has the capacity to make a definitive difference.

While there are a number of organisations (UNICEF, SOS/Salvation Army, other Faith-based and Community Organisations) which have developed programmes to assist orphans and vulnerable children, there is no over-arching national effort to coordinate this response and drive the process forward.

Innovative responses

The most vulnerable group in Swaziland are young out-of-school youth especially young women. They are probably the core transmitter group, but the onward transmission from this group is inevitable because of the way they are exploited by society at large and older men in particular.

A typical pattern of transmission might be: Older man has sex with young unemployed uneducated women in exchange for a night out – young woman infects boyfriend and the next two older men she sleeps with – older men infect wives who in turn have a 30 per cent chance of infecting their infants. This pattern of transmission can be diagrammed or mapped.

We identify the following key issues as drivers of the epidemic in Swaziland:

- Lack of opportunity and inability of youth to stay in school.
- Mobility of many groups.
- Lack of power of women in Swazi society.
- The breakdown of socio-cultural norms.

The question is what works in prevention. Here we ask what happened in Uganda – the one country where HIV prevalence is really declining.[43] HIV prevalence fell from 21.1% to 9.7% from 1991-98 in 15 antenatal clinic sites. These declines are repeated in other national datasets (army recruits and blood donors). This shows that HIV prevention can work and change the course of an epidemic over a matter of years, even in poor countries.

What worked in Uganda? The major mechanism was a reduction in non-regular sexual partners by 60% over the period 1989-95, and an associated contraction of sexual networks.

> *When Ugandans were asked how they had changed their behaviour due to AIDS by 1995 they responded with the following: 48% of men and women reported that they stuck to one partner, 11% of women and 14% of men stopped all sex, and 2.9% of women and 12.5% of men started using condoms.[v] While condom use had increased in Uganda, it was not comparatively higher than in other countries.*[44]

The major difference was in primary sexual behaviours. There was a substantial decline in sexual partners—both in Uganda over time (1989 compared to 1995) and

v. Breaking this down by marital status: among unmarried men, 38% stopped all sex, 17% stuck to one partner, and 20% started using condoms. Among married men 65% stuck to one partner, 1% stopped all sex, and 8% started using condoms. In all these situations, 55-65% of people reported changes to primary sexual behaviours. This conforms with the Ugandan AIDS policy which focused on delaying sex among youth and sticking to one partner among adults. Despite being largely ignored as a best practice this has had much success.

compared to other countries. When comparing Demographic Health Survey data, among 15-24 year olds, 19.1% of men and 6.5% of women report casual sex in Uganda in 1995, compared to: 56.8% and 20.1% in Kenya in 1998; 55.9% and 20% in Zambia in 1996; 55.9% and 20% in Malawi in 1996; and 47.8% and 14.9% in Uganda in 1995. The number with two or more concurrent partners fell from 43% to 12% among men, and from 13% to 1% among women, from 1987 to 1992.

Basic behaviour changes are necessary to reduce HIV at the population level. Ugandans show a basic behavioural response to the HIV epidemic and the avoidance of risk associated with multiple partners. Ugandans did not give up sex, but had sex within relationships, or as their communication campaigns clearly urged 'zero grazed' and 'loved carefully'.

Although the behavioural response occurred and was initiated at community level, it was supported in each aspect by government policy on behaviour change, communications, 'openness' and basic care. The way community and political efforts have reinforced each other is rare in a national response to AIDS. Both approaches were open to the fact that they were facing an epidemic, but an epidemic in which risk behaviours for many people were largely avoidable. Even in 1989, when there were limited options and condoms were not widely distributed, 85.2 per cent of Ugandans thought AIDS could be avoided. Having multiple partners was a risk behaviour which many people felt they could reduce and largely avoid in the face of an epidemic.

The general population in both urban and rural areas joined the fight against AIDS, so it became a 'patriotic duty' to support the effort. Spreading the word involved not just 'information and education' but a fundamental behavior change-based approach to communicating and motivating. Decentralization itself was actually a type of local empowerment that involved local allocation of resources – in itself a motivating force. Uganda's approach to behaviour change relied on 'non-electronic' mass communication – which was community-based, face-to-face, and culturally appropriate. Strong non-governmental organizations (NGO) and community-based support led to flexible, creative, and culturally appropriate interventions that worked to change behavior despite extreme levels of post-civil war household poverty.

Linked to high-level political support and grassroots-level communication for behavior change was a strong emphasis on empowerment of women and girls, targeting youth both in and out of school, and aggressively fighting stigma and discrimination against people living with HIV/AIDS. Teachers were made HIV/AIDS literate. Youth-friendly approaches promoted partner reduction through talking about delaying sexual debut – remaining abstinent, remaining faithful to one uninfected person if 'you've already started,' 'zero-grazing,' and using condoms if 'you 're going to move around.' Of particular note is the indicator for the proportion of youth that has not yet begun to

have sex. In an African Medical and Research Foundation (AMREF) study in Soroti District cited by Vinand Nantulya, among youth age 13-16 nearly 60% of boys and girls reported having already 'played sex' in 1994, but in 2001 that proportion was down to less than 5 per cent.

The communications channels were crucial for this. In Uganda, personal networks of friends and family were dominant, unlike all other countries. A high number of women (82%) had heard of AIDS from this source, compared to 40-65% in other countries. Communication through social networks also dominated in Uganda when stratified by urban (74%), rural areas (84%) and among men (70%). In other countries: Kenya, Malawi, Tanzania, Zambia, and Zimbabwe mass channels still dominate (and did in Uganda in 1989). There was a unique shift in Uganda between 1989-95, in the dominant channel for communicating about AIDS, from formal to informal channels. The issue of AIDS had taken root in social and personal networks in conversations between friends, families and in communities.

A second communication component, which is distinctively high in Uganda, is knowledge of someone with AIDS. This draws people close to the reality and consequences of the epidemic. A higher proportion, (91.5% of men and 86.4% of women) know someone with AIDS or who has died of AIDS in Uganda. In urban areas 94% of women and 96% of men know someone with AIDS or who has died of AIDS. In Uganda this age difference and communication deficit among the youngest ages has been bridged. There is bridging social communication across age groups. Aunts and other figures seem particularly important in communicating about AIDS to girls and young women (rather than their partners), creating a dialogue around sexual behaviours and AIDS. Women still see their partner's behaviour as a major risk. The perceived individual risk of men and women of the same partnership are often very different.

Political leadership is often emphasized in Uganda, and was important. But it is rare to get really trusted communications from leaders, without them being connected to horizontal personal communications. Museveni may well be an exception rather than provide a general lesson. This high-level political support with multi-sectoral response is regarded by the USAID publication as having set the tone. In 1992, the multi-sectoral Uganda AIDS Commission (UAC) was created to coordinate and monitor the national AIDS strategy. The UAC prepared a National Operational Plan to guide implementing agencies, sponsored Task Forces, and encouraged the establishment of AIDS Control Programmes in other ministries including Defense, Education, Gender and Social Affairs. As of 2001, there were also reportedly at least 700 agencies –governmental and non-governmental – working on HIV/AIDS issues across all districts in Uganda.

Respecting and protecting the rights of those infected by HIV has been inspired since 1988 by a number of prominent Ugandan citizens, and by public events such as candlelight memorials and World AIDS Day observances.

Religious leaders and faith-based organizations have been active on the front lines of the response to the epidemic. Mainstream faith-based organizations wield enormous influence in Africa. Early and significant mobilization of Ugandan religious leaders and organizations resulted in their active participation in AIDS education and prevention activities.

Voluntary counseling and testing (VCT) services also played a role in Uganda's success. In 1990, the first AIDS Information Center (AIC) for anonymous VCT opened in Kampala. By 1993, AIC was active in four major urban areas as more and more people became interested in knowing their sero-status. AIC pioneered providing 'same day results' using rapid HIV tests, as well as the concept of 'Post Test Clubs ' to provide long-term support for behavior change to anyone who has been tested, regardless of sero status. Condom social marketing has played a key, but evidently not the major role. Condom promotion was not an especially dominant element in Uganda's earlier response to AIDS, certainly compared to several other countries in eastern and southern Africa. In Demographic Health Surveys, 'ever-use' of condoms as reported by women increased from 1 per cent in 1989, to 6 per cent in 1995 and 16 per cent in 2000. Male ever-use of condoms was 16 per cent in 1995 and 40 per cent in 2000. Nearly all of the decline in HIV incidence (and much of the decline in prevalence) had already occurred by 1995 and, furthermore, modeling suggests that very high levels of consistent condom use would be necessary to achieve significant reductions of prevalence in a generalized-level epidemic. Therefore, it seems unlikely that such levels of condom ever-use in Uganda (let alone consistent use, which was presumably much lower) could have played a major role in HIV reduction at the national level, in the earlier years.

Can this success be replicated? It must be remembered that many of the elements of Uganda's response, such as high-level political support, decentralized planning, and multi-sectoral responses, do not affect HIV infection rates directly. Sexual behavior itself must change in order for sero-incidence to change.

Conclusion

The primary questions asked at the March workshop were: what is missing from this report (in terms of other work we have not accessed as well as research gaps), and what are the drivers of the epidemic in Swaziland? The next step was to look at key innovative and targeted responses. This was done at the April meeting and is the subject of a separate document.

In doing this work the authors have arrived at a number of conclusions, both in reviewing the material and in the meetings and discussions with colleagues in Swaziland. These are presented here.

The overarching impression is that the epidemic is hitting Swaziland. People know that it is there and that it is serious. Young people are dying in increasing numbers, funerals are common, the number of orphans is increasing.

The data on HIV prevalence is accepted and people understand that morbidity and mortality will rise. The cause of this rapid growth in infection is understood. Of great concern is the breakdown in socio-cultural norms. There is a tendency for leaders to say 'do as I say not as I do', and in the context of economic stagnation this message is not one young people want to hear or act on.

However most Swazi are not infected and NERCHA has taken as its challenge to ensure that they stay this way. The triangle of prevention, treatment and care and mitigation of impact is one that is well understood and is being acted on.

We believe it is possible for Swaziland to turn the epidemic around. It will be done through the many interventions planned and carried out, by empowering people, and building a stronger society.

Appendix 1: Summary of the 7th March 2003 Workshop

During the preparation of the report and at the workshop we held we developed and heard a number of ideas and suggestions. This annexure reflects the suggestions and findings of the workshop.

HIV/AIDS information

- While people are aware of the HIV/AIDS pandemic the quality of knowledge is not good.
- The information should reflect the complexities of Swazi society.
- More (most) material should be provided in SiSwati.
- Messages must be consistent.
- Youth should be encouraged to play a role in HIV/AIDS campaigns.

Blood safety and medical supplies

- Maintain safe blood, address medical safety and consider providing gloves, disinfectant and other equipment to home- based carers.

Sexually transmitted infections

- Swaziland lacks data on STIs. More research must be conducted to fill this gap and subsequently disseminated such information to health officials and community organisations. (There is a recurrent recommendation that health data needs to be disaggregated for STIs).

Culture, governance and gender

- It would be helpful to have one body to co-ordinate, monitor, and evaluate all HIV/AIDS programmes undertaken by various organisations or institutions.
- All HIV/AIDS awareness initiatives should take into consideration Swaziland's socio- cultural dynamics.
- Programmes on TB, STI's, teenage pregnancy, and HIV/AIDS need to consider the urban and rural divide in Swaziland.
- The issue of intergenerational infections need to be addressed.

- There is a compelling need for a coherent and systematic intervention strategy by Swazi leadership and various organs of civil society. These interventions have to transcend existing political and cultural divisions.
- Gender roles in Swaziland have to be redefined.
- Swazi leadership, particularly traditional leadership, NGO's, CBO and youth organisation need to consider having an open dialogue on issues pertaining to culture, political commitment, gender, macroeconomic and political issues.
- Democratisation of structures and processes for effective and transparent HIV/AIDS policy development should be at the core of the Swaziland government and civil society response for the purpose of economic and political development.
- As the Head of the Nation, His Majesty King Mswati III has to have a significant and clear role.

Education

- A coherent educational programme towards the HIV/AIDS pandemic has to be introduced in schools from the earliest primary school grades as a matter of urgency.
- Teachers should be able to impart knowledge and skills around HIV to children from a young age.
- Nurses and doctors should be introduced to an appropriate life skills' training that in essence will include ethical issues and sound interpersonal relations with the youth and patients infected or affected by STIs and HIV/AIDS pandemic. These relations require consistent monitoring by senior health officials.
- Education systems on communicable diseases have to link general understanding of the diseases to practical and appropriate responses followed thus far.
- Universities and (teacher training and vocational) colleges need to provide a leadership role.
- Public participation, particularly organs of civil society and parents have to have a significant role and input on the type of material that has to be offered in schools and the general Swaziland society.

Youth and parents

- Research on in- and out-school youth has shown that there is a large proportion of youth who are out of school today in Swaziland due to the socio-economic and cultural dynamics existing in the country. Being in school is a protector against HIV infection.This needs to be considered in designing programmes.

- There is a need for the establishment of coherent peer education institutions in Swaziland.
- With the assistance of civil society organisations and the Swaziland government youth has to be exposed to campaigns that specifically deal with substance abuse and alcohol.
- As the majority of Swazi live in rural areas a change in the outlook and orientation of HIV/AIDS awareness might be considered.
- Research has shown little evidence of smooth interaction between youth and service providers in hospitals and clinics. This needs to be addressed.
- Parents need far more information and help in talking to children. Government and community organisations have to develop parent-friendly programmes to expose parents to the dynamics of the pandemic.

Nutrition

- Nutrition and the AIDS pandemic have to be viewed as interrelated. HIV positive people in Swaziland need to be taught specific diets to stay healthy.
- More studies and research on nutrition are needed.
- Government could consider providing food rations to the families affected, - particularly to orphans of HIV/AIDS.
- Work can be done with the Nutrition Council.

Migration

- Migration appears to have serious implications in determining the extent to which the pandemic replicates itself in Swaziland. We need to better understand aspects of internal mobility, linkages between urban and rural family members, farm workers, estate workers, etc. This would allow targeting interventions aimed at combating mobility's in spread of HIV.

Research

- Research is needed on STIs, teenage pregnancy, and domestic violence.
- There is a need to promote socio-cultural studies in Swaziland.
- Consideration should be given to a committee on HIV/AIDS research ethics.

ARVs

- The role of anti-retroviral drugs needs to be assessed.

Condom usage

- People have to be taught consistent and correct condom usage.
- Condoms should not only be used to prevent HIV infection, but also to prevent STI infection and as a family planning device.

Information dissemination

- It is not sufficient to conduct research on HIV/AIDS and STIs alone, the government should ensure access to information.
- Information must be clear and consistent.

Appendix 2: Material provided for review (in chronological order - most recent first)

Behaviour and similar

1. *Schools Health and Population Education: the Baseline Study for the Swaziland In-school HIV and AIDS Prevention Programme, Draft Report*, February 2003
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9. Swaziland National AIDS Programme (SNAP). *Report on Sexually transmitted diseases, HIV/AIDS Education among in and out of school youth in Swaziland: a situation analysis.* 1999.
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17. The Project Hope *and* Family Life Association of Swaziland (FLAS). *Knowledge, Attitudes, Beliefs and Practices on AIDS: a National survey of Swaziland. 1990*. 1991.

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A. Ministry of Health and Social Welfare. Swaziland National AIDS/STDs Programme. *Eighth Sentinel Surveillance Report* (electronic copy), 2002.

B. Health Statistics Unit. *OPD attendances by month 1998 – 2000: Health Statistical Report*, 2000.

C. Environmental Consulting Services. *Scoping Report: Garment Factory, Matspaha Mbabane*, 2000.

D. Ministry of Health and Social Welfare. Swaziland National AIDS/STDs Programme. *Sixth Sentinel Surveillance Report*. 1998.

E. Swaziland National AIDS/STDs Programme. *Fifth Sentinel Surveillance:Final Report*, 1996.

F. Ministry of Health Swaziland National AIDS/STDs Programme. *Third HIV Sentinel Surveillance Report*, 1994

G. Medical Research Council. Tuberculosis Research Institute. R*andom Sample Survey of Tuberculosis prevalence in Swaziland, Research Report*. 1990.

One of the limitations for this project has been literature on Swaziland. Different sources have been consulted to that effect, but little was obtained. Below we show where we tried to access data in addition to that in that listed in the endnotes.

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3. *The Lancet*.1996. Vol 348, 1999, Vol. 355, 2000,Vol. 356., 2002, Vol.360

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12. http://www.census.gov/ipc/prod/wp96/wp96071.pdf (Focus on adolescent fertility in developing world)

13. http://www.unescap.org/wid/04widresources/01statistic/table2.2.pdf

14. http://www.afdb.org/knowledge/statistics/statistics_indicators_gender/gender/pdf/tab104.pdf

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3. Government of Swaziland. *Report on the 8th Sentinel Survey*, 2002 (electronic copy obtained 04/02/03)

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