



Draft

Impacts of HIV/AIDS on the Botswana
Education Sector: Summary

NOT FOR GENERAL CIRCULATION

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Impacts of HIV/AIDS on Education - Summary

The HIV epidemic in Botswana is one of the most severe in the world. In 2000 38.5% of all women attending antenatal services tested HIV positive and it is estimated that 32% of the adult population is presently infected with HIV. In this context it is unlikely that the education system will be spared from the devastating effects of this pandemic, which has the potential for reversing many of the gains that Botswana has made in educating its population.

Like other ministries of education in the Southern Africa region, the MOE in Botswana is grappling with planning for the impact of the epidemic on the education sector. HIV/AIDS raises four main questions for the education sector:

1. What is the role of the Education in preventing the spread of HIV among young people?
2. How does the sector ensure that all young people, especially orphans and other vulnerable children, achieve their full potential?
3. How does the sector, which is the biggest employer in the country, prevent HIV infections among their employees?
4. How does the education sector continue to improve access and quality of services in the face of the AIDS epidemic?

Last year a study was undertaken which looked at the impact of the epidemic at a school level. Because of this it was agreed that this study would focus on placing the impact of the epidemic, and the responses of the MOE, in a broader context of the impact of the epidemic at a societal and sectoral level. Also, this study would focus on providing some future scenarios that could assist planners. Issues around the costs of the epidemic to the education system, and management information that might be required to address AIDS impacts were also addressed. The methodology used in this study consisted of the following:

- Projections of levels of HIV/AIDS infections, illness and death among learners and staff.
- Interviews with key individuals in the MOE and other stakeholders.
- Field visits to four education districts
- A review of relevant documents, policies and regulations

Background

Botswana is one of the success stories of Africa. As a result of revenue generated from its mineral wealth, together with political stability, Botswana has been able to invest considerably in economic and human development. This has led to remarkable improvements in all areas of human development, from life expectancy to literacy.

However, Botswana faces significant challenges, independent of the AIDS epidemic. Although its per capita GDP is the highest on the continent, a large number of people still live in conditions of poverty. In addition, there are high levels of unemployment, especially among women and the youth. Botswana is a large, sparsely populated country, which creates logistical constraints. From being a predominantly pastoral society, there has been a rapid transition to a more modern, urban based society. Many

individuals and communities have to cope with challenges without the traditions and structures on which they could previously rely.

Pre-existing skills shortages will now be exacerbated by high levels of HIV/AIDS death and illness in economically active age groups, unless the education sector can produce new, well qualified graduates to fill the gap.

The Botswana Education System

The core of the education system is the 740 primary schools and the 270 secondary schools. The primary schools serve around 320 000 children and employ 12 000 teachers. Secondary schools serve around 145 000 students and employ around 8300 teachers. There are six teacher-training colleges, 3 technical colleges, and one University. Many students are sent abroad for tertiary education in specialist areas. Other vocational training and non-formal education for children out of school are also available.

The Ministry of Education in Botswana has made significant strides towards providing universally accessible education of good quality. Almost 100% of children enroll in primary school, and an increasing number are progressing to Junior Secondary School (up to 95%). Girls have had a high enrolment at all levels of the education system. There has been an impressive decline in both pupil teacher ratios, and pupil classroom ratios, to 28:1 and 41:1 respectively in 1997.

While access to education has improved tremendously, the focus has turned increasingly to the quality of education. The objectives set out in the 1994 revised National Policy on Education focus on raising the standards of education at all levels, emphasising science and technology, improving the partnerships between schools and communities and providing lifelong education to all sections of the population.

To achieve many of these objectives the education sector still has to overcome many obstacles. These include limited management capacity, together with a limited capacity overall. This has been exacerbated by the rapid expansion of the system. At the same time policy promotes decentralisation, which requires well-trained and competent managers at all levels. Many staff at all levels are still overly reliant on a rules and procedures based approach to their work, which reduces flexibility, responsiveness and efficiency. This is the opposite of the qualities that are needed to mount a successful challenge to the AIDS epidemic. Until 2000, education sector responses to HIV/AIDS were very limited. The epidemic was largely seen as a health issue and responses were largely limited to prevention of HIV among students. The relevance of HIV/AIDS to the sector more broadly was not widely appreciated or formalised in policy and structures.

Since 2000, major strides have been made. Important momentum was created by a presidential requirement for responses in each sector, and accountability and reporting to NACA. A Ministry HIV/AIDS Committee of all Heads of Department has been established. A HIV/AIDS coordinator has been appointed reporting directly to the Permanent Secretary. A Technical Working Group composed of focal point persons from all Departments has been established to plan and coordinate the Ministry's response. A strategic plan, including sub-plans for all Departments and certain key Divisions, institutions and units was formulated in February 2001.

The Impact of the epidemic on numbers of children

In the absence of AIDS the number of children in Botswana would have increased steadily throughout the next decade despite a decline in fertility in general. The number of young children is now expected to begin to decline. This is being caused by a number of different factors: declining fertility trends which were already in place; HIV/AIDS deaths among women of child-bearing age; reduced fertility of women

with HIV; and increased mortality among the children infected with HIV around the time of birth, most of whom die before the age of 5 years.

Projections indicate that the total number of people aged less than 25 years would have increased from around 920 000 in 1995 to 1 200 000 by 2015. However, as a result of the HIV/AIDS epidemic, the number of people under 25 will probably decline to around 860 000 by 2015.

Younger age groups will be affected earlier on, and the 0-4 year old age band is probably already declining in absolute numbers. The 5-9 year old age group, which includes children entering school, is likely to start declining around now, and will be around a quarter smaller than expected in the absence of AIDS by the end of the decade. Education system data shows that the growth in Std.1 enrolment seems to have been slowing for a while, and actually declined 3% in 1998. Numbers of older children will decline later, with 10-14 year olds decreasing in number from around the middle of the decade, and being about 20% smaller by 2010. Declines in the numbers of children in older age groups will only become apparent by the end of the decade.

These projections are subject to number of assumptions. Changing assumptions about HIV-related fertility, and using different demographic models, has little impact on the projected number of children. Likewise, introduction of programmes to reduce MTC T of HIV will increase the number of children, but the effect is relatively small and it will take a while for these programmes to make a meaningful difference. In addition, enrolment into school is affected by many other factors, and so the issue of declining numbers of children needs to be seen in a context of accessibility of schooling combined with the many other ways that AIDS will impact on communities.

These projections have important implications for planners. The need for infrastructure, books and equipment is obviously related to projected numbers of learners. In addition, close monitoring is required to assess the accuracy of these projections. Projections indicate that education sector infrastructure and human resource planning has to anticipate substantial changes in the expected number of learners as well changes in the age profile of the population it serves. Human resource planners also need to consider impacts of HIV/AIDS on the rate of staff attrition. Changes in learner numbers will be difficult to predict, particularly at local level, and planning will have to maximise flexibility to deal with uncertainty.

How will HIV/AIDS affect students' needs?

Needs for HIV prevention

The challenge. Antenatal survey data indicates that infection rates are close to zero in the early teens, and then rise rapidly from the mid-teens to as much as 40%- 60% among women aged 25-29 in many communities. In young men the rise in infection occurs later, but is thought to rise to levels similar to peak levels in women by the time men are in their 30s. For all males and females combined, young people rates are estimated to rise to around 1-in-10 in the 15-19 age group before leaping to between one-in-three or one-in-two in the early 20s.

HIV infection fundamentally challenges the mission of the Botswana education sector. At current rates of infection, up to half of all students will become infected during or soon after their education. Most of these will either die of AIDS or have a chronic disease requiring ongoing anti-retroviral treatments before they reach the age of 40. Failure to prevent HIV infection among learners thus represents the single greatest inefficiency of the education system in its efforts to promote human and economic development. More than any other sector, education has opportunities to influence levels of HIV infection among young

people now and in future years, through its direct access to and influence on cohorts of children as they move through the system.

Responses. The main approach of the MOE to HIV/AIDS education has been to infuse topics into other subjects. Content has often been biased mainly to technical aspects of HIV/AIDS. The programme has only recently begun to target primary school students in Standard 6 and 7. The MOE is currently piloting new school health materials in CJSS and Primary schools. Other components of intervention include Guidance and Counselling and Educational Broadcasting. The sector has been supported by several NGO initiatives, particularly peer education by PACT.

Antenatal survey data and various surveys of knowledge attitudes and practices indicate that despite high levels of awareness of AIDS and basic HIV/AIDS knowledge, there has been no change in behaviour that seriously begins to turn back the epidemic.

Recommendations – HIV prevention

There should be no illusion that current initiatives are anything near what is required to produce and AIDS free generation. Key recommendations include the following:

- Strengthen and extend the current infusion-based programmes
- Fast track development of a separate stand-alone HIV/AIDS and life skills programme to deal in a more focused and holistic approach to HIV/AIDS than achieved through infusion.
- Aggressively extend initiatives to all levels of primary schools to educate children before they become sexually active.
- Strengthen peer education approaches and in particular the PACT programme.
- Aggressively increase HIV/AIDS training for staff in coordination with workplace prevention and impact management programmes.
- Ensure that all education staff and managers see HIV/AIDS prevention as the sector's core business and give it appropriate priority.
- Develop ways to address home, community and cultural issues that are undermining school programmes.
- Develop more flexible, innovative and participatory approaches to HIV/AIDS education to avoid "prevention fatigue" and allow new and more complex issues to be raised and addressed.
- Improve capacity and systems for monitoring and evaluating implementation of programmes.
- Increase focus on positive messages and care and support issues to combat fatalism and denial.
- Make schools a safe environment where HIV/AIDS can be discussed without fear of stigma and free from abuse and harassment by staff or other students.
- Develop specific plans to deal with students in particularly high risk situations eg orphans, proximity to army bases or construction projects.
- Develop and disseminate guidelines on accidental exposure to HIV in schools to reduce high levels of unnecessary anxiety and ensure safety.
- Create better, sustained linkages with the NGO sector and adolescent health services to enable them to be more effective partners.

Needs of infected learners

Educational institutions will face a significant number of HIV-infected learners who are infected with HIV, either from maternal transmission, or through sexual abuse or relationships in their teens.

The proportion of school-going age children who are infected with HIV infected will vary at different levels. In the age group 5-9, an estimated 1% of learners are infected but this could rise to almost 4% by

2010. The 10-14 age group is estimated to have levels of around 1% over the period. Around 10% of 15-19 year olds and 40% of 20-24 year old are estimated to be infected, with levels remaining quite constant over the decade in the absence of behaviour change.

The proportion of children ill with AIDS, even by 2010, is expected to be below one-in-100 children aged 5-9, down to one-in-2000 in 15-19 year olds. Deaths from AIDS are likely to be substantially lower than deaths from other causes among children aged 7-19.

Significant numbers of students will therefore need support to deal with psychological trauma and stigmatization around HIV infection or fear of infection. However, risk of accidental exposure to HIV infection in most schools is likely to be quite limited and quite small numbers of students will need medical support. Universal precautions and medical or other support for learners with AIDS will remain important issues for individuals and school communities. But they are likely to be lower overall priorities than prevention of sexual transmission, including STD treatment, and management of other impacts of HIV/AIDS on learners.

Orphans and other affected children

The biggest impact that the HIV epidemic will have on students will be through the disruption of families and households. AIDS orphans are already recognised as one the most critical challenges facing Botswana.

Estimated numbers of orphans. Projections, which seem to be reasonably consistent with reported numbers of orphans, indicate that the total number of orphans in Botswana will rise rapidly from 38 000 in 2000 to 101 000 in 2005 and 161 000 in 2010. Orphans will be concentrated in school-going ages. Around one in 10 children aged 5-14 are estimated to have lost their mothers to AIDS but almost one in three children aged 5-9 and one in two aged 10-14 are expected to be orphaned by 2010. In some districts, schools and classrooms, rates of orphanhood can be expected to be higher than these average levels. Some secondary school teachers already said that 20-30% of students in some classes are orphans.

Impacts of orphanhood on schooling. Orphans' schooling can be affected through economic stresses in their households; psychological impacts of illness and death, stigma and abuse; and new responsibilities to care for the sick, the elderly or siblings and loss of parental guidance. A number of studies in Africa have shown that orphans are at substantially higher risk of delayed enrollment, poorer school performance and drop out rates in excess of 30%, although they do not always seem to be at higher risk than non-orphaned children with living in poor households. Girls tend to be at higher risk, and impacts often occur before children are orphaned due to effects of illness on their households. A common reason that children drop out of school, or perform poorly, is lack of material resources to meet basic needs. If short-term crises can be avoided or managed, many orphans can continue successfully with their schooling.

In Botswana, there is mixed data on how severely orphanhood is impacting on drop out rates and education outcomes. All available information may be significantly biased and provides limited data on vulnerability. Anecdotal reports of negative impacts are frequent but most teachers have mainly reported poorer performance rather than drop out. Sources suggest that between one third and one half of orphans need active support.

So far, however, it seems plausible that adverse effects on educational outcomes are lower than experienced elsewhere. Botswana has several strong advantages in reducing impacts of orphanhood on schooling. These include a formal grant system and school meals to meet basic material needs, an established culture of schooling and high female enrollment, less reliance on child labour for subsistence

tasks, home based care systems that can relieve children of caring for sick adults, and relatively good prospects of advancement after successful schooling.

Nevertheless, there are a number of reasons why complacency is misguided at this stage. The effects of orphanhood may be under-estimated through limited awareness among many teachers, or because rates are still relatively low, making effects difficult to identify in many classrooms. In a schooling system that is striving to improve quality and extend access, more subtle effects have increased importance. More importantly, Botswana is at an early stage in its orphan epidemic and the epidemic is set to be more severe than in most other countries that have been studied. Extended families and other support systems will become increasingly strained in the near future. Effects such as re-orphaning of children becoming more common and group psychological effects of the epidemic on learners and society may change current norms around schooling in unpredictable ways. Many non-orphans will be affected indirectly by AIDS impacts on their friends and families, particularly if children in households that take in orphans face declining levels of nurturing and resources per household member. Orphans and other affected children will also be exposed to higher risk of HIV infection themselves, as they may be more likely resort to unsafe sex for material or psychological reasons and are at high risk of abuse.

Responses to needs of orphans and vulnerable children (OVC). There has been limited systematic leadership from the MOE on this issue until recently, and no clear definition of an Education sector role in Social Welfare and DMSAC strategic plans. Nevertheless, many teachers and schools have developed a range of responses to OVC needs. These include recognition and referral of OVC for grants and other support, providing supplies, monitoring orphan well-being, interacting with households and HBC teams to address stresses on children, addressing psychological needs and behavioural disturbance, and developing school HIV/AIDS plans. The responses show that a wide range of functions are required and feasible, and that coordination with other sectors, particularly social welfare and HBC, is critical. They also show that a wide range of resources is potentially available in each school setting to share the burden.

However, the level of response varies considerably, and teachers and schools feel daunted at the challenge of responding to increasing orphan numbers. There are a number of important obstacles to be addressed. Particular problems include weaknesses in the Guidance and Counselling (G&C) system, lack of support by school heads and other teachers, inaccessibility of Social Welfare systems and poor coordination with schools, and the need to define HBC team involvement, and the roles of communities, NGO/CBOs and other District stakeholders.

Recommendations – orphans and affected children

There is clearly a need for a more systematic education sector response to needs of orphans and vulnerable children. Social Welfare is battling to cope with the number of orphans, and HBC organisations have other workload. All other stakeholders have significant limitations. The education sector has a direct interest in ensuring that OVC are supported. It also has the single largest body of professionals and an organizational network throughout the county, and is thus a major resource to the nation in reducing HIV/AIDS effects on the next generation. However, a major shift in understanding of the role of schools towards seeing them as part of a multi-purpose development and welfare system, not just a place of teaching is required if they are to successfully preserve the development potential of many students. This may be difficult initially and will be gradual, but will have relevance well beyond 2010. The following components of an education sector response are proposed.

- *Develop policy to define roles, responsibilities and mandates.* Several principles are suggested to guide this.
 - *Responses should be based on the idea of creating networks to address the various needs.* This requires reaching consensus with other sectors, particularly Local Government and

Social Welfare, Health and HBC, District leadership and DMSACs, community organisations, police and prosecutors. Within schools the networks should include managers, class teachers, parents and students' peers.

- A key issue is to *define overall responsibilities and accountabilities* of school heads and other sectoral leaders. They should have *flexibility* in precise allocation of tasks between network members to deal with the particular capacity and other circumstances available.
- Focus should be on developing *efficient systems* eg for referrals, as this will often be more feasible in the short term than building capacity and capabilities.
- *The core functions of schools* should be to recognise vulnerable children early and to mobilise timely responses to prevent crises that threaten schooling. In addition, schools and other sector components should enable any drop outs to re-access school or other educational opportunities.
- *Priority should be given to ensuring that basic material needs of orphans are met through coordination with Social Welfare.* Psychological counseling and responses to other needs are required but may take more time to mobilize given constraints on skills and capacity.
- *Coordination with prevention and workplace activities.* This is advisable both because of synergies between prevention and support, and to avoid duplication.
- *Guidance and counseling.* Over reliance or responsibility shifting to G&C within schools must be avoided due to limited skills and time of G&C teachers, and inherent requirement for involvement of other role players. However, G&C is a natural and relatively motivated system to provide key capacity for HIV/AIDS responses.
 - It is recommended that as a rule, one full-time equivalent post is allocated for G&C per school but this may be shared between teachers, depending on motivation and skills.
 - G&C capacity and systems in primary schools need urgent strengthening.
 - Several other key issues require consideration, including: adequate timetable time for G&C and recognition of OVC work outside the formal timetable; career paths and improved selection strategies for HODs and G&C teachers; training and skills development, particularly in practical counseling skills and working with other sectors; flexibility to appoint social workers to key HIV/AIDS related posts in view of their skills; and mandates in relation to outreach, where they may meet resistance from families when investigating OVC problems.
- *Class teachers.* Obligations of all class teachers in OVC identification and monitoring, and in preserving confidentiality around OVC problems should be well defined in guidelines. They should be encouraged to develop skills and take on other roles as part of the team.
- *Social welfare.* Social workers are critical to OVC support through grant provision and also have counseling skills that tend to be better developed than among teachers. However, social workers are clearly overloaded. Complaints of delays and poor communication by social workers seem almost universal. This seems to be due to capacity problems but also major inefficiencies. Social workers spend a large part of their time ordering and delivering rations rather than doing skilled functions such as counseling and assessments.
 - MOE and regional/district structures should facilitate development of clear referral and other coordination systems with Social Workers.
 - Education should support MLG attempts to: increase the status and capacity of the Social Welfare Division in the Ministry; obtain more posts for social workers; appoint dedicated stores officers to relieve social workers from less skilled tasks; training of social workers to enhance skills including time management; monitor and review grants and foster care systems.

- Guidelines and systems should, where necessary, create flexibility for schools to take on certain social worker roles including purchase and distribution of uniforms and other orphan supplies, and basic OVC assessments and monitoring.
- *Peer support.* This should be cultivated. PACT should receive sustained support to maintain and extend functioning programmes.
- *OVC Audits.* All schools should be required to obtain information on each student's home circumstances once per term to identify vulnerable children and mobilize responses where appropriate.
- *Coordination and support capacity.* Specific structures and dedicated support capacity should be created at the level of each district and region to facilitate development of efficient orphan support systems and provide direct support to schools and teachers where necessary.
- *Caution around cost recovery policies.* Intentions to increase cost recovery in the sector should be considered with caution as they may raise important barriers to OVC education.
- *Further investigation and planning on specific issues.* These include: hostel accommodation; school counseling rooms; flexibility to accommodate learners who cannot conform to conventional school hours or whose schooling is interrupted; pre-primary programmes to nurture young orphans and relieve older siblings of responsibilities for care.
- *Consideration of vulnerable non-orphans.* Many non-orphans will face similar pressures to orphans and should not be excluded in ongoing planning.

How will HIV/AIDS affect capacity to deliver education?

It is generally acknowledged that the teaching service in many African countries has been severely affected by AIDS. Death rates in excess of 3% per year have been reported in at least two countries, and some prevalence surveys indicating teachers have higher infection rates than other adults. Whether this is due to risk factors particular to teachers, or whether this is a result of teachers being predominantly young women who have high risk is not clear. However, it is evident that the AIDS epidemic has already caused an increase in mortality among teachers in Botswana, although from a very low baseline. Mortality rates among primary school teachers rose most dramatically between 1994 and 1999, almost certainly a result of the AIDS pandemic.

To understand implications of the mortality trends that are being seen among teachers, projections were done of impacts on educator and non-educator staff in the education sector.¹ Data on the demographic profile of staff in the education sector were obtained from the Infinium database, and the projected levels of HIV infection were then applied to them. There were 20 794 educators for which information was available. Of these 57% are based in primary schools. 68% are women, and around three-quarters of educators are below the age of 40, both suggesting relatively high risk. Empirical data suggests that teachers death rates were around 50% lower than the general adult population. This could simply reflect a delay in the epidemic, rather than that teachers are at lower risk. However, a second more optimistic scenario was produced which assumed that teachers had 50% lower levels of HIV infection due to early behaviour change. On top of each scenario, an assumption was built in that an increasing number of teachers who developed AIDS would access antiretroviral drugs (ARVs), until around 85% of those who had reached the AIDS stage of disease would be treated by 2002. This significantly reduces the number of deaths due to AIDS.

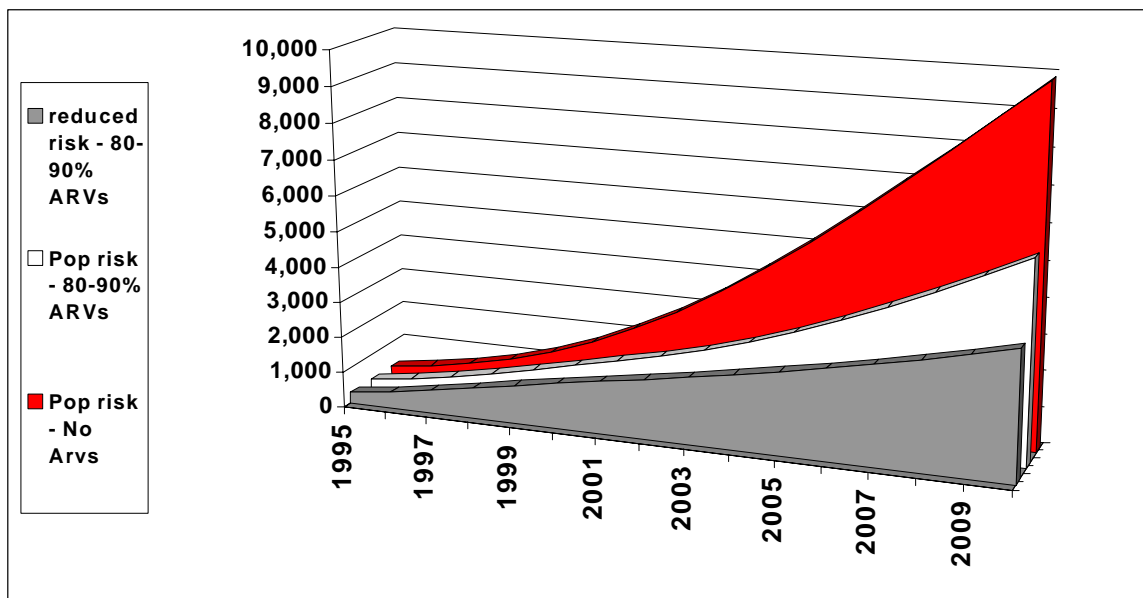
¹ The Doyle model Scenario D1 produced for Ministry of Finance and Development Planning (2000) was used to estimate population risk. This scenario projects levels and age patterns of adult mortality that appear consistent with the 1998 Demographic and Health Survey results.

While these projections can be argued to be consistent with various data, they should be considered with caution. Nevertheless, they provide some useful perspectives for planning. Firstly, they confirm that primary school teachers are expected to be at high risk due to their age and gender profile. Secondly, if teachers have the same risk as other adult Batswana with the same gender and age profile, it is possible that as many as half of all teachers and one in eight school heads are infected in 2001. If the teachers have the lower risk of infection, then the rate of infection among them infected would be around 24%. Even in this optimistic scenario, HIV prevalence has potential to continue increasing over the decade to about 30% in teachers by the end of the decade, unless there is successful prevention among existing staff and new entrants. Thus, even under optimistic scenarios, infection rates are a considerable challenge to the MOE.

One consequence of extensive ARV therapy scenarios is that an increasing proportion of staff will not die of AIDS and will therefore be on chronic medication, with some still being ill or requiring frequent check-ups. The number of employees who are ill or on ARVs will climb rapidly from around 1000 in 2001 to between 3 000 and 5000 teachers in 2010. In a 2000 survey it was found that all schools had at least one teacher who was chronically ill, which seems consistent with the projections.

The projections also indicate that 200 (ARV+ low risk scenario) to 500 (Population risk) teachers will die of AIDS in 2002. These numbers could rise to between 300 and 1000 teachers a year respectively in 2010. Access to highly active antiretroviral therapy (HAART) would thus make a large difference to educator mortality, and could mean that as much as 80% more teachers would survive over the course of the decade (see Figure 2), but would not remove mortality completely.

Figure 2: Projected cumulative number of AIDS deaths among teachers



While the mortality rates among teachers at a primary school level could be as high as 3.5% a year by 2010, despite antiretrovirals, the levels at a secondary level would be about 2.5%. While this is lower, it still is significant attrition.

It should also be borne in mind that overall levels of impacts will hide many schools and classrooms where impacts are much more severe than the average. Some schools or districts may have several sick or affected staff at once. Even an individual case of absence or low performance of a teacher for a week or more of the school year may have severe impacts on 40 or more learners.

Implications of staff infections

HIV/AIDS can have various impacts on sectors and institutions. Direct costs result from financial costs of employee benefits, hiring of temporary staff, and costs of recruitment and training. Indirect costs include loss of productivity due to absenteeism, loss of skills, low morale and low performance of ill employees. Most studies of HIV/AIDS impacts on employees and organisations indicate that the impact on overall organisation function and costs is seldom disastrous in any one year, unless a person occupying a key position is lost at a critical time, for example. Experience in other countries indicates that greater concern is the gradual relentless loss of skills that can build up to a significant deficit, and a gradual decline in quality. Concentration of deaths among staff in the 30-39 year age group, just when they have accumulated important experience, means not only loss of their skills, but can potentially compromise less formal processes of mentoring and skills transfer within the sector over time.

Experience in the Botswana education sector confirms that impacts on staff have not had a major impact on overall education provision so far. Schools and other workplaces find various ways of coping with illness or death of staff with relatively minor overall disruption at a system-wide level. However, illness and death of staff does clearly increase stress. Informants also indicated that they can be more seriously disruptive if a key person such as a deputy head or head is persistently sick or dies, or if several teachers are ill in one school at the same time.

Implications of costs for medical benefits are subject to a number of assumptions, but for the total education workforce under a ARV scenario, it seems likely that medical costs could well exceed 0.9 % of the basic salary bill in 2005 and 1.8% in 2010. Both Public Officers pension funds are structured in a way that mean that the cost implications of HIV/AIDS illness and deaths to the sector will be neutral. However, there is some concern that the levels of benefits provided to employees who are ill or die could be considered to not meet social objectives. Furthermore, the benefits give sick employees a financial incentive to stay in their posts until they die, even if this is otherwise undesirable for them or it seriously affects productivity.

Absenteeism could also be a significant cost, either in terms of paying for temporary cover or through lost productivity. In 2005 even in the ARV scenario it could exceed 0.9% of the current work days, rising to over 1.2% if the average employee who dies is absent for their full 120 days of sick leave.

As indicated even by projections, HIV/AIDS remains a serious concern even in optimistic ARV scenarios, due to the human impact and potential for loss of skills and for key staff to be affected.

Recommendations – internal impacts

Planners, educators and managers need to respond to the impact that the emerging AIDS epidemic will have on staff and learners. Key policy and planning issues include the following.

- *Development of an integrated HIV/AIDS workplace policy and programme.* The current HIV/AIDS strategy makes important progress in areas such as sensitization, starting prevention initiatives and beginning to address aspects of care and support. However, efforts are fragmented and do not systematically address ways to manage impacts on service function. It is

recommended that the the development process should be driven by high level capacity in TSM, in consultation with other relevant stakeholders and expertise.

- *Effective HIV prevention among educators, trainees and other staff.* The level of infection is high in all job categories, and makes prevention programmes and employee management a priority at all levels of the education system. Education sector employees are skilled, relatively empowered people. They are thus likely to be more able than most to protect themselves from HIV infection once they recognise their personal risk. However, visits to education Districts strongly suggest that many education managers and staff still have inadequate basic knowledge about HIV/AIDS.² Sector staff at all levels need to be empowered and develop new life skills to protect themselves from infection, just like any workforce. They need particularly strong skills to provide information to and support for learners, and to act as role models. The outcome of prevention programmes may be disappointing if they are not planned with a clear understanding of what has enabled similar programmes to succeed in other countries. The sector should also target structural factors related to employment, such as work away from regular partners, and types of staff or trainee accommodation, which may expose staff to unnecessary high-risk situations. Some Departments and units have already identified staff at risk through frequent travel.
- *Promote access to antiretroviral drugs.* Projections show that ARVs can have a profound impact on the number of teachers dying of AIDS. In addition, if HAART is available, uptake is high and treatment compliance is good, it narrows the difference between the projected death rates among teachers under the high and low-risk scenarios for teachers. The education sector should attempt to be a lead sector in ensuring that staff benefit from Botswana's ARV programme. Access to treatment needs to be enhanced, through increasing membership of BOPMAS or other means that may become available through the current government treatment initiative. Systems to ensure access to treatment for staff in outlying areas, to avoid congregation of chronically ill staff in major centers will be desirable. Management of treatment to increase compliance will be critically important to control costs and effectiveness. A HIV/AIDS management programme has only recently been introduced by BPOMAS.
- *Appropriate flexibility in human resource planning.* Levels of HIV/AIDS impacts are difficult to predict, particularly at institutional or district level. Planners at all levels will need to be flexible in their responses, and identify the "least risk" assumptions to be used in planning.
- *Identifying vulnerable workplaces and work processes.* The MOE, regions, districts and schools should undertake a systematic review of which workplaces and work processes in education are most vulnerable to absence or loss of staff due to HIV/AIDS and develop plans to ensure that these vulnerabilities are addressed. Performance of remote schools or those with small staff complements may be particularly vulnerable, for example. Even in job categories where mortality rates may be lower certain job categories such as senior management or specialist positions may create vulnerabilities.
- *HR management systems and capacity.* AIDS impact on staff will make active, effective human resource management a critical issue for the education sector. A major focus of the response will be to strengthen tracking and active management of absenteeism at all levels. New sick leave provisions and management should be seriously considered, as sick leave is at present very inefficiently managed, with negative implications for affected staff and institutional function. Performance appraisal systems will be important to ensure fair assessment and management of incapacity, among infected and affected staff. Effective succession planning, to facilitate skills transfer and avoid unnecessary delays in appointments, will be key to reducing service disruption. Streamlined systems and managerial skills around ill health retirement should ensure that

² For example, many were concerned mainly about HIV transmission to students through dirty toilets, food handling and utensils, or blood spills in the playground, rather than sexual transmission.

boarding occurs efficiently and neither too early or too late for the wellbeing of employees and maintenance of delivery. Systems around redeployment, transfers and work sharing are likely to become increasingly important. Incentives to staff to ensure that vacancies in remote or “unattractive” schools can be filled are likely to require specific attention.

- *Substitute and supplementary teacher systems.* Consideration should be given to strengthening the temporary teacher system as it is likely to be required extensively due to deaths of teachers and illness of staff either on ARVs, or who have failed or never had therapy. The system needs to be responsive to shorter- term, unpredictable and intermittent absenteeism. Projections suggest that cover should not add too substantially to the wage bill if it is well targeted and managed, and benefits in terms of students’ learning will be substantial. Consideration should be given to developing pools of trained teachers, or temporary teachers who receive some key in-service training to maintain quality. Teaching by community members or retired teachers may need to be facilitated for situations when a teacher is absent or dies and cannot be replaced rapidly.
- *Capacity sharing.* School clusters or district/regional level management units may become important options to ensure that all schools and programmes have access to scarce managerial capacity. They will have specific importance in providing skilled management of HIV/AIDS related issues among staff, as this may not be feasible in all workplaces at least in the short term. Staff may also not be confident to disclose HIV/AIDS related problems within their workplaces due to concerns around stigma and confidentiality.
- *Employee benefits.* The education system should actively engage with MPSA, other departments, employee representatives and BPOMAS and the two public service pension funds to ensure that medical and pension benefits are structured adequately to meet massive new HIV/AIDS-related needs of employees and their dependents in an affordable and cost effective way. Facilitating access of staff to good care will be important parts of strategy to reduce absenteeism and skills losses. Adequate medical care for employees not on medical aid should also not be neglected.
- *Care and support for educators.* Employee assistance programmes (EAPs) will be increasingly important to enable infected and affected staff to deal with stresses created by HIV/AIDS and initiate active management of impacts. EAPs can also provide a mechanism by which managers and planners can be made aware of the scale of HIV/AIDS related problems without compromising confidentiality of individual employees.
- *Improve information.* Many aspects of HIV/AIDS impacts on the education system capacity remain unclear and better information is required. Unlinked anonymous HIV prevalence surveys among educators and trainees should be considered to validate projections and to inform human resource management and prevention programmes. Tracking of illness, death and absenteeism among staff will also be critically important.

Implications for teacher training

As already mentioned, AIDS will cause a decline in the number of children, and this together with AIDS attrition among educators needs to be considered to assess the implications for teacher training. The previous report on AIDS impacts went into considerable detail on the issue of teacher provisioning. A model was developed to predict the number of teachers that were required to be trained at a primary and secondary level, in order to replace lost teachers and meet the targets as set out in the RNPE. While that report laid the basis for planning on this issue, it was decided to update those projections of teacher requirements with the educator specific projections that were produced for this study.

As mentioned above, two scenarios were used to project AIDS attrition. Both assumed an 85% access to ARVs, but the one scenario assumed that educators have the same risk of HIV infection as the general population, while the second assumed a reduced risk, of up to 50% of the general population. Therefore for the purposes of this report these figures will be given as a range of possibilities.

It is calculated that between 2 900 and 3 800 primary school teachers will require to be trained over the next decade. The four teacher training colleges have a combined output of 500 teachers a year, indicating that there will probably be no need to increase the numbers of teachers being trained. Over the same period the country will need to train 3000 to 3 500 Community Junior secondary school teachers, and around 1000 – 1200 Senior Secondary school teachers. This is certainly within the capacity of the existing teacher training colleges.

The numbers presented above give some idea of the scale of training of educators required, considering both the decline in the number of children, and the attrition of educators as a result of AIDS. However, the various assumptions used in such modeling exercises require some caution in interpreting results. Assumptions should be validated wherever possible as information becomes available. At present it seems most appropriate to err on the side of oversupplying teacher training, particularly in the case of scarce specialist skills areas.

Teacher training curricula will need to consider new competencies that may be required of educators. For example, they will need to be able to address prevention issues, respond effectively to needs of their HIV/AIDS affected learners and may need to have large-class skills. Many may need to take on management roles relatively soon, to fill gaps when more experienced educators become ill or die.

HIV/AIDS effects on the role of other education components

Vocational education and training

Vocational training has been suggested in some quarters as a way to provide an easier way for affected learners whose normal schooling has been disrupted. Thus expansion of VET is likely to have important benefits. However, there are certain vulnerabilities such as difficulties sourcing trainers, and relatively high cost per trainee when compared to normal schooling.

Non-formal Education

Initiatives such as establishing BOCODOL, the Centre for Continuing Education, and new facilities in regions, as well as distance learning radio and other materials, are likely to become increasingly important in education. The Department should be supported to give specific ongoing attention to:

- Programmes targeted at out-of-school youth. These are likely to be increasingly important. As programmes tend to target at somewhat older learners, need for adaptations should be assessed.
- Customised HIV/AIDS education for older target groups and out-of-school youth.
- Using community, CBO and NGO contacts to develop community involvement in school related prevention and care issues.
- Exploring opportunities for promoting income-generating activities.

Curriculum Development and Evaluation

Apart from key roles in G&C and developing prevention programmes, increasingly important aspects of CDE roles are likely to include:

- Continuing to strengthen relevance of the Basic Education Curriculum to the world of work. Adaptations to content and structure may be justified if fewer students than previously expected will complete 10 years of schooling.
- Increased roles of radio and distance learning materials to enhance learning when teachers are absent or less productive.

Special Education

Disabled children may well be at higher risk of sexual or other abuse and neglect, particularly when they are orphaned. Some children with HIV/AIDS may be candidates for support through special education services. The division may have particular expertise in developing support networks and systems through its work with NGOs that could benefit OVC initiatives.

Planning and research

The Planning and Research Division has to play an increasingly complex role in guiding policy and planning in view of changes and uncertainties created by HIV/AIDS.

- Routine Education Management Information systems, which are already being adapted to track HIV/AIDS impacts and responses, are likely to need more support capacity. This is required to: ensure more rapid processing of information to track emerging trends, support decentralized analysis and use of data for routine management of HIV/AIDS impacts in schools and districts; to track new data on issues such as medical care; and to perform more disaggregated analyses of data, as aggregated analysis may hide significant problems in certain locations.
- Consideration should be given to piloting a District/Regional Management Information system that collects and regularly analyses richer HIV/AIDS related and other data to inform local and regional management decisions.
- Greater coordination with other Departments, particularly TSM, the Primary and Secondary Education is likely to be needed to coordinate planning related to staff allocation and issues such as housing.
- More internal capacity for research, and ability to coordinate with research institutions such as UB will be needed to increase understanding of many aspects of HIV/AIDS impact. Importantly, quantitative information will need to be supplemented with qualitative data to understand impacts that may not be adequately reflected in the former.

Overall conclusions and recommendations

The Botswana education system is already beginning to experience the impacts of the AIDS epidemic. The impact will grow rapidly and continuously for at least the next 15 years. Future judgements of the adequacy of Botswana's response to HIV/AIDS are likely to be made mainly on whether we have preserved the lives, development potential and rights of the current generation of children and youth. The education sector is uniquely placed and essential to ensure success in responding to these challenges.

HIV/AIDS poses a direct challenge to the education system's mission and ability to function effectively. The epidemic threatens to undermine and even reverse the efforts of this system to increase its capacity and efficiency. Huge levels of "wasted investment" in individuals will result if students die soon after being educated. The epidemic also threatens the education of thousands of other students affected by HIV/AIDS in their households, and leaves them in economic and social circumstances that put them at high risk of infection. As students from disadvantaged communities are likely to be most affected by the epidemic, the challenge to social development objectives is particularly acute. Responses to student needs will increasingly require educational institutions to pro-actively provide, coordinate or facilitate responses to the broader social and economic factors that put young people at risk of infection, as well as the HIV/AIDS impacts on the socio-economic and psychological circumstances of learners.

This study is clearly limited in its ability to develop proposals on all relevant issues to be addressed and appropriate responses. However, the following recommendations are likely to be central to developing a more effective education sector response.

- *Leadership.* Effective responses to the new challenge of HIV/AIDS are unlikely without sustained, active political, managerial and professional leadership across all components and levels of the education system. Leadership will need to ensure that action occurs and to inspire renewed commitment to longer-term goals at times when role players are discouraged by inevitable limitations on their ability to prevent all impacts.
- *Actively reducing stigmatization, secrecy and denial around HIV/AIDS* is a major priority. These factors are increasing the human cost of HIV/AIDS and undermine prevention programmes, the ability to support infected and affected learners and staff, and the ability to manage impacts on system function.
- *Coordination with unions.* Botswana's teacher and other public service unions are increasingly aware of the impact of HIV/AIDS on members and society. However, their members may resist important aspects of change and new roles required in the education sector, and certain aspects of workplace policy and programmes may need to be negotiated. Liaison with unions to present a combined front to the epidemic is therefore likely to be important.
- *Refinement the Ministry's HIV/AIDS strategy and action plans.* The current plan has laid important foundations of the education sector's response. However, certain aspects of the plan have made limited progress and new knowledge and awareness of gaps have increased since it was developed.
- *Guideline development and adaptation of regulations and codes.* Development of practical guidelines is an urgent priority to guide decentralized action in many areas mentioned above as soon as policy and strategy are defined in various areas. Review of regulations, legislation and codes in a number of cases will be a prerequisite for appropriate action by officials.
- *School District and Regional HIV/AIDS plans.* A number of schools and education Districts have developed plans on instruction from DMSACs. Other schools, Districts³ and Regions should be required to do this and all should receive support to develop and refine them.
- *Inter- and intra-sectoral coordination and partnerships.* Many aspects of the responses to impacts of HIV/AIDS on staff and students require cooperation with other sectors. The MOE and its components at all levels need to be bold in ensuring that traditional divisions between it and other sectors, particularly Health, Local Government, Welfare and DPSM are overcome to allow for efficient responses. NGOs and community organisations are also key partners who are not adequately supported by government, and ways to streamline relationships with them is critical. Within the MOE, better coordination across Departments is needed, for example in workplace programme development and planning staff deployment.
- *Flexibility.* Many aspects of HIV/AIDS impacts and appropriate responses remain uncertain, particularly at school or institutional level. A key consideration in strategy is likely to be ways to create appropriate flexibility in many aspects of education system function to allow for appropriate, creative, and service orientated responses to unforeseen needs or circumstances. "Least risk" plans should be chosen where important uncertainties exist, for example, around levels of impacts on teacher and student numbers.

³ Although District management is currently being consolidated into Regions, the need for inter-sectoral coordination seems to make it imperative that a point person is located at District level.

- *Decentralised approaches.* Many responses to HIV/AIDS require solutions planned or led from the MOE. Examples include reform of the employment framework, plans for teacher training, curriculum reform and development of a range of policies and guidelines. Overall, however, managing the diverse, unpredictable nature of a wide range of impacts and circumstances will tend to be beyond the capacity and capabilities of centralised responses or centrally developed models. Initiatives to facilitate and support flexible, effective school and community level responses are likely to be a key component of strategy.
- *Reinforcing existing programmes that are relevant to managing HIV/AIDS, and adapting them where necessary.* Many current initiatives will enhance ability to respond to the challenge of HIV/AIDS. These include: managerial decentralisation and regional integration, performance management and management strengthening, strengthening VET, adapting curricula to prepare students for the world of work more quickly, reinforcing non-formal education and in-service training, and strengthening community participation. However, HIV/AIDS introduces new vulnerabilities and needs in many of these areas than need to be factored into planning. For example, HIV/AIDS may affect key staff at regional level in addition to imposing new challenges on capacity, so backup support is likely to be increasingly important.
- *Improving information and its dissemination.* Many aspects of HIV/AIDS prevention and impact management are hampered by lack of good information. Internal systems and partnerships with organisations such as UB should be strengthened to address routine monitoring and research. Mechanisms should also be set up for networking and sharing of experience and best practices between schools, districts and MOE planners. In addition, the current process of disseminating key information on HIV/AIDS impacts and strategy should be intensified.
- *Organisational culture.* The success of the education sector response to HIV/AIDS will to a large extent depend on cultivating a culture of caring and willingness of individuals and groups to embrace the challenge and respond to the needs of colleagues and learners. Bureaucratic traditions and tendencies to avoid personal initiative should also be combated.
- *Capacity and resources to plan and implement the education sector response.* Dedicated budgets and capacity at schools, district, regional and MOE level are required to mobilize, support and coordinate effective responses to HIV/AIDS. Although the goal should be to incorporate most HIV/AIDS-related activities into core budgets and functions, initial extra investment is likely to be necessary to develop and disseminate key knowledge, develop capacity and devise systems to respond to HIV/AIDS. Despite dedication of many individual Departmental Focal persons, other commitments and in some cases limited capabilities, are hampering progress in key areas. The HIV/AIDS Coordinator is the only full time staff member and does not even have a secretary. A full time coordinator of HIV/AIDS programmes should be appointed in each region and also for each district. In Districts with large numbers of schools, dedicated staff may need to also be allocated to school clusters. These staff can potentially play a direct service support role as well as mobilize and coordinate prevention and impact management. As systems and school level capacity are developed, it is possible that this dedicated district/cluster level post may become less necessary. A key objective should be to ensure that school inspectors begin to see monitoring and support of HIV/AIDS activities as a key part of their function.