HIV and AIDS Impact Assessment in the Botswana Public Service
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Acronyms and Abbreviations

AIDS  Acquired Immuno Deficiency Syndrome
ART  Antiretroviral therapy
BAIS  Botswana AIDS Impact Survey
BPS  Botswana Police Services
BPOMAS  Botswana Public Officers Medical Aid
BPOPF  Botswana Public Officers Pension Fund
CBO  Community Based Organisation
DAC  District AIDS Coordinator
DMSAC  District Multi-Sectoral AIDS Committee
DPSM  Directorate of Public Service Management
EAP  Employee Assistance Programme
FBO  Faith-based Organisation
FIC  Former Industrial Class
FGD  Focus Group Discussions
HBC  Home Based Care
HIV  Human Immunodeficiency Virus
HR  Human Resources
HTC  HIV Testing and Counselling
KII  Key Informant Interviews
NAC  National AIDS Council
NACA  National AIDS Coordinating Agency
NDP9  National Development Plan 9
NDP10  National Development Plan 10
NGO  Non-governmental Organisation
NSF II  Second National Strategic Framework for HIV and AIDS 2010-2016
MAC  Ministry AIDS Coordinator
MOH  Ministry of Health
MOE  Ministry of Education
MOT  Modes of HIV Transmission
MSM  Men who have sex with men
OVC  Orphans and Vulnerable Children
P&P  Permanent and Pensionable
PMTCT  Prevention of Mother-To-Child Transmission of HIV
STD  Sexually Transmitted Diseases
TWG  Technical Working Group
VMSAC  Village Multi-Sectoral AIDS Committee
Executive Summary

This Impact Assessment aims to improve information on the levels and trends of the impact of HIV and AIDS on the Botswana public service. It has a particular focus on impacts on productivity, and makes recommendations on how to strengthen the response to these impacts. The methods used in the study included qualitative data collection though interviews and group discussions with employees and managers at national level and a sample of districts; review of available data from HR databases and medical schemes on levels and trends in key impacts; projection of demographic impacts of HIV and AIDS on public servants, as well as cost implications; and a literature review which inter-alia identified experience elsewhere in terms of impacts and good practice responses.

The assessment has been made in the context of the Second National Strategic Framework for HIV and AIDS 2010-2016, as well as other policies, legislation and regulations. Recommendations are framed by the priorities they define. A particular national priority is to prevent new HIV infections. As Botswana’s largest employer, the public sector has a key role in managing human impacts on a large segment of the population, as well as a large proportion of costs of the epidemic. Public servants are not only a major group to be addressed as part of the national AIDS response, but can be an important influence for changing social norms and risk behavior which fuel the epidemic in the broader society.

Obligations of the public service to contribute to combating HIV and AIDS in the workplace and the communities that it serves are clearly set out in the National Strategic Framework.

Analysis of available data from employee, pension and medical aid data indicates that HIV and AIDS has had a substantial impact on public servants. Lower grade employees tend to be most heavily affected, and there is considerable variation in risk between different Ministries due to their different age and gender profiles. It was not possible to quantify differences in risk related to specific types of occupations and work environments. Projections suggest that around 20% of most ministry workforces are HIV positive.

ART has reduced AIDS related deaths among public servant by about 80-90% compared to those that would be currently expected in the absence of ART.

While ART has had a major impact in reducing deaths, it is projected that death rates could rise again over the coming decade as some of the large numbers of people who have been on ART for long periods now are at risk of developing complications and failing treatment. AIDS-related deaths could climb to between 1 and 1.5 per hundred employees per year if this is not tackled. Some workplaces may be worse hit than the average in any given year.

Almost 10 000 public servants (out of 120 000) are currently estimated to be on ART. Later in the decade over 15 000, almost one-in-eight, employees could be on ART.

The costs of maintaining employees on ART are currently estimated to be the equivalent of 0.8% of total employee remuneration. Most public servants who receive ART do so through their medical aid scheme, BPOMAS, although a significant number are likely to be receiving treatment through the public health service. Nevertheless, the costs of providing ART have
so far not been a major determinant of overall costs of BPOMAS. By the end of the decade however, it is anticipated that the costs of ambulatory ART to BPOMAS could exceed P80 million a year. When costs of ART for public servants who use public sector services are added to this, the total cost of ART could be over P 120 million per year, or equivalent to around 1.5% of public sector employment costs towards the end of the decade, excluding other costs such as hospitalization and other non-routine ART care. Managing the effectiveness and costs of ART for employees is thus a key issue.

The structure of pension benefits, combined with the reduction in illness and death due to ART, means that pension fund costs are expected to be minimally affected by HIV and AIDS. However, indirect costs of absenteeism, reduced productivity in the workplace and training costs could add an extradrain on productivity equivalent to around 1% for many Ministries over the decade.

<table>
<thead>
<tr>
<th>Total medical and indirect costs related to HIV and AIDS could thus reach the equivalent of around 2.5% of payroll per year, a significant ongoing drain on productivity and/or upward pressure on government costs.</th>
</tr>
</thead>
</table>

Interviews and discussions confirmed that since the introduction of widespread ART, AIDS impacts in the workplace have reduced from being a very significant drain on employees and productivity, to being one of a number of factors affecting them. Some of the other significant drains on morale and productivity in the current environment include health related issues such as stress and alcohol, and chronic conditions such as diabetes and cardiovascular disease that can be expected to become more prominent due to chronic ART medication. In addition, it is also apparent that even the current limited levels of illness and death from AIDS can have significant productivity implications for those workplaces that are affected.

Many of the vulnerabilities to HIV and AIDS related impacts in the workplace are caused by limitations of public service frameworks and skills in applying them to deal with issues such as transfers, vacancies, absenteeism management and succession planning. Some aspects of employment, particularly transfers, create substantial risk of HIV infection too. A further factor for consideration is the HR planning required to meet substantial needs for increasing staffing of HIV and AIDS related services and programmes, which often require changes to staffing structures and models in addition to just more staff.

<table>
<thead>
<tr>
<th>Limitations on public sector HR management, planning and development are highlighted by HIV and AIDS, but represent much wider general challenges for productivity and morale.</th>
</tr>
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</table>

There are important potential benefits of a strong Wellness response in the public service, given the large number of employees who are still affected by HIV and AIDS, and who need support to ensure ongoing success of ART. In addition, it is apparent that morale is a major challenge to public sector productivity, as are a number of wellness-related issues.

<table>
<thead>
<tr>
<th>Wellness Programmes combined with stronger HR management have considerable potential to boost productivity. The importance of Wellness Programmes is expected to increase due to the increasing burden of chronic and lifestyle-related diseases, such as cardiovascular disease, in Botswana. This is already evident in CSO statistics. People on prolonged ARV treatment also have increasing risk of side effects such as heart disease and diabetes.</th>
</tr>
</thead>
</table>
The response of various Ministries to HIV and AIDS has established a number of good practice examples in Wellness Programmes and HR management.

Particularly notable progress has been made in the Police, Agriculture, Local Government and Health Ministries. However the assessment also revealed a number of obstacles to effective Wellness programme responses. Suggestions to improve effectiveness include finalizing the public service Wellness Policy; reducing dependence on NACA and increasing the support role of DPSM; expanding the scope of the wellness programme to include non-AIDS needs more effectively, as well as an employee assistance programme (EAP); increasing capacity and changing structures to create a more effective platform for action within sectors. The total expenditure on public sector Wellness under NDP9 has fallen to around P 6.5 million in 2010/11 and is unlikely to be sufficient to sustain a robust programme.

The main recommendations for the Public Service arising from this study are:

1. Ensure active management of the effectiveness and costs of medical care for people with HIV and on ART, and other health needs, particularly the rising burden of cardiovascular and other chronic diseases.
2. Promote more active, stronger HR management and planning to more effectively tackle HR issues highlighted by HIV and AIDS, but which are much wider challenges to productivity and efficiency.
3. Prioritise interventions that will strengthen HIV prevention among employees. These will also have benefits for HIV prevention in the wider community which is essential for the sustainability of the national response to HIV and AIDS.
4. Improve availability of information for managing key issues such as vacancies, employee attrition and absenteeism, as well as issues such as costs of training and medical care.

Other detailed recommendations are made to strengthen Wellness Programmes.

Guidelines to assist in addressing the HR management challenges, as well as Wellness issues, have been drafted as part of this assessment. They are available separate to this report.

As follow-up to this study, it is recommended that:

1. The Guidelines should be put into practice in a systematic way, led by DPSM, to reach all Ministries and all levels.
2. The key findings and recommendations from this report should be workshopped with planners, corporate services officers and wellness coordinators from all Ministries, so that they can systematically incorporate them into Ministries’ strategic decision making.
1. Introduction

HIV and AIDS has moved out of the realm of being only a public health concern to become a major concern to many sectors, particularly in countries with severe, generalized epidemics. Public services, as one of the major employers in many countries face challenges due to the concentration of HIV and AIDS among people in the most economically productive age ranges. This has implications for ability to deliver services and for costs of employment. Public services have important roles in responding effectively and sustainably to increasing needs for health care and HIV and AIDS support, as well as mitigating the impact on society and the economy.

Botswana is one of the countries most affected by HIV and AIDS in the world, with a rapidly spreading epidemic since the first case of AIDS was reported in 1985. The HIV and AIDS national prevalence rate currently stands at 17.6% (Botswana AIDS Impact Survey III, 2008). Adult prevalence was estimated at 25%, with higher prevalence among young adults and those in the economically productive phase of their lives (15–49 years).

As the biggest employer in Botswana, the public service has a crucial role in mitigating the impact of HIV and AIDS as part of the national response. The public service has had to cope with the loss of trained and skilled personnel, in addition to stretching its financial, human and organizational resources to provide essential services for HIV and AIDS.

Since the advent of the disease in Botswana however, no systematic assessment has been made of its impact in the Botswana Public Service. Sectoral impact studies were conducted in Health (2000) and Education (2001) but both better information and antiretroviral therapy have become available since they were conducted.

In addition, two macroeconomic impact studies were done for the whole economy, which included the public sector, in 1998 and 2006. They, and more recent estimates, point to the large costs of AIDS for the nation, and how these compete for government revenue which could otherwise go to improving capacity to address other service needs. However, they also suggested that the benefits of investing in effective prevention and treatment would largely offset the costs by preserving human capital and efficiency of services, as well as reducing future costs through HIV prevention.

The Government of Botswana through the Department of Public Service Management (DPSM) and the National AIDS Coordinating Agency (NACA) commissioned this study to explore the dynamics of HIV and AIDS in the Public Service and assist in developing appropriate strategies and policies to respond to challenges posed by the epidemic. The intention is that the study should serve as the basis for the comprehensive monitoring of the impact of the epidemic in the Public Service and evaluating programmes initiated to address them. The study would also assist in developing a more flexible, adaptable and responsive approach to HIV and AIDS interventions in the public service.

Data collection on the impact of HIV and AIDS on the Botswana public service took place from October 2010 to April 2011, with fieldwork taking place during December 2010 and February 2011.
1.1 Terms of Reference and methodology

Terms of Reference
The specific objectives for this study were to:

a) Examine the work processes and policies within the Public Service to determine their relevance and constraints in mitigating or preventing the spread of HIV and AIDS and its multifaceted effects in the Public Service.

b) Examine the present Human Resource (HR) Management structures and systems to determine the extent to which HIV and AIDS risk management and controls have been integrated or mainstreamed into the Public Service.

c) Determine the extent of Government financial expenditure and productivity loss as a result of the epidemic in the Public Service.

d) Assess the level of preparedness and responsiveness of the Public Service to effectively address developmental challenges posed by the epidemic.

e) Propose short, medium to long-term policy recommendations for mitigating and preventing the impact of HIV and AIDS for an effective Public Service.

Project Deliverables identified in the TOR included:

a) Inception Report
b) Draft Report
c) Final Comprehensive Report, to highlight the following:
   i) Death and sick leave absence rate (age, gender and sector specific)
   ii) Estimates of productivity impacts
   iii) Occupational groups, skills, levels and age most affected
   iv) Vacancy levels
   v) Projections on the current and future impacts of the epidemic
   vi) The related status of HR Management practices and policies including issues of capacity to mitigate and prevent the impact of HIV and AIDS
   vii) Current and future estimates of the direct and indirect financial cost to Government as a result of the epidemic
   viii) A brief overview of the perceptions, attitudes and experiences of HIV and AIDS impact within the Public Service and an indication of the level of preparedness of the Public Service to address HIV and AIDS issues
   ix) Use the findings to initiate regular dialogue with policy makers and other stakeholders on HIV and AIDS issues
   x) Mitigate the negative impacts of the epidemic in the immediate and long term on Public Service, its delivery and the society in general.
   xi) Address the technical, human, institutional and financial constraints in the existing Public Service response to HIV and AIDS

d) A set of strategic policy recommendations on the quantitative and qualitative analytical findings including how to:
   i) Establish a system or structures to be used in the Public Service to manage and monitor the impact of the epidemic.
   f) Develop guidelines for Ministries and Departments on Managing HIV and AIDS in the workplace. This guide should be a practical and user-friendly resource to assist
Ministries and Departments to plan, develop, implement, monitor and evaluate appropriate and effective responses within the Public Service working environment.

Methodology
A study Reference Group and Technical Working Group was convened to oversee the impact assessment (see members in Appendix 1). A consulting team comprised of national and external consultants worked with the Reference and Technical Working Groups to finalise the study methodology.

The mixed-methodology approach that was used encompassed both primary and secondary data collection, quantitative data analysis and projections on country statistics from a variety of sources.

Study sites included central-level (Gaborone) and four health districts selected by the TWG and RG based on factors that included: size of workforce; urban, rural and other geographical representivity; coverage; representation of key contexts and aspects of services such as administrative, economic or productive; likely data availability; and buy-in. The four health districts selected were Gaborone, Palapye, Hukuntsi and Tutume.

Primary data collection utilized in-depth Focus Group Discussions (FGD) and Key Informant Interviews (KII) to explore the impacts on work processes, how the effects of HIV and AIDS are being felt on the ground, and the specific challenges that may be found in different contexts. The fieldwork guide and tools are included in Appendix 2.

Data collection took place with employees (through group and individual interviews) in four ministries and one unit: Agriculture, Education, Health, Local Government and the Police Service. Key Informants at the central level included:

- Permanent Secretaries
- Corporate Services Managers
- Planning Officers
- Wellness Coordinators
- AIDS Coordinators
- HR Managers
- Training Managers

Informants targeted at district level were:

- District Commissioners
- District Officers
- DMSAC Chairs
- District AIDS Coordinators
- Planners
- Human Resource officers
- Mid- and senior-level management

Focus Group Discussions were conducted in each district with two groups of 6-8 individuals each, involving employees from the Permanent and Pensionable (P&P) cadre and those from the Former Industrial Class (FIC) (see Appendix 3 for persons interviewed).

Quantitative data collected included routine data from the DPSM Infinium HR information
system, the Police, Local Government and Teaching Service HR information systems, the Pension Fund database and the BPOMAS medical aid scheme, and covered all Ministries on these systems. Sample data specifications are attached in Appendix 4. All data sources were assessed for reliability. Data was used to analyse the following issues:

- Levels and trends in employee claims;
- Levels and trends in attrition from various causes, where the information was available for sectors from payroll databases;
- Sick leave absence and deaths and duration of absences;
- Projections of HIV and AIDS risk from a download of the demographic profile of public services employees. Projections were calibrated to be in line with the national Spectrum projections currently used by NACA. Projections were modified to reflect employee age and gender profiles, education modifiers from BAIS, and mortality and attrition data from pension and HR databases.
- Costs associated with particular aspects of turnover and productivity loss;
- Inter-ministry comparisons where feasible.

The initial intention was to analyze trends in vacant posts. However adequate data to do this could not be sourced from available data sources.

There were several limitations on quantitative work and projections. The quality and completeness of data from routine sources on the demographic profile of public servants, death rates and costs of care was uneven. The absence of HIV prevalence survey specific to public servants was a significant limitation. A number of assumptions had to be made in projections (see details in Appendix 5). In particular, at this stage, there is limited data on survival periods for people on ART and potential costs of later lines of ARV treatment. Overall, however, the magnitude of demographic and cost impacts which are projected, as well as the implications for the public sector response, seem robust and did not change markedly when sensitivity to assumptions was tested.

Stakeholder feedback and validation by ministries that had not been included in the sample was solicited through a Multi-ministry Stakeholder Meeting in Gaborone on 4 February 2011, in order to 1) validated data collected during the field work and 2) to collect further input from other ministries not represented in the field work. ¹

Secondary data collection occurred through a document and literature review. A full list of documents and other reference material consulted for the study is located in the Bibliography section. The Literature Review explored relevant documents and incorporated the findings into the final study report to complement the collection of primary data. These sources were consulted for the following information:

- Lessons learned and Best Practices in risk management, control and prevention in the public service;
- Existing human resource policies, codes, laws and regulations; pension fund and medical aid rules, benefits and reports; HR plans in key sectors; training policies and plans; workplace programmes; as well as the practices in place to assess the relevance and gaps;

¹Persons who attended included HR/Corporate Services and Wellness Programme staff of the following: Department of Public Service Management (DPSM); Ministry of Works and Transport (MEWT); Ministry of Information Science and Technology (MIST); Ministry of Trade and Industry (MTI); Ministry of Labour and Home Affairs (MLHA); Ministry of Finance and Development Planning (MFDP); Ministry of Foreign Affairs and International Cooperation (MOFAIC); Ministry of Youth and Sports (MYSC)
• Key HIV and AIDS policies, plans and reviews, including the National Strategic Framework for HIV and AIDS 2003-2009, any Mid-Term or other reviews, the new 2009-2016 Framework, costing and other relevant studies and reports.

Data analysis used various methods. Data collected through downloads from the medical aid, payroll, and pension fund databases were analyzed using Excel and SPSS 17. Qualitative data was recorded using digital voice recorders supplemented by interviewer notes. Thematic and content data analysis of the qualitative transcripts was employed using Atlas.ti 5.2 software. Data was coded into major themes in order to reveal and describe information related to participants' behaviors, knowledge and needs.

1.2 Botswana profile and development context

Since independence in 1966, Botswana has had four decades of uninterrupted civilian leadership, progressive social policies, and significant capital investment, creating one of the most dynamic economies in Africa.

The country borders Namibia, South Africa and Zimbabwe and covers a total area of 581,730 sq km. Eighty percent of the population is concentrated in the eastern part of the country, where its three largest urban centres are situated. The Kalahari Desert stretches west, covering 84% of the country.²

Of the estimated 2,065,000 population, 33.9% is aged 0-14 years, and 62% are in the reproductive and economically productive age range of 15-64 years. About 196,000 (est. 2009) live in Gaborone, the capital city. Sixty one percent 61% of the population is considered to be in urban areas and the rate of urbanization is estimated at 2.3% annually.³ The dispersed nature of the population and large distances between settlements are major challenges to service delivery.

The principal economic activity is mineral extraction, mainly diamond mining: approximately 40-50% of government revenue is derived from diamonds. Other key sectors include tourism, financial services, subsistence farming and cattle raising. Through fiscal discipline and sound management, Botswana transformed itself from one of the poorest countries in the world to a middle-income country with a per capita GDP of $13,599 (on a PPP basis) in 2008. Botswana has maintained one of the world’s highest economic growth rates since independence in 1966, although growth has declined in recent years and suffered sharp reversal in 2009 due to the global financial and economic crisis and reduced demand for diamonds. An expected

³ The urban category here includes villages that are now classified as urban villages, where less than 25% of the workforce works in traditional agriculture. These differ from more established urban areas such as Gaborone, Francistown etc. Examples of urban villages are Molepolole, Mahalapye, Serowe.
leveling off and subsequent decline in diamond mining production over the next two decades is a major challenge for long-term prospects.

Recent years have seen the introduction of western culture in the form of western business, technology, consumer goods, tourism and the media. Life in the urban areas has been most affected by western culture and increasing modernity. In rural areas many traditions persist, although ways of life differ from region to region. The rapid changes in Botswana have had their advantages and disadvantages. Better health and education facilities have been provided and increased prosperity has improved the standard of living for some.

However, there is a steadily widening gap between rich and poor. Botswana’s GINI coefficient of 61.0 for income indicates that it has one of the most unequal distributions of income in the world.\(^4\)**

\section*{1.3 The Botswana public service}

The Botswana public service comprises 14 ministries plus some additional agencies. The total establishment is estimated at around 120,000 staff.

According to the new Public Service Act (2008), the Public Service includes:

- Permanent and pensionable employees of Government ministries and departments
- Industrial class (non-pensionable) employees
- Contract employees
- Local government (districts/town/city councils) employees
- Teachers
- Land Board employees (tribal land administration)

Other government employees who do not fall under the Public Service Act include:

- Police Services
- Botswana Defence Force
- Prison Services

Six years of the 9th National Development Plan (NDP9) saw growth in the public service of 10,135 new posts, an annual growth rate of 2.5 \(\%\).\(^6\)** NDP10 notes that this high growth was mainly attributed to HIV and AIDS – due to the increased need for personnel in delivery services such as Home Based Care, Prevention of Mother-to-Child Transmission, and the roll-out of Antiretroviral Therapy. However, the establishment of new Ministries and functions, and extra posts for other education and health infrastructure programmes, played a role.

Public Service staffing has faced key challenges related to HIV and AIDS, namely: the impact on sector capacity due to direct loss of trained and skilled personnel (to illness and non-government programmes); and competition for financial, human and organizational resources to provide essential services in the national response.

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\(^4\)United Nations Development Programme (UNDP) (2010), Human Development Report 2010,

\(^5\)For total income, the Gini falls to 57.3 but is still high by international standards

1.4 The HIV and AIDS epidemic in Botswana

1.4.1 Prevalence and incidence

Botswana’s epidemic is in a hyperendemic phase where the epidemic has stabilised at a very high level of infection. The national HIV prevalence is one of the highest worldwide. Adult HIV prevalence in the age group 15–49 years is 25% while prevalence of pregnant women is estimated at 31.8%. The Botswana AIDS Impact Survey (BAIS) estimated the prevalence of HIV to be at 17.6% of the population aged 18 months and above in 2008. When compared with the reported prevalence of 17.1% among the same populations in 2004, it is likely that Botswana’s national prevalence of HIV is levelling off at around 17%.

The Botswana Modes of HIV Transmission report (2010) found that prevalence is higher in married women and those aged 25–49 years, is declining in youth and adolescents aged 15–19 and 20-24 years, and that prevalence is increasing in the rural population while declining in urban areas. There were significant declines in prevalence in newly-infected children <15 years and decline in deaths due to AIDS between 2001 and 2009, largely due to scale-up of care and treatment. Overall, more women (57% of the total) live with HIV than men (43%).

The prevalence of HIV differs significantly by sex, age, area, and district (Figure 1). The highest prevalence was reported among females (20.4%) compared to males (14.2%) in 2008. For both males and females, the highest prevalence was among those aged 40-44 years and lower among those under 19 years of age. Urban areas (17.9%) recorded higher prevalence as compared to rural areas (17.1%). Selebi-Phikwe, Francistown, Sowa, Central-Serowe, Central-Tutume, and Chobe had an HIV prevalence of over 20% in 2008.

While HIV prevalence is important in describing the general magnitude of the epidemic, HIV incidence is important in defining the number of new infections in the country. Generally, HIV incidence was higher among females as compared to males at the age of 20 to 39 years. The incidence shows the same patterns as the prevalence when reported by area; whereby higher incidence is estimated for urban areas (3.4%) than rural areas (2.4%). The districts with high HIV estimated incidence above 4% in 2008 were: Central-Bobonong, Ngamiland East, Selebi-Phikwe, Francistown and Central Serowe.

In conclusion, some of important features of the epidemic include: high HIV prevalence rates in the economically active age groups of 15-49 years; high rates among married women; lower prevalence among more educated Batswana; and the lower but increasing rate of HIV in rural areas. These influence both the estimated risk among public servants, and their potential to contribute to or reduce the severity of the epidemic in Botswana.
1.4.2 Modes of HIV Transmission in Botswana

In order to develop and tailor an appropriate national response, countries must understand the particular risk factors, contextual and structural drivers of their own epidemic. The 2010 study on the Modes of HIV Transmission in Botswana uncovered that the largest number of new HIV infections occurred in low-risk heterosexual sex, followed by casual heterosexual sex. A higher risk of new HIV infections was also reported in sexual relationships which involve contact with sex workers, and among men who have sex with men (MSM). Injecting drug use, medical injections and blood transfusion comprised the lowest percentage of HIV transmission respectively.\(^{10}\)

Specific risk factors, in association with the contextual and structural drivers specific to Botswana are highlighted in Figure 2.

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Report on HIV and AIDS in the Botswana Public Service
The MOT study highlighted the need for a re-prioritization of national efforts according to the most recent evidence base and has recommended for Botswana’s national response that:

- Priority of the national response should be to reduce the number of new infections;
- Prevention strategies should be re-aligned to where new infections are occurring and to the populations most in need;
- Policies and legislation should be reviewed and adapted in the context of HIV and AIDS; and
- Prevention funding should be increased from 7% of the national response budget to the recommended 35% for sub-Saharan countries.

Focusing on prevention as a key to “turning off the tap” will help to control of the current epidemic and will lessen the future impact on government and society as a whole. The large public service workforce can make a major contribution to prevention if it promotes change in social norms that increase HIV risks listed above, and efficiently tackles structural drivers of the epidemic.

1.5 Response to the HIV and AIDS epidemic

1.5.1 The National response to HIV and AIDS

Key documents

The Botswana national HIV/AIDS policy was approved and adopted in 1993, and forms the basis of the national response to the HIV epidemic. The policy specifically mentions the Directorate of Public Service Management (DPSM) as an active role player in ensuring that workplace AIDS/STD education and prevention programmes are implemented for all public sector workers. The policy prescribes that “Employees should have access to information and educational programmes on HIV/AIDS and STD at workplace, as well as to referral for...
appropriate counselling and medical care”.

Other key documents that guide the national response include the Second National Strategic Framework for HIV and AIDS 2010-2016, which outlines the roles and responsibilities of NACA and those of other sectors involved in the delivery of the Minimum Internal Package. Figure 3 highlights the current national priorities for NSP II plan years 2010-2016, and a number of these can be considered to have direct relevance to the public service as an employer. The NSF is aligned to the National Development Plan. The Public Service Act and the National Disaster Act also include HIV and AIDS in its mandate.

Figure 3: Priorities of the national response, 2010-2016

<table>
<thead>
<tr>
<th>NSP II Priority area</th>
<th>NSP II Strategic objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Preventing new HIV infections</td>
<td>• Reduce incidence of sexual transmission of HIV among females/males aged 10-49 years</td>
</tr>
<tr>
<td></td>
<td>• Increase access to health care services for HIV prevention</td>
</tr>
<tr>
<td>2. System strengthening</td>
<td>• Strengthen community &amp; health systems capacity for Universal Access to quality, comprehensive, sustainable HIV &amp; AIDS services</td>
</tr>
<tr>
<td></td>
<td>• Effectively coordinate, harmonize and align partner support to the national response</td>
</tr>
<tr>
<td></td>
<td>• Strengthen and sustain leadership &amp; commitment on HIV &amp; AIDS</td>
</tr>
<tr>
<td></td>
<td>• Improve the ethical and legal environment</td>
</tr>
<tr>
<td>3. Strategic information management</td>
<td>• Strengthen the information management system to enhance information sharing and use for evidence-based planning</td>
</tr>
<tr>
<td>4. Scale up treatment, care &amp; support</td>
<td>• Increase access to HIV &amp; AIDS comprehensive quality treatment, care and support services</td>
</tr>
</tbody>
</table>

SOURCE: Botswana NSP II, 2010

Institutions, structure and coordination

The national response in Botswana is overseen by the National AIDS Council (NAC) and led by the National AIDS Coordinating Agency (NACA). NACA is charged with developing and supporting partnerships, harmonizing, coordinating and facilitating implementation of the national response to HIV and AIDS. NACA has the responsibility to facilitate planning for HIV and AIDS at all levels; development of the National HIV and AIDS Policy, the National Strategy for BCIC or any other national processes that require the actions and support of all stakeholders is spearheaded by NACA as a core responsibility.

However, NACA does not have primary responsibility for direct implementation of most programme components and many other ministries and offices are enlisted to play their role. According to Botswana HIV and AIDS policy, the Ministry of Health is the lead Ministry in the development and refinement of strategies for prevention and care, responsible specifically for: information, education and communication; control of sexually transmitted diseases; condom promotion; counselling for prevention. The Office of the President provides political leadership for the national response to the HIV and AIDS epidemic, ensuring that all sectors are actively involved. The Ministry of Finance and Development Planning ensures that adequate resources are made available to ministries for HIV and AIDS and STD prevention and care, and to coordinate external agencies’ financial contributions. The Ministry of Education integrates AIDS and STD education into all levels and institutions of education.

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12 Other coordination mechanisms involved in the national response include the Partnership Forum, Madikwe Forum, and Country Coordinating Mechanism (CCM), Ministry AIDS Coordinator’s Forum (MAC Forum) and Implementation Review Committee (IRC).
provides staff and teachers with the necessary training, and also involves parents. The Ministry of Labour, Home Affairs and Social Welfare oversees the support for families caring for people with AIDS and orphaned children, and develops legislation regarding the rights of those infected with HIV. The Ministry of Local Government, Lands and Housing works through district, town and city councils to implement HIV, AIDS and STD prevention and care.

NACA is enacted through District and Village Multi-Sectoral AIDS Committees (DMSAC and VMSAC) on the ground, with District AIDS Coordinators at district level and HIV and AIDS Focal Points in each district ministry (Figure 4).

Figure 4: Structure of Botswana’s national HIV and AIDS response

![Diagram of Botswana’s national HIV and AIDS response]

Source: NACA website, 2008

The DMSACs manage and coordinate the district-level response to HIV and AIDS. DMSAC has representation from all ministries, civil society and the private sector. DMSAC functions as the “voice” of the district level response to HIV and AIDS. The Ministry of Local Government, through the AIDS Co-coordinating Unit, has established the post of District AIDS Co-ordinator (DAC), who acts as secretariat to the DMSAC. NACA provides funding and technical assistance for the activities conducted by DACs in the districts.13

Programmes

The Government of Botswana has a comprehensive programme to address HIV and AIDS. The Second National Strategic Framework 2010-2016 on HIV focuses on preventing new HIV Infections as the first of its four priorities. New programmes and initiatives focus on this, such as: the national Multiple Concurrent Partnership Campaign, the Safe Male Circumcision Programme and the Botswana National AIDS Prevention Support Programme (BNAPS).

In addition to these newer, evidence-based initiatives, Botswana employs a comprehensive response to the epidemic, offering PMTCT, ART, HTC, support to OVC, Community HBC, Safe blood transfusion, Management of Sexually Transmitted Infections, INH Preventive Therapy, Workplace Wellness programmes and Condom distribution.

Figure 5 highlights the timing of some key events in the national response, including the national ART programme in selected sites as early as 2002. The Botswana Public Officers Medical AIDS (BPOMAS), one of the medical aid schemes which reaches all parts of government (including the defence force and some parastatals), offered an HIV benefit from

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the 1990s and this was expanded in 2002 and again in 2003/4 to increase cover for ART. However, major decentralised roll-out of public sector ART services did not take place until 2008.

Figure 5: Timeline of key events in the national response to HIV and AIDS

1.5.2 The Public Service response to HIV and AIDS

Key documents

The Republic of Botswana drafted the Public Service Employee Wellness Policy in 2010, which is presently under final review by DPSM. The policy’s vision is “A healthy, dedicated and productive public service” and outlines a comprehensive approach to employee wellness and productivity in the public service. The policy is grounded on the principles of recognition of employee wellness as a workplace issue, confidentiality regarding an employee’s health, “botho” (honesty, care, openness and respect), promotion of healthy and safe work environment, and prevention, care and support of employees, among others. The Employee Wellness Policy provides for HIV and AIDS management through HIV and AIDS and occupational health and safety strategies and programmes. The policy aims for accessibility of employee wellness programmes to support and promote good health, and to enhance the performance of employees.

A public service Code of Conduct on HIV/AIDS in the Workplace also supports education and awareness of HIV and AIDS at the workplace as the responsibility of employers and employees. It offers a guide to confidentiality and information sharing, and HIV testing and training in the workplace.

Many other ministries have developed their own policy or guidelines to direct and manage their individual response to the epidemic. These include: the Ministry of Health’s *Operational Guidelines for Workplace Wellness Program for Health Workers*; the Botswana Police Service’s *HIV/AIDS Workplace Policy and Occupational Health and Safety Policy*; the Ministry of Infrastructure, Science and Technology’s *HIV/AIDS Policy*; the Ministry of Environment, Wildlife and Tourism’s *HIV/AIDS Policy Guidelines*; the Ministry of Trade and Industry’s *Health and Wellness Policy Guidelines*.

**Institutions and coordination**

Organization of *Workplace Wellness programmes* is led at national and district level ministry offices by Ministry AIDS Coordinators (MACs). All ministries have HIV and AIDS budgets and a NACA Wellness Coordinator. Heads of Departments (HODs) in the district offices often chair the Wellness Committees themselves.

The DMSACs manage and coordinate the district-level response to HIV and AIDS across all ministries, with the District AIDS Co-ordinator (DAC) acting as its secretariat to the DMSAC. NACA provides funding and technical assistance for the activities conducted by DACs.16

In addition, Ministerial Strategic Plans include HIV and AIDS policy guidelines, and HIV and AIDS Sectoral Committees and Technical Committees have been put in to place to oversee and respond to sector-specific issues around the epidemic.

**Programmes**

The Public Service aims to respond to the general health issues of its employees, including HIV and AIDS, through a Wellness Programme in ministries and at district level. Although the degree of activity may differ between ministries and among districts, Wellness Programmes can encompass the following activities:

- Information provision about HIV and AIDS and other health issues
- Condom provision
- Peer education
- Morning sermons and prayers
- HIV talks
- Encouraging HIV testing
- Various workshops, training and peer support groups
- Wellness Days with health education and health testing (HIV, diabetes, blood pressure, etc) including family days
- Physical exercise: aerobics, running, general fitness, etc
- Promoting vegetable gardens

Workplace programmes generally focus on the internal domain, following the Minimum Internal Package as outlined in the National Strategic Framework for HIV AND AIDS 2003-2009. A series of manuals have been developed for workplace facilitators on topics that include team building, stress management, occupational health and safety and staff morale.

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2. Study findings

This section reviews the key outcomes of the study, integrating both the quantitative and qualitative outputs of the data analysis. The data illustrate the degree of impact that HIV and AIDS has on the public service, viewed through both the quantitative evidence of cost and health impacts, as well as through the perceptions, attitudes and beliefs of public servants themselves that were interviewed as part of the study. It includes perceptions of the past, the present day, and the perceived effects of increasingly accessible antiretroviral therapy to the greater Botswana society. The study also includes a look at which other factors, if any, were felt to contribute to the perceived change in public service productivity.

2.1 How HIV and AIDS has affected Public Service employees

2.1.1 Demographic impact of HIV and AIDS

Methodology
Projections were calibrated against general population HIV prevalence data from Antenatal and population based (BAIS) surveys in Botswana, along with mortality data from the pension fund and employee databases, and data on estimated ART access among medical aids and general populations. They are customised from the consensus national Spectrum projections to reflect the public service profile in terms of age, gender and education levels of employees.

Calibrations were limited by absence of any public service workforce prevalence survey, and limitations of mortality and ART uptake data. Importantly, no specific occupational hazards associated with certain occupations were assumed. Newly hired staff are assumed to have lower average prevalence over time in line with general population trends in key candidate groups, reflecting both loss of HIV positive people and declining incidence among young and educated people in particular. Further details of projection methodology, assumptions and limitations are provided in Appendix 5.

For smaller Ministries and Units, where projections are more likely to be inaccurate due to the small number of employees, separate projections are not provided as they may mislead.

Profile of public servants
The age profile of all public service employees on available databases is shown in Figure 6. There is a predominance of younger employees with the greatest number of employees in the 30-40 year age bands. The mix of men and women is fairly even in total, but there are more men in the lower grades A-B, and more women in the higher income grades C-F.

There are significant demographic differences between the Ministries, Police, teachers and local government employees. These differences contribute towards the different impacts that HIV and AIDS will have on each of the workforces. Important features include:

- Ministries employees have a typical age distribution, a higher proportion of the lower job grades than the total, but a fairly even split between males and females.
The Police workforce is the most male dominated of the four groups, and largely comprises lower job grade younger employees, and higher job grade older employees. It is the youngest workforce on average.

The teacher workforce is entirely in the higher C-F job grades, and has significantly more women than men.

Local government employees have the flattest age distribution i.e. the oldest average age, and are heavily dominated by lower job grade employees.

**Figure 6: Age profile of public servants**

![Age Profile Graph]

Source: Employee databases

**Mortality experience in the public service**

Mortality experience drawn from Ministry records of terminations of employment over the last decade is shown in Figure 7. Adequate quality data was not available for other workforces to estimate their mortality history.

**Figure 7: Mortality experience of Ministry employees(Deaths/1000 employees)**
The historical trend in recorded mortality shows a marked decline of around two-thirds among both men and women employees between the early decade and 2010, suggesting a major impact of ART. The ART effects appeared at a stage in the epidemic when previous projections suggested that mortality could climb to even higher levels in the absence of ART.

Mortality among less skilled employees has been consistently higher than among skilled employees of the same sex, who seem to be lower HIV risk and would have had more access to medical aid. The age profile of mortality rates shows a pattern consistent with heavy AIDS-related impact among relatively young people. Of interest, informants during fieldwork felt that the main decline in AIDS deaths of employees had occurred since 2008 when wider ART rollout occurred.

**Projected HIV prevalence**

Figure 8 shows the projected HIV prevalence within the public service from 2011 until 2017, disaggregated by ministries, teachers, police and local government. The projections are based on the age and sex profile of employees, with some adjustment for education level and grade in line with BAIS II findings and public service mortality data. Projections include estimates of ART coverage drawn from BPOMAS and national ART coverage data, which increase the number of HIV-positive people who survive, pushing up the prevalence.

The trend shows a levelling off of the epidemic. Police services are projected to have a higher prevalence rate over 20% based on their employees’ age and sex profile and anticipated numbers of staff on ART. Local government and Ministry employees have intermediate prevalence and teachers a somewhat lower prevalence. Toward the end of the period prevalence is expected to decline somewhat as attrition of infected members occurs with replacement by people with lower HIV prevalence. It is important to reiterate that no HIV prevalence survey has been conducted among public servants, and there is insufficient data to adjust for possible occupation-specific risks, so projections of levels, trends and differences between ministries will inherently have a margin of error.
Projected deaths due to AIDS according to job grade are seen in Figure 9. Grades A and B are expected to be at a substantially higher death risk from AIDS and other causes based on age, gender and education levels, in line with historical experience. The projected rates of AIDS deaths rise again after 2011, although they will remain at levels substantially lower than in the Pre-ART era. There is still limited information on long term survival on ART, but potential for rising AIDS death rates is considered to be a major concern. The rising trend from 2011 is projected because there are now high numbers of people on treatment, and at risk of treatment failure. In addition, the upward trend is projected because the rapid rise in numbers of people starting ART in 2002-4 means that there is now a rise in the number of people who will have been on treatment for 10 years or more, the stage at which treatment complications and failure are expected to rise. Due to small numbers and data limitations, separate projections for people in grades above C were not expected to be accurate, so they are included in the C+ group.

Figure 9: Projected deaths by Ministry employee grades (per 1000 employees)
SOURCE: Quindiem. (2000-10 actual rates)
Figure 10 projections of death rates for the total workforce are given for the current ART scenario compared to a “no-ART” scenario.
The projections suggest that in a No-ART scenario AIDS deaths would have reached a peak in the latter half of the last decade at levels in excess of those experienced pre-ART around 2001-2. They would still be almost ten times higher than rates with ART, but would be expected to decline due to prolonged high attrition among infected staff, along with lower HIV rates among surviving staff and with replacement by employees with lower levels of HIV infection over time.

Despite this convergence, in addition to the number of lives already saved by 2010, more than 8000 extra deaths among public servants are avoided over the decade through ART.

**Projected terminations (including those due to AIDS)**

From 2008-2010 death rates recorded in Ministry attrition data fell from around 0.7% to 0.5% of employees. The projections of AIDS deaths among public servants suggest that that ministries (all), police, and local government are expected to lose 0.5% or less of employees per annum to AIDS deaths at present, but that AIDS-related deaths will rise to between 1-1.5% of all employees towards the end of the decade (}
Figure 11). AIDS deaths are estimated to contribute around half of all deaths currently, but are expected to contribute an increasingly large proportion of all deaths if treatment failure, drop-out or complications reach the levels projected.
Figure 11: Projected Terminations per 1000 employees
Retirement rates are based on the number of employees expected to reach retirement age. Local Government attrition due to retirements is projected to be high for much of the period. Of note, HIV and AIDS deaths are expected to contribute a relatively small proportion of total staff attrition, although over time its cumulative effects are quite substantial and may be more significant if concentrated among somewhat older employees with more seniority and experience.

**Projected numbers of employees on ART**

The projected number of employees on ART is shown in Figure 12. Estimates based on national and BPOMAS enrolment trends suggest that around one third of employees on ART are using public sector services: despite the higher level of HIV among lower income employees, they have had limited access to BPOMAS and other ART.

**Figure 12: Historical and projected numbers of employees on ART**

Source: BPOMAS; Quindiem
Strategic issues – demographic impacts

- The data shows that there are substantial differences in the degree of vulnerability to HIV across job grades within the public service, with particular vulnerability noted for grades A and B, with some exceptions in grades higher than C.

- Some Ministries and particular workplaces may be substantially more affected than the average, due to the particular gender and age differences, as well as potential occupation-specific risk, such as those with frequent travel or transfers to remote areas.

- ART has had a major effect in reducing AIDS deaths, with recent death rates in the region of 90% lower than they would have been in the absence of ART. In addition to the lives already saved, over 8000 more deaths will be avoided over the decade due to ART.

- Potential does exist for the recent reductions in mortality to rise again as infections feed through and treatment failures, complications or poor adherence rise among many people already on treatment. Efforts to reduce avoidable complications of treatment and poor adherence will be key to limiting the increase in death rates.

- Almost one-in-eight employees will be on ART by the middle of the decade.

- Overall AIDS is expected to be a persisting reason for loss of staff. However it will have a limited contribution to the overall turnover in the public service, as death rates from all causes are not expected to exceed just above 1.5% in total and 1% due to AIDS per year in most Ministries in the foreseeable future.

- In certain workplaces or workforces the impact of AIDS deaths may be substantially higher (or lower) than the average in a given year.

2.1.2 Impact on medical aid and health care costs

Medical aid benefits and trends
BPOMAS provides comprehensive HIV and AIDS cover. The ARV benefit has an annual limit of P9 730 per ART patient, which is reported to hardly ever be exceeded by members and their dependents. Hospitalisation, consultations and laboratory and other investigations are covered separately from the ARV benefit from the overall annual benefit limit per family of P83 000 per family. Around 69 000 Public servants have private cover for HIV care through BPOMAS and a further, unknown number are covered by their spouse’s medical aid. Although BPOMAS enrolment rates among former Industrial Class employees is more limited when compared to higher income employees, an increasing number of lower income workers are reported to have enrolled with BPOMAS.

BPOMAS data indicates that attrition rates are about 20% among employees who have ever enrolled on the ART benefit and considers that survival rates are comparable to national programme retention and survival rates. Around 80% of ever-enrolled people have remained on the BPOMAS programme. Currently, documented death rates are 8.2% with an extra attrition of 8.5% due to people leaving the medical scheme.
**HIV and AIDS effects on medical aid and overall costs to government**

Although BPOMAS HIV beneficiaries rose by 110% between 2003/4 to 2009/10, overall costs rose by only 47% in that same time period (Figure 13). ARV costs were 8% of total BPOMAS claims in 2009/10. When other ambulatory ART care costs are included, the contribution of ARV treatment to total BPOMAS costs is estimated to currently be in the region of 16% of total BPOMAS claims, equivalent to +/- 0.5% of government payments for salaries & allowances.18

**Figure 13: HIV claim costs from BPOMAS, 2003-2010 (ARV drugs only)**

The BPOMAS cost estimate excludes costs of employees dependent on public ART services (and those on their spouse’s medical aid). It is estimated that costs to government of public servants on public sector ART (and of use by BPOMAS members) could bring the total current costs of ART for public servants to around 0.75% of total salaries and allowances.19

This figure excludes other costs which could not be quantified with available data such as costs of hospitalisation and non-routine investigations and treatment for people before ART, with complications during ART and who fail ART. It also excludes possible cost increases as more employees move onto later lines of drug treatment.

HIV benefit costs per beneficiary have declined due to lower drug costs (Figure 14). Costs of HIV tests and consultations are also thought to have declined somewhat due to revision of protocols and guidelines which require less frequent consultations and monitoring than in the early years of ART.

18 Costing data from medical schemes and other costing studies suggest that around 50% of costs of ART are non-drug costs. This and above estimates EXCLUDE costs of hospitalisation or non-routine investigations for people on ART who have complications at or after the time of enrolment.

19 This figure represents total costs of routine ART. As government formally contributes one half of medical aid contributions and employees the other half, not all of the cost is a direct liability of government. However, the increase in costs to employees is a factor that could add to pressure for salary increases on government.

Report on HIV and AIDS in the Botswana Public Service
Figure 14: HIV benefit unit costs per enrollee, 2003/4-2009/10

However, in future it is uncertain to what degree unit costs can be reduced further, and there is already an indication of a rising trend in overall ARV benefits costs as more people enrol. In addition, “hidden” costs to government of employee treatment may be high, as increasing numbers of public servants seem to be at ease with accessing ART in public facilities when this is more convenient than accessing private practitioners, or to avoid the co-payments that they have to make for BPOMAS for ART.20

The projected numbers of public servants on ART (see above) suggest that between 2011 and 2020, unless unit costs can be reduced, the real costs of ART for public sector employees could rise from current levels of around P55 million per year to around P80 million per year in the second half of the decade (excluding hospitalisation and non-routine care) with potential to add costs to government that are equivalent to over 1.5% of remuneration costs in the public service.

**Strategic issues – medical costs**

BPOMAS actively manages and monitors the ARV benefit, and has negotiated preferential prices with drug and laboratory providers. So far the costs of ART have been a limited cost driver for the medical scheme and thus employee salary demands. However, there are signs that the ARV benefit is on a climbing trend due to increasing numbers of people on treatment and could reach the equivalent of over 1.5% of the remuneration package, although some of this will be offset by reduction in HIV and AIDS related hospitalisation which is avoided or delayed. There also seems to be limited ability to further reduce costs of ARV drugs and other aspects of care. In addition, management of the cost of other illnesses, particularly the rise of non-communicable diseases such as cardiovascular disease and diabetes, are an increasing challenge.

Interventions in several areas have potential to reduce costs and improve outcomes.

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20Currently beneficiaries are required to pay 10% of the consultation fees for ART care, in addition to amounts paid by BPOMAS. The co-payment falls away if a member has made more than P10 000 in claims in a year.
• A formal Pre-ART management programme is not in place and this may partly explain why ART beneficiaries’ average CD4 remains very low, at around 100 on enrolment, despite policy changes to allow enrolment for ART at CD4 of 250. Late presentation considerably increases risk of severe illness, higher costs and poorer survival.

• More systematic coordination with Ministry Wellness programmes could enhance early uptake and improve adherence by people requiring ART. This could reduce costs of complications and of moving to later, more expensive lines of ARV drugs. In addition, Wellness programmes can help to address to increasing burden and costs of non-communicable diseases. The Central Statistical Office has found that cardiovascular disease has already become the leading cause of mortality in Botswana, and side effects of prolonged ARV treatment are expected to increase its impact both on costs, morbidity and mortality.

• Costs of consultations and investigations can potentially be reduced by move to less resource intensive routine protocols for stable patients who need less frequent monitoring.

• More extensive monitoring and analyses of total costs of beneficiaries with HIV and AIDS, not just ART drug costs may identify important cost drivers and potential to manage costs and outcomes.

• Workplace interventions which reach employees who are not on medical aid could reduce unnecessary demands on public health services which compete for public sector resources.

2.1.3 Impact on the Pension Fund

BPOPF is a Defined Contribution (DC) pension fund, which means that employees or their dependents get only what they contributed to their benefits plus investment returns. This limits the liability of the public service to make large payouts when people become disabled or die.

DC funds can provide benefits that are very limited for employees with AIDS who have relatively short service, and their surviving dependents. However, widespread ART access reduces negative effects of early death on beneficiaries and possible pressure on the public service to increase benefits.

Some financial risk to the public service remains due to employees’ entitlement to a minimum 1 year salary payout on death. This means that, with a 20% annual contribution to the pension fund, government could conceivably face pressure to make increased contributions into the fund if employees die before they have completed five years of service. However, new enrollees’ death risk is expected to be fairly low, particularly with availability of ART, unless there is high turnover and/or unexpectedly high rates of AIDS among new employees.

Strategic issues – pension fund

Overall, the cost exposure to government due to HIV and AIDS impacts on pension entitlements of Public Servants is expected to be very limited. ART reduces both death and disability rates, and thus claims. ART also helps to avoid employee dissatisfaction and social costs of the limited payouts from DC funds for employees with shorter periods of service.

One issue that will however need to be monitored is the potential negative effect of the recent lowering of the age at which employees can retire without forfeiting a large proportion of their retirement benefits. There is some concern that the lower retirement age may lead to extra loss of expertise and institutional memory from the public service.
### 2.1.4 Impact of indirect costs

Projections of indirect costs of HIV and AIDS have considered the costs of absenteeism due to sick and compassionate leave, productivity reduction among infected people at all stages of HIV disease, and costs of recruitment and retraining/induction (See Appendix5 for details of assumptions). Figure 15 shows the projected indirect cost for each workforce studied by category of costs.

**Figure 15: Indirect cost projections by workforce and cost type**

Projections do suggest that there is potential for a rise in indirect costs as increasing numbers of people have chronic illness and treatment complications in future years. The estimates of indirect costs indicate that they could amount to the equivalent of between 0.8-1% the government payroll over the period. There is some variation in the costs across different job grades due to prevalence differences, although the lower incidence of costs among higher grade staff is offset by higher costs of illness and deaths per affected employee in more senior positions.

Due to limited information on pre-service training costs, loss of investment in pre-service training of public service employees could not be quantified but as these are spread over long periods of employment they would not be expected to substantially affect the overall magnitude of costs to Botswana,

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**Strategic issues – indirect costs**

Although overall levels of indirect costs of HIV and AIDS among public service employees are projected to have a marginal impact on the public service due to wide availability of ART, they will be a chronic drain on productivity with available resources, particularly if effectiveness of ART is not maintained.

In addition,

- While the effect on the average service or workplace will be limited, there is potential for specific functions or services to be quite severely impacted by HIV and AIDS if key individuals or work processes are affected, or if a workplace, by chance, has several affected employees at once.
- Absenteeism, low productivity and attrition due to factors other than AIDS are seen as major issues for the public service. Thus effective responses to AIDS-related issues are expected to help to tackle a larger set of productivity issues for the public service.

2.1.5 Impact on Public Service HR planning

Attrition due to HIV and AIDS introduces an extra uncertainty into HR planning for particular functions in the public service. However, as indicated above, AIDS related attrition, while significant, is expected to not be the dominant reason for turnover of employees.

Other challenges to HR planning arise from service needs created by the epidemic, particularly in relation to health care and social welfare services, but also in relation to sector and program staffing in HIV and AIDS structures. As mentioned, HIV and AIDS related staffing needs were a substantial contributor to growth in public service employment over the last decade.

Full quantification of HIV and AIDS related staffing needs is not available. However, estimates generated in 2007 indicated that by 2016, 1481 staff would be required for ambulatory ART services at an annual cost over P70 million (at 2007 prices), which excluded staff required for inpatient care.

**Strategic issues – HR planning**

HIV and AIDS related service and programme needs, and models of responses, have been evolving quite rapidly. The public service needs to work with relevant sectors in a responsive and facilitatory manner to:

- Effectively identify, quantify and cost appropriate staffing requirements to meet HIV and AIDS-related services and programme needs.
- Redesign staffing establishments to reflect innovations that may be required, and to support effective implementation of HR changes. Task shifting and use of new cadres of staff are likely to be features of new staffing models.
- Facilitate absorption of project-funded staff from HIV and AIDS programmes into the public service where appropriate. For health, it was estimated in 2007 that around 320 posts would need to be absorbed.
2.2 How HIV and AIDS affects public service productivity

**Defining workforce productivity**

*Productivity* can be defined as the: “relative measure of the efficiency of a person, service, system in converting available inputs[funding, personnel, equipment] into useful outputs...productivity is a critical determinant of cost efficiency”\(^{21}\).

*Workforce productivity* is generally measured in terms of the amount of goods or services that an employee produces in a given amount of time, and can be measured for a process, service or a country. It was originally (and often still is) called labour productivity because it was originally studied only with respect to the work of labourers as opposed to managers or professionals\(^{22}\). Today, however, all cadres of employees are generally included in evaluations of workforce productivity. Labour productivity only partially reflects the productivity of labour in terms of the personal capacities of workers or the intensity of their effort. The relationship between output and labour input depends to a large degree on the presence of other inputs and technical, organisational and efficiency-related systems.\(^{23}\)

While the definition of productivity is provided to elaborate on the areas of interest that the study focused on, the research could not employ an exhaustive or thoroughly comprehensive measurement of productivity in the Botswana public service. Instead, the research team focused on gathering secondary data from a variety of sources, with which to draw inferences and make conclusions on the anticipated areas of the public service that can be expected to have been impacted as a result of HIV and AIDS. On the one hand these included ability of employees to produce required outputs, which is affected by issues such as sick leave, absenteeism or poorer on-the-job performance. On the other they include costs of medical aid and other medical care. These mean that government may not only have to pay more to staff particular functions, but it may have to divert financial resources to these benefits and away from providing more of other services to the citizens and economy of Botswana.

The qualitative component of this impact assessment sought to intensify the depth of understanding around attitudes, beliefs and perceptions related to the impact of HIV and AIDS on the public service as a whole, and why. Researchers also investigated the impact of other factors, if any, that public servants felt made an impact on productivity, which are also included in the analysis. Therefore the report does not present an overall quantifiable measurement of public service productivity as a whole, only an integrated analysis of a wide range of data.

### 2.2.1 Recent trends in Public Service productivity

**Conflicting perceptions of productivity**


\(^{22}\)Workforce productivity, accessed 18 April 2011 at http://en.wikipedia.org/wiki/Workforce_productivity#cite_ref-0

The overall perception among those interviewed - albeit a cautious one - was of rising productivity, especially in the past two years. This was explained as a result of some key approaches effected through government-wide initiatives and policy changes. Central to this was the current President’s initiative public servants known as the “5D’s: Democracy, Development, Dignity, Discipline and Delivery”, introduced in April 2008 upon his entrance into office, which gave ministers six months to “shape up or ship out”. The President’s initiative was seen both as a positive influence and also as one having unintended consequences such as general feelings of job insecurity and stress.

The new Public Service Act was felt to underscore productivity gains, especially through the introduction of appraisal systems - the Performance Based Reward System, and target-setting and monitoring through Performance Development Plans. Most felt that these systems helped public servants to better understand their job responsibilities and enabled them to self-monitor their own progress.

With all interviews there was widespread agreement that the introduction of antiretroviral therapy along with greater availability of information on HIV and AIDS contributed significantly to the increase in productivity.

Some departments reported increasing rates of customer satisfaction with their own services; while others felt that service delivery in general throughout the public service remains an area for improvement. For example, productivity has not improved in those cases where some ministry-based projects are still not completed on time.

**Challenges to improving productivity**

It was felt that service delivery would improve mainly by tackling those challenges that are not directly related to HIV and AIDS, but are inherent in the systems themselves, as well as to address issues at the individual employee level.

The challenge to improve productivity remains high, as stakeholders indicated that this is still hampered by a number of concerns; not least of which is to define and measure “public service productivity” in the first place. Many interviewed felt that an appropriate measurement of productivity is unclear to most, in particular to those ministries that do not have clear benchmarks, such as dealing directly with customers or implementing discrete projects.

As positive as systems reforms promise to be, the systems themselves may have uncertain effects, such as the use of appraisal forms not as they were intended – resulting in demotivation of staff; and the additional pressure placed on public servants by productivity initiatives themselves – resulting in an unintentional negative impact on stress, morale and productivity.

The ability to plan and prioritise routine ministry work and additional projects was identified as a particular challenge, as for example, poverty eradication projects, sitting on various committees and so on, can shift employee focus from the “work of the day” to other areas, hampering delivery of normal services.

Wellness Coordinators themselves have a critical role to play in managing a multi-sector response to HIV and AIDS and other productivity-related issues on the ground; yet there has been no formal review of their performance, effectiveness or influence on productivity within the public service since their appointment.

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24 The Botswana Gazette, “What could be up Khama’s sleeves?”, written by Dithapelo Keorapetse, Wednesday, 12 January 2011 00:00.
2.2.2 How HIV and AIDS affects Public Service productivity

**Before ART**

All persons interviewed indicated that prior to widespread access of treatment; HIV and AIDS had a profound effect on service performance through the loss of skilled workers, either through death or transfers. Many sought transfers to better access the treatment that was available, or to be with their families. The impact was most noticeable when staff in key posts were infected or affected – resulting in increased burden and stress to those colleagues present on the job.

The symptoms of HIV and AIDS as noticed in the workplace resulted in “stress” (i.e., emotional and psychological strain) along with manifestation of the physical illness itself, encumbering productivity in employees that were sick as a result of HIV. High levels of absenteeism, both recorded and unrecorded, were noted and sick leave was frequently used until it was exhausted. Substantial amounts of leave were also granted to affected employees who were caretakers of others who were ill.

Job performance apparently also suffered when infected or affected staff did come to work but were ill or stressed. The skills, expertise and capacity that were normally available in the work setting were absent, even though the individual was physically present on the job. This phenomenon was known as “presenteeism”

Finally, the increased burden and stress carried by the health and welfare workers and the congestion in hospitals compromised the delivery of these services.

**After ART**

**Improvements**

Along the same lines, all persons interviewed agreed that productivity significantly improved once access to antiretroviral therapy became available, with immediate reduction in the numbers of staff deaths and illnesses. There is now a return to ‘normal’ leave rates and patterns – as short, regular absences such as 1-2 hours to 1 day of leave time are taken for example, to go to the clinic for a check-up or to pick up treatment - usually with limited impact on work functions. There is less worker burnout noticed among staff due to illness and a definite decrease in vacancy rates.

A number of informants noted that for some time the impact of HIV and AIDS was noticeably worse on former Industrial Class employees who had less access to ART but that this had improved particularly since service roll-out to decentralised levels since 2008.

**Persisting vulnerabilities**

Despite wide access to ART, it was felt that some particular workplaces and job functions are still hard-hit by HIV and AIDS, where above-average numbers of staff may be infected or affected. A shortage in all skills levels of staff can severely impact workplace function, be it unskilled, semi-skilled or skilled cadres of employee. Examples were given of how loss or

“I could see the police I trained with and the people I worked with for a long time, dying of AIDS”.

~ Botswana Police Services

“HIV can have impact on the performance of employees: if an employee is sick, that can result in absenteeism for medical reasons; and if the family member or the relative of the employee is sick that can lead to psychosocial problems making an employee to have less focus at work”.

~ District Commissioner’s Office
illness of drivers and planners, or more than one team member within a short time period, had major impacts on certain functions.

A number of people suggested that the cumulative effect of lost skills and experience over the years on the overall capacity of service has been significant, although it is difficult to quantify and is not widely realized.

**Unintended consequences of ART**

There was frequent mention that ART had a positive spinoff effect, by noticeably reducing stigma and discrimination. Those interviewed felt that as people gained an increased acceptance of their own HIV status, more people felt free to disclose their HIV status. This has resulted in higher comfort levels for those infected to receive their treatment at local facilities, even if this meant that they would be seen by their peers, colleagues or neighbors. In general, they noted an increased respect of individual privacy about one’s HIV status.

“HIV/AIDS is like any other disease, taking ARVs is like taking diabetes pills, there is absolutely nothing wrong with it”.  
~ Former Industrial Class, District level

“People are free to say ‘I’m on the ARV’ - the staff queue like any other person at the hospital when they go for their checkup. Unlike before, staff would rather go to another place, but now they just use their own facility”.  
~ Matron, District Primary Hospital

However, there were still many anecdotes of people who feel stigmatised and reluctant to disclose their status. “Self-stigmatisation” was noted to be an important issue, whereby even with higher levels of public acceptance around HIV and AIDS, people still choose to keep their disease a secret, or worse yet, would refrain from testing for HIV or visiting ART services, out of fear of discrimination. Some informants did suggest that many employees still have significant stress and trauma around their own HIV status or that of family members.

**Current situation**

Notwithstanding the improved mortality and morbidity stemming from widely accessible treatment, HIV and AIDS does continue to impact overall public service productivity. This is exacerbated by the existing resource constraints, both budgetary and personnel. For example, absenteeism for any reason – HIV/AIDS included – can increase the workload on other staff, adding an extra burden on top of some existing difficult working conditions. Since the scale-up of the national response, Botswana’s health services have felt the pressure, with increased demand for health workers of all areas, including medical, para-professional and other staff; and in the health services required to meet increased demand for a range of services.

“ARV’s have relieved us of the load of processing the leave applications”.  
~ Police Deputy Station Commander, District level

“I could actually remember the first group of police who survived as a result of ARV”.  
~ Botswana Police Service
needs such as home based care, HIV testing, ART. The ART program has reduced demand for inpatient and terminal care, but has made new demands on staff capacity.

Social work services bear the brunt of linking and coordinating all HIV related services together, for individual and family needs and were noted to be chronically stretched to meet demands.

Orphans as a result of HIV and AIDS, and other social incidents have expanded the burden of caretaking beyond the norm, causing stress of additional financial demands, disputes over the distribution of inheritance and even simply obtaining identity documents in order to access social grants. These types of issues have added to the burden on public services and affected public service employees across sectors.

Some informants noted that HIV and AIDS in Botswana receives greater attention than other diseases and needs. Related programmes and projects generally have an advantage in accessing funds and resources. Due to the initial AIDS emergency, departments became used to channeling funds to a separate HIV and AIDS programme, diverting resources from more routine functions of the public service, such as other employee welfare programmes or regular salary increments. This phenomenon also affects staff morale, as incentives are either missing or only favour people in posts related to HIV and AIDS.

2.3 HR management, productivity and HIV and AIDS

2.3.1 Systemic factors affecting public service productivity

The effects stated by participants in the qualitative study indicate that overall human resources issues were a challenge to public service delivery and productivity, and that HIV and AIDS added to underlying problems, rather than being a dominant cause of them.

Root causes of difficulties arose from limitations in various elements of Human Resource management, development and planning. This resulted in a general shortage of or loss of staff and skills, vacancies that are difficult to fill, and costs of replacing staff. In turn this all results in elevated workloads and worse morale for existing staff.

Informants indicated several priority issues affecting morale and efficiency.
Professional development of staff did not seem to include initial training periods, nor on-going training or skills development to aid employees in their professional growth.

Financial incentives did not exist and career paths were not considered to be well defined as an opportunity for most public servants.

Human Resource planning was seen as non-systematic, with a lack of understanding of the individual needs of the ministries by the government agency responsible for managing public service appointments.

General financial and resource constraints were felt to affect productivity, most frequently involving lack of transport, even in posts where transport was a necessity of the job to reach outposts and far corners of the districts (i.e., police officers, agricultural workers).

Effective management of staff also posed a challenge due to the vast distances between nodes where management was based and where the extension or field workers were deployed.

Finally, inefficient information, communication and technology systems contributed to a delay or hindrance to productivity, and contributing to low morale and high staff turnover.

Tackling the impacts of HIV and AIDS will also require these systemic issues to be addressed, and responses to HIV and AIDS can help to reinforce improvements in these areas.

**Individual factors affecting public service productivity**

A number of critical factors that affect productivity in the public service can be described as personal issues at the individual level. These included postings in rural areas, which were largely perceived as “hardship posts” due to the lack of facilities such as banks, schools and entertainment. Without these community facilities, the families of public servants posted to rural areas found it difficult to relocate with their spouses or partners.

Furthermore, the transfer policy as a whole was reported to be a major cause of familial stress, causing separation from families or home for long periods of time. Although many
“Even with a Wellness committee, there is no programme to counsel or prepare staff before deployment.”
~ M&E Officer, Local Government (district)

“Most staff are not from [here]. They’ve left their families behind; there are no schools, no facilities. They get lonely and so find partners all over.”
~ Chief Medical Officer, District Primary Hospital

“Our duty itself [puts police officers at risk for HIV]; for example, attending to car accidents. Maybe they go directly to the site before stopping at the station to get the necessary precautionary supplies… or on night duty, attending to a fight, perhaps they can return back to the station with blood on themselves. These are some reasons why they go for HIV testing.”
~ Constable/ Assistant Social Worker, District Police

reported that regulations did exist which aimed to protect family units in the event of a transfer, for example, limiting the distance between spouses to 500 kilometres, these provisions were either ignored or not well-enforced.

Personal problems such as social, financial and others were frequently mentioned as factors that lead to individual stress and a loss of job concentration, contributing to reduced productivity.

Those interviewed felt that not enough attention or support was provided to individual staff in order to assist them in coping with their personal problems. Alcohol abuse for example, was commonly quoted as a major cause of absenteeism, particularly after the weekends, and only individual line managers or direct supervisors are in the position to deal with what are essentially complex personal and social issues.

Left without adequate interventions in place to address and support staff with regard to their personal problems, these social phenomena contribute to low morale and low productivity in the public service.

2.3.2 Link between public service and increased vulnerability to HIV and AIDS

Public servants perceived themselves at increased risk for HIV by two main avenues: through factors related to administrative policies and functions of the public service, and through the nature of certain occupations.

How do administrative functions of the public service lead to increased risk for HIV? According to many of those interviewed, the practice of transfers and the

“HIV is no longer the first cause of concern. Other issues (and causes of death) include alcohol, vehicle accidents and so on.”
~ DPSM

“Alcohol abuse has become a big problem. Officers resort to alcohol from stress and lack of other recreation.”
~ P&P Officer
requirement of official trips out of town contributed to this: by separating individuals from their partners, spouses and/or families, this ultimately leads to the person in question engaging in multiple concurrent sexual partnerships (MCP), thereby placing them at higher risk for HIV. Coupled with the lack of any HIV and AIDS orientation, or other general preparation prior to deployment (for example, discussions on how to maintain long-distance relationships) public servants often felt they were more vulnerable once sent to their posts. In some instances, a lack of adequate public service housing meant that both men and women were forced to share residences, ultimately leading to sexual relations between the housemates and an increased risk to MCP.

In other instances, employees are at risk through jobs that can expose them to infected body fluids. For example, with medical personnel, handling patients and exposure to bodily fluids on a daily basis expose these categories of worker to increased risk. Health-based posts described as being at higher risk included nurses, doctors, laboratory technicians, and even cleaners who collect and handle medical waste. Emergency response teams and personnel (e.g. police, fire, and paramedics) were also perceived as having a higher risk to HIV from exposure to bodily fluids at the scene of accidents or when upholding law and order.

2.4 Response to HIV and AIDS and productivity issues in the public sector

2.4.1 Challenges to the HIV and AIDS - Wellness response

Systems level
HIV and AIDS has often tended to receive more attention and resources than other disease areas or even preventative health measures as a whole in many countries. In Botswana, the case is the same, where funds are earmarked for HIV and AIDS activities, they cannot be used for broader Wellness initiatives. This distinction between the two undermines the more holistic Wellness response that has been adopted by the country. Political will and management commitment was also seen as variable, and sometimes favouring one approach to wellness over the other, thereby affecting how well supported a ministry-wide or district-specific response is implemented.

An overall shortage of funds and human resources committed to the HIV and AIDS – Wellness response was noted by several informants, who also felt that this was a result of the recent economic turndown. In 2010/11, expenditure on Wellness programmes in the public sector fell to P 6.5 million from a high point of P17 million in 2008/9, apparently due to both a reduction in overall HIV and AIDS programme resources and under-spending by various public sector programmes. These amounts can be compared to expenditure on BPOMAS contributions of P 375 million in 2009/10.

“The distance is an issue, some staff have homes far from [here], this is having an impact on their performance as they are always asking for leave, time off, to attend to problems at their homes.”
~ Matron, District Primary Hospital
It was noted that under constrained conditions, implementation of programmes then falls to small numbers of inexperienced, less senior staff that can find it difficult to move the programme forward. In addition to this, weak support from management level and even central level was felt to stunt the growth of individual wellness programmes. Some senior managers are still in need of convincing of the benefits of a successful employee wellness programme, and weak reporting lines and complicated HIV and AIDS management structures weaken it even further.

Some reported lack of clarity in roles and responsibilities of the structure of the HIV and AIDS - Wellness response, including the roles of NAC, NACA, DPSM, DMSACs and DACs. No less confusing were the roles and expectation around involvement by senior management, Wellness Focal Points and Ministry AIDS Coordinators. It was mentioned that if some roles were formalised, this would then encourage authority and accountability to the programme. Instead, the current Wellness programme was felt to exist as merely “add-on” responsibilities, which weakened its effectiveness.

A further limitation was the perceived narrow focus of the programme on the Former Industrial Class, with need to develop approaches that include all employees and managers, with more effort to target the Permanent & Pensionable cadre.

Constricting the programme focus on HIV and AIDS as opposed to general wellness was seen as stigmatizing and self-defeating to the wellness effort. However, it was noted that care should be taken not to de-emphasize HIV and AIDS too much, as it remains the most significant single threat to employee wellness.

A proper policy and other guidance on how to implement a Wellness Programme is still not finalised, leading to an often erratic and “events-oriented” programme and uncertain effectiveness as an intervention.

**Receptiveness of employees**
Key to any programme is the level of interest and engagement by its targeted population.

In some Ministries, there is low participation by all staff – some complain that it is difficult to strike a balance between wellness participation and work duties, and often employees are either tired after their shift or have personal priorities to take care of in the after-hours that wellness activities are scheduled.

There were widespread reports of fatigue around HIV and AIDS messaging. Despite this denial, stigmatization and discrimination still clearly persist around HIV and AIDS, and although knowledge around HIV and AIDS may be high, risky behaviour, late presentation for treatment and treatment adherence issues remain.

There is a hesitancy by staff to discuss their personal health concerns with their co-workers, and cultural, religious and other factors may also delay seeking treatment early. In many cases there was a perception of a lower participation rate among male employees in wellness activities. Of some comfort however, BPOMAS data suggest that male enrollment rates in ART are relatively high.

These issues emphasise the importance of innovative, well implemented approaches if the
Wellness program is to achieve its objectives, as well as the need for a comprehensive rather than narrow wellness approach.

2.4.2 Strengthening the Public Sector response

Employ a “ground-up” approach
Employees and Wellness Coordinators from a wide range of Ministries suggested that the public service should reduce its dependence on NACA for its Wellness response, and should take more control of its programmes at the local level. A critical issue was to shift the focus away from HIV and AIDS towards general wellness issues, with provision for NACA funds to cover general wellness issues and Wellness Committee functions.

It was suggested to revamp the structure of wellness programmes so that sector wellness committees would have greater presence across all departments, and work towards better coordination of the overall programme. Many lessons have been learned on the ground already, with a number of best practices that could be documented and rolled-out as a more standardized approach. DPSM could then provide the technical support for the wellness response in individual Ministries.

The Wellness Policy was seen as critical to the health of the overall programme. Many informants indicated that it should be finalized urgently. Improving monitoring and evaluation of the national strategic plan was also felt to be helpful in assessing where the wellness programme stands and guiding it through its development to ensure it meets its goals.

Recognize, reward and replicate Good Practices
Since the dawn of Botswana’s national response to HIV and AIDS, which has slowly moved towards an overall wellness focus, a number of ministries have taken the lead in their individual efforts, even in the absence of a national public service wellness policy.

In order to build on current good practices and to acknowledge hard work in the public service, individual ministries should be recognized for their efforts and rewarded. This positive reinforcement can serve both as a launchpad for the National Public Service Wellness Policy as well as to consolidate the lessons learned thus far.

The field work of this study presented the opportunity to discuss individual programmes with Ministry staff at many levels. Some Ministries’ programmes stood out as good practice examples of Ministry responses. These were: the Ministry of Agriculture Wellness Programme; the Police Wellness Programme and their general human resource management systems; the Ministry of Local Government Wellness Programme, and; the Ministry of Health Wellness Programme. There also were individual cases of senior management providing extraordinary support in managing HR issues faced by their staff.

These Ministries tended to employ better programme practices and more comprehensive services for wellness and HIV and AIDS, including expansion beyond their own staff to include the general community. More specifically, the “Best Programme practices” included:

- General knowledge around an individualised and holistic approach to support their staff, from central level all the way down to district levels;
• More comprehensive services covering the spectrum of general health and wellness, while including HIV and AIDS;
• More outreach efforts by public servants and linkages of wellness programmes to the communities that they serve.

Overall, respondents and good practices suggested that changing the way the public service implements its wellness programme may require a three-fold approach:
(1) Sensitization of the overall vision of a public service wellness policy (“A healthy, dedicated and productive public service”);
(2) A clear outline of how to implement a wellness programme, and
(3) Some type of incentive structure to increase public servants’ level of commitment to and engagement with the programme.

3. Conclusions and Policy Recommendations

3.1 Conclusions

This study has pointed to a number of key conclusions that can guide further prioritization, policy development and planning by the Public Service.

1. HIV and AIDS remains a major threat to human and economic development in Botswana. The costs of ART and other aspects the national HIV and AIDS programme challenge the sustainability of the programme. They also compete for government revenue which could otherwise go to improving capacity to address other service needs. However, the benefits of investing in effective prevention and treatment can largely offset the costs by preserving human capital, maintaining service efficiency, and reducing future costs through HIV prevention.

2. As Botswana’s largest employer, the Public Service has direct links and responsibilities related to a large part of the Botswana population. Its response in HIV and AIDS treatment and prevention is a key component in the national response, and is required by national policies and strategies. Successful Interventions for public servants and their families can be an important influence to change social norms and risk behavior which fuel the epidemic and costs in the broader society.

3. Since the advent of widespread, accessible ARV therapy, HIV and AIDS is not a high profile issue in daily public service workplaces and productivity.

4. However, HIV and AIDS have not gone away, and the costs to the country are inherent through:
• Existing, though often hidden, costs and stresses which are a persistent drain on productivity;
• The likelihood of significant increases in medical and indirect costs of HIV and AIDS in future, and substantial impact on certain workplaces;
• A critical need to maintain and improve ART coverage, efficiency and effectiveness (i.e. treatment adherence, early testing and enrolment, etc) to

minimize potential for increases in deaths among people who have accessed ART;
• The need to contribute to much more effective HIV prevention in order to make the overall national response sustainable.

5. There are major challenges to improving productivity and morale in the Public Service. HIV and AIDS responses can make an important contribution to addressing these, through:
   a. Human Resource management systems — moving away from HR administration into more active HR management of performance and sick leave, deployment and transfers, staff morale, etc;
   b. Human Resource planning to respond both to loss of staff and to cope with larger scale needs for new services; and
   c. Human Resource development.

6. The burden of chronic, non-communicable diseases such as cardiovascular diseases is increasing in Botswana and side-effects of ARV treatment is likely to further increase their impact. This reinforces the potential benefit of Wellness programmes. However, expenditure of Public Service wellness programmes has dropped to just P 6.5 million, compared to contributions to medical aid alone of over P 375 million.

7. Good practice examples exist upon which to build and further strengthen the overall response in some ministry Wellness programmes, Employee Assistance Programmes and Human Resource management practices.

There are data limitations that made it difficult to assess in precise terms the impact of HIV/AIDS on issues such as productivity and the general impact on the economy as a whole. However, the conclusions of the study in relation to the overall magnitude of impacts and costs, as well as the types of response that are required, seem likely to be robust.

In particular, the synergy between public service HIV and AIDS responses with the overall national responses and general public service productivity challenges, provide strong grounds for confident action.

### 3.2 Recommendations

1. Monitor and manage medical costs and effectiveness for HIV and AIDS and other diseases.
   • Overall costs of health care and ART are considerable challenges to Botswana and all role players need to play a role in managing costs and efficiency. In particular, there is need to improve information and strategy on hidden costs and trends, as more financial pressures are likely to emerge.

2. Prioritise interventions that can prevent new HIV infections among employees, their partners and their families, as part of the national response

3. Move from Human Resource administration to Human Resource management, overall and in key areas:
• Focus on recruitment, placement, transfers, performance, sick leave and performance management; staff morale, career pathing, etc
• Strengthen the role that DPSM plays in supporting Human Resource management in Ministries and at decentralised levels

4. Strengthen Human Resource planning and development strategy:
• Pay particular attention to the high-demand and quick-changing sectors like Health and Social Welfare
• Review overall costs, cost effectiveness and wellness aspects of investments in training and tertiary education
• Improve information management, especially for inter-Ministry planning

5. Improve the management of information. Priority information to assist in public service management, not just of HIV and AIDS related issues, includes;
• Absenteeism and leave management
• Levels and reasons for attrition among staff
• Vacancy levels and durations
• Recruitment and training costs

6. Validate and reward the efforts to date by the Botswana Public Service:
• As a good practice “employer of choice”
• As an efficient foundation for national development
• As a major component of the national AIDS response

3.3 Recommendations - Wellness Programme

Overall, the goal should be to reinforce the Wellness Programme contribution to core Human Resource management and productivity, while at the same time addressing HIV, AIDS and other health issues. The rising importance of non-communicable diseases in Botswana needs to be recognized and addressed through the programme. The recommended focus should be to:

1. Build on existing good practices in several Ministries
2. Finalise the Wellness Policy as a matter of urgency
3. Standardise Wellness programme guidelines across ministries
4. Adopt a comprehensive health-focused approach that will:
   • Integrate wellness, Employee Assistance Programmes, Health and Safety; and include public servants and their families
   • Not be limited to HIV and AIDS, but maintain a priority focus on the epidemic
   • Facilitate links to community wellness, especially in rural areas
5. Strengthen leadership and coordination across Ministries and with BPOMAS:
   • Reduce reliance on NACA
   • DPSM to provide more technical support and coordination
   • Find ways to deepen involvement of all cadres of staff (i.e. the Pensionable)
6. Strengthen the structures for Wellness Programme leadership, management and capacity, through:
   - Initiating Sector Committees in all Ministries
   - Involving Senior Management in Wellness Committees and support
   - Recognition of involvement – e.g. In PDPs, career pathing
   - The public service college to incorporate Wellness into their trainings
   - District level coordination with DACs, DMSACs, and consider a single Wellness Programme across sectors for efficiency
   - Empower FIC and Unions for more active roles

7. Improve Monitoring & Evaluation of the wellness programme to track progress and impact, and to constantly improve the programme

8. Re-allocate resources to use them more efficiently and support value for money:
   - Review the current low, and falling, budgets for public sector Wellness programmes.
   - Remove NACA funding limitations on non-HIV and AIDS related activities
   - Fund the "good" Wellness plans and programmes based on value and demand, rather than providing standard allocations across the board

Guidelines to assist in addressing the HR management challenges, as well as Wellness issues, have been drafted as part of this assessment and are available separate to this report.

As follow-up to this study, it is recommended that:

1. The Guidelines are put into practice in a systematic way, led by DPSM, and reaching all Ministries and all levels.
2. That the key findings and recommendations from the IA report are workshopped with planners, corporate services officers and wellness coordinators from all Ministries, in order to incorporate them into the future strategic decision making of Ministries.
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Appendix 1: Members of the study Reference Group and Technical Working Group

**REFERENCE GROUP MEMBERS**

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<td>16. Mabua Mabua</td>
<td>PS: Transport &amp; Communication</td>
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**TECHNICAL WORKING GROUP MEMBERS**

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
</tr>
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<tbody>
<tr>
<td>1. Andina Dintwa</td>
<td>DPSM</td>
</tr>
<tr>
<td>2. Jacob Nkala</td>
<td>DPSM</td>
</tr>
<tr>
<td>3. Monametsi Moncho</td>
<td>DPSM</td>
</tr>
<tr>
<td>4. Robinson Dimbungu</td>
<td>NACA</td>
</tr>
<tr>
<td>5. Peter Chibatamoto</td>
<td>NACA</td>
</tr>
<tr>
<td>6. Peter Stegman</td>
<td>NACA</td>
</tr>
<tr>
<td>7. R. Lebelonyane</td>
<td>MOH</td>
</tr>
<tr>
<td>8. Dolly Motladiile</td>
<td>Police</td>
</tr>
<tr>
<td>9. Koona Keapoletswe</td>
<td>MoH (HIV Dept)</td>
</tr>
<tr>
<td>10. Jeffrey Makgolo</td>
<td>ILO</td>
</tr>
<tr>
<td>11. Tinaye Mmusi</td>
<td>UNDP</td>
</tr>
<tr>
<td>12. Wayne Mlazie</td>
<td>DPSM</td>
</tr>
</tbody>
</table>
Appendix 2: Fieldwork Guidelines and Tools

BOTSWANA PUBLIC SERVICE

HIV/AIDS IMPACT ASSESSMENT

FIELDWORK GUIDELINE AND TOOLS

Version 1.5
Date: 3December 2010

Developed by HDA

PROJECT CONTACTS:

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Jennifer Baumann
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Email: jbaumann@hda.co.za
1. INTRODUCTION

1.1 Background

HDA has been contracted to conduct a study of the impact of HIV/AIDS on the Botswana Public Service. A large portion of the study will be to collect information from Key Informants, either individually (Key Informant Interviews) or in groups of similar people (Focus Groups). A guideline has been developed (attached in this document) to be used for all interviews and a separate one for focus groups.

The training session for fieldworkers will take place on 1 Dec in Gaborone, with the following 2 days spent “pilot-testing” the interview guide. Amendments will be made to the guide as necessary. Fieldwork will continue with specific staff at relevant ministries, organizations or agencies at central level and in four districts: Gaborone, Phalapye, Tutume and Hukuntsi, from the 6th - 15th of Dec 2010.

1.2 Aim of the Field Visits

Fieldwork teams will meet with public sector managers and workers, in the four ministries (that cover a range of different circumstances) in order to identify:

- Key obstacles to successful service provision in Botswana;
- Impacts of HIV and AIDS on 1) personnel, 2) system demands and 3) system performance, and how significant these are;
- Factors that make personnel (particularly women) more at risk of HIV infection;
- Factors that make personnel and services vulnerable to HIV and AIDS impacts;
- Responses of public sector, ministries and other partners to impacts, and obstacles to stronger responses in order to guide planning to support effective responses;
- Their recommendations on responses or changes that are needed for the system to protect public sector function and effectiveness;
- Any data, statistics and documentation that is available to help to clarify our understanding of the situation in each of the above areas.

1.3 Confidentiality and Ethics

The basic principles of ethical medical research in human subjects should be applied to surveys: persons should be respected, the endeavour should provide benefits—if not to the individual, to the population—and no harm should be done (Declaration of Helsinki, revised October 2000).

- In our data collection techniques, we need to ensure our research procedures are NOT likely to cause any physical or emotional harm. Harm may be caused, for example, by:
  - Violating informants’ right to privacy by posing sensitive questions or by gaining access to records which may contain personal data;
  - Observing the behaviour of informants without their being aware (concealed observation should therefore always be crosschecked or discussed with other researchers with respect to ethical admissibility);
  - Allowing personal information to be made public which informants would want to be kept private, and
  - Failing to observe/respect certain cultural values, traditions or taboos valued by your informants.

Several methods for dealing with these issues may be recommended:

- Obtaining informed consent before the study or the interview begins;
- Not exploring sensitive issues before a good relationship has been established with the informant;
- Ensuring the confidentiality of the data obtained; and
- Learning enough about the culture of informants to ensure it is respected during the data
collection process. If sensitive questions are asked, for example, about family planning or sexual practices, or about opinions of patients on the health services provided, it may be advisable to omit names and addresses from the questionnaires.

2. PREPARATION FOR KEY INFORMANT INTERVIEWS/FOCUS GROUP DISCUSSIONS
This section describes the objectives of the interviews and focus groups; some basic interviewing principles and how to take good notes. The interview guides to be used in the sector visits are attached.

2.1 Objectives of interviews / focus group discussions
The objective of interviews and discussions is to give people an opportunity to freely voice their perceptions, priorities and views. The interview guides are not intended to be an inflexible list that dictates the content and order of questions. They should be used as guides to stimulate people to freely express their views and, if appropriate, to probe for more information. Interviewers should adapt their approaches to put informants at ease and to suit the situation of each session.

2.2 Basic interviewing principles
The following suggestions may help to improve the quality of information obtained and make it easier to conduct discussions. The suggestions will be discussed in our initial training session.

THE INTRODUCTION
Provide a basic introduction as to who you are and why you are interviewing the person/conducting the focus group. This intro should cover these issues (in most cases):

We have been asked by NACA to assess the impact of HIV and AIDS on the Botswana Public Service.
We recognize that people may have priority concerns apart from HIV and AIDS. They should feel free to tell us about these so that we can give HIV and AIDS the right level of priority in reporting to NACA.
We are interested in the effects of deaths or illness from any cause, not just HIV and AIDS; we often do not know the diagnosis for sure.
An invitation to informants to ask any questions that they may want to, at any stage.
It is often useful to start by asking informants about some general issues (e.g. description of the public service in the area and personnel characteristics.)

INTERVIEWING TECHNIQUES
• Ask fewer questions rather than more.
• Do not fear silence; give people enough opportunity to start talking.
• Avoid using closed-ended questions (where the answer is yes/no) and leading questions.
• Avoid introducing your own value judgments or views.
• Be active listeners:
  • Reflect back to informants/ groups to show that you have heard them – summarise and rephrase what you think you have heard to check that you have understood correctly
  • Ask for clarification if necessary.
• Consider splitting a large group into smaller groups, if the group is unmanageable or has difficulty talking. The smaller groups can discuss questions among themselves and report back to the full group.
• Respond to sensitivities of your informants.
• Women may feel more comfortable if a woman leads the discussion and asks the questions
• Be sensitive to language issues. Invite people to respond in Tswana or ask for questions to be clarified. (Be sure you have a translator especially when interviewing community members).
In *later visits* we may ask people whether they agree with some views of impacts, key issues and recommendations for managing impacts that are being considered (this is “triangulation”, used to confirm consistency of different stakeholders’ views). *If you do so, be careful that this does not limit informants’ ability to express their views or provide new insights.*

*Discuss with your colleagues what aspects of interviews are more or less successful* in helping informants to feel free to express their concerns and priorities. Use this reflection to refine your group or individual technique in other discussions and interviews.

### 2.3 Taking good fieldwork notes

In interviews and discussions, *all team members should take notes* to ensure a complete and accurate record.

*Try to avoid disruptions to the flow of conversation and questioning/active listening* by delays to take notes. You may mark where you could not take notes. Later you can use colleagues’ notes (or tape-recorded notes) to fill in the gaps where necessary.

In each interview or discussion, try to make notes of:

- *Good statements to be used as quotes or good stories to be used as case studies* that reflect the key issues well.
- *General Impressions* e.g. overall level of impacts; informants’ openness; overall level of knowledge, enthusiasm and strategic thinking; possibility of misleading information or biased views; leadership and or other key factors driving responses.

Tape recorders will also be used, especially for discussions in Tswana, but should not be relied on alone. *You must get verbal agreement (consent) from all participants to tape record the interview or focus group.*

### 2.4 Fieldwork Training

The fieldwork training on 1 Dec will cover the following:

- The contents of this guide
- Field work instruments (interview and focus group guides)
- How to manage the interview and probe for more information
- The format to be used to write up field notes
- After the fieldwork
- Make sure that you have written up all of your notes for each interview using the prescribed format.

Submit all interview/focus group notes to Jennifer Baumann, Project Manager, either in person or via the following:

*Email:* jbaumann@hda.co.za

*Fax:* +27-11-484-8238

Ensure that all of your fieldwork outputs (notes, etc) are submitted to the Project Manager by the agreed-upon deadline. Discuss early with the Project Manager if you foresee any issues in meeting the deadline.
Key Informant Interview Guide (national or district level)

To be used with: NATIONAL LEVEL - Directors, Heads of Programmes (Wellness, Planning, HIV/AIDS, HR)
DISTRICT LEVEL: District Commissioner, CEO district council, AIDS Coordinator, Education Officer, Health Officer, Agriculture Officer, Police Commander, Heads of Ministries at District level

**INTRODUCE YOURSELF AND EXPLAIN PURPOSE OF INTERVIEW:** “The aim of this discussion is to explore views of the public sector managers and workers in the priority sectors, about the way that HIV and AIDS impacts on the sector, and the way that the sector can respond to protect personnel and functions of the Botswana public service.”

“Do you mind if I record this conversation, in order to keep accurate notes?” (Get agreement from the person).

*Discussions should be semi-structured, based on non-directive questions written in bold, but you can use other questions under them as prompts.*

1. Tell us about your position and responsibilities.

2. Tell us about the productivity in the public service and any trends you have noticed in the past 5 years.
   What’s contributed to this?
   Any important systems or policies that are challenges to improving productivity?

3. What are your overall perceptions of the impact of HIV and AIDS in your organization/ministry/agency? How has it impacted:
   a. On staff (morale, etc)
   b. On staffing (loss of skills, experience, institutional memory, etc)
   c. On the services that you provide
   d. On costs (for personnel, benefits packages, training and re-training)

4. How severe are these impacts on the function of your department/ministry?

5. Now that treatment for HIV and AIDS is fairly readily available, how do you think this has changed things in your organization/ministry/agency?
   What was it like before ART?
   Side effects, absenteeism for appointments? Any groups that tend to still have heavy impacts of illness and deaths?
6. Are there other issues besides HIV and AIDS that also has a major influence on performance? How do these compare to the impact by HIV and AIDS?

7. Are there any HR practices / department functions that contribute to making your staff or the organization vulnerable to HIV/AIDS?

8. Have you reviewed your HR policies, systems or HR plans and training in light of HIV/AIDS?

9. What HIV/AIDS interventions have been developed in your ministry/agency? Who leads it?
   Workplace programme: IEC, HIV testing, HIV treatment

10. How effective is it?
    a. Developed in consultation with key stakeholders?
    b. Communicated to all concerned in simple clear language?
    c. Is it continually reviewed and updated?
    d. Is it monitored for successful implementation?
    e. Is it evaluated for effectiveness?

11. Tell me about the health and safety measures you have in place.
    a. Availability of protective equipment and first aid
    b. Risk assessment and management
    c. Minimized occupational exposure to HIV and TB, appropriate measures taken and functional reporting procedure
    d. Access to Post-Exposure Prophylaxis (PEP)
    e. Use of universal infection control procedures, including waste management

12. What measures in your ministry / agency are taken to ensure the following:
    a. Gender equality?
    b. A non-judgmental, non-discriminatory working environment?
    c. Confidentiality?
    d. Stigma around HIV?

13. What are the challenges to implementing an effective response to HIV/AIDS?

14. What are your suggestions/recommendations to improve its effectiveness?
Focus Group Discussion Guide (district level)

**To be used with: Groups of Permanent & Pensionable and Industrial staff**

**INTRODUCE YOURSELF AND EXPLAIN PURPOSE OF FOCUS GROUP:** “The aim of this discussion is to explore views of the public sector staff in the priority sectors, about the way that HIV and AIDS impacts on the sector, and the way that the sector can respond to protect personnel and functions of the Botswana public service.”

“Does everyone agree if we record this discussion, in order to keep accurate notes?” (Get agreement from everyone in the group).

_Discussions should be semi-structured, based on non-directive questions written in bold, but you can use other questions under them as prompts._

1. **Tell us about the productivity in the public service and any trends you’ve noticed in the past 5 years. What’s contributed to this?**
   Ask about all of the priority Ministries (MOH; MOE; MOA; Police; MLG)

2. **What impact has HIV and AIDS made in your organization/ministry?**
   a. On personnel (staff illness; absenteeism for illness or other causes; deaths; other attrition; morale, depression, stress, burnout...)
   b. On system performance (quality of care; accessibility of services; diversion of resources, etc)

3. **Now that treatment for HIV/AIDS is available, how do you think this has changed things in your organization/ministry? What was it like before ART?**

4. **How easy is it to talk about HIV in the community? Is there stigma around HIV and AIDS?**

5. **What are the main factors in your ministry/organization that may put personnel at increased risk of HIV infection?**
   a. Lack of information, skills and support to protect themselves from infection and feel confident about dealing with HIV / AIDS issues
   b. Access to Post-Exposure Prophylaxis (PEP) and ways to prevent infection with opportunistic infections (such as TB) if they are HIV infected
   c. Stigma / discrimination
6. What is being done to reduce impacts on personnel, service delivery and to address new service needs?
   a. Provision of HIV / AIDS services such as prevention, education and awareness programmes on HIV / AIDS, VCT, OI treatment; PMTCT; HBC; ART -- Please describe each of the services.
   b. Changes in service organization and management to make it easier to manage effects on personnel?

7. Is there support and guidance from NACA or higher level management? If not, what are the main gaps?
   a. Policies and guidelines?
   b. Leadership at a national and regional level?
   c. Discussion/planning around how to manage HIV risk or impact?
   d. Monitoring of impacts or responses?

8. What partnerships exist with other sectors, civil society, etc?

9. What are main factors that make it difficult to deliver an effective HIV and AIDS work place programme?
   a. Access to and quality of health care within the public sector?
   b. Factors affecting personnel or service performance?
   c. Does infected and affected staff feel supported? What are the gaps?

10. What are the obstacles to effective responses to HIV / AIDS issues by public services?
    a. Attitudes; knowledge or skills around HIV / AIDS
    b. Systems to coordinate key role players – including referral or other systems
    c. Existing regulations, or lack of policy or guidelines
    d. Finance (-- for what?)

11. What recommendations would you make to NACA, DPSM or other planners and managers to help the system to protect public service employees and performance?
Appendix 3: List of persons interviewed

<table>
<thead>
<tr>
<th>No.</th>
<th>DATE</th>
<th>NAME</th>
<th>GOVERNMENT OFFICE</th>
<th>POSITION</th>
<th>LOCATION</th>
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<tbody>
<tr>
<td>1</td>
<td>01-Dec-10</td>
<td>Ms. Magetsi</td>
<td>Ministry of Education</td>
<td>Corporate services</td>
<td>Gaborone</td>
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<td>2</td>
<td>01-Dec-10</td>
<td>Mr. Segadimo</td>
<td>Police</td>
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<td>Inspector</td>
<td>Gaborone</td>
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<td>Head of training</td>
<td>Gaborone</td>
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<td>5</td>
<td>01-Dec-10</td>
<td>Ms. Mochanang</td>
<td>Ministry of Agriculture</td>
<td>Head of HR</td>
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<td>6</td>
<td>02-Dec-10</td>
<td>Mr. Masilo</td>
<td>Ministry of Agriculture</td>
<td>Head of planning</td>
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<td>02-Dec-10</td>
<td>Mr. Chimbombi</td>
<td>Ministry of Agriculture</td>
<td>Perm Secretary</td>
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<td>03-Dec-10</td>
<td>Mr. Sibi</td>
<td>Police</td>
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<td>15</td>
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<td>AFA</td>
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<td>Mr. Duncan Thela</td>
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<td>Ms. Molapisi</td>
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<td>HIV Coordinator</td>
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<td>23</td>
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<td>Dr Phologolo/Marinda Anderson</td>
<td>Health</td>
<td>Acting Dir: HIV/AIDS prevention and care</td>
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<td>Perm secretary</td>
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<td>Ms Chisina Taka</td>
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<td>09-Dec-10</td>
<td>Mr Rantsudu</td>
<td>Ministry of Agriculture</td>
<td>Agronomist</td>
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<td>Permanent &amp; Pensionable</td>
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<td>53</td>
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<td>DPSM</td>
<td>Acting Assistant Director</td>
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<td>59</td>
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<td>Ministry AIDS Coordinators/Health and Wellness Coordinators</td>
<td>Gaborone</td>
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### Appendix 4: Sample data specifications

#### a. Current employee data

<table>
<thead>
<tr>
<th>Index</th>
<th>Company, Division or Department</th>
<th>Employee Date of Birth</th>
<th>Employee Date Joined Company</th>
<th>Sex</th>
<th>Marital Status</th>
<th>Province or Geographic Location</th>
<th>Currency</th>
<th>Annual Basic Salary</th>
<th>Annual Cost to Company</th>
<th>Job Grade</th>
<th>Retirement Fund Scheme Name</th>
<th>Medical Scheme Name</th>
<th>Medical Scheme Option</th>
<th>Member’s Portion of Contribution</th>
<th>Employer’s Portion of Contribution</th>
<th>Other Health Benefits</th>
<th>Other Benefits</th>
<th>Other Leave in last 12 months</th>
<th>Annual Leave in last 12 months</th>
<th>Sick Leave in last 12 months</th>
<th>Other Leave in last 12 months</th>
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<td>150000.00</td>
<td>C</td>
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<td>Basic</td>
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<td>300.00</td>
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<td>Funeral cover</td>
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#### b. Past employee data

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<thead>
<tr>
<th>Index</th>
<th>Company, Division or Department</th>
<th>Employee Date of Birth</th>
<th>Employee Date Joined Company</th>
<th>Sex</th>
<th>Marital Status</th>
<th>Province or Geographic Location</th>
<th>Currency</th>
<th>Annual Basic Salary at Leaving</th>
<th>Annual Cost to Company at Leaving</th>
<th>Job Grade</th>
<th>Date Terminated</th>
<th>Cause Termination</th>
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</table>
c. Additional information

1. A completed benefit summary form for each provident fund or pension fund set of benefits, or the rules of the pension or provident fund.
2. The current premium or contribution rates for all group life and group disability schemes.
3. The employee subsidy policy in regard of the premium or contribution rates i.e. the percentage or amount paid by the employer in respect of various classes of employees and retirees, for all benefits (pension, provident, medical scheme etc).
4. The results of any HIV seroprevalence testing or anonymous surveys that have been undertaken, as well as details of any previous actuarial impact assessments or estimates of the impact of HIV/AIDS on the employee or the funds.
5. Details of any and all HIV/AIDS-related programmes that have been conducted in the workplace, including education, peer educator, counselling, peer counsellor, condom distribution, poster campaigns, pamphlet distribution, workshops or other programmes - or complete the attached Intervention Form.
6. Copies of the company HIV/AIDS (or Terminal Illness) Policy/Strategy or similar document, if it exists.
7. Costs of hiring and retraining new employees in key job grades as a multiple of monthly salary (e.g. unskilled employee = 0.5 months salary and top management = 6 months salary).

---

d. Group risk claims and premiums

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<th>Name: Group Life Sample</th>
<th>Company</th>
<th>Scheme</th>
<th>Period Start</th>
<th>Period End</th>
<th>Premium Paid for Period</th>
<th>Premium Rate (% Payroll)</th>
<th>Total Payroll in Period</th>
<th>Total Sum Assured in Period</th>
<th>Claims Paid (Incurred) in Period</th>
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<td>1998/01/01</td>
<td>2001/31/11</td>
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<td>1999/01/01</td>
<td>2002/31/11</td>
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<td>2003/31/12</td>
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<th>Period End</th>
<th>Premium Paid for Period</th>
<th>Premium Rate (% Payroll)</th>
<th>Total Payroll in Period</th>
<th>Total Sum Assured in Period</th>
<th>Claims Paid (Incurred) in Period</th>
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e. Summary of risk benefits

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<td>Complete one form for each class of member and each fund</td>
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<th>Administrator name</th>
<th>Member Class</th>
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<th>Death In Service Benefits</th>
<th>Capital Disability Benefits</th>
<th>PHI Benefits</th>
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<td>Type</td>
<td>Benefit</td>
<td>Factor</td>
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<td>Fixed Lump Sum</td>
<td>Fixed Lump Sum</td>
<td>Fixed Monthly Benefit</td>
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<td>Annual salary Multiple</td>
<td>Annual Salary Multiple</td>
<td>Waiting Period (Months)</td>
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<td>End Period (Months)</td>
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<th>Age or Other Bands</th>
<th>Benefit</th>
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<th>Defined Benefit Retirement</th>
<th>All Employee Contributions</th>
<th>Any Other Benefits</th>
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<td>Membership Class</td>
<td>Accrual Rate</td>
<td>Describe employee’s Contributions</td>
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<td>Event</td>
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<th>Employer Contributions</th>
<th>Funeral Benefits</th>
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<td>Describe employer’s liability for contributions</td>
<td>Family Member</td>
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<td>Include any limits, caps or procedures in the event that contributions exceed thresholds.</td>
<td>Principal member</td>
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<th>Benefit</th>
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<td>Family Member</td>
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<td>Principal member</td>
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<th>Child Age Bands</th>
<th>Benefit</th>
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f. Summary of HIV-related interventions

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<tr>
<th>Preventive Interventions</th>
<th>Testing and KAP studies</th>
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<td><strong>Condom Distribution</strong></td>
<td><strong>VCT Programme</strong></td>
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<tr>
<td>Does the company distribute condoms?</td>
<td>Has the company run a voluntary counselling and testing programme?</td>
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<tr>
<td>If so, to which classes of employees?</td>
<td>If so, when?</td>
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<tr>
<td>How many condoms were distributed last year?</td>
<td>Please provide details of take up of the VCT (% employees by region and/or company and/or job grade)</td>
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<tr>
<td>When did the condom programme start?</td>
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<table>
<thead>
<tr>
<th><strong>Education</strong></th>
<th><strong>Prevalence Survey</strong></th>
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<tr>
<td>Has the company run an education programme?</td>
<td>Has the company run an anonymous prevalence survey?</td>
</tr>
<tr>
<td>If so, to which classes of employees?</td>
<td>If yes, when?</td>
</tr>
<tr>
<td>When did the condom programme start?</td>
<td>Please provide results of the prevalence survey.</td>
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<tr>
<td>Was the programme once off or ongoing?</td>
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<tr>
<td>Please describe the ongoing elements of the programme</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Peer Educator/Counselor</strong></th>
<th><strong>KAP Study</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the company instituted a peer educator or counsellor programme?</td>
<td>Has the company run a KAP survey?</td>
</tr>
<tr>
<td>If so, when?</td>
<td>If yes, when?</td>
</tr>
<tr>
<td>Please provide details of the programme.</td>
<td>Please provide results of the KAP Study.</td>
</tr>
<tr>
<td>Was the programme once off or ongoing?</td>
<td></td>
</tr>
<tr>
<td>Please describe the ongoing elements of the programme</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Treatment and Support Programmes</strong></th>
<th><strong>Antiretroviral Therapy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antiretroviral Therapy</strong></td>
<td>Does the company fund antiretroviral treatment other than via a medical scheme?</td>
</tr>
<tr>
<td></td>
<td>If so, please provide details on the number of enrollees by job grade</td>
</tr>
<tr>
<td>When did the treatment programme start? Please provide a history of the enrollment of</td>
<td></td>
</tr>
<tr>
<td>Please describe the elements of the programme</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Other Treatment</strong></th>
<th><strong>Other Treatment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the company have HIV disease management in place?</td>
<td>Does the company have HIV disease management in place?</td>
</tr>
<tr>
<td>If so, please describe the elements of the disease management</td>
<td>If so, please describe the elements of the disease management</td>
</tr>
<tr>
<td>When did the programme commence?</td>
<td>When did the programme commence?</td>
</tr>
<tr>
<td>Please provide details of current and historic enrollment.</td>
<td>Please provide details of current and historic enrollment.</td>
</tr>
</tbody>
</table>
Appendix 5: Projection and costing methodology and assumptions

Central projections are undertaken using best estimates of the various assumptions required to do the projection. Best estimates are derived from extensive experience doing corporate HIV risk analysis and projections, experience in the insurance industry and from available data provided to us for this particular projection. We then investigate some alternative scenarios to assess the best fit with available data and different assumptions going forward.

- The workforce is stratified by age, sex and income band.
- The Spectrum suite of models, calibrated in line with Botswana national projections from NACA, was used to obtain HIV incidence rates i.e. rates of new infection of previously HIV negative people. Spectrum incidence rates vary by age, sex and calendar year.
- In addition, BAIS III confirms other evidence that HIV risk varies by education status. We have assumed a differential between employees in job grades A and B, and those in grades D to F that reflects this differential. Non-AIDS mortality estimates are adjusted in light of the analysis of the Ministries data terminations.
- The modelling is conducted using qAIDS, a multistate, sub-population model, which projects the disease progression of these infected people, including such outcomes as initiation of treatment, disability, recovery from disability and death using state of the art modelling. Exits from the workforce are assumed to be replaced by new entrants, so as to hold the total workforce constant in size, and we model the prevalence of HIV amongst new entrants as well.

In the central run it has been assumed that employees will access antiretroviral therapy (ART), as discussed below.

1. Key Demographic Assumptions

Three key areas of assumption are discussed here.

Risk of HIV Infection

Based on our analysis of the Ministries terminations data, the BAIS 3 education differentials, consultation with the consortium team and our other experience, we have used the following incidence rate multiples relative to national Spectrum incidence rates, but job grade and gender:

National Spectrum Incidence Multiples by Job Grade and Gender

<table>
<thead>
<tr>
<th>Job Grade and Gender</th>
<th>Incidence Rate Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males A-B</td>
<td>120%</td>
</tr>
<tr>
<td>Males C-F</td>
<td>90%</td>
</tr>
<tr>
<td>Females A-B</td>
<td>85%</td>
</tr>
<tr>
<td>Females C-F</td>
<td>65%</td>
</tr>
</tbody>
</table>

So, for example, a male employee in job grade A is be assumed to experience a risk of infection equal to 120% of the risk of infection of males of that same age group in the country as a whole. The differentials are based on calibration against actual experience data, but there are a wide variety of assumptions that would approximately replicate experience, given the paucity of experience data.
Demographic Profile

The age profile of new employees is based on the profile of the current employees at entry into the workforce. The age profile of the company changes marginally over the projection period owing to the dynamics of workforce movements.

Access to Treatment

We have assumed that employees access treatment through government programmes and private healthcare. Higher income lives will be more likely to take up treatment owing to better education and information, access to healthcare and resources for funding treatment. We assume everyone initiates ART at a CD count of around 200 in line with current national experience. Rates of initiation are assumed to increase over time as ART becomes more widely accepted. The following table shoes ART initiation rates assumed in 2005 and 2011 (and going forward).

Enrolment Assumptions by Job Grade and Gender

<table>
<thead>
<tr>
<th>Job Grade and Gender</th>
<th>2005 Annual Rate of ART Initiation Amongst Employees in HIV</th>
<th>2011 and Future Annual Rate of ART Initiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males A-B</td>
<td>63.8%</td>
<td>78.6%</td>
</tr>
<tr>
<td>Males C-F</td>
<td>75.0%</td>
<td>92.5%</td>
</tr>
<tr>
<td>Females A-B</td>
<td>63.8%</td>
<td>78.6%</td>
</tr>
<tr>
<td>Females C-F</td>
<td>78.6%</td>
<td>92.5%</td>
</tr>
</tbody>
</table>

Treatment and Turnover

We assume that people who are HIV positive are no more or less likely to withdraw from employment (e.g. due to absconsion) than HIV negative lives. HIV positive employees may well show higher rates of turnover as they start becoming sick and are not capable of doing their jobs.

Survival with HIV and on ART

The following table gives the survival parameters used in our evaluation:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Median Time (Years)</th>
<th>Weibull Shape Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV 1</td>
<td>5.5</td>
<td>2.5</td>
</tr>
<tr>
<td>HIV 2</td>
<td>1.75</td>
<td>2.5</td>
</tr>
<tr>
<td>HIV 3</td>
<td>1.5</td>
<td>2.5</td>
</tr>
<tr>
<td>HIV 4</td>
<td>1.25</td>
<td>1.5</td>
</tr>
<tr>
<td>ART 1</td>
<td>1.88</td>
<td>2.5</td>
</tr>
<tr>
<td>ART 2</td>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>ART 3</td>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>ART 4</td>
<td>1.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>
Durations of the different disease stages vary with key demographic factors. The above survival times were previously considered to be relatively optimistic. A recent study in Uganda has suggested that survival time on ART may be even longer. However, provisional review of the study by actuaries has raised questions about its use of life tables which seem to make it unadvisable to use its results at this stage.

**HIV & AIDS and New Entrants**

It is assumed that potential employees in advanced disease stages are less likely to enter the workforce than healthy lives, leading to an entry bias. We have used a two stage profiling model that takes account of the actual time of entry to the workforce of the individual in determining the current expected disease staging.

2. **Key costing assumptions**

**Income bands:** The following income bands were used for modelling.

- Job grades A-B
- Job grades C-F

Average reimbursement costs were based on actual average costs for these bands derived from employee databases for Teachers and Local Government, as data for Ministry and Police employees were not sufficiently complete.

Estimates considered the following potential cost impacts under the heading of “indirect costs” of HIV & AIDS:

<table>
<thead>
<tr>
<th>Indirect Costs</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leave</td>
<td>Increased HIV / AIDS prevalence in the workplace is likely to result in an increase in the number of days taken as sick leave. As HIV positive employees approach the latter disease stages the number of days off work is likely to exceed the annual sick leave allocation, and will affect overall absenteeism and productivity.</td>
</tr>
</tbody>
</table>

**Hiring and Retraining**

Employees who leave the workforce due to ill-health or die as a result of AIDS need to be replaced. As HIV / AIDS prevalence increases, we would expect the number of AIDS related withdrawals to increase. So the number of new people hired and the amount of time spent on training would increase, with an associated increase in hiring and training costs respectively. The cost of rehiring and retraining as a multiple of monthly salary is expected to be significantly higher for higher skilled employees than for lower skilled individuals. The lost investment in pre-service education and training could not be quantified with available data.

**Productivity**

Despite being difficult to quantify, it is expected that normal productivity levels decline as HIV positive employees become sicker. This is particularly noticeable as employees develop full-blown AIDS. We have assumed that this effect will be more pronounced for highly skilled and paid individuals.

**Productivity:** The following table shows the percentages of normal productivity that are assumed to occur at different stages of HIV disease progression:

<table>
<thead>
<tr>
<th>% of Normal Productivity</th>
<th>Disease stage</th>
<th>Clear</th>
<th>HIV1</th>
<th>HIV2</th>
<th>HIV3</th>
<th>HIV4</th>
</tr>
</thead>
</table>

Report on HIV and AIDS in the Botswana Public Service
Sick Leave: We assume the following number of days of sick leave will be taken on average each year, by disease stage:

<table>
<thead>
<tr>
<th>Disease stage</th>
<th>Clear</th>
<th>HIV1</th>
<th>HIV2</th>
<th>HIV3</th>
<th>HIV4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>8</td>
<td>20</td>
</tr>
</tbody>
</table>

Our productivity and sick leave assumptions draw on both our own experience and public domain research.

Recruitment and Retraining: We assume the following costs of retraining, recruitment and time to come up to full productivity for a new employee, at each income band:

<table>
<thead>
<tr>
<th>Job Grade Band</th>
<th>Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-B</td>
<td>1</td>
</tr>
<tr>
<td>C-F</td>
<td>2</td>
</tr>
</tbody>
</table>

Medical costs: ART-related costs are based on BPOMAS historical unit costs. Non-drug ART costs were informed by cost data from BOMAID as well as cost estimates for ART care in Botswana (CDC (2010); Marlink (2009); Haaker (2006)). Patterns were checked for consistency with costing studies in other countries.

Quantifying the full impact of HIV & AIDS on the medical scheme would require extensive analysis of the medical scheme claims experience and is beyond the scope of this exercise.

However, existing estimates of the costs of treatment were adapted to reflect costs in various disease stages to quantify the cost of ART provision and management through the medical scheme. The following table shows the average annual estimated cost in Pula by stage:

<table>
<thead>
<tr>
<th>Medical Cost Due to AIDS By Disease Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV1</td>
</tr>
<tr>
<td>HIV2</td>
</tr>
<tr>
<td>HIV3</td>
</tr>
<tr>
<td>HIV4</td>
</tr>
<tr>
<td>ART1</td>
</tr>
<tr>
<td>ART2</td>
</tr>
<tr>
<td>ART3</td>
</tr>
<tr>
<td>ART4</td>
</tr>
</tbody>
</table>

How this translates into additional medical aid contributions will be a function of the offsetting effect that the ART programme has on numerous other conditions, in comparison to a no-
ART scenario. For example, an individual accessing well managed ART will be incurring higher drug and monitoring laboratory costs, but will also most likely avoid and reduce expensive hospitalisations for opportunistic infections.