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HIV Prevalence Study and Costing Analysis undertaken for the development of an HIV/AIDS Workplace Strategy for Buffalo City Municipality

2005

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M Colvin: CADRE

SB Rosen: Center for International Health, Boston University

C Zuccarini: Epicentre

S Petzer: Buffalo City Municipality

Acknowledgements

This report is the culmination of commitment and hard work by many people.

The external research team came together as a cross disciplinary team and with diverse specialised skills were able to produce research results that were reliable and a piece of work that is innovative. Many thanks to Cherie Zuccarini, Charlene and David of Epicentre who handled the enormous logistical task in the training, HIV testing and VCT campaign. Mark Colvin provided ongoing specialist research guidance in the study design and analysis, a critical contribution to the success of the study.

While not part of the HIV prevalence study team, Sydney Rosen's costing study added considerable value to the findings of the prevalence study by being able to very quickly advise Buffalo City municipality of the cost implications of HIV in the workforce. Being part of a research team that has been able to undertake a prevalence study, offer VCT, estimate the financial impact of HIV to BCM and to help in the preparation of the BCM HIV internal and external strategy has been a real privilege.

Key players in the facilitation and development of the strategy were Errol Goetsch, Heidi Smulders and Ntombini Marrengane of the South African Cities Network.

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Special mention must go to Shaun Petzer, the BCM official working full time on a range of HIV/AIDS issues who has painstakingly nurtured the process, remained caring, committed and persistent on the many occasions when things have been very trying.

Finally, in preparation of the final report, many thanks to Alistair Clacherty for careful editing and encouragement. Last but not least, grateful thanks to Sally Whines of Departure Lounge who worked under considerable pressure over a number of days to transform the text into a polished report that will hopefully be a resource and catalyst to other local authorities to follow in the footprints of BCM.

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Contributors

Buffalo City Muncipality

Buffalo City Muncipality

Buffalo City Municipal area covers 2510 square kilometers and is represented as a grouping of urban areas within a metropolitan corridor which stretches from the port of East London in the east, to Dimbaza in the west. The new municipal area was formed in the year 2000 by the integration of the port city of East London, King Williams Town and Bhisho, as well as rural areas. Buffalo City is characterized by the existence of a considerable number of disadvantaged communities. Mdantsane is known to be the second largest township in South Africa. About 880 000 people live in Buffalo City. More than 80 % African, approximately 10 % White, 6 % Coloured and just under 2 % are Asian. The metropolitan area has a high proportion of poorly paid employees and a high unemployment rate, especially women. As a consequence, the gross geographic product is substantially less than the national average.

Buffalo City's social problems includes ill health, associated with poverty and poor living conditions such as, diarrhoeal diseases acute respiratory tract infections, malnutrition, TB and HIV/AIDS. Population estimates for the Buffalo City area will show dramatic changes within the next 10 -12 years because of the high HIV/AIDS prevalence. It has therefore become essential for the municipality to ensure that proactive measures are taken to provide social support services such as clinics, orphanages, awareness campaigns and other ways to tackle the health issues.

Shaun Petzer works full time on HIV issues under the city manager.

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Liz Thomas is a specialist scientist in the MRC's Health and Development Research Group. She is based at the Centre for Health Policy at WITS School of Public Health. She has specialised in research on social determinants of health and HIV and development. The MRC has a research initiative on HIV/AIDS and local level development which focusses on helping local authorities to respond to HIV as a development issue. In partnership with INCA Capacity Building Fund, pilot studies are underway to help inform national policies. A pilot in Limpopo province to develop guidelines to integrate HIV into the IDP as a development issue as well as helping local authorities to put in place appropriate HIV Workplace policies. With a concern on making information available to encourage local level responses to HIV/AIDS, a electronic data base of key documents and resources has been prepared with CADRE, and is available via the websites below. The research programme to inform HIV and local government policy is ongoing.

The Health and Development Research Group is a World Health Organisation Collaborating Centre for Urban Health.

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Sydney Rosen is an Assistant Professor at the Center for International Health of Boston University. She is currently resident in Johannesburg, South Africa, where she directs the Health Economics Research Unit at the University of the Witwatersrand. Her research focuses on the impact of HIV/AIDS on public and private organizations in sub-Saharan Africa, the benefits and costs of prevention and treatment interventions, and sectoral and societal responses to the epidemic and resource allocations. She holds a B.A. from Harvard University and a master's degree from the Kennedy School of Government at Harvard.

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www.bu.edu/dbin/sph/research_centers/cih_impact_hiv.php

Acronyms/Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-retroviral Treatment
ARVs	Anti-retrovirals
ASSA	Actuarial Society of Southern africa
ATIC	AIDS Training and Information Centre
BCM	Buffalo City Municipality
CADRE	Centre for AIDS Development, Research and Evaluation
CBO	Community Based Organisation
CFO	Chief Financial Officer
CM	City Manager
CSO	Civil Society Organisation
DCS	Directorate Corporate Services
DDP	Directorate Development Planning
DES	Directorate Engineering Services
DSS	Directorate Social Services
EAP	Employee Assistance Program
FACES	program providing information on HIV/AIDS from personal experience (PLWHA's)
HBC	Home-based Care
HIV	Human Immunodeficiency Virus
HR	Human Resources
HSRC	Human Sciences Research Council
HTA	High Transmission Area
IDF	Inter-Departmental Forum
IDP	Integrated Development Plan
ISF	Inter-Sectoral Forum
IT	Information Technology
KAP	Knowledge Attitudes and Practice
KPA	Key Performance Area
KPI	Key Performance Indicator
LED	Local Economic Development
LGA	Local Government Authority
MRC	Medical Research Council
MTCT	Mother to Child Transmission
NGO	Non-governmental Organisation
OHC	Occupational Health Clinic
OVC	Orphans and Vulnerable Children
PHC	Primary Health Care
PLWHA	Person Living with HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
PTC	Prevention, Treatment and Care
SACN	South African Cities Network
Sida	Swedish International Development Agency
SPU	Special Programs Unit
STI	Sexually Transmitted Infection
VCT	Voluntary Counselling and Testing
VNG	International Co operation Agency of the Association of Netherlands Municipalities

Foreword

"AIDS has become the biggest threat to the continent's development and its quest to bring about an African Renaissance. Most governments in sub Saharan Africa depend on a small number of highly skilled personnel in important areas of public management and core social services. Badly affected countries are losing many valuable civil servants to AIDS. Essential services are being depleted at the same time as state institutions and resources come under greater strain and traditional safety nets disintegrate. In some countries, health-care systems are losing up to a quarter of their personnel to the epidemic. People at all income levels are vulnerable to these repercussions, but those living in poverty are the hardest hit. Meanwhile, the ability of the state to ensure law and order is being compromised, as the epidemic disrupts institutions such as the courts and the police. The risk of social unrest and even socio-political instability should not be underestimated".

UNAIDS/WHO_AIDS Dec 2001

From the front – Chief Financial Officer Brian Shepherd takes an HIV test from Cherie Zuccarini while Director of Corporate Services Amanda Magwentshu (behind Zuccirini) Councillor Sindiswa Gomba and Shaun Peard look on

Executive Mayor Sindisile Maclean

City Manager Mxolisi Bamkhitha Tsika

As the Executive Mayor and City Father's of Buffalo City, are eager to ensure that HIV/AIDS does not reverse all the progress that has been made in our our democracy towards building a better life for our people. National and provincial government cannot fight the battle alone. These levels of governance can provide health and welfare services, development programmes and information. However, municipalities together with organizations on the ground, have to provide the type of leadership and direction that will lead to real changes in people's attitudes and behaviour.

We as local government politicians, administrators and employees should act as role models for communities and be an example to people. We should lead in promoting openness and end the silence that surrounds HIV/AIDS. We should also work closely with people infected by HIV/AIDS and through our action show that we accept and care for those infected. After all, whether infected or not we are all affected by the disease. Political leaders should use their influence and popularity to mobilize the community and involve volunteers in projects to provide education on prevention, treatment, care and support of individuals living with the virus.

The BCM as an employer is truly proud to be part of the groundbreaking research into HIV/AIDS within our organization and the development of the Buffalo City Municipality HIV/AIDS Cross-cutting strategy 2004-2006. The strategy aims to minimize the rate of new HIV infections, maximize levels of treatment, care and support to both employees and communities already infected and affected. Lastly, and in line with the Integrated Development Plan, the strategy attempts to mitigate the impact of the pandemic on the organisation as an employer and a service provider.

Buffalo City Municipality is a worthy recipient of the 2003 VUNA Award and promotes the slogan for its HIV/AIDS Cross-cutting strategy "*Stay Negative – Live A Positive Life*".

Executive summary

In contrast to most private sector employers in South Africa, local government has been slow to put in place HIV workplace strategies. While general workplace policies are available, there is an absence of specific guidelines for local authorities in their response as employers and as service delivery agencies to HIV/AIDS. The Buffalo City Municipality (BCM) embarked upon an innovative approach involving research and an inclusive process to develop a response to HIV/AIDS. This response is advocated as good practice. The report outlines the steps taken towards the development and adoption of a Buffalo City Municipality HIV strategy in late 2004. Lessons learned are documented for the benefit of other local authorities in the development of their own HIV strategies.

The success in the development of the Buffalo City Municipality HIV/AIDS strategy is based on two important legs. Firstly, the process adopted and secondly the research initiative to provide the data to inform the HIV strategy.

The process: BCM is to be commended for its innovative and proactive stance. Key to the success has been the leadership of the initiative where political councillors, departmental heads, and all levels of managers have supported the process. The outcome of the political support has been shown in the high rate of HIV testing in the sampled group, the enthusiastic take-up of Voluntary Counseling and Testing (VCT) by the employees, and the commitment to the resultant BCM HIV/AIDS Cross-cutting Strategy. Further, the involvement of staff from human resources and engineering through to finance and planning in the development of the BCM strategy again attests to the recognition that addressing HIV in the workforce and the broader community must be treated as an inter-sectoral and cross-cutting issue.

The success of the process added considerably to the value and accomplishment of the research. The SA Medical Research Council (MRC) (an external group) was commissioned to undertake an HIV prevalence study, as they were seen to be independent and authoritive, as well as to carry out a Knowledge, Attitudes and Practice study (KAP) and to facilitate a VCT process. In addition, a health economist was requested to assess the cost implications of HIV for BCM as an employer. A team of external researchers worked closely with a BCM staff team in the design and setting up of the studies. The fieldwork took place in June 2004 and the overall BCM strategy was completed within two months, in August 2004.

From a sample of 20% of the employees, the study found that 10.3% were HIV infected. Key findings are that temporary employees had a higher prevalence (7.7%) than permanent staff (9.3%). Women had a higher prevalence rate than men (10,2 and 9% respectively). The highest prevalence was in the 20-29 year age group. All job bands were infected but levels of infection were highest amongst the lower skill levels (11.7%) and black Africans (12.6%). There was no difference in infection level between employees with different educational levels.

The KAP highlighted that while nearly half of the employees had attended an AIDS workshop, 80% said that they wanted more information on HIV/AIDS. Over a quarter of employees were uncertain of the risks of contracting HIV and portrayed misunderstandings that potentially feed stigma. Treatment of STDs is an important prevention strategy and further education is needed to limit transmission of HIV through this route.

The HIV prevalence study and KAP was combined with a VCT programme. The very high take-up of the VCT opportunity and the demand by non-sampled employees to know their status is in part attributable to the political support given to the whole initiative and the leadership by management. In addition, the depth of experience of the HIV testing team from Epicentre, (a private firm specializing in HIV testing in the workplace), in motivating employees to be tested was also very important. The combination of a prevalence study with a VCT programme provides a very positive launch to the city council's ongoing BCM HIV strategy and is highly commended. In addition to the workers being able to get to know their status, those who were found to be HIV positive were advised of the stage of their HIV infection using a CD4 count blood test. This process also enabled the BCM workplace programme to be able to set up the appropriate treatment.

The costing of the likely impact of HIV/AIDS on BCM as an employer was based on the HIV prevalence data collected. Using actuarial modeling, Prof Sydney Rosen of Boston University assessed the costs BCM were likely to experience. Scenarios were developed to highlight the range in costs and benefits should the municipality set in place a comprehensive HIV Workplace Programme versus less concerted efforts to address the HIV/AIDS epidemic in the workplace. These include the direct costs (such as benefits and medical costs) and indirect costs, (such as productivity loss, absenteeism and low morale). The overall cost to BCM is estimated to be 0.9% of salaries and wages representing a modest increase in labour costs. This is largely attributed to the fact that the majority of AIDS cases will be amongst the semi-skilled. Costs should be expected to rise steadily for at least the next 5 years unless treatment is introduced or costs are contained in other ways. The report concludes with a number of recommendations including that BCM would be wise to develop, implement and sustain a comprehensive HIV/AIDS Workplace Programme. Key is the need to encourage the 90% of staff who are negative to stay that way and to provide access to ARV treatment for those who are HIV positive.

The report includes sections on the success of the process adopted to get the support of all levels of management and staff in the study. Further lessons learned are documented for use by other local authorities.

The Buffalo City HIV Workplace policy developed using an inter-departmental process involving all key stakeholders and drawing on the findings of the research. This policy is included as an Annexture to the report.

chapter 1

Background and rationale for the study

Rationale for the study

Buffalo City Municipality (BCM) identified the need to undertake an HIV prevalence study to inform their workplace strategy and wellness programme. BCM had already put in place a Workplace Body Fluids Contamination Policy and HIV/AIDS Employment Policy in 2002. A prevalence study had been attempted in May 2003 but the results were inconclusive due to study design problems. The MRC was approached by BCM in September 2003 to help in re-running the study. At the time, the MRC had just initiated research into local authority responses to HIV/AIDS[i]. At this time, local authorities had responded to HIV/AIDS primarily as a health issue. MRC's programme had the aim of helping local authorities to respond to HIV/AIDS as a development issue impacting on the community served and the local authority workforce. The MRC's Executive Committee agreed (as its contribution) to make staff resources available to support the BCM Employee HIV prevalence study. Part of the motivation for this was that no other municipality had undertaken an employee prevalence study and that the MRC's active involvement in this initiative could be used to inform national guidelines. One of the key issues was the consideration of how local government (as an employer) would differ from the private sector in HIV prevalence and HIV response. An understanding of this difference would help in the development of HIV/AIDS workplace policies for local government.

Buffalo City had at the same time also made contact with Prof. Sydney Rosen of Boston University regarding the possibility of her undertaking an assessment of the financial impact of HIV on BCM. This had emanated from a paper published in the Harvard Business Review[ii] (see Chapter 7 for further details).

This report has been prepared to document the results and the process of the preparation of BCM's HIV/AIDS Cross-cutting Strategy. The key actors and steps are presented in the Figure 1.1.

The key actors were:

- The BCM team
- The research team
- The funding agencies

The key components were:

- the research consisting of the HIV prevalence study, KAP phase, VCT programme and the costing study
- the consultative process in the design of the strategy and
- the output, the final BCM strategy.

These are illustrated in Figure 1.1.

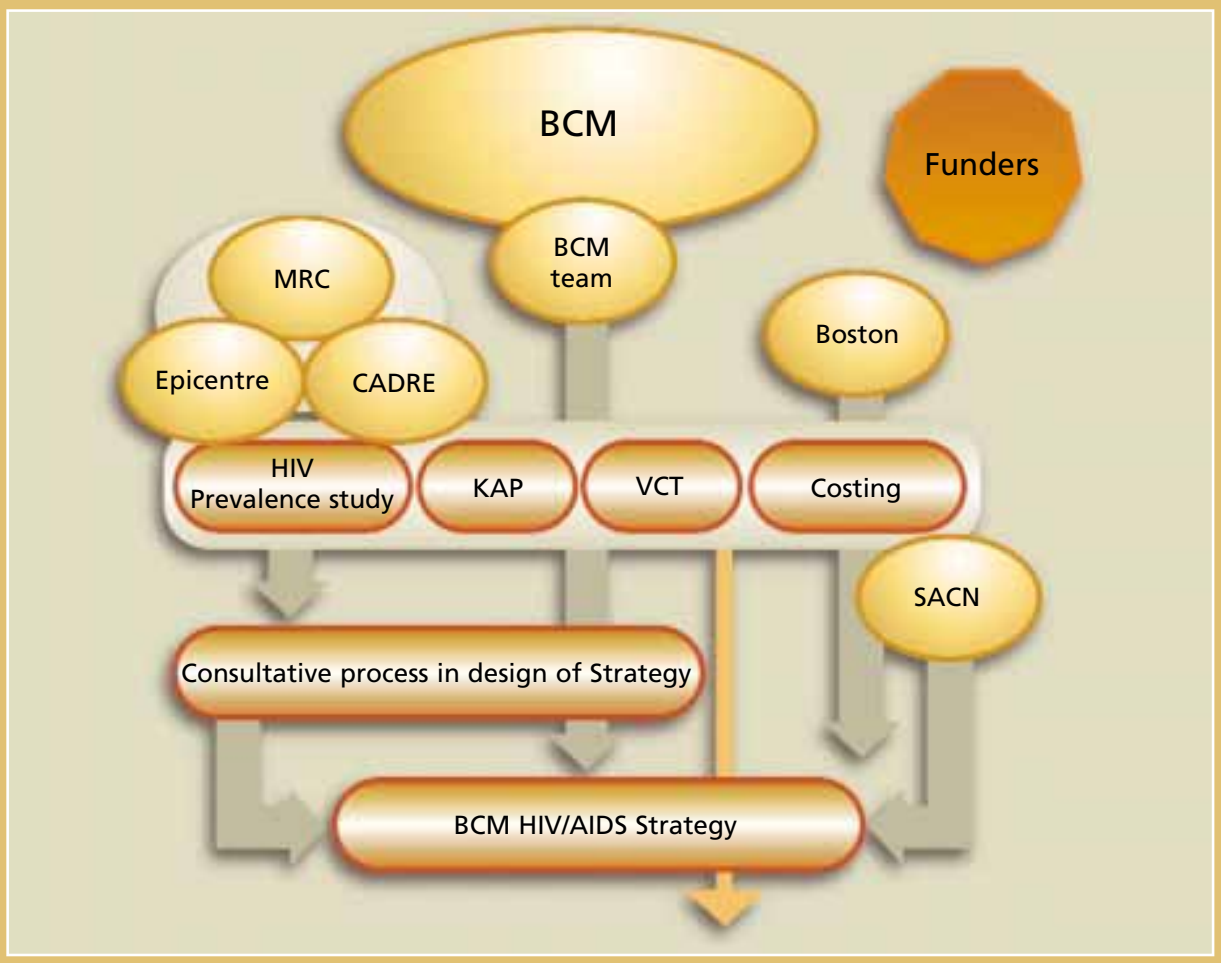

Figure 1.1 *Diagram of the key actors and components of the study*

Each of the components forms a section of this report. The roles of the various actors will be expanded upon under each of the components.

Chapter 1 provides the background, rationale and context for the study. Chapter 2 outlines the process adopted in involving all the stakeholders. The next four chapters deal with the research process and content. Chapter 3 outlines the overall methodology of the study, Chapter 4, the method and results of the HIV prevalence study, Chapter 5 the methods and results of the Knowledge Attitudes and Practice (KAP) study, and Chapter 6, the Voluntary Counselling and Testing (VCT) process. Chapter 7 draws on the findings of the HIV prevalence study to assess the likely impact of HIV on the budget of BCM and motivates for investment in and implementation of a BCM HIV wellness strategy.

The final chapters document the process of the development of the BCM strategy (Chapter 8), and, finally, lessons learned (Chapter 9).

To provide a context for the study, Chapter 1 continues with an overview of HIV prevalence in South Africa and the Eastern Cape, and a selection of HIV prevalence in the South African workforce. To start with, the legal obligations on employers in a context of HIV AIDS are outlined.

Socio-legal Context

HIV/AIDS knows no boundaries and thus impacts on the private and public workforce alike. The South African legislative framework provides for the protection of rights of equality, freedom and the right to fair labour practice to all citizens. These rights are specified *inter alia* in the Constitution, Labour Relations, Employment Equity and Occupational Health and Safety Act. See Table 1.1 below.

Right	Law
Right to fair labour practices	Constitution and Labour Relations Act (LRA)
Right not to be unfairly dismissed because you have HIV	Labour Relations Act (LRA)
Right not to be unfairly discriminated against on the basis of your HIV status	Employment Equity Act (EEA)
Right not to be tested for HIV unless your employer has applied to the Labour Court for authorisation	Employment Equity Act (EEA)
Right to a safe working environment	Occupational Health and Safety Act, and Mine Health and Safety Act
Right to compensation if infected with HIV at work	Compensation for Occupational Injuries and Diseases Act (COIDA)
Right to certain basic standards of employment, including 6 weeks of paid sick leave over a 3-year period	Basic Conditions of Employment Act (BCEA)
Right to no unfair discrimination in giving employee benefits	Medical Schemes Act
Right to privacy about your HIV status at work	Common law right

Source: AIDS Law Project[ii]

Table 1.1 *The Rights and legal framework operative in South Africa*

A number of policies have been prepared to help guide in the development of HIV/AIDS workplace programmes. These policies and guidelines include the Department of Labour's Code of Good Practice[iv], Amended Public Service Regulations (amended June 2002 to provide minimum standards for managing HIV/AIDS)[v] and the Public Service Coordinating Bargaining Council (PSCSBC)[vi]. An HIV in the workplace conference held at WITS University in June 2004[vii] found that while the majority of the large private sector employers in South Africa had put in place well-developed workplace policies, many of the smaller employers had not done so yet. Much can be learned from the private sector and by sharing experiences between municipalities.

What was known about HIV in the Eastern Cape and in workplaces in the Eastern Cape?

HIV prevalence is the subject of ongoing national and provincial monitoring in the group of antenatal women. Other than the HSRC (2002) study, little information on population-wide prevalence is available. Large private sector employers have undertaken prevalence studies but this information is scanty and has not been the subject of a comprehensive meta-analysis. A review of the results of HIV prevalence studies in 24 South African firms, (undertaken in 2000/2001) found (in a predominantly male sample) that contract, unskilled and semi-skilled workers were more likely to be infected than skilled workersv[iii]. The review (by Evian et al, 2004,129) argues that that HIV prevalence surveys have helped to generate site-specific information that can be accepted by managers and workers, act as a wake up call for all stakeholders, help in the design of employee benefits and assess the feasibility of treatment and care programmes. Mark Colvin has undertaken a number of studies of HIV prevalence in the workforce of the Eastern Cape. CADRE has been commissioned to undertake a review of all the HIV prevalence data in the Eastern Cape and to prepare ten-year HIV/AIDS and mortality forecasts.

HIV prevalence in South Africa has been projected to have reached a peak in number of new infections per annum in 2013, (Dorrington et al, 2004, 17) and that a peak in deaths from AIDS will occur after 2015. The national projections hide variations between provinces and between communities (HSRC, 2002). The national Department of Health antenatal data show that there is a difference in the prevalence rate between provinces. The HSRC data show the variation between men and women, age, province and type of residence. The national and provincial prevalence rates are shown for antenatal clinic attendees (women of child bearing age) in Figure 1.2.

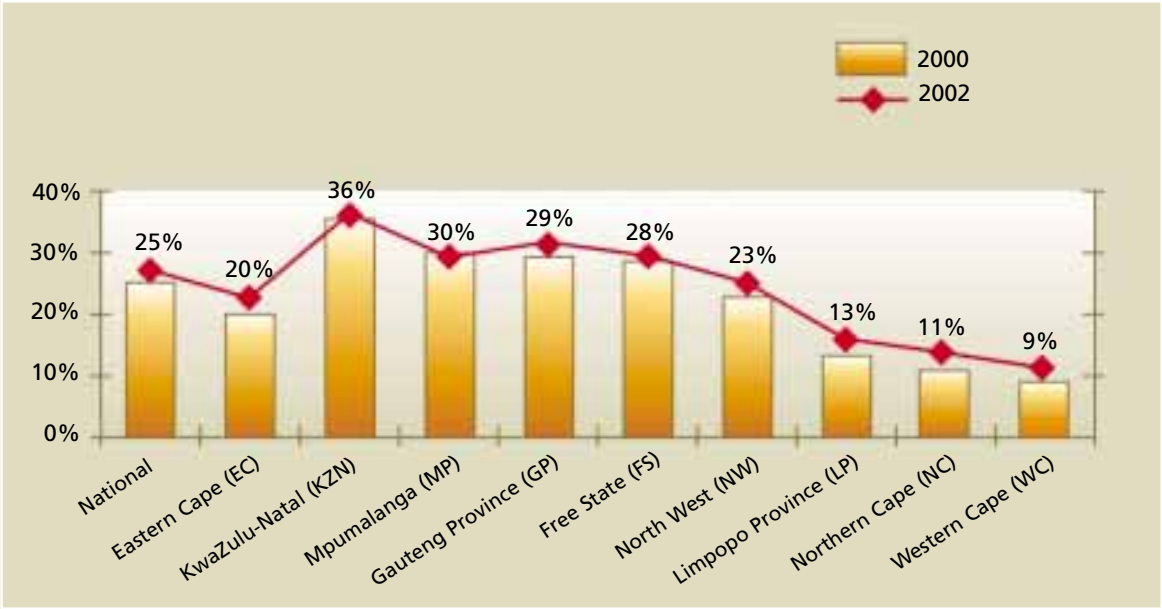

Figure 1.2 *Department of Health annual antenatal HIV survey results*

Drawing from the antenatal data, the Eastern Cape has a level of epidemic in 2004 lower than that of the country as a whole and lower than several of the other provinces eg Gauteng, KwaZulu-Natal and Mpumalanga.

Projections undertaken in 2002 using the Actuarial Society of Southern Africa (ASSA) model show that the Eastern Cape is beginning to reveal a distinctive pattern and a slower increase in prevalence with the peak in the number of new infections expected to occur after 2010 (Dorrington, Bradshaw and Budlender, 2002, 7), Further, in the Eastern Cape, the proportion of those who had been infected recently (ie in the first stage of infection) was much higher when compared to South Africa as a whole (50% were in this category) (Dorrington, Bradshaw and Budlender, 2002, 10).

The antenatal data reflect HIV prevalence amongst pregnant women which makes these data higher than those of the general population. This is because the national population includes those who are not sexually active, such as children.

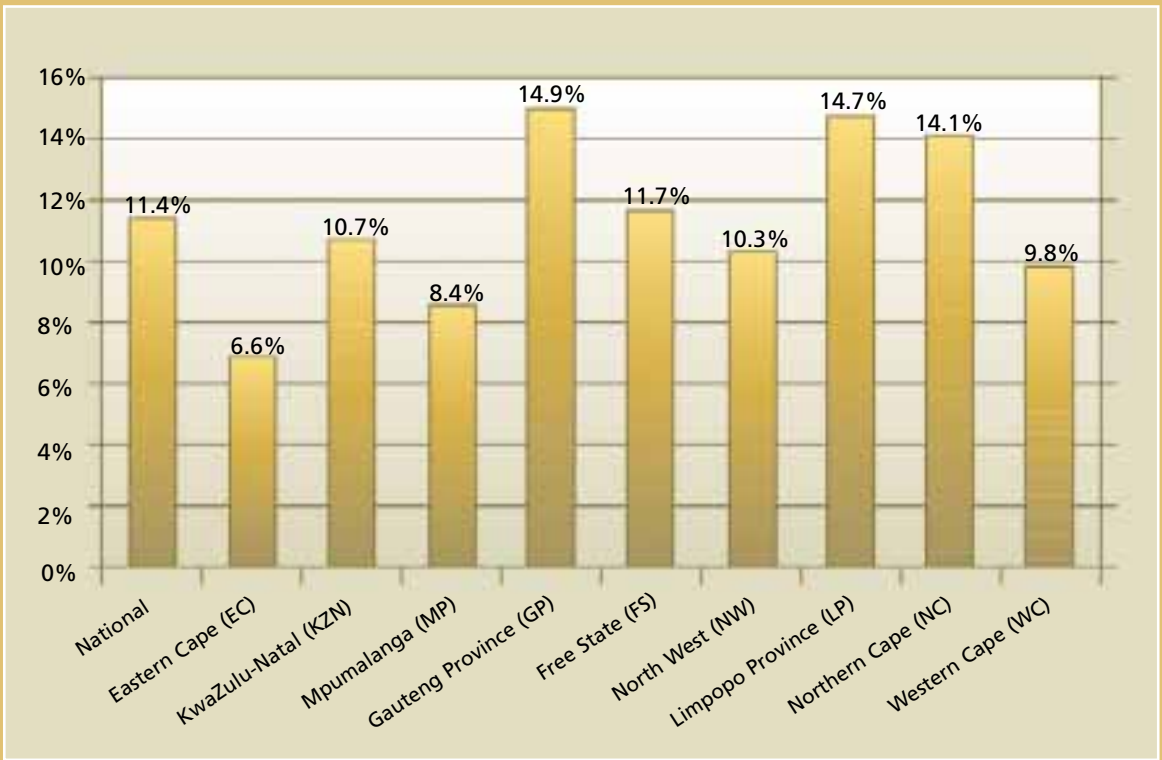

Figure 1.3 *HIV Prevalence of population (HSRC, 2002)*

Further, women have a higher prevalence than men due to their physiology. Thus the prevalence of the whole population of the Eastern Cape is lower than the prevalence rate of pregnant women in the Eastern Cape. A national study representative of people of all ages in all the provinces (HSRC, 2002) found that the prevalence rate in the population in the Eastern Cape was 6.6%, again lower than that of other provinces. See Figure 1.3.

HIV prevalence has also been shown to vary by location of residence. In South Africa as a whole the HIV prevalence was found to be highest in urban informal settlements and lowest in tribal areas and farms. See Figure 1. 4

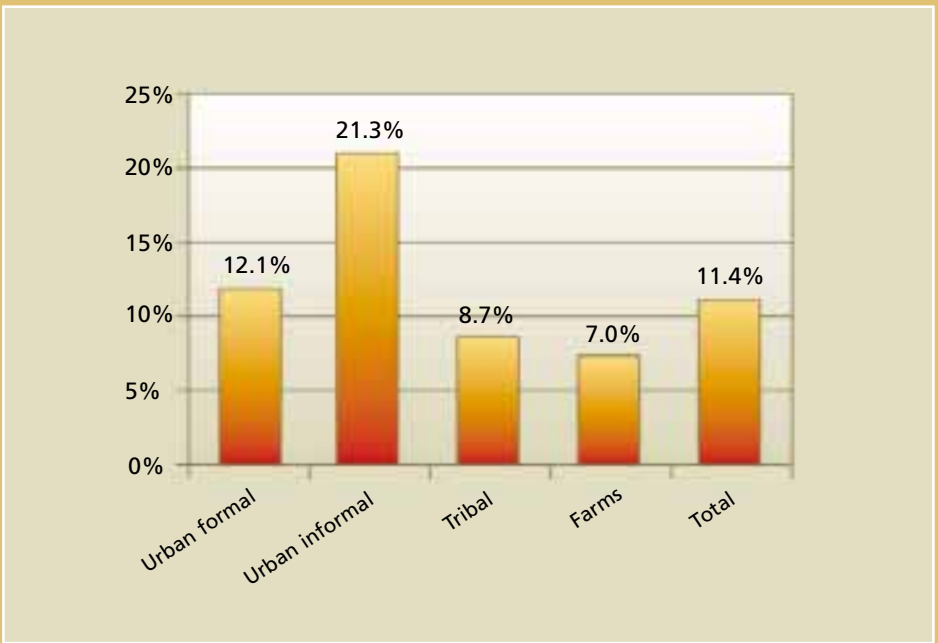

Figure 1.4 *HIV prevalence by location of residence (HSRC, 2002)*

The findings of the HSRC (2002) show that HIV prevalence also varies by gender and age. The national prevalence rate in that study was shown to be 11.4%, but for people aged between 15 and 49, it was 15,9%. Likewise, in the same age group, women had a higher prevalence rate than men, (17,7 and 12,8% respectively). See Figure 1.5.

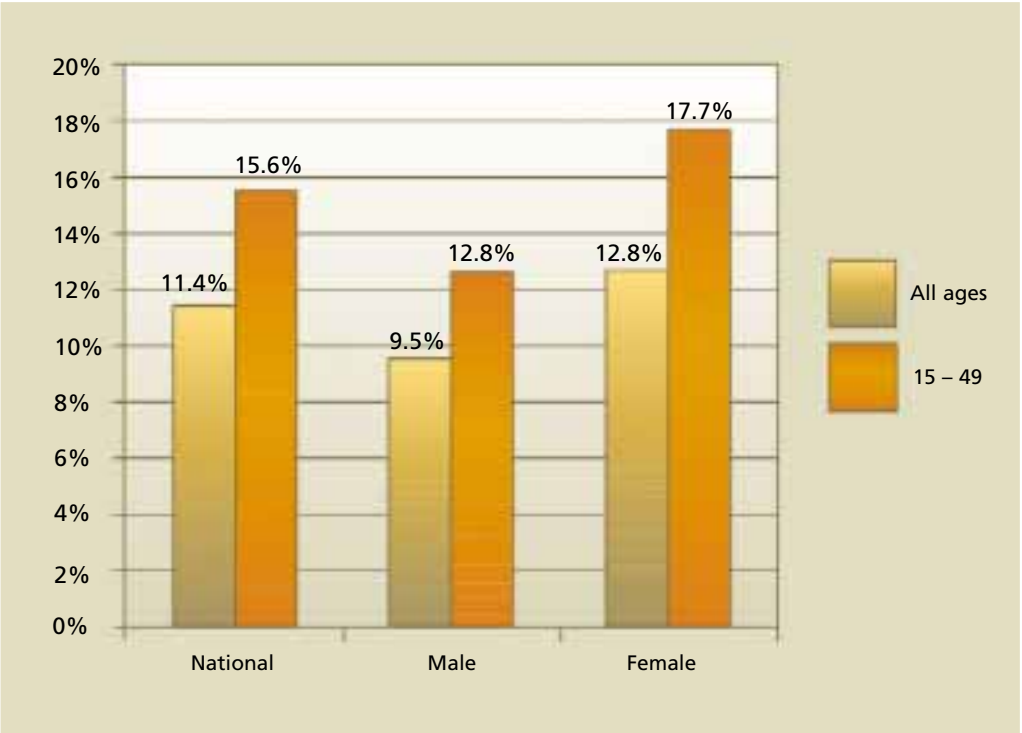

Figure 1.5 *HIV prevalence rate by gender and age (HSRC, 2002)*

Within the age group 15-49, the highest prevalence rates are found in women aged 25-29 and men aged 30-34. See Figure 1.6. The data give a clear indication of which groups in the population have the highest prevalance and thus can identify where prevention efforts will give the maximum return.

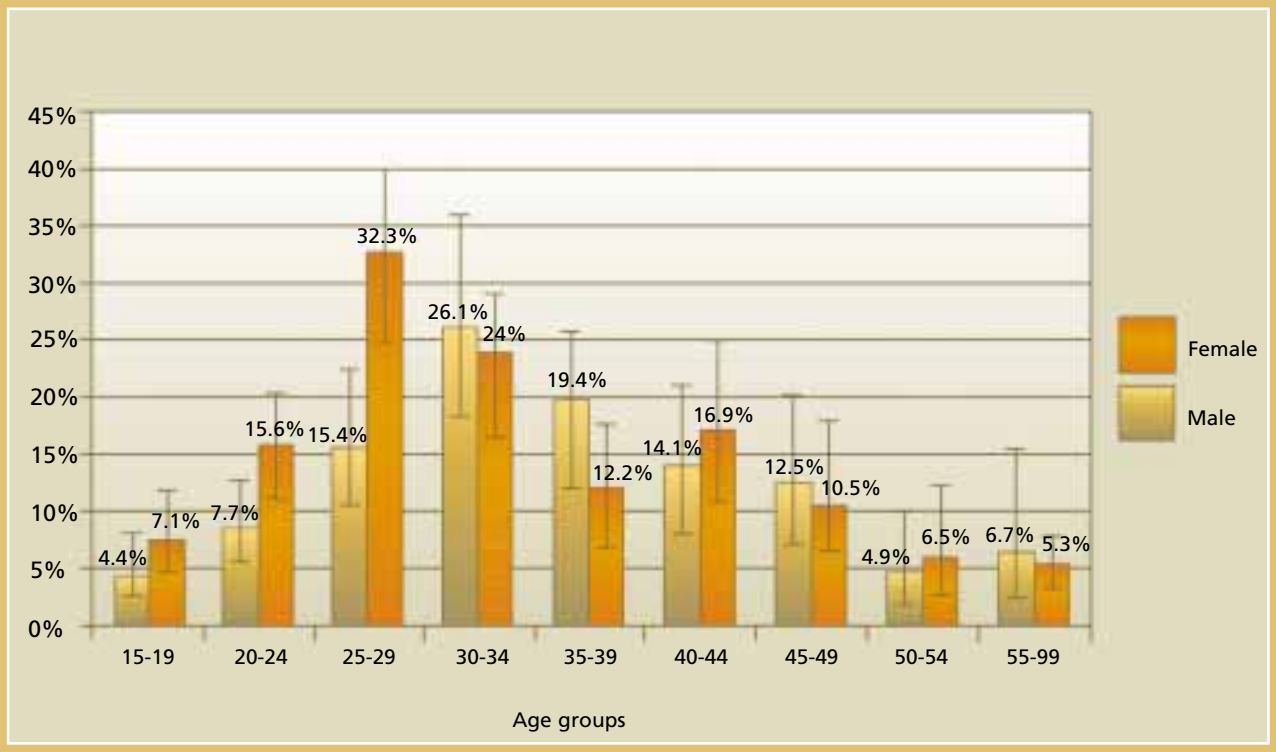

Figure 1.6 *HIV prevalence by gender and age categories (HSRC, 2002)*

Drawing from the above national statistics, it was anticipated that there would be a similar pattern in the Eastern Cape. Given the location of BCM as a major urban centre in the Eastern Cape, it was expected that:

- Overall employee HIV prevalence would be higher than that of the whole EC province as the employees would live in an urban area
- Women employees would have a higher prevalence rate, as would younger staff members.

Although the HSRC (2002) and antenatal data can provide some detail of the likely prevalence of HIV in the BCM employees, the data are inadequate as a basis on which to plan a detailed employee HIV strategy. For the purposes of a more detailed workplace study, it was decided to undertake an HIV prevalence study of a sample of the workforce so as to be able to:

- Understand the likely impact of HIV on the workforce and
- Design a workplace strategy that would be appropriate for the age, gender and level of skill of the employees.

Overview of BCM and its response to HIV/AIDS prior to the development of the new BCM HIV strategy

Buffalo City is a category B Municipality in terms of the Municipal Structures Act No. 117 of 1998 [ix]. Located in the Eastern Cape province, the municipality includes the urban areas of East London, King Williams Town and Bhisho, the administrative capital of the province. Buffalo City has a population of nearly 1 million concentrated in the three urban areas. The Buffalo City municipal workforce was 4766 strong at the time of the study. The profile of the employees drawn from the 2003/2004 Employment Equity report (total workforce 4941) indicates that 79% of the employees were permanent and 21% non-permanent. Men make up 82% of the workforce in both the permanent and temporary groups. In contrast nearly a third of all women employed (29%) are temporary. Of the permanent workers 4% are in management, 13% highly skilled, 19% skilled and 44% semi-skilled. Of the total workforce (permanent and temporary), 65% would be classified as semi-skilled.

Local government is challenged by the impact of HIV in a number of ways. As a category B municipality, health is not a funded mandate. Based on the National Health Act, health services are provided by BCM on an agency basis for the provincial Health Department in terms of a competency-based service level agreement. HIV/AIDS impacts on the community the local authority serves, namely the population living in Buffalo City, which in turn impacts on the demand for and affordability of services. The need for strategies to address the impact of HIV/AIDS on the broader community is in part addressed through the Integrated Development Plan (IDP) where HIV/AIDS is identified as a cross-cutting issue. HIV/AIDS impacts on the city's ability to provide services needed by the community due to illness and death in staff members. Workplace HIV/AIDS strategies are the mechanism used to mitigate the impact of HIV/AIDS on the workings of the organisation. HIV/AIDS has traditionally been seen as a health issue and the focal point of Buffalo City's HIV/AIDS workplace programme has been through the internal Occupational Health Programme, alongside the AIDS Training and Information Centre (ATIC). The need for the prevalence study emerged out of a concern about how the local authority as an employer should be responding to the epidemic. The prevalence study was also intended to inform the development of a wellness programme aimed at developing and maintaining a strong peer educator programme focussing on the prevention of new infections, encouraging an ongoing awareness of staff members' HIV status and supporting those who are HIV positive. A number of activities had been initiated to help inform this strategy including visits by senior officials to Cape Town City (best practice employee wellness strategy) and Msunduzi City Council's best practice community and ward-based strategy to establish links and explore best practice from other cities. The networking of best practices was facilitated by the South African Cities Network (SACN).

Process of involving key managers, staff, stakeholders and funders

chapter 2

The process of involving all key stakeholders was central to the success of the initiative. The links between the research team and the participatory process are presented in Figure 2.1.

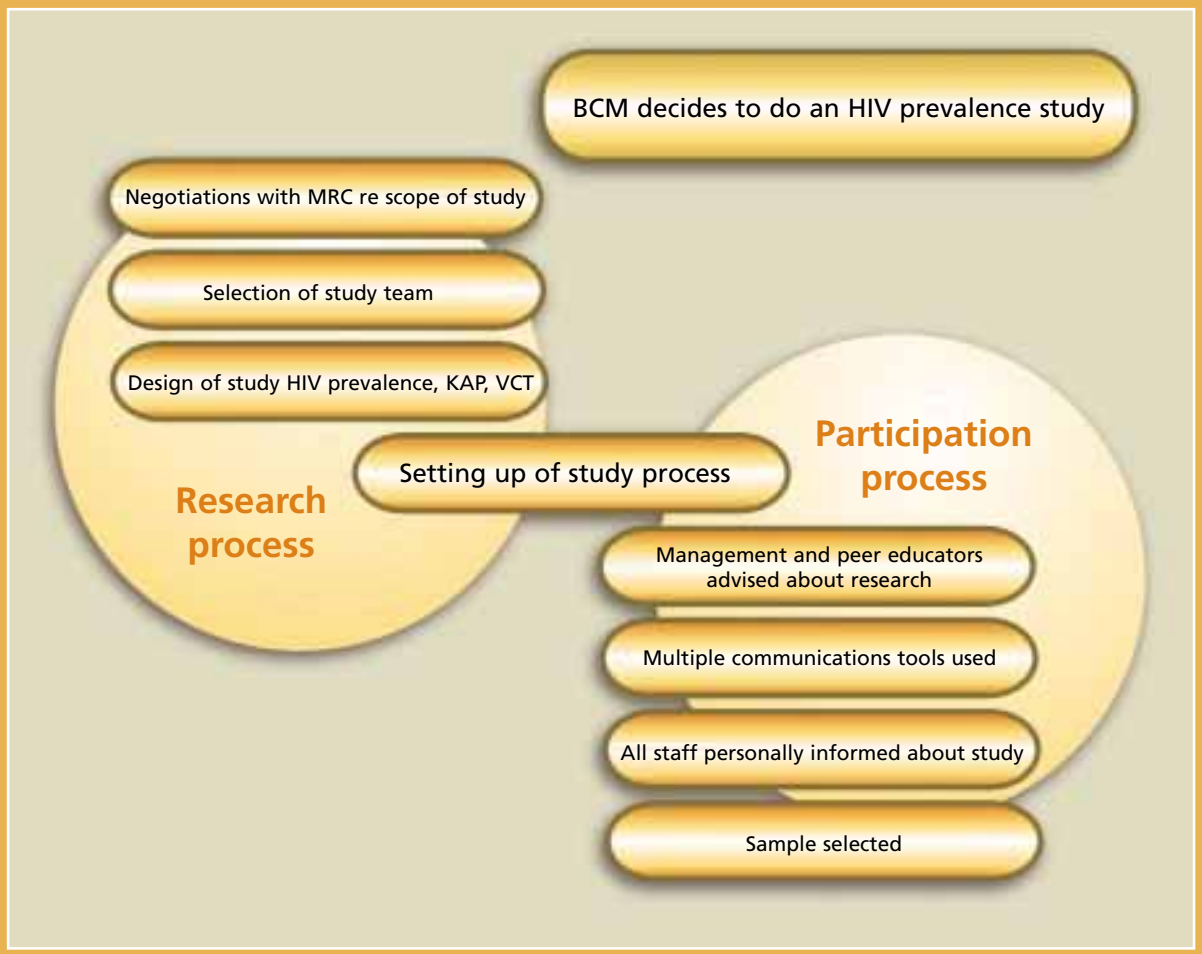

Figure 2.1 *Diagram showing key steps in the research process*

Management of the process

From the early stages of the design of the study, a number of key players were included in discussions and this group formed the Task Team. Included were the various Unions, representatives of human resources, health and corporate services. The planning of the study took place through the use of telephone conference facilities that allowed the research team and the BCM to discuss issues despite the researchers being located in Johannesburg and Durban.

Preliminary discussions focussed on the design of the HIV prevalence study. Issues were raised about confidentiality, type of test to use (e.g. rapid blood, saliva or Elisa), sample size, sample sites, costs, management of the process, ethics etc. Once the above had been agreed upon, the focus turned to the importance of ensuring that there was a high participation rate, especially due to the problem of mistrust that had developed as a result of the failed earlier study. The process of including all the players and having ongoing political and management commitment were key to the next phase.

A stakeholders' workshop was held late in May 2004, which allowed all the stakeholders to participate, find out more about the study, and raise questions and for the research team to revise the proposed methodology based on the outcome of the meeting. Over 60 people representing all key players and each department of BCM attended. Team leaders from each department were identified and given the responsibility to inform their work places of the research and progress.

On the same day a detailed planning meeting with the peer educators took place when the methods were further explained and detailed. The public awareness campaigns, detailed sampling and project design were further planned at this session.

BCM took responsibility for the awareness campaign, designed a poster and, through the peer educators, made sure that all the staff of each department were informed about the study. The research team assisted with developing various documents required to facilitate the dissemination of knowledge to all levels of the organisation. This was done in two official languages, English and Xhosa. A briefing document was circulated and posters put up.

Funding

Funding for this project was obtained from a number of sources. Part-funding was available from Sida. The MRC's Executive Committee offered to support the HIV prevalence study through the allocation of staff expertise on the understanding that BCM would cover the costs of the tests as well as MRC staff travel and accommodation costs.

Additional funding was sourced internally by BCM who also seconded an Occupational Health Nurse practitioner to the Special Programmes Unit within the Executive Mayor's Office to ensure the study was undertaken effectively and efficiently.

chapter 3

Overall study design and methodology

This chapter outlines the:

- Components of the study
- Research team
- Research design

3.1 Components of the study

The initial intention was to undertake an HIV employee prevalence study but this was expanded upon at the request of Buffalo City Municipality to include a Knowledge, Attitude and Practice (KAP) study combined with Voluntary Counselling and Testing (VCT). A further independent study to explore the cost implications of HIV in the workforce was initiated in 2003 by BCM with researcher Sydney Rosen. This was used to provide modelling of the costs using the results of the prevalence and KAP studies. The rationale for each of the components of the research follows:

3.1.1 HIV prevalence study

An HIV prevalence study provides data on the number of people in a defined group who are HIV positive. Most often a random sample of people who accurately represent the whole group is selected to represent the whole group. An HIV prevalence study usually uses rapid HIV test kits and the results are anonymous and thus cannot be linked to any individual. For analytical purposes, some socio-demographic data is collected to help with the analysis by gender, age and skill levels. The method and results of the prevalence study are presented in Chapter 4 below.

3.1.2 Knowledge, Attitude and Practice study (KAP)

KAP studies are a standard tool used in health-behaviour and health promotion studies. Findings on the health knowledge, health attitudes and health practice (KAP) studies are used to inform health promotion interventions specific to the needs of the group. The method and results of the prevalence study are presented in Chapter 5 below. (BCM requested that a KAP survey be undertaken with the HIV prevalence study.)

3.1.3 Voluntary Counselling and Testing (VCT) programme

VCT is a process where an individual asks for HIV testing to find out their HIV status. This testing is preceded by counselling and the confidential receipt of results is accompanied by counselling. VCT programmes are used as a way to encourage groups and individuals to establish their HIV status and to change their behaviour.

Under normal circumstances an HIV prevalence study in a workplace occurs on its own or with a KAP study. BCM was innovative in agreeing to undertake a VCT programme in conjunction with the HIV prevalence study. In addition to establishing the HIV prevalence of the workforce, the joint programme would make a major leap in helping to promote individuals' knowledge of their status. The details of the VCT process are presented in Chapter 6 below.

3.1.4 Costing of the impact of HIV

Municipal governments have been slow to assess the risks and costs associated with HIV/AIDS in their workforce and to develop strategies to address these problems. A lack of information has limited the assessment of the impact on the costs of labour and service delivery capacity by municipalities and the allocation of resources to limit the impact of HIV/AIDS. Buffalo City Municipality (BCM) in the Eastern Cape invited the Center for International Health and Development (CIHD) at Boston University in the U.S.A. to undertake a study of the costs to BCM of HIV/AIDS in the workforce. The study is described in Chapter 6 below.

3.2 Research management team

An internal team from BCM with the external research team managed the HIV prevalence and associated studies. The MRC took the lead in setting up the study and selecting an HIV testing specialist firm, Epicentre. This was undertaken in close collaboration with the BCM internal HIV Task Team. The team, consisting of Cherrie Zuccarini of Epicentre, Dr Mkululi Nkohla, the General Manager Health of BCM, Liz Thomas of the MRC, and Dr Mark Colvin (at that stage of the MRC), worked closely with other key officials of BCM in finalising the protocol, planning the process of getting buy-in from BCM management and staff as well as operationalising the research. Shaun Petzer of the Occupational Health Clinic at BCM was identified as the key point of contact for the research team.

3.2 Overall research study design

Given the history of the previous HIV prevalence study, special concern was taken to ensure that the study design and operation of the research were successful. The HIV prevalence study and KAP were undertaken concurrently, followed by the VCT programme. Preparation for the costing of the impact of HIV on the BCM workforce was undertaken prior to the prevalence study and was completed by drawing on the results of the HIV prevalence study. The study complied with the Labour Court ruling for HIV prevalence studies and operated under the requirements of a generic MRC HIV prevalence study protocol.

3.4 Detailed issues to be considered in setting up an HIV prevalence study

3.4.1 Who should be tested – the whole workforce or a sample?

If the prevalence study is being conducted in tandem with a VCT drive, then there is a good argument to test the whole workforce because this has been shown to be an effective and rapid method of obtaining a high VCT uptake.

However, from a scientific viewpoint, it is not necessary to test all employees in a large firm in order to get reliable estimates of the HIV prevalence rates. It is also very expensive to test all employees. As long as the sample drawn from a company is randomly selected, a sample size of between 10 and 30% is usually sufficient.

It must be made clear that the selection must be random and then, of the selected sample, a high proportion of employees must give samples. Remember it is not the sample size that is so important but rather the method of sampling and participation rate. Indeed, in the company mentioned above with 600 employees, a random sample of 100 workers would give more reliable data than from sampling the first 300 volunteers to come forward!

The theoretically ideal method of sampling would be to randomly select employees from, for example, the HR records. However, this is logistically and from an industrial relations viewpoint difficult to do. Instead, a reasonable compromise is to randomly sample shifts or departments. There should be no reason why any one of 3 shifts on a production line should be any different from one another and so, if a 30% sample is required, a single shift may be selected and then all employees on that shift encouraged to attend.

3.4.2 What threatens the validity of a workplace HIV prevalence study?

Employees and managers are often concerned that HIV tests may not be very reliable and hence will give data that cannot be trusted. However, this concern can be discounted because the reliability and accuracy of the 3rd generation laboratory tests or rapid tests being used today is extremely high. In fact, all commercially available tests are over 98% sensitive and specific and so HIV testing will not be a source of error.

The major threat to the usefulness of a workplace HIV prevalence study comes not from the tests used but from **poor participation rates from employees**. Why is this? Consider this example:

- Factory X has 600 employees,
- 200 (33%) of employees volunteer to give specimens for HIV testing. This is a large sample size. Say that the number determined to be HIV infected is 40, i.e. 20% are HIV infected.
- BUT, the actual prevalence among the other 400 is 35% so overall prevalence is actually 30%.
- In this scenario, the real HIV prevalence rate would have been underestimated by 10%.

In research, this problem is referred to as "bias". It results from the prevalence of HIV being different among those that participate readily when compared to those that are do not participate. This may be because those who know or suspect themselves to be HIV+ fear being identified in the study and hence refuse to provide a specimen. In the final analysis, if a study is conducted in this manner, i.e. volunteers are asked to come forward, one can never tell whether or not and to what extent the data may be biased.

So how is this problem overcome, particularly when participation is voluntary and not compulsory? The trick is to prepare the workplace so well that the great majority of employees have trust in the process and so participate. This is why such great investment must go into preparation for the study and must involved thorough consultation and face-to-face information sessions with all workers. It is also the reason for getting an outside company to do the research because employees will be wary if the company clinic staff run the study and have access to the data.

The next question is – so what is an acceptable participation rate? Unfortunately, there is no simple answer to this but in the research world, it is generally accepted that a participation rate of above 75% is reasonable but, obviously, the higher the better.

3.4.3 How to get a good participation rate

It is important to understand how "individuals act in groups". It is well documented that 10% of any given group will be in favour of a given action, 10% will be against and 80% will sit on the fence. (See Figure 3.1) Decisive action of any one individual will influence the 80% 'fence sitters'. Therefore we planned and primed key role players such as managers, shop stewards, peer educators for example to volunteer to test first, to actively support the study ensuring that it is possible to win over the 80% of "fence sitters" in each group rather than leaving participation in the testing to chance. The role of BCM management in taking the lead in being testing was very important.

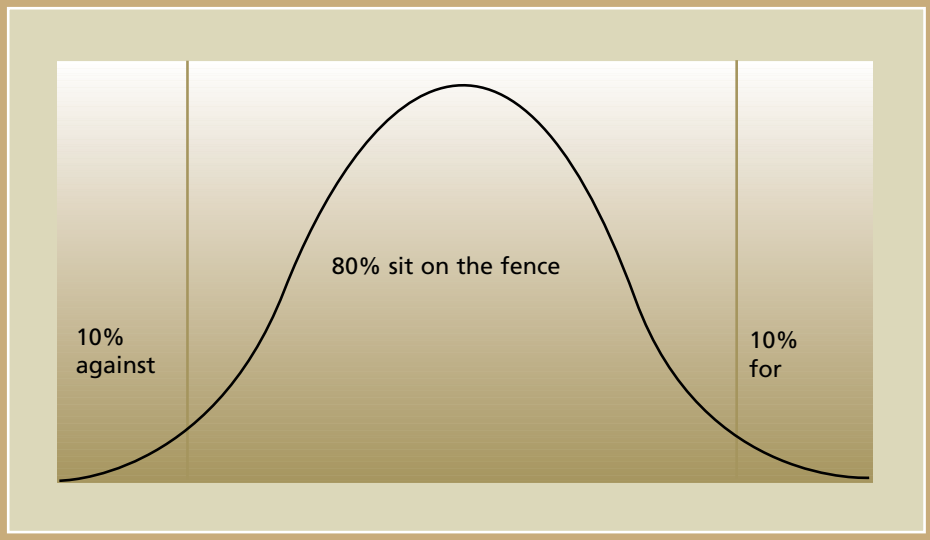

Figure 3.1 *The participation curve*

3.4.4 What approach to use for HIV testing

The selection of HIV testing approaches for serosurveillance depends on a variety of factors, including country policies, the estimated HIV prevalence levels and the settings in which the study will be conducted. Figure 3.2 lists the 4 basic approaches to HIV surveillance.

Unlinked anonymous testing (without informed consent)

- Testing of unlinked specimens collected for other purposes
- No personal identifiers or names obtained, no informed consent, no counseling required
- Coded specimen

Unlinked anonymous testing (with informed consent)

- Testing of unlinked specimens collected solely for surveillance purposes
- Informed consent is required
- No personal identifiers or names obtained, no counseling required
- Coded specimen

Linked confidential testing (with informed consent)

- Informed consent and pre-test and post-test counseling required
- Personal identifiers or names obtained
- Coded specimen; code linked to personal identifying information

Linked anonymous testing (with informed consent)

- Informed consent and pre-test and post-test counseling required
- No personal identifiers or names obtained
- Coded specimen; code given to patient so that only patient can link himself or herself to results

Figure 3.2 *Linked and Unlinked HIV testing*
(Adapted from WHO/Global Programme on AIDS 1992)

In the case of the Buffalo City, *unlinked anonymous testing with informed consent* was done. The participants were asked whether he or she would agree to participate in the HIV surveillance study and informed that the results of the HIV test performed will be unlinked by removing all personal identifying information from the specimen. Therefore, it will not be possible to trace which participants have positive test results. However, ethically the researcher's are obliged to ensure that the participant has free access to HIV testing and counseling. This study design allows for the person to refuse to participate in the study, thereby introducing a possible participation bias.

3.4.5 What are the appropriate HIV testing strategies for HIV surveillance?

UNAIDS and WHO recommend three criteria for choosing an HIV testing strategy (i.e., selecting appropriate HIV testing technologies or a combination of tests) (UNAIDS/WHO 1998).

1. Objective of the test (surveillance, blood screening, or diagnosis,
2. Sensitivity and specificity of the test(s) being used.
3. HIV prevalence in the population being tested

After these three criteria are defined, an HIV testing strategy can be selected to maximize sensitivity and specificity while minimizing cost. The three HIV testing strategies recommended by UNAIDS and WHO are described in Figure 3.3.

Figure 3.3 *HIV testing strategies*

Strategy I: Requires one test.

- For use in diagnostic testing in populations with an HIV prevalence >30% among persons with clinical signs or symptoms of HIV infection.
- For use in blood screening, for all prevalence rates.
- For use in surveillance testing in populations with an HIV prevalence >10% (e.g., unlinked anonymous testing for surveillance among pregnant women at antenatal clinics). No results are provided.

Strategy II: Requires up to two tests.

- For use in diagnostic testing in populations with an HIV prevalence ≤30% among persons with clinical signs or symptoms of HIV infection or >10% among asymptomatic persons.
- For use in surveillance testing in populations with an HIV prevalence ≤10% (e.g.,unlinked anonymous testing for surveillance among patients at antenatal clinics or sexually transmitted infection clinics). No results are provided.

Strategy III: Requires up to three tests.

- For use in diagnostic testing in populations with an HIV prevalence <10% among asymptomatic persons.

These strategies apply only when the data is to be used for surveillance purposes. In cases where surveillance is combined with VCT (i.e. the result is to be used for diagnostic purposes) then two tests must always be used before results are given back to an individual.

For the purposes of the Buffalo City study, Strategy I was used because the testing is being done for surveillance purposes and the prevalence level is estimated to be above 10%. However, for those individuals who returned for their HIV results, an additional test was done but all estimates of prevalence were based on the first test only.

3.4.6 What specimens should be used in HIV testing?

Many types of specimens can be used with HIV testing technologies for HIV biological surveillance: whole blood, plasma, serum, oral fluids, and urine. The choice of specimen collected depends on logistics, populations and sites selected, and the HIV testing strategy. Specimens must be collected, tested, and stored in an appropriate manner in order to obtain accurate and reliable results. The options in testing are whole blood, serum and plasma, dry blood spots (DBS), and rapid tests. Further details of these can be found on www.mrc.ac.za/healthdevelop/hiv and www.afroaidsinfo.org/public/Policy/localresponses/localworkplace.htm

Figure 3.4

Rapid HIV tests (see Figure 3.4) are being increasingly used in public-sector clinic settings in South Africa. The main drawback to using this approach in surveillance studies is that, because multiple nurses may be involved in testing, quality control is not as easy to manage as when a single laboratory is conducting the testing. However, with proper training of nurses, this obstacle can be overcome. Another potential problem with using rapid tests is that confidentiality will not be maintained if the nurse taking the specimen also reads the test. In order to obviate this problem, as system needs to be devised whereby the rapid test is removed from the nurse doing the finger prick before it can be read (typically in 15 to 20 minutes) and read by another person. See below for more details on how this was done at Buffalo City. Finally, this is probably the cheapest approach to use because of the low cost of rapid tests.

3.4.7 What process should be used in the collection of the specimens?

Employees in groups from teams, shifts etc were assembled at selected venue (e.g. training rooms, board rooms, canteen) in groups of between 20 to 25 people. After a 30 minute introductory/ motivation talk, appropriate educational materials (Soul City) were distributed. Those wishing to participate were asked to complete a KAP survey, sign a consent register and participate in an HIV test and to indicate if they wanted to get their results. (See Figure 3.5)

Figure 3.5

The nurse then took a blood sample, placed it in the HIV rapid 'test-well' kit (see photo) with buffer and then placed the test kit into a bar coded envelope before the results emerged. The envelopes were collected every 15 minutes and the HIV results read by someone trained to read the results and then confirmed by another person and recorded alongside the person's secret number.

At the time of doing the HIV test the test result is linked to a secret number, see Figure 3.5. The photograph shows the small enveloped that the rapid test is put into and a white card. Both have the same secret number on them. The volunteer is given a VCT card (white card in photograph) with their number and instructions on how to proceed to get their results. No names are linked to the HIV results.

3.4.8 Job band and socio-demographic data required

The collection of basic data for each participant is necessary for the anlaysis of the HIV profile of the sample. To remain confidential, the level of detail of the data collected should be aggregated so that no individual can be identified in the anlaysis. Job status (temporary/permanent) and job band / level are necessary. The workforce was stratified into job bands. These were semi-skilled (including the level previously referred to as unskilled), (grades 17-22), skilled (and supervisors),(grades 7-16), and managers, (grades 0-6). For comparative purposes between studies of HIV in municipal workforces, it would be useful if studies used the same job band categorisation.

Age, gender and race are important variables. From the BCM study, information on type of housing area (informal/ formal housing etc) as well as tenure, are also valuable.

3.5 Potential uses of the HIV prevalence and KAP data

The results of this study form a valuable data source and may be used by a company for the following purposes:

1. As a baseline assessment of HIV prevalence and behavioural measurements against which to measure the success or failure of an ongoing HIV/AIDS programme. With a successful programme, the prevalence should stabalise or decrease over time and behaviours should improve, i.e. condom use should increase, number of non-regular partners decrease and the incidence of STIs should decrease.

2. As an advocacy tool within a company to demonstrate the actual severity of the epidemic among employees/contractors rather than using antenatal data.

3. To direct and target HIV/AIDS interventions, e.g. the company cannot only focus on younger employees because the study has shown that older, female employees are also at risk.

4. To model incidence rates from the prevalence data and then make forecasts about likely future HIV prevalence rates and mortality (death) rates.

5. The prevalence and forecast data, combined with selected economic data from the company, may be used to determine the cost of a case of AIDS to the company and to determine the impact of the epidemic on worker benefits, staffing requirements, etc.

6. The cost effectiveness of various scenarios may be determined (e.g. is it cost effective to provide antiretrovirals to employees or certain categories of employees)

3.6 Motivation for undertaking CD4 counts on HIV positive participants at the VCT stage

Data on the prevalence of HIV in a population does not provide information on the stage of infection in the population. Typically, HIV infected individuals do not develop AIDS until 7 to 9 years after seroconversion. Therefore, a cohort of recently infected individuals will not need ARVs for a number of years whereas a cohort infected in the mid-1990s will be rapidly developing clinical signs of AIDS and requiring treatment. Data on the proportions of a population that are at particular stages of HIV infection will therefore be very useful for planning purposes and scenario testing.

The development of opportunistic diseases in individuals who are HIV positive and their deterioration in health is largely attributable to the decrease in CD4+ T-lymphocytes. Accurate and reliable measures of CD4+ T-lymphocytes are therefore essential to the assessment of the immune system of HIV infected persons. In particular, the measurement of CD4+ T-cell levels are used to make decisions in regard to the timing of providing prophylaxis for opportunistic diseases such as pneumonia and TB and when to initiated antiretroviral therapy. CD4+ T-lymphocyte levels also are used as prognostic indicators in patients who have HIV disease. Moreover, CD4+ T-lymphocyte levels are a criterion for categorizing HIV-related clinical conditions by CDC's classification system for HIV infection and surveillance

case definition for AIDS among adults and adolescents. Therefore, obtaining data on the distribution of CD4+T-cell levels among HIV positive employees will provide very useful data for anticipating current and future levels of morbidity and for planning for treatment needs.

Note that CD4 testing can only be done when venous blood is obtained as the technology to do CD4 testing on dry blood spots is not sufficiently advanced. It is also worth noting that the costs of these tests are dropping dramatically and that the marginal added cost to a study will be minimal because the CD4 test will only be done on HIV positive participants.

Objectives

CD4+ T-lymphocyte testing will be done for the following objectives:

1. To determine the proportion of HIV infected participants who are at various stages of HIV infection according to CDC criteria.
2. To estimate the rate of morbidity and mortality of HIV infected participants in a scenario where there is access to prophylaxis and treatment for opportunistic infections but no access to ARVs.
3. To estimate the rate of morbidity and mortality of HIV infected participants in a scenario where there is access to ARVs.
4. To determine the proportion of the HIV infected population that currently needs disease prophylaxis and ARV treatment.

chapter 4

HIV Prevalence

4.1 Aim

The aim of the study was to establish the HIV prevalence of the BCM workforce through a representative sample so as to inform the development of a BCM work-place HIV programme. The output of the collaboration was to be a prevalence study report which would describe the distribution of HIV among the workforce and highlight the risk factors for acquiring HIV in addition to providing recommendations for BCM.

4.2 Method

The collection of data for the HIV prevalence study was undertaken concurrently with the administration of the KAP study (see Chapter 5). Socio-demographic information was also requested in the questionnaire. The process was designed by the research team in conjunction with a BCM advisory reference group.

Key to the study design was the need to decide on the following issues:

- The appropriate approach to testing
- The HIV strategy to be used in a surveillance study
- What types of specimens would be used for HIV testing
- Whether the whole workforce should be tested or only a sample
- Identification of the risks to the validity of the results.

As presented in Chapter 3, decisions regarding the above requirements were made based on specialist technical advice provided by Dr Mark Colvin and Epicentre.

4.3 Sampling

Despite the wide spatial distribution of staff in the BCM area, stretching from East London to King Williams Town and Bhisho, it was agreed that all sites needed to be included in the sample. Further, given the difficulty in drawing a random sample because of the distribution of staff in multiple sites, depots and buildings across the metropolitan area, it was decided that a two-phase random sample would be used. The sampling design is described in Chapter 3. With the help of BCM Human Resources, a small sample of employees was selected randomly from the employee database. The second phase involved the identification of approximately 19 other workers who worked with the identified individual. These 19 would, for example, be on the sampled individual's shift, team or floor. The testing was planned to take place over five days at multiple sites.

Initially, a total of 500 people were expected to be in the sample for testing. In the end however 1115 were included in the final sample. Some could not, or chose not to attend the voluntary training session. Of the 1115, 1038 attended the compulsory training sessions and 971 volunteered to be tested. The 971 staff members who were tested represented an 87% participation rate. The sample tested made up 20.4% of the BCM workforce.

4.4 Reflection on reliability of the HIV prevalence results

The sample was found to be representative of the workforce. In the randomly selected sample 74% of the respondents were African whereas actually, the BCM Employment Equity report identifies 75% of the workforce as African. The sample drawn closely reflects the proportion of the other race groups in the workforce. The findings were also compatible with population level data generated by the Nelson Mandela HSRC HIV study (2002). When compared, the data sets show a very similar HIV positive distribution by age, gender and race. The similarity in profile of the HIV positive BCM employees to the sample population of the Eastern Cape from the HSRC (2002) add to the reliability of the results.

4.5 Results of the HIV prevalence study

4.5.1 Overall prevalence

Of the total of 4,766 permanent employees (in June 2004), questionnaires and blood specimens were obtained from 971 individuals (20.4% of the work force). The results show the crude prevalence of HIV in the workforce to be 10.3%. The prevalence of the temporary staff was 17.7%. When temporary staff are excluded the prevalence was 9.3%, even when adjusted for race and gender. When the data are extrapolated onto the whole workforce, an estimated 444 employees are HIV infected. Among permanent employees, the overall HIV prevalence in men was 9.3% (adjusted was 9%) and for women 8.9% (adjusted was 10.2%).

4.5.2 HIV status by age and gender

In the sample 24% of the respondents were women (this is in contrast to 28% of the BCM staff who, according to the EE report, are women). The age profile of the respondents shows the bulk of the employees to be in the 40-49 age band with small percentages under 30 (10%) and over 60 (8%). The mean age of the whole workforce was 44 years but those who were HIV positive had a mean age of 38 years, (40 years for men and 33 years for the women, respectively).

The prevalence of HIV in the workforce of BCM shows:

- The highest prevalence is in the 20-29 age groups for both men and women (see Figure 4.1)
- The majority of those infected are under 40 years of age (see Table 4.1)
- All age groups are infected

Age category	% HIV positive women	% HIV positive men
20-29	23.7	18.2
30-39	12.2	16.7
40-49	4.6	8.5
50-59	2.5	6.2
>60	0	2.7
Total	**10.1**	**9.8**

Table 4.1 *BCM HIV prevalence by age and gender*

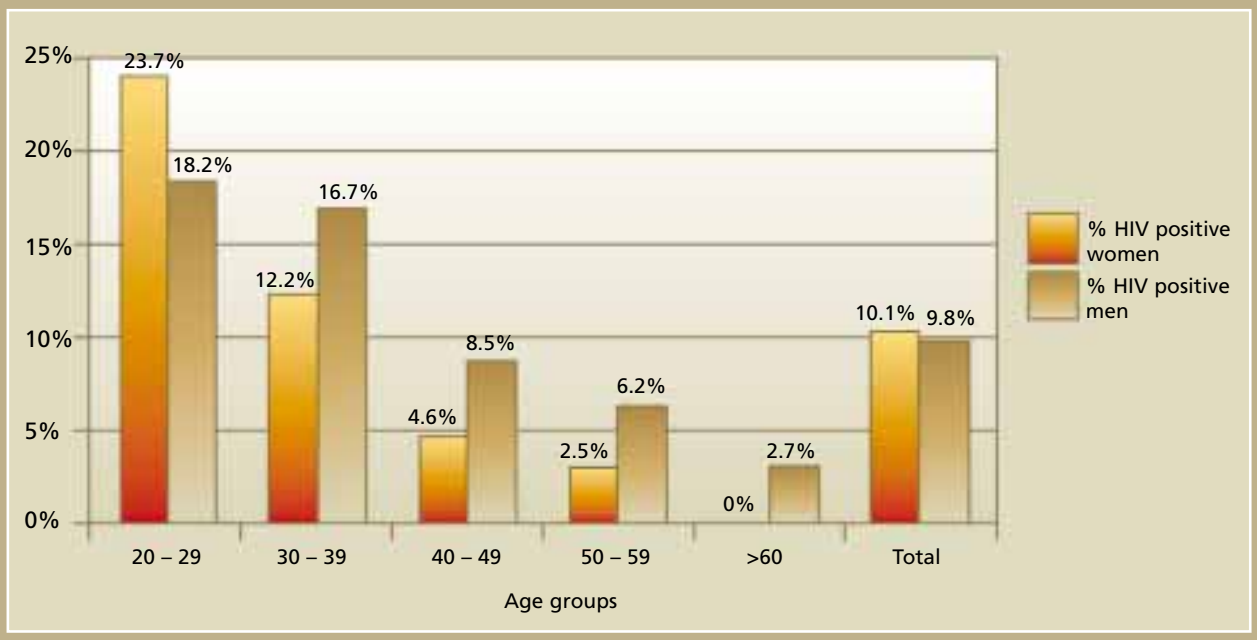

Figure 4.1 *Age category and HIV status*

4.5.3 Job band

For the purposes of this study, the job bands have been classified into three categories, namely semi-skilled, skilled and managers. The HIV prevalence differs by job band, with semi-skilled workers having the highest prevalence rate. See Figure 4.2 This was statistically significant. (p=0.02)

Figure 4.2 *Skill level by HIV status*

The prevalence by race is shown in Table 4.2. The HIV prevalence was found to differ between Black African and other race groups. This was statistically significant (p<0.001).

	% HIV positive
Black African	12.7%
Asian	0%
Coloured	5.0%
White	0.7%

Table 4.2 *HIV prevalence by race*

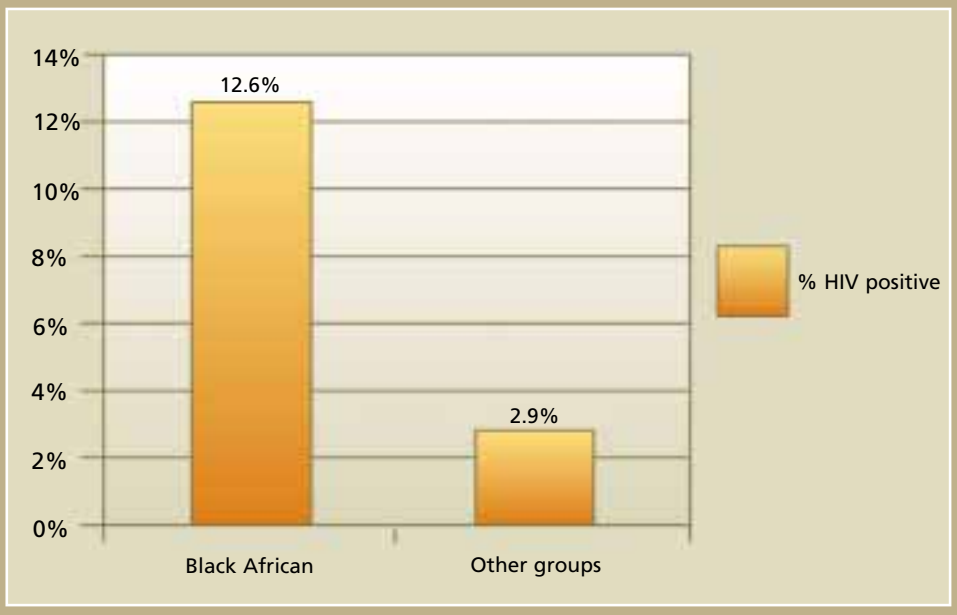

Figure 4.3 *Race and HIV status*

4.5.4 Educational levels

From the survey, just over a quarter of the sample could be classified as functionally illiterate (less than Std 4 / Grade 6) or equivalent ABET grade. Nearly one in three (29%) had completed Std 8 / Grade 10) or higher school grades and 18% had post-school education. The HIV prevalence shows that there is a high HIV prevalence across all the educational levels. (See Figure 4.3)

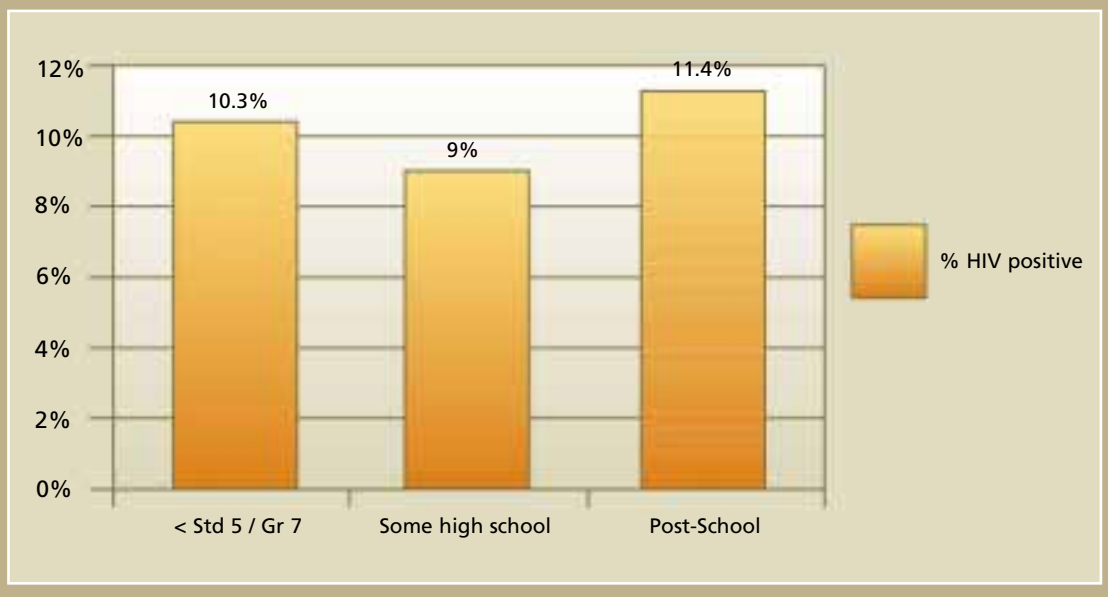

Figure 4.4 *HIV status by education level*

4.5.4.1 Housing and tenure

Over one third (36%) of the employees lived in informal housing and hostels, 6% in RDP or other housing and 58% in formal housing. The analysis shows that there is a significant difference in HIV status between the housing types ($p<0.001$). (See Table 4.3 and Figure 4.5)

	% workforce living in housing type	% HIV positive
Informal	36	15.5
Formal	58	7.8
RDP/Other	6	8.3

Table 4.3 *House type by HIV status*

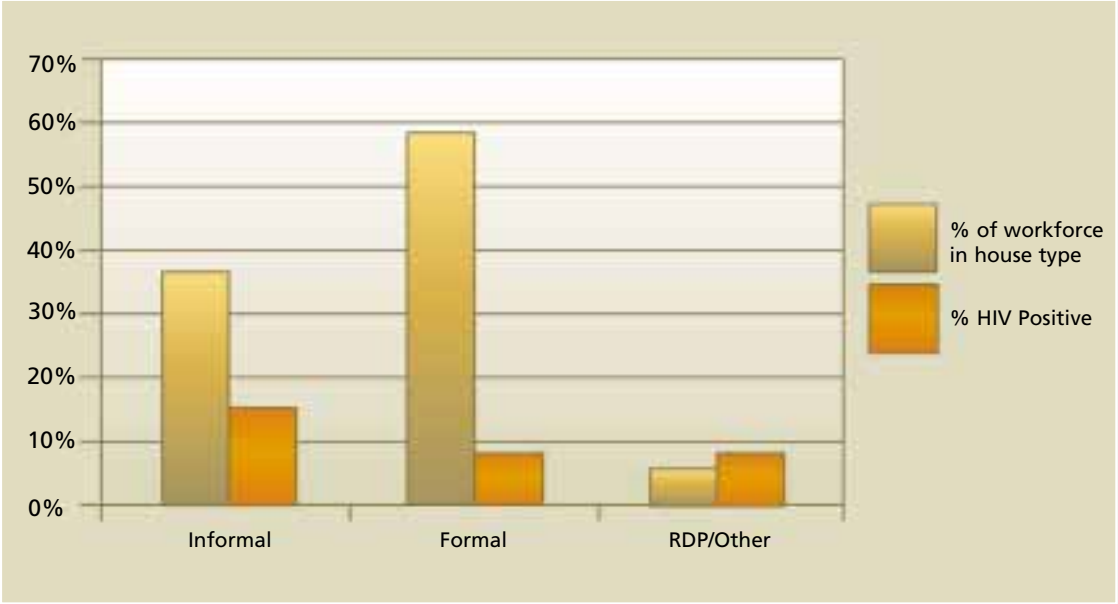

Figure 4.5 *House type by HIV status*

In response to the question of housing tenure, 63% of employees reported owned their dwelling as opposed to 37% who shared or rented their dwelling. The statistical analysis showed that the nature of the tenure was very significantly related to the HIV status of the employees ($p<0.001$). (See Table 4.5 and Figure 4.6)

	% workforce owning or renting dwelling	% HIV positive
Rent/share	37%	15.4
Own	63%	7.5

Table 4.5 *Housing tenure and HIV status*

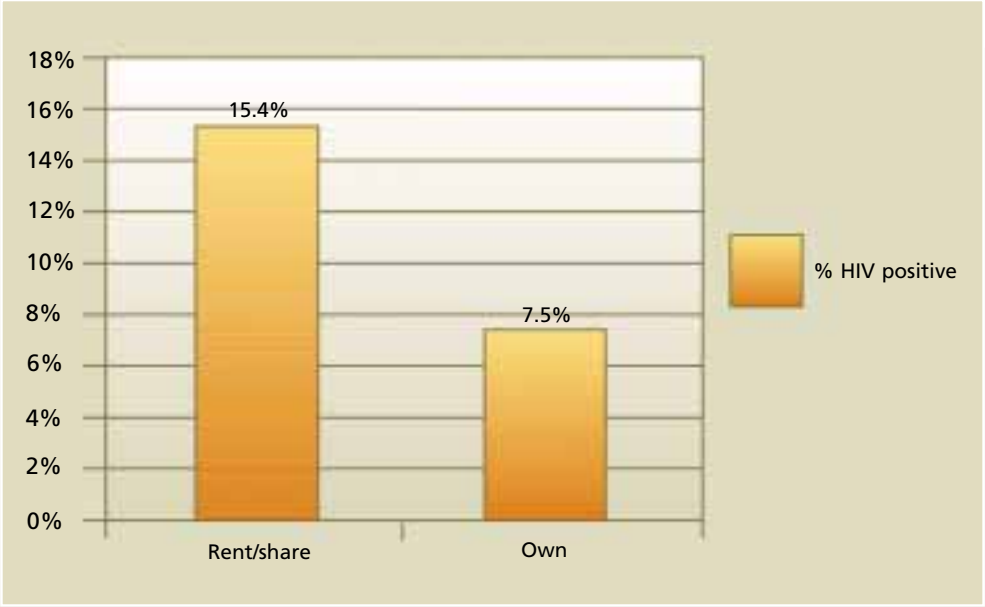

Figure 4.6 *Housing tenure and HIV status*

In summary

The HIV prevalence for BCM employees shows that the epidemic is concentrated in certain groups. Bivariate analysis showed a number of socio-demographic factors associated with HIV status. In multilevel analysis, housetype and tenure remained significantly associated with HIV status and were not confounded with race. These are:

- Temporary workers
- Younger women
- Young and older men
- Semi-skilled workers
- Black Africans
- Those living in informal forms of housing
- Those renting their homes

There are no categories of worker who should be excluded from BCM's strategies as all levels of worker are infected, irrespective of age, race, gender and accommodation type. However the data do give clear guidelines of where certain strategies could be best targeted. Based on these results, the costs of the impact of HIV/AIDS on the workforce can be estimated (see Chapter 7).

Knowledge, Attitudes and Practice (KAP) study

chapter 5

5.1 KAP aim

The aim of the KAP study was to understand the current levels of knowledge that employees have about HIV/AIDS prevention and to assess attitudes (especially of stigma) so as to guide the formulation of an HIV prevention strategy for all employees and an HIV wellness programme for those who are HIV positive.

5.2 KAP method

5.2.1 Questionnaire design

The questionnaire was designed to establish socio-demographic details, basic knowledge, health-seeking behaviour and sexual behaviour and attitudes. The questions were compiled from existing studies and designed to provide reliable data on nationally and internationally accepted indicators. The questionnaire was translated into Xhosa.

5.2.2 Fieldwork

The fieldwork took place over the period of a week from 21 to 25 June 2004 and the VCT over the subsequent three week period.

The sampled groups were arranged to be tested at the most convenient site in relation to their workplace. Shaun Petzer arranged the sequencing of the groups to be tested by two testing teams and managers were advised accordingly so that the sampled groups could have the necessary time off to be able to participate.

Drawing from the expertise of Epicentre an hour-long education, testing and KAP completion process was adopted. For each group identified in the sample, all who were present on the day were expected to attend the education session. A register was taken. After the education session, which was conducted in English and Xhosa, participants were given the option to be tested for HIV or not.
Over 82% of those who attended chose to stay for the testing.

Each person was given a questionnaire to which was attached an envelope and an information sheet. Each of the above items had a barcode number on it allowing for the test to be anonymous but for the questionnaire and test results to be linked and for the participant to be able to collect their test results based on their secret number.

Before being tested, each participant was requested to sign a consent form and also to indicate if they wanted to receive their test results.

5.3 Results of the KAP

5.3.1 Knowledge

A series of questions was asked to ascertain the knowledge of the participants about HIV/AIDS. The answers to these questions can be used to help guide in the development of prevention and treatment education programmes. Overall 45% of the participants said that they had attended an AIDS workshop/educational event in the past.

Of the sample, 80.5% said that they wanted more education about AIDS. In particular, the kinds of information that the participants wanted to find out more about were:

	% of whole sample	% of HIV positive
Those wanting more information about HIV/AIDS	81	88
Specific content requested on:		
Sexually transmitted diseases	76	83
Where AIDS comes from	76	78
Getting an HIV test	80	85
Treatment for HIV/AIDS	80	85
Staying healthy if one is HIV positive	83	87

Table 5.1 *Information needs of Buffalo City employees*

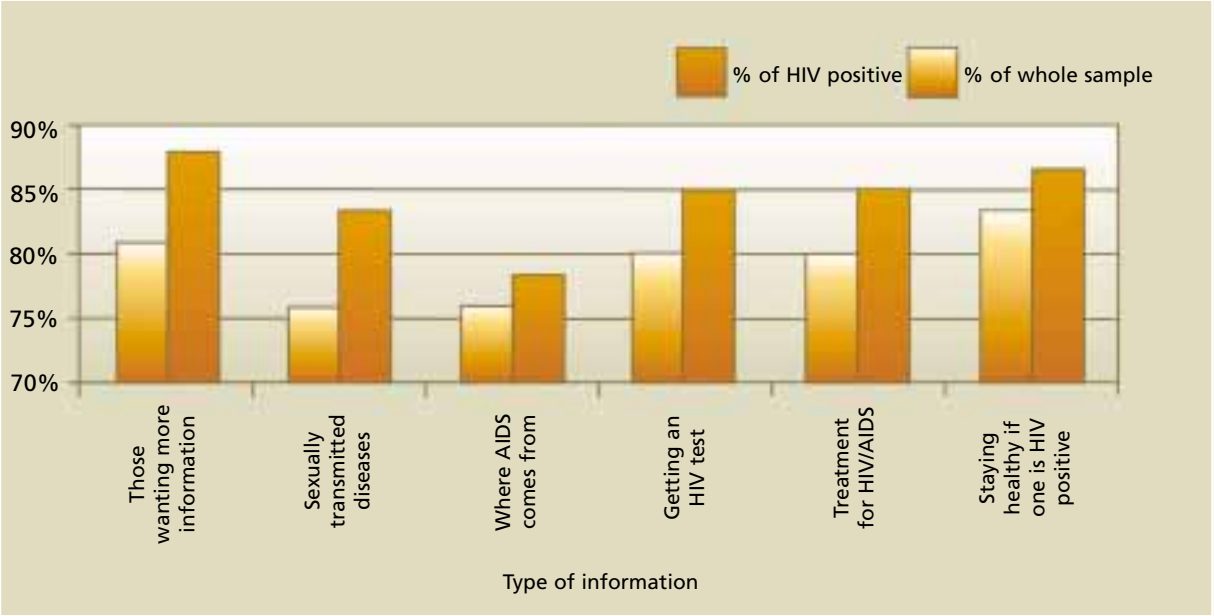

Figure 5.1 *Requests for additional information by HIV status*

The above information points to the need for and an openness of the employees to further information about HIV/AIDS and how to respond to it. In addition, the group of employees who were found to be HIV positive appeared to be no less interested in getting additional information about HIV. This demand for additional information is very positive and should be responded to on an ongoing basis through the development of a BCM AIDS awareness programme. The educational levels, gender and language competencies of workers requires that in addition to an overall programme, aspects of the programme need to be targeted to the specific needs of groups of employees. (The return on investment in educational programmes will be addressed in the Chapter 7 below, dealing with costing.)

5.3.2 Attitudes

A number of standard questions were used to explore the extent to which the employees had an awareness of HIV/AIDS beyond the basics. Particular attention was focussed on assessing stigma issues. Two thirds of the respondents were aware that sharing a meal (66%), or sleeping in the same room (72%) are safe behaviours to undertake in the company of someone who is HIV positive. Likewise, 71% said correctly that an infant who is breast fed could get HIV from its HIV positive mother. The balance of respondents said they were unsure or believed that they could contract HIV in these contexts. That between a quarter and one third were either uncertain of the risks or fearful of contracting HIV indicates that there is a need for both HIV prevention education as well as initiatives to address stigma issues.

5.3.3 Practice

Having sexually transmitted infections (STI) are an important risk factor for contracting HIV. Respondents were asked if they had had an STI in the past year as well as the form of treatment they had sought. Less than ten percent of the male workers reported having had either a sore or ulcer on their penis or having had an abnormal discharge in the past 12 months (7.6 and 5.5% respectively).

The health-seeking behaviour report showed that a range of treatment options is used. Of those who had sought medical treatment, the options included the BCM occupational health clinic (26%), primary health clinic 24%, private GP 36%, traditional healer 13%, pharmacy 18% and self-treatment, 19%.

Of those who had a STI who were found to be HIV positive, 41% said they would seek help at the occupational health clinic, 17% were unsure if they would use the occupational health clinic and 41% said they would not use the occupational health clinic. The multiple range of treatment-seeking behaviour should be taken into consideration in the development of STI and treatment options by BCM.

For those who responded to the questions about sexual behaviour when having an STI, (approximately half of the respondents), about one third said that they would take precautionary actions when having sex and also suffering from an STI. Action that the respondents reported having taken were to tell their partner about their having an STI (34%), abstaining from sex while having symptoms (36%) and use a condom while having symptoms (28%). This group overall made up less than 18% of the respondents. Given the much higher risk of transmitting HIV while also having an STI (ref), the low percentage response needs to be the target of an STI education strategy.

In summary

Based on these results, the content and targeting of the prevention and wellness initiatives were included in the BCM strategy in the Annexure. In addition, the viability of the proposed prevention initiative will be able to assessed, (see Chapter 7).

Voluntary Counselling and Testing (VCT)

chapter 6

Introduction

Nine out of ten people in South Africa have not had an HIV test. Most of these people believe that they are HIV positive. Research shows that voluntary counselling and testing (VCT) is the most effective intervention in reducing the risk of HIV to the organization and the individual. VCT is a win - win for the organization and the individual. Employees who know their status can enter treatment if infected and remain healthy for longer, or if HIV negative can change their lifestyle to avoid getting infected. VCT is a cost effective and important vehicle to encourage those who are HIV negative to stay negative. This is a very important prevention strategy where a large percentage of the workforce is HIV negative.

As HIV is a manageable chronic disease it is unethical to conduct an HIV prevalence study without giving the individual the opportunity to get their results and seek treatment. For this reason the inclusion of the VCT programme in conjunction with the HIV prevalence study was appropriate. (See Figure 6.1)

6.1 Method

6.1.1 Ethical issues in this study

HIV and its presence, discovery, disclosure and treatment, are life and death issues. The study and VCT campaign was subject to medical protocol and legal control. The VCT programme adhered to the most stringent ethical and procedural standards as recommended by the US Center for Disease Control (CDC) and the World Health Organisation (WHO).

Epicentre's VCT Campaign protocol is based on :

- High accuracy
- Total anonymity
- Total confidentiality
- Pre- and post-test counselling
- Informed consent

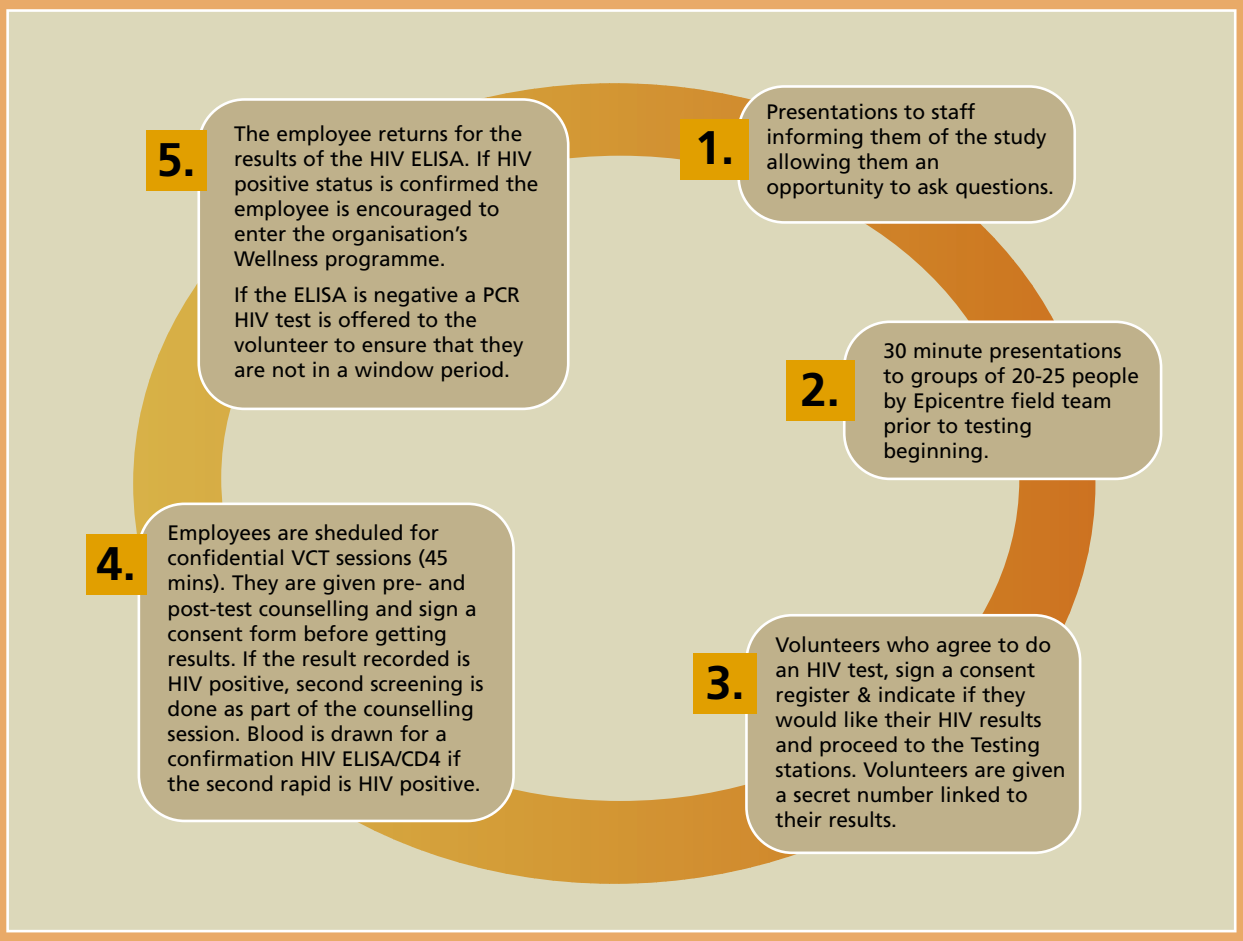

Figure 6.1 *Methodology for HIV prevalence study linked to VCT*

6.1.2 Secret number

As described in Chapter 3, at the time of doing the HIV test the test result was linked to a secret number, see Figure 6.2. The photograph shows the small enveloped that the rapid test is put into and a white card. Both have the same secret number on them. The volunteer was given a VCT card (white card in photograph) with their number and instructions on how to proceed to get their results. No names were linked to the HIV results.

A master list of secret numbers and test results was generated after the study was complete. Those tested were encouraged to come back for their results in a private confidential counselling session.

Figure 6.2

During the VCT counselling session the VCT counsellor linked the volunteer's VCT card number to the master list and gives the employee their results. The counselling sessions lasted between 30 minutes (for someone who already knew their status and/or has few questions) to an hour (where the person had lots of questions or an HIV positive result).

In calculating the VCT days required for counselling the following formula was applied.

Employees wanting results x 30 mins / 8hours = VCT days

Where: E= Number of employees wanting VCT results
VCT days = number of VCT counselling days required

6.1.3 Consent form

Before any results are given it is important that the employee provides written consent. A standardized consent form was customized for Buffalo City. The employee was asked to sign the consent form before the counselling session began and they were then given their result linked to the secret number on their VCT card.

6.1.4 Staffing of the VCT

Only qualified experienced VCT counsellors were used to counsel and give employees their results. Epicentre prefer to use professional nursing sisters as VCT counsellors as they are able to draw blood for an ELISA confirmation test and are also better equipped to answer difficult employee questions. Counsellors are informed in training of the specific resources available to those who are HIV positive at BCM.

6.1.5 Setting up, planning and the logistics

The planning of the VCT logistics is very important and this is where most programmes fall down. It is important to have appointments set up with the VCT nurses so that the nurses time is used efficiently. The project team tends to expend energy on the prevalence study and only focuses on VCT after the study has been completed. In the Buffalo City study the setting up of appointments and communication of the VCT venues and procedures was less efficient than it could have been.

Before the prevalence study begins the project team must decide on the counseling venues. They need to be private, sound proof and have lockable doors. The venues should also be equipped with tissues and a jug of water and glasses.

6.1.6 Second screening test

Epicentre's protocols call for a second screening HIV test to be undertaken for all those who have HIV positive results with the first rapid test. The rapid test used should be a different type of HIV test brand to reduce the likelihood of an error. The employee is told that their test result in the master list indicates an HIV positive result but that it is necessary to undertake a second test incase of an error.

6.1.7 Confirmation test

If the second screening test also indicates an HIV positive result then the nurse asked the employee if they consent to her drawing blood for an ELISA confirmation test. The employee was further counselled and requested to return after 3 days for the result of the confirmation test. The employee was encouraged to agree to sign a second consent form so that they could be enrolled on Buffalo City's Wellness programme.

6.2 Results of the VCT

- On the day of initial testing, 82% of the sample said that they would come back for their HIV test results
- Over a half (57%) actually returned for their results
- 9% of those who came for their results were HIV positive
- 9% of the people who returned for their results had a CD4 of less than 200.

The employees showed a high interest in getting their results indicated by the 82% indicating that they wanted to get their results (shown in Table 5.1). The lower percentage (57%) who actually received their results can in part be accounted for by the logistical problems experienced in setting up the VCT appointments at multiple depots across the city. The prevalence in the group of those getting their results is very similar to the overall prevalence in the study, and the finding that 9% of those who were HIV positive being in Stage 4, is also an expected profile.

	Number	%
Sample number	1115	
Attended training sessions	1038	
Total HIV+ in the sample	103	
Requested VCT	855	82%
Received VCT	592	57%
HIV + who came for VCT of 592	53	9%
% of HIV+ with CD4 below 200	5	9%

Table 6.1 *VCT take up and results*

6.3 Lessons learned

6.3.1 Benefits of doing VCT

The prevalence study benefits the organization while the VCT campaign benefits the individual. 91% of employees who came back for their results had a CD4 of above 200.

For those who are HIV positive, and who establish their status early before they have AIDS (before their CD4 reaches 200) they can:

1. Learn more about the virus and how it affects their bodies
2. Learn to look after their health so that they can stay as healthy as possible for as long as it is possible
3. Get information and counselling regarding how to live positively with the virus
4. Learn to recognize the signs of opportunistic infections, so that they can treat them promptly
5. Find out what resources are available in their communities and workplaces to help manage their HIV status

6. Get prophylactic drugs which do not cure, but can prevent them getting opportunistic infections like TB and pneumonia
7. Access Nevirapine for pregnant mothers
8. Get emotional support (individually and through peer groups)
9. Make sure that they don't infect anyone else or get re-infected
10. Learn how to manage stress.

For the majority of employees, who are HIV negative, (91% of employees who came back for their results were HIV negative), research shows that VCT will motivate them to stay negative.

6.3.2 Problems to watch out for

1. The objective of the prevalence study is to obtain a high participation level in testing. The emphasis is not on VCT take-up. Therefore the VCT campaign needs its own VCT marketing drive after the prevalence study is complete. This study could have improved in marketing of the VCT process.
2. The importance of the VCT campaign could have been promoted more effectively with the BCM managers. In particular attention could have been given to both the expected benefits and the procedures to be followed. Some mangers were reluctant to release their employees from work to be able to participate in VCT because they did not understand what was required.

6.3.3 Lessons learned from other studies

1. If an HIV prevention education programme (like peer education) has been run before the VCT Campaign, the VCT take-up will be much higher as people are less frightened of getting their results. With no peer education the VCT take-up averages 50%, with good peer education it averages 80%.
2. Organizations which chose to undertake a full workforce prevalence study rather than a sample of the workforce have success in linking the study to VCT. This increases the rate of take-up of VCT.

The Cost of HIV/AIDS in the workforce of Buffalo City Municipality

chapter 7

7.1 Aim

The aim of the study is to assess the costs to BCM of HIV in the workforce in order to inform the development of a BCM HIV employee strategy

7.2 Introduction

In recent years, municipal governments have lagged behind large private sector employers in developing strategies and programmes to lessen the risks and costs associated with HIV/AIDS in the workforce. One barrier to action at the level of local governments has been lack of information. Little research has been done on the impact of HIV/AIDS on municipalities in South Africa. Without credible information about how the epidemic will affect labour costs and service delivery capacity, it has been difficult to muster the resources or political will for a strong municipal-level response or to allocate funds for HIV programmes efficiently.

In 2003, recognising the urgent need for accurate local-level information, the Council of Buffalo City Municipality (BCM) in the Eastern Cape invited the Center for International Health and Development (CIHD) at Boston University in the U.S.A. to undertake a study of the costs to BCM of HIV/AIDS in the workforce. The HIV prevalence study undertaken by the MRC provided the data necessary for this cost analysis. This chapter describes the methodology used for the study and presents its results.

7.3 Methods

7.3.1 Conceptual Framework

The first step in understanding the potential financial impact of HIV/AIDS on an organisation – whether a private company or a government department – is to identify all the possible types of costs the organisation will bear when an employee becomes sick or dies of AIDS. Figure 7.1 below illustrates the various costs to an employer of HIV/AIDS in the workforce. The analysis focused on the costs associated with individual BCM employees with HIV/AIDS (upper half of Figure 7.1).

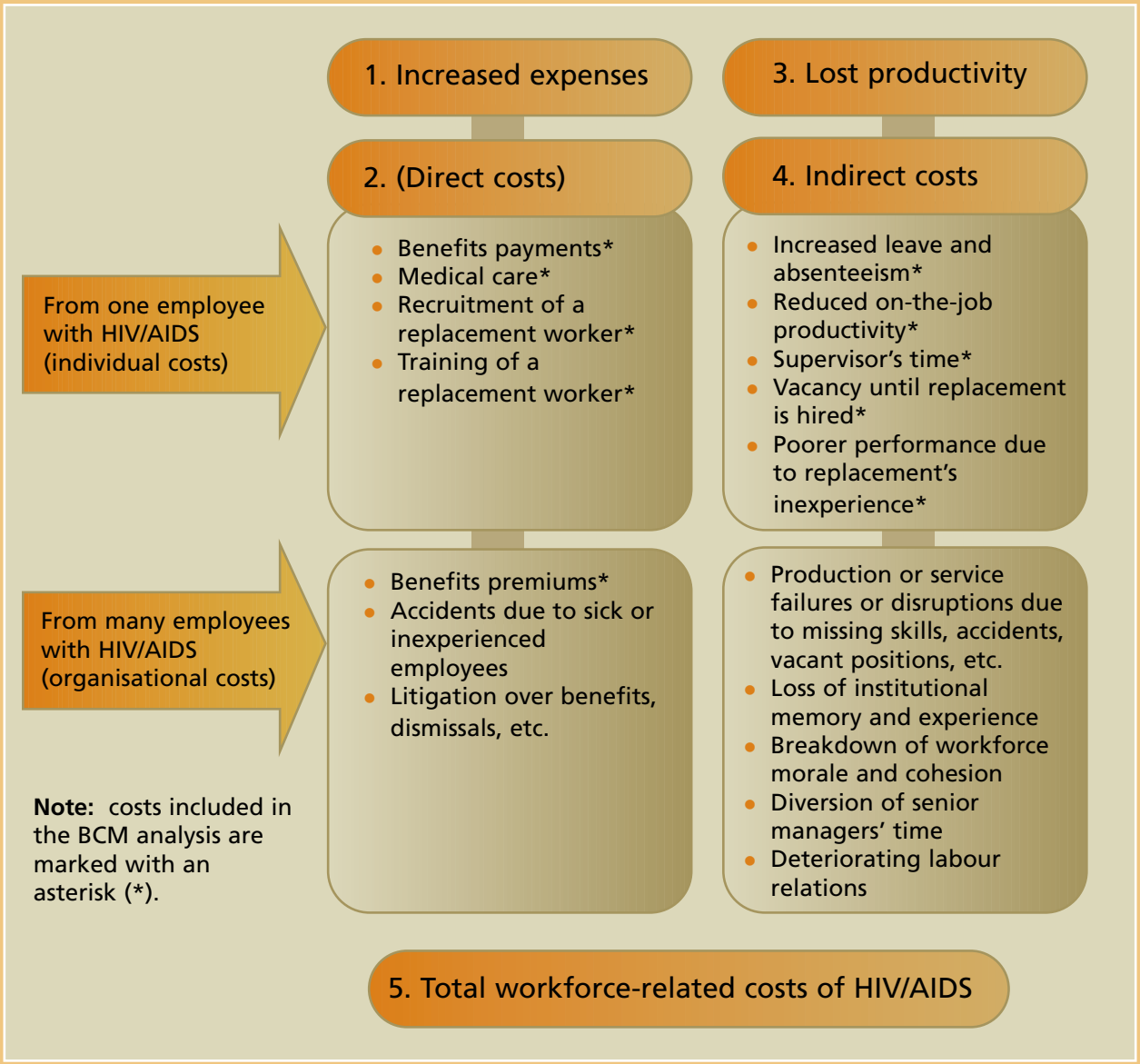

Figure 7.1 *Costing conceptual framework*

Increased expenses or "direct costs" (left column) are recurrent operating expenses for BCM. Those that arise from individual cases (upper left quadrant) are relatively predictable and easy to measure. Those that stem from multiple cases (lower left quadrant) are less predictable and require data that few organisations have. Lost productivity or "indirect costs" (right column) are reductions in productivity resulting from HIV/AIDS. They are difficult to measure, since the productivity of an individual worker in most organisations is very difficult to observe and may depend on the performance of an entire team. Hardest of all to quantify are the productivity losses resulting from multiple cases of HIV/AIDS (lower right quadrant). These include such impacts as diminishing employee morale, the disruption of established work teams, the reduced efficiency of a workforce that has less experience and probably less skill, an increase in labour disputes as benefits and job security come under pressure, and the burden imposed on managers who must cope with worker illness and deaths. Most of these costs are hidden, and in some cases they will not become evident until the epidemic is further advanced.

Once all the types of costs that might arise due to HIV/AIDS have been identified, their associated time frame must be determined. The long lag time between infection with HIV and death from AIDS – 8-10 years on average if no antiretroviral therapy is available – makes this disease different from almost any other health problem an organisation, or a society, might face. Below is a timeline that reflects the natural progression of the disease, when treatment is not available, see Figure 7.2. Although the costs are incurred over a long period of time and usually do not begin until 5 or more years after infection, an employer like BCM acquires the liability for that stream of future costs from the moment the employee is infected with HIV. As long as the employee remains in BCM's workforce and does not have access to effective treatment, these costs are inevitable. BCM is now bearing the costs of HIV infections that were acquired by employees as long as a decade ago.

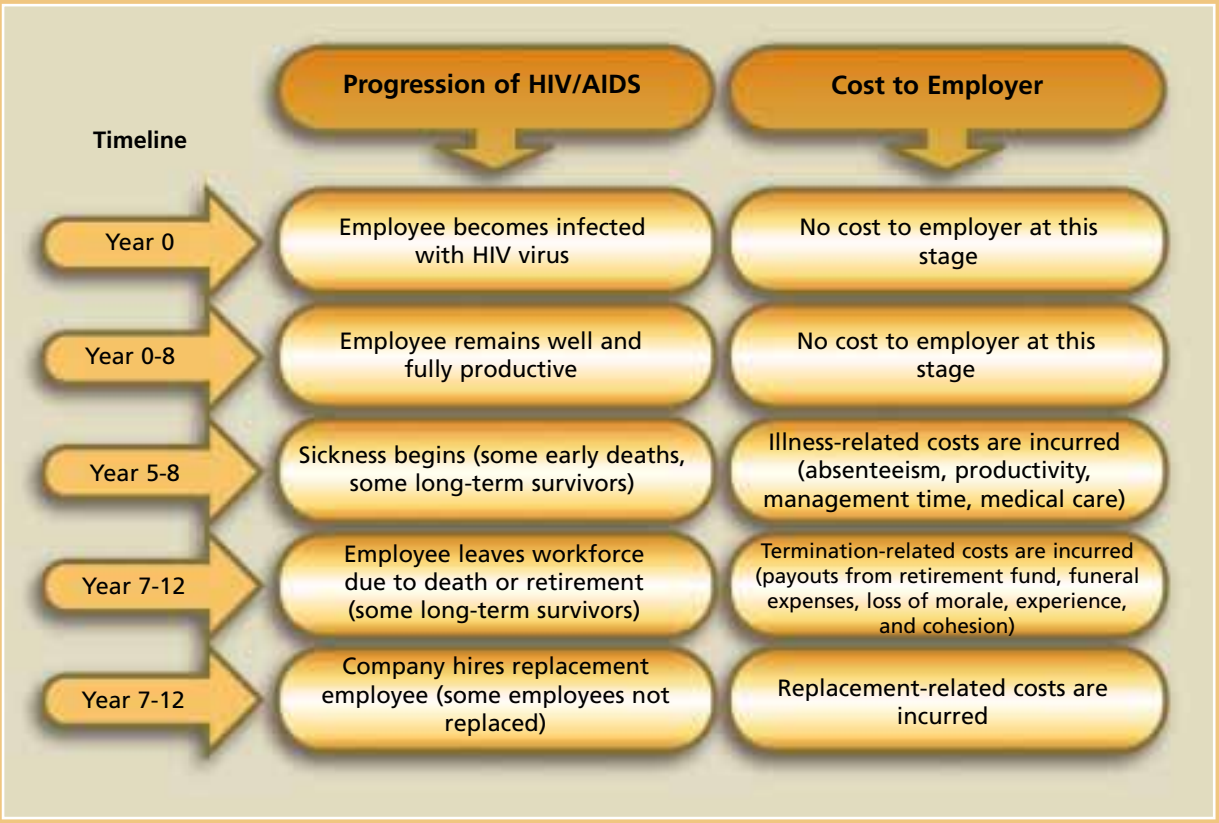

Figure 7.2 *Timeline of progression of HIV/AIDS in an employee and the associated costs to the employer*

7.3.2 Cost estimates

For each employee who dies in service or is retired on disability due to HIV/AIDS, the costs incurred by BCM while the employee is ill, when he or she dies or retires, and while a replacement is being hired and trained, were estimated. Data from Buffalo City's human resource (personnel) database, as well as interviews with BCM managers and information from private sector companies and published source were used.

Direct costs include the additional out-of-pocket expenses BCM incurs as a result of HIV/AIDS in its workforce, while indirect costs represent output that is not produced or services not delivered because employees are absent, are less productive when at work, or have to reallocate time to HIV/AIDS supervision and management activities while away from their core jobs. In order to incorporate indirect costs in the estimates, monetary values needed to be estimated for the loss of output associated with leave and with diminished performance. In BCM, the most common way to compensate for long-term or repeated bouts of sick leave among permanent employees is to hire temporary workers. If these temporary workers, who are paid at the same basic rate as permanent workers, are just as productive as the permanent staff they replace, then absenteeism will cause little or no overall decline in service delivery. While it is unlikely that temporary workers are always as productive as permanent workers, there is no way to gauge any losses in performance that result. For this strategy a day of absenteeism was estimated conservatively at the daily wage rate of a temporary worker (in other words, we assumed that the same amount of work gets done when a permanent employee is absent, but the municipality pays twice for that work). Other productivity losses were valued in the same way.

Once the estimated cost per death or retirement had been established, it was multiplied by the number of AIDS-related deaths and disability retirements BCM was expected to suffer in 2004, in the absence of an effective treatment programme. This number was based on the results of the HIV prevalence survey described earlier in this report.

7.4 Results

In 2003, when data for this study were collected, BCM had 3,796 permanent employees. The workforce was three quarters male. The average age of permanent employees was 44, indicating an unusually small number of younger workers. For the analysis, the workforce was stratified into sub-groups based on job level, gender, race, and age. Since both the cost of a case of HIV/AIDS and the prevalence of HIV infection vary among these groups, the stratification allowed the researcher to make a more accurate estimate of overall costs.

7.4.1 Specific Costs

The table below, Figure 7.1, shows the direct and indirect costs included in the analysis, a brief description of how they were estimated, and a summary of findings.

Type of cost	How it was estimated	What was found
Retirement, death, disability, and group life benefits	Almost all BCM employees belong to a defined contribution provident fund, and BCM has capped its contribution to the risk (death and disability) component of the fund. There should therefore not be any additional cost to BCM as a result of AIDS-related claims. Many employees also belong to a group life insurance scheme, for which BCM contributes 50 percent of the premium.	The cost for each employee dying of AIDS was assumed to equal 50 percent of the scheme payout to the employee's beneficiaries, weighted by the probability that an employee in each sub-group was covered by group life.
Medical care	In 2003, 6% of semi-skilled employees, 63% of skilled employees, 77% of supervisors, and 83% of managers belonged to one of BCM's medical aid schemes, for which BCM pays 60 percent of the premium. Premiums could be expected to increase if HIV/AIDS-related illness caused an increase in medical aid claims.	BCM has capped its contributions to employees' medical aid premiums at approximately R1 950/month, and there should therefore not be any additional cost to BCM as a result of AIDS-related medical aid claims.
Recruitment and training of replacement	Employees lost to HIV/AIDS must be replaced, and the replacement employees must be trained. The Personnel Manager estimated the direct costs of recruiting and training a new employee at each level of the workforce. (Direct costs include travel for interviews, search firms, application processing, course tuition, etc.)	Recruiting costs an average of R700 for semi-skilled workers, R4300 for skilled workers, R9 500 for supervisors, and R18 700 for managers. Training costs an average of R1 200 for semi-skilled workers, R4 000 for skilled workers, R9 000 for supervisors, and R13 000 for managers.
Leave and absenteeism	Employees with HIV/AIDS are absent more often than are other employees. Using BCM's computerised attendance records for the past three years.The researcher compared the amount of leave of all types taken by employees who died in service of natural causes (primarily AIDS-related) to the amount of leave taken by all other employees.	Employees who died in service of AIDS-related causes took 18 days more sick leave in their last two years of service than did other employees. Employees who were retired due to ill health took 113 days more sick leave in their last two years of service. There were no differences in other types of leave.

Table 7.1 *Costs, estimate of cost and findings*

Type of cost	How it was estimated	What was found
On-the-job productivity loss	HIV/AIDS-related illnesses cause HIV positive employees to be less productive on the days they come to work than they would otherwise have been. There is no way to measure this directly in most workforces, so the immediate supervisors of employees who died in service of natural causes were asked to complete a questionnaire about the employee's performance in his or her last two years on the job. Not being able to use the questionnaire in BCM, the average of the responses from several private sector companies studied were used.	The average reduction in productivity associated with HIV/AIDS was 39 percent in the first year before death or medical retirement and 10 percent in the second year before.
Supervisor's time	Supervisors of employees with HIV/AIDS must generally spend some time taking care of the employee, adjusting other employees' schedules to compensate for additional absenteeism, and processing the paperwork needed for medical retirement or funeral arrangements. The questionnaires described in the section on productivity loss above include a question about the amount of supervisory time required. Since no questionnaires from BCM were forthcoming, the average values obtained from several private sector companies studied were used.	Supervisors reported spending an average of 12.7 days per HIV-positive employee, almost all of it in the employee's last year of service.
Vacancy and interviews	After an employee dies, no one is working while the position is vacant, which results in a loss of productivity, and managers must spend time interviewing replacement candidates. BCM's personnel manager was interviewed to obtain estimates of average durations of vacancies at each job level and the number of days of managers' time needed to fill a typical position.	Vacancies average 2 months for semi-skilled workers, 3 months for skilled workers and supervisors, and 4 months for managers. One day of non-recruiting staff time is required per hire in all job bands.

Table 7.1 *Costs, estimate of cost and findings*

Type of cost	How it was estimated	What was found
Replacement inexperience	When a replacement employee is hired, it usually takes some time for him or her to gain experience in the new position. BCM's personnel manager was interviewed to obtain estimates of how long this takes at each job level and how productive a new employee is during that period.	Depending on job level, it takes 1-3 months for new employees to come up to speed, and they are about 50% productive during that period. New employees spend between 2 and 10 days in training courses and require between 6 and 30 days of time from an on-the-job trainer.

Table 7.1 *Costs, estimate of cost and findings*

7.4.1 Cost per AIDS-related death or retirement

The average cost per AIDS-related death or retirement (i.e. the actual costs incurred in an HIV-positive employee's last two years of service) for a typical male employee aged 35-49 are shown in figure 7.2 below. The values above the columns are the cost taken as a multiple of the average salary in that job band. For example, the cost of losing a supervisor to HIV/AIDS is equivalent to 2.8 times the average annual salary in that job band.

Figure 7.2 *Cost per AIDS-related death or retirement (males 35-49)*

The distribution of the costs shown above varies by job band. For semi-skilled workers, who comprise two thirds of the BCM workforce and account for the great majority of HIV infections, the distribution is shown below in Figure 7.3. For comparison purposes, the distribution for supervisors is shown in Figure 7.4.

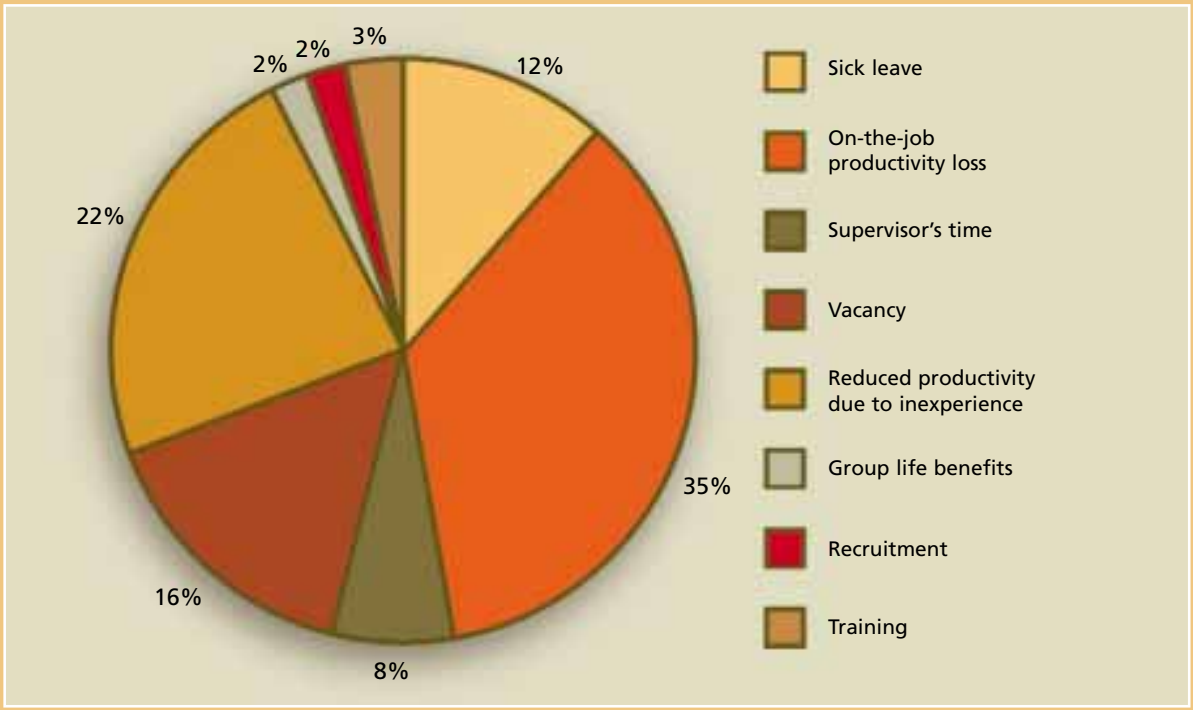

Figure 7.3 *Distribution of the cost per AIDS-related death or retirement for semi-skilled workers*

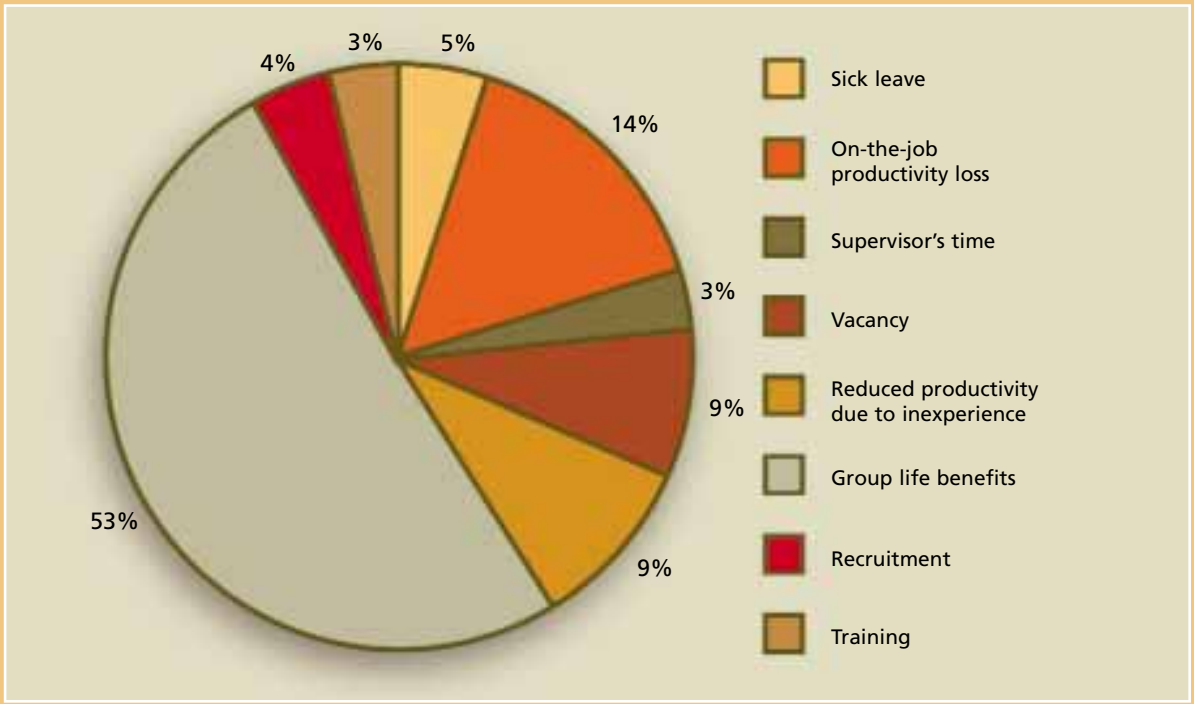

Figure 7.4 *Distribution of the cost per AIDS-related death or retirement for supervisors*

7.4.2 Total Cost in 2004

Drawing from the results of the BCM/MRC study described in Chapter 4, the prevalence estimates were used to calculate the total cost to BCM of HIV/AIDS in the workforce in 2004.

In the model for the cost assessment, specific costs are incurred each time an employee dies or is placed on ill-health retirement. The prevalence survey indicated how many employees were HIV positive, but modeling was needed to "translate" survey results into estimates of AIDS-related mortality. The most widely used model in South Africa is that produced by the Actuarial Society of South Africa (ASSA). The newest version of the ASSA model, (ASSA, 2002), indicates that in 2004, approximately 10 percent of HIV-positive South Africans reached the final stage of the disease (stage 4), when AIDS is diagnosed (ASSA, 2004). Since the average time interval from an AIDS diagnosis to death is one year or less, unless effective treatment is received, it was assumed that 10 percent of HIV positive Buffalo City employees would die of AIDS-related causes in 2004. The modelled number of AIDS-related terminations in 2004 in each job band is shown below in Figure 7.5.

Figure 7.5 *AIDS-related terminations anticipated in 2004, by job band*

In 2003 BCM was losing roughly 35 employees to AIDS per year. When deaths among employees' dependents are added to this, it is likely that employees and their families were experiencing at least one or two AIDS-related deaths per week.

To estimate the total cost of these terminations in 2004, the cost per AIDS-related termination was multiplied by the number of terminations expected in each job band and employee category. The results are shown below in Figure 7.6. The percentages above the columns show the costs as a proportion of the total salary and wage cost for the job band. For example, the cost to BCM of AIDS-related terminations of semi-skilled employees in 2004 was equivalent to 1.3 percent of the total annual wage bill for all semi-skilled employees.

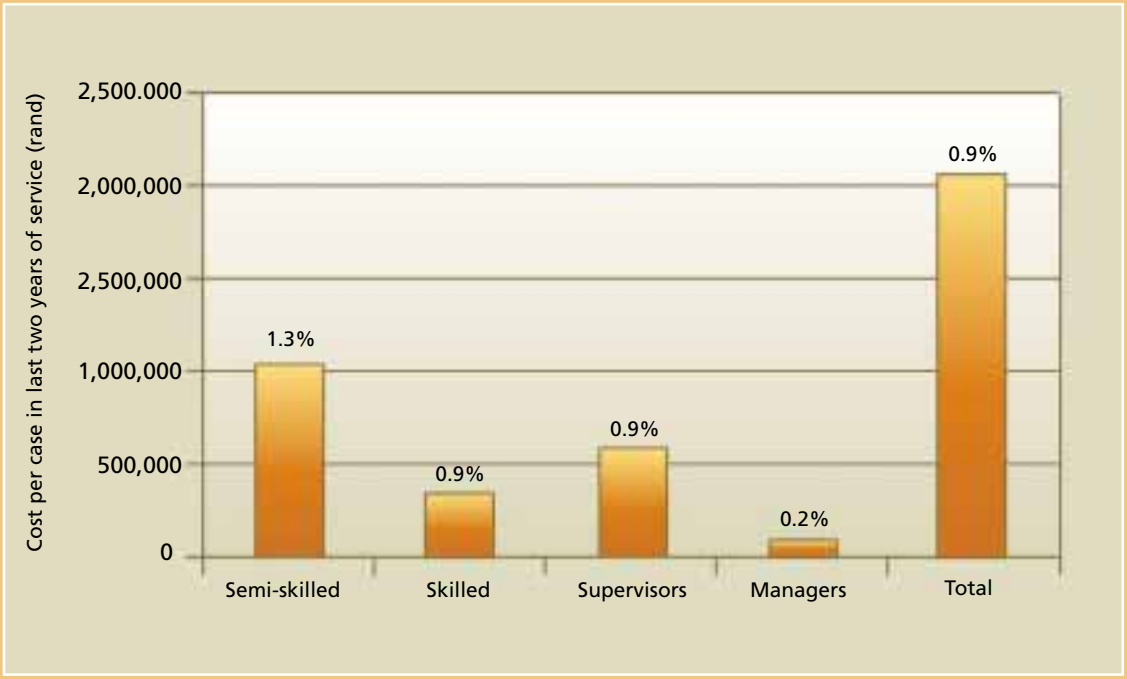

Figure 7.6 *Total cost to BCM of AIDS-related terminations in 2004*

The overall cost to BCM, 0.9 percent of salaries and wages, represents a modest increase in labour costs. This is due largely to the fact that the great majority of AIDS cases will be among semi-skilled workers, for whom the cost per employee lost to AIDS is quite low. AIDS-related mortality is on an upward curve in South Africa. BCM can expect its costs to rise steadily for at least the next five years, unless an effective treatment intervention is introduced or costs are contained in other ways.

7.5 Benefits of HIV/AIDS prevention and treatment

One purpose of a cost assessment is to help an organisation understand the potential benefits of spending more on HIV prevention and HIV/AIDS treatment. The costs estimated, resulting from the illness, death, and replacement of an employee due to HIV/AIDS, can be avoided – or at least postponed – by effective prevention and treatment interventions.

The net benefits of preventing an HIV infection at any level of the workforce are the "avoided costs" of that infection, minus the cost of the prevention programme itself. Among skilled workers, for example, Buffalo City will ultimately save between R150 000 and R200 000 for each employee who does not become HIV positive. Although we do not know enough about the effectiveness of prevention activities to conduct a quantitative analysis for BCM, it is clear that at least some interventions are effective. An aggressive programme of HIV prevention activities, including STI case management, voluntary counselling and testing, education, social support, and condom distribution is very likely to prevent some HIV infections among BCM employees, though is difficult to estimate how many.

As the cost of antiretroviral drugs has fallen in the past two years, providing antiretroviral therapy to employees and dependents has become a viable option for many employers in South Africa. By providing enhanced care and antiretroviral therapy to HIV positive employees, BCM can reduce the illness-related costs of the disease (absenteeism, hospital care, etc.) and push the termination-related costs (benefits, replacement) further into the future. Depending on the long-term effectiveness of the treatment and the age of the employee, these end-of-service costs might be avoided entirely.

To see what the benefits of such a programme might be for BCM, the net value of these savings was calculated, for a hypothetical treatment programme in which treatment costs R3,250 per patient per year and extends working life an average of 5 more years. (Further assumptions are detailed in the costing report (Rosen, 2004)). While keeping in mind that this example is for illustrative purposes only, Figure 7.7 below shows the costs to BCM per employee with and without treatment.

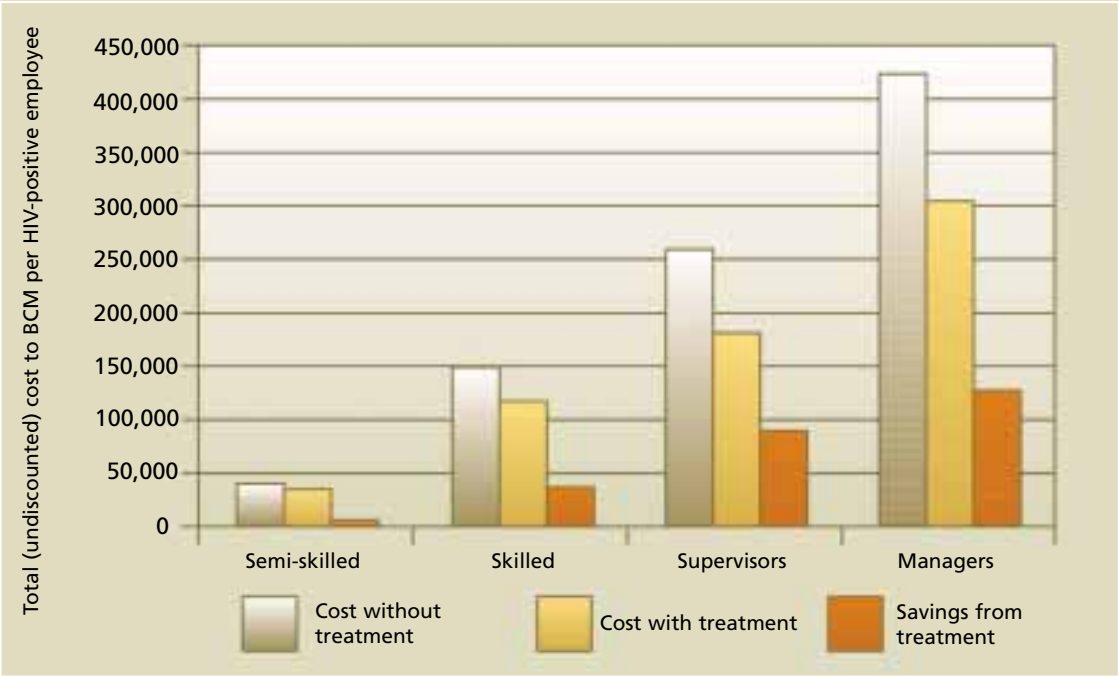

Figure 7.7 *Potential savings per employee treated (males 35-49)*

The "savings from treatment" category shown above is the difference between the "treatment" and "no treatment" scenario for each employee who is treated. In this illustration, Buffalo City will be better off financially if it pays for antiretroviral therapy, even for semi-skilled employees.

With the announcement in 2003 of a national public sector treatment programme for HIV/AIDS and the progress toward public provision being made in some provinces, it is possible that some time in 2005 some or all BCM employees will have access to antiretroviral therapy from public sector facilities. While Buffalo City could wait for the Eastern Cape Province to take action, there are compelling reasons for the Council to consider securing access to treatment for its own employees now. First and foremost, it may be several months or even years before the provincial programme reaches all communities. Public clinics are likely to have very long waiting lists, and some patients may be turned away entirely. There are also likely to be long queues at public facilities. Absenteeism caused by the treatment programme itself may become problematic, and the need to miss work to wait in line may compromise individual confidentiality.

In summary

Beyond the financial benefits, other benefits of investing in treatment and care are that it:

- buys time for drug prices to fall, for medical and social science researchers to develop new treatments, and for public infrastructure for treating HIV/AIDS to be expanded.
- reduces the time BCM managers must spend coping with employee deaths and high turnover rates.
- reduces the impact of HIV/AIDS on morale, motivation, and discipline across the entire workforce.
- stems the loss of skill and experience from the workforce.
- creates more time for the municipality to implement strategies to cope with the epidemic.
- Allows BCM to respond compassionately to the crisis facing many of its employees.

To assess the costs to BCM of HIV in the workforce to inform the development of a BCM HIV employee strategy

chapter 8

Process of developing the BCM HIV strategy

Introduction

In striving towards its objectives, mission and vision, Buffalo City Municipality (BCM) is committed to protecting and supporting its employees and communities in the fight against HIV/AIDS. BCM is the first local government authority in South Africa to undertake commissioned research into employee HIV prevalence rates and the economic impact of HIV/AIDS on the municipality as an employer. A consultative process was carried out in June-August 2004 which aimed at the development of the BCM HIV/AIDS Cross-cutting strategy for 2004-2006 and an accompanying Action Plan for a shorter period, 2004-2005.

8.1 Aim

The aim of the BCM Strategy is three-fold namely:

1. To minimize the rate of new HIV/AIDS infections in BCM's workforce and communities;
2. To maximize the level of prevention, treatment, care and support to employees and communities already infected and
3. To mitigate and manage the impact of the epidemic on individuals, families, communities and the Council workforce.

8.2 Strategy

The strategy was developed through various activities and processes. These included a desktop literature review, commissioned research and study tours to peer municipalities with recognized internal and external programmes. Politically the strategy is championed by the Special Programmes Portfolio Holder in BCM and administratively by the City Manager.

A number of workshops were held with all departments in order to develop action plans to address HIV in the BCM workforce and in the community served by BCM. These were facilitated by an external facilitator, SACN, the research team and management (for further details see Chapter 9). The purpose of the strategy is to provide a guiding framework for BCM's cross-cutting response to HIV/AIDS as a service provider and an employer. The document is aligned with the National HIV/AIDS Strategy 2000-2005, the Eastern Cape Framework for Growth and Development 2004-2014 and the BCM Integrated Development Plan (IDP) 2004/5.

The strategy, presented in the Annexure, has three main focus areas.

An **Internal Strategy Plan** will focus on a BCM Employee wellness programme, which aims to develop and implement a comprehensive HIV/AIDS workplace program focusing on prevention, treatment, care and support. The thrust of the programme will be peer education and encouraging the uptake of VCT. The programme will make provision for employees who are both infected and affected by HIV.

An **External Strategy Plan** will focus on providing the broader BCM community with access to a package of HIV/AIDS prevention, treatment, care and support by means of Community One-Stop Centres. These centres will enable communities to access a number of service providers under one roof through partnerships for the provision of social and health support services. Further to this, the strategy makes provision for a Primary Health Care HIV Package which entails the establishment of a dedicated VCT nodal site per BCM-managed Primary Health Care Clinic thereby encouraging access to VCT as an entry point to managing HIV.

In order for BCM to mitigate the impact of HIV on the organisation as an employer and service provider, the **strategy aims to mainstream the HIV programmes** into the daily workings of all BCM's departments so as to promote strategic planning and ensure the sustainability of the municipality.

The strategy makes provision for two forums to assist with the implementation, monitoring and evaluation of the strategy. These are the Interdepartmental Forum for dealing with HIV within the organisation and the Intersectoral Forum for coordinating programmes and initiatives in the broader community. Both enjoy the highest political and administrative commitment. The strategy relies on partnership formation and the sharing of knowledge, skills and resources including the South African Cities Network, Sida and the VNG, a Dutch local government development agency.

chapter 9

Lessons learned

A number of lessons have emerged from the study which would be of use for others considering embarking on a similar process. A number of useful ideas can be found in the preceding chapters. Further lessons learned and best practce are also available on www.afroaidsinfo.org/public/Policy/localresponses/localworkplace .htm. This section serves to identify key lessons under generic themes, namely project uniqueness and credibility, leadership, planning and the process of participation.

9.1 Project uniqueness and credibility

The study was innovative in a number of ways. Key to the study were the following features:

1. The combination of an HIV prevalence study (with a KAP) and VCT provided a good launch pad for HIV/AIDS status awareness and for the profile of HIV being raised in the organisation.
2. The parallel HIV prevalence study and the costing analysis provided the local authority with key information on the impact of HIV on the workforce and the financial implications.
3. This allowed the BCM strategy to be prepared quickly after the results came out and provided the financial motivation for the importance of including prevention and treatment as part of the BCM HIV strategy.
4. A combination of support from a number of funders and the involvement of external agencies also contributed to the profile and success of the initiative.

9.2 Leadership

BCM took the lead both politically and through senior management. The commitment and goodwill of the BCM team was critical to the success of the participation in the HIV study. Further, the politicians and management were open to the results and ideas emanating from the findings. This further enhanced the commitment to participation in the development of the BCM strategy by all departments after the results had been presented. Realising the importance of HIV, management displayed further leadership by committing a staff member and resources to co-ordinate the development and the ongoing management of the BCM HIV strategy.

9.3 Planning

The planning team from BCM and the researchers worked well together in setting up the study and making all the necessary logistical arrangements. The goodwill and commitment of all parties to the success of the research meant that when there were misunderstandings, these were quickly ironed out. Further, the researchers made as much technical information available as necessary so as to ensure that the best decisions were made.

The involvement of all key role players and departments in the setting up and planning workshop led to a sense of enthusiasm through the development of the strategy. As a result, all staff members were advised about the HIV prevalence study before the sampled group had even been identified. The BCM communications team provided posters and information though the internal electronic mail system.

During the study, management was kept informed of daily progress by emails. Further, through the process much goodwill and the commitment of a range of staff members was generated.

9. 4 The process of participation

The process set up to plan the study with the key role players, provision of information as well as education were seen to be important factors resulting in a high take-up of HIV testing and VCT.

The involvement of representative of all the departments in the planning of the strategy in August 2004 proved to be a way to help each service department to identify the impact of HIV on their responsibilities and therefore to get their support for the overall strategy and thereby to mainstream HIV within the municipality.

It is hoped that the identification of lessons learned will help other local authorities in undertaking successful research as a way to inform their HIV strategies.

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Resources

This report background documents and further details about HIV/AIDS and local government can be accessed at:

www.afroaidsinfo.org/public/Policy/localresponses/localworkplace.htm

The following websites offer a range of HIV/AIDS related material:

www.mrc.ac.za/healthdevelop/hiv

www.alp.org.za

www.dpsa.gov.za/healthchannel/strategy/policy.htm

www.buffalocity.gov.za

www.afroaidsinfo.org/public/Policy/localresponses/

www.bu.edu/dbin/sph/research_centers/cih_impact_hiv.php

www.epicentre.org.za

www.cadre.org.za

www.sacn.org.za

Annexure

BCM HIV/AIDS strategy 2004-2006

Introduction

In striving towards its objectives, mission and vision, Buffalo City Municipality (BCM) is committed to protecting and supporting its employees and communities in the fight against HIV/AIDS. BCM therefore dedicated its resources to a consultative process carried out in June-August 2004 aimed at the development of an HIV/AIDS Strategy for 2004-2006 and an accompanying Action Plan for 2004 – 2005.

1 Aim

The aims of the BCM HIV/AIDS strategy are three-fold. The strategy is designed:

1. To minimise the rate of new HIV/AIDS infections in BCM's workforce and communities;
2. To manage and reduce the impact of the epidemic on individuals, families, communities and the Council workforce, and;
3. To maximise the level of prevention, treatment, care and support to employees and communities already infected.

2 Strategy

The strategy has developed through various activities and processes. In order to comply with relevant legislation a literature review was done, and study tours to peer municipalities with recognised internal and external programs were undertaken.

Acting on the need to obtain accurate local-level information, BCM commissioned various research studies. The Medical Research Council conducted a BCM HIV Prevalence and KAP (Knowledge, Attitudes and Practice) Study to help BCM design an appropriate response to HIV/AIDS in the workplace. The Centre for International Health and Development (CIHD) at Boston University undertook an Economic Impact study of costs to BCM of HIV/AIDS in the workforce.

The Prevalence Study provided BCM with reliable prevalence data as a basis on which to plan interventions. Results show that HIV prevalence amongst BCM

employees is 10.3%, therefore nearly 90% of BCM's workforce is currently HIV negative. Results of the economic impact study show that the cost to BCM per employee lost to AIDS averages two years' salary, and the total cost to BCM represents 1-2% of labour costs. Prevention and treatment are therefore both profitable investments for BCM, and an aggressive strategy combining education, VCT, improved care, and treatment with anti-retroviral therapy (ART) is financially justified.

Following the conclusion of the above studies, workshops were held with stakeholders from the BCM workforce and the community in order to flesh out a plan for the implementation of the strategy's goals, as well as monitoring and evaluation. The final result is a strategy designed to accomplish the following:

- To mainstream its HIV programs into the daily workings of all BCM's departments to promote strategic planning and ensure the sustainability of municipality
- To promote the health and well-being of BCM employees to ensure consistent and sustainable service delivery
- To contribute to the creation of the conditions under which the mission of the municipality can be realised.

It is based on the establishment of creative partnerships that will allow for the delivery of a comprehensive range of services covering the full continuum of prevention, treatment, care and support.

The report provides the background, outlines the proposed vision goals and strategy and specifies the funds necessary to implement the strategy.

3 Problem statement

HIV/AIDS is a large and growing threat to Buffalo City Municipality's ability to be a productive, inclusive, sustainable and well-governed city,[ii] and is considered to be a strategic priority because of its potential to undermine development and exacerbate deep poverty.

4 Background

The purpose of this strategy is to provide a guiding framework for BCM's cross-cutting response to HIV/AIDS in its capacity both as a service provider and as an employer. The document has been drafted in alignment with the National HIV/AIDS Strategy 2000-2005, the Eastern Cape Framework for Growth and Development 2004-2014 and the BCM Integrated Development Plan (IDP) 2004/5.

4.1 National impact of HIV/AIDS

The HIV/AIDS epidemic in South Africa is one of the most severe in the world. There are currently between 4 and 6 million people living with HIV/AIDS in South Africa.[iii] The national estimates of prevalence in the whole population in 2002 were between 11.4 and 11.8%[iv]; prevalence appears now to be levelling off in South Africa.[v] HIV infection is the greatest individual risk factor for TB and over half of TB patients are HIV positive[vi], highlighting the key role of HIV prevention in controlling the epidemic and the importance of integrated HIV/AIDS and TB care.[vii] In South Africa there were 494 TB cases per 100 000 people in 2002[viii], about the seventh highest prevalence in the world.[ix]

HIV/AIDS has been projected to undermine a number of development gains. By way of example, between 1998 and 2008, average life expectancy was expected to fall from about 60 years to 40 years, and it was projected that by 2005 there will be nearly a million children under 15 years of age who have lost their mothers to AIDS[x], and thereby formally classified as orphans.

The South African Bureau for Economic Research has estimated that by 2015, the labour force in South Africa will decrease by 21% due to HIV/AIDS.[xi] The projected reduced life expectancy, increasing numbers of orphaned children and the loss of skilled workers nationally are also anticipated to impact on the Eastern Cape and Buffalo City itself.

4.2 Local impact of HIV/AIDS

The Eastern Cape's socio-economic and health profile

As the second largest province in South Africa, the Eastern Cape is home to about 6,3 million people (15,5% total population of the country). It is generally seen as one of the two poorest provinces in South Africa, with an unemployment rate of 48,5% compared to the national average of 33.9%[xii]. The high rate of poverty and slow economic growth rate are important drivers of the HIV/AIDS epidemic. In 2002, the NM/HSRC Prevalence Study showed a 9.8% HIV prevalence rate (adults aged 15-49) in the Eastern Cape[xiii], while the current estimated rate is 12.7% (total Eastern Cape population).[xiv]

The national antenatal and NM/HSRC studies have shown that the Eastern Cape has a lower HIV prevalence than some of the other provinces such as KwaZulu-Natal and Gauteng, with 23,6% HIV prevalence in pregnant women in 2002.[xv] The lower prevalence rate could be due to the epidemic being at an earlier stage in the province, or due to different transmission patterns. The lower rate in the Eastern Cape province compared to other provinces should be seen as an opportunity to prevent further infections and thereby to restrict the rate of increase of the epidemic.

HIV/AIDS cannot be addressed on its own given the close association of both TB and sexually transmitted infections (STIs) to HIV infection levels. It has been established that over half of TB patients are HIV positive[xvi] highlighting the key role of HIV prevention in controlling the TB epidemic. South Africa has one of the highest TB rates in the world and in the Eastern Cape there were 672 TB cases per 100 000 in 2002, second only to the Western Cape (with 917 cases per 100 000).[xvii]

The treatment of STIs is an important strategy to reduce HIV transmission. It is estimated that up to 50% of STIs can be asymptomatic.[xviii] As a result, education is critical to raise awareness of the need for treatment of STIs so as to limit the potential additional risk of HIV transmission in the majority who are HIV negative. The Department of Health Ante-Natal Report (2002) showed a syphilis prevalence rate in pregnant women of 3,1%.

Buffalo City Municipality

Buffalo City Municipality is the second largest urban area in the Eastern Cape Province and operates as a local municipality in the Amatole District. It has an estimated population of 850 000[xix]. Between 1996 and 2001 the city showed a growth rate of just 0,6% per annum, which reflects poor environmental conditions and a declining economy.[xx]

Of BCM's population, 71% earn less than R1 500 (the household subsistence level) per month.[xxi] The official unemployment rate for 2002 was 38,87%[xxii]. Living conditions are basic with a large proportion of the population (37%) living in either formal sub-economic housing or informal settlements. Forty one percent of the population have no access to water in their dwelling or yard.[xxiii] The high rate of unemployment, poverty and poor access to basic services are some of the developmental challenges facing BCM.

Primary health services are delivered from 88 Primary Health Clinics, 4 of which are mobile clinics, and one occupational health clinic (for BCM employees). While the majority of the clinics are provided by the provincial health department, only 32 of these clinics are managed by BCM. At present, local health services are struggling with the challenges of insufficient space and staffing necessary to meet the increased demand for service provision resulting from the HIV/AIDS pandemic.
In 2003 the national government announced its intention to roll out a public sector treatment program for HIV/AIDS at pilot sites within the provinces. The East London hospital complex was identified as an ARV rollout site and has feeder clinics for the four ARV clinics spread over the Frere and Cecilia Makiwane Hospitals, the Empilweni Day Hospital, and an Mdantsane PHC clinic. To date, attempts to gain information on the East London complex rollout process have been unsuccessful.

Buffalo City Municipality as Employer

Buffalo City Municipality is the first Local Government Authority (LGA) in SA to do an HIV/AIDS prevalence study of its workforce. The results of the MRC study, which are consistent with national prevalence studies, were presented to BCM senior management on 3 August 2004.

It was reported that approximately 600 BCM employees had voluntarily found out their HIV status, and of these, 54 had established that they are HIV positive. The unadjusted HIV prevalence from the study is 10,3%, which means that 444 of BCM's 4766 employees are likely to be infected.

The anticipated number of AIDS-related deaths and retirements in 2004 is 35, drawing from the study on the economic impact of HIV on the BCM workforce[xxiv]. Of these, 26 are likely to be semi-skilled workers who are less likely to have medical aid benefits and are therefore limited in access to a comprehensive package of HIV/AIDS prevention, treatment, care and support.

4.3 Local Government Mandate on HIV/AIDS and Health

National Legislation

Frameworks for the development of the BCM HIV/AIDS Strategy include the Constitution[xxv], labour legislation,[xxvi] other relevant legislation[xxvii], as well as the Public Service Regulations, 2001, which was amended on 21 June 2002 in order to provide a policy framework for "*...ensuring that the working environment supports effective and efficient service delivery, while as far as reasonably possible, taking employees' personal circumstances, including disability, HIV/AIDS and other health conditions into account*".[xxviii]

Policy guidelines and legislation make it clear that BCM's HIV/AIDS strategy needs to focus both internally (as an employer) and externally (as a public service provider), which together involves a process of mainstreaming HIV/AIDS into every function and service of the municipality.

Integrated Development Plan (IDP)

Buffalo City Municipality's Integrated Development Plan (IDP) sets out the future direction for the municipality. Created in compliance with the Municipal Systems Act[xxix], the strategies in the IDP are cross-departmental by linking all components of planning and development with a management and implementation structure. Further, the IDP integrates the municipality's future direction with different spheres of government as well as service providers and residents. The IDP is therefore the

management tool for the city administration as well as for the development of partnerships and strategic alliances on different levels.

HIV/AIDS, as one of the five cross-cutting issues in BCM's 2004/2005 IDP[xxx] identifies the following priority areas:

- Inadequate access to a comprehensive package of HIV/AIDS prevention, treatment, care and support
- Fragmented service provision and lack of information on the prevalence and impact of HIV/AIDS on the community
- A general lack of involvement in HIV/AIDS programs
- Increase in HIV/AIDS amongst the Buffalo City Municipality workforce
- Managing the HIV/AIDS pandemic in the workplace

Buffalo City Municipality's IDP clearly points in the direction of the development of an HIV/AIDS Strategy which focuses internally and externally through the mainstreaming of HIV/AIDS. The broad direction in the IDP outlines of above will be revised to incorporate this BCM HIV/AIDS Cross-Cutting Strategy as a means to:

- Facilitate access to a comprehensive package of HIV/AIDS prevention, treatment, care and support programmes for both employees and communities
- Improve and support existing clinic programmes
- Facilitate sustainable community projects
- Develop an HIV/AIDS management information system
- Mainstream HIV/AIDS programmes into the daily workings of all its departments for its employees and delivery of services to the residents of Buffalo City.

5 BCM strategic responses to HIV/AIDS

BCM has been involved in a series of initiatives aimed at developing an HIV/AIDS response strategy. These include study tours, commissioned studies and workshops.

5.1 Study trips

Drawing from the SACN communities of practice idea a BCM delegation visited peer municipalities with recognised internal and external programs.

Cape Town Employee Wellness Programme: lessons learned

This program is 5 years old. In order for it to be sustainable it was vital to align the HIV/AIDS Management Strategy to the Unicity Strategy. Furthermore, political, labour and management commitment and active involvement are imperative and

call for an integrated approach. Promoting HIV status disclosure without breaching confidentiality is crucial, as is continuing HIV/AIDS education and awareness.

Msunduzi community ward-based strategies: lessons learned

This strategy owes its success to political and administrative championing at the highest level, and the internal and external capacity building of a committed cadre of staff. By making use of an established effective network, and building on successful initiatives rather than creating new competitive structures the strategy is able to set realistic goals and ensure sustainability.

5.2 Commissioned studies

BCM, supported by the Swedish International Development Agency (Sida) commissioned two research studies focusing on a resource map of HIV/AIDS service providers in the BCM area, and on the BCM Employee HIV prevalence rate. Some of the key findings of these studies are reported below.

Resource mapping HIV/AIDS service providers

In 2002 BCM commissioned Masimanyane (a local women's empowerment group) to undertake a resource mapping of all HIV/AIDS service providers within the BCM geographical area. Key findings indicate that service provision contains significant gaps and lacks coordination.

BCM HIV prevalence and KAP study[xxxi]

This study was conduced by the Medical Research Council (MRC) in conjunction with Epicentre and a BCM team consisting of officials from Health, Corporate Services and the Special Programmes Unit. The sample group consisted of 971 employees, making up 20.4% of the total workforce, and provided BCM with reliable prevalence data as a basis on which to plan interventions. It was noted that key to addressing HIV in the workforce are community interventions (addressing issues of prevention, treatment and care) which reach employees' families. Key findings and recommendations are presented in table below:

Key Findings about the workforce	Recommendations/Opportunities
Almost 90% of workforce likely to be HIV-	• Encourage HIV- employees to remain so by focusing on prevention strategies
>70% uptake of VCT amongst sampled employees	• Readiness of BCM employees for a prevention strategy • Goal of 100% VCT uptake within 2 year period important strategy for ongoing awareness in workforce • Incentives for VCT participants can be a cost-effective awareness-raising strategy
80% want more education about HIV/AIDS	• Need for HIV/AIDS education • Education should be ongoing through development of HIV/AIDS awareness program • Programme should target needs of employees (educational levels and language competencies)
33% are uncertain of risks or fearful of contracting HIV in safe contexts (indicates stigma)	• Need for education and initiatives to address stigma • Essential for leaders in BCM to speak about AIDS on an ongoing basis at staff and public events • Peer counsellors and support groups should be established (support has been found to be a key factor for disclosure and to address stigma) • Inclusion of HIV indicators in KPI's of BCM leaders
<18% reported taking precautionary action when having a STI	• Low percentage response needs to be target of STI strategy • STI education and access to treatment through BCM's Occupational Health Clinic strongly encouraged
10% of BCM employees are HIV+	• There is a need for a comprehensive HIV/AIDS prevention, treatment, care and support programme for employees and families
High risk groups have been identified: • Black African workers • Temporary employees • Women under 30 years • Older men • Unskilled workers • Those living in informal housing • Those renting or sharing accommodation	• Majority of infected are unskilled workers who do not belong to medical aid. A BCM wellness programme will help address the lack of health care, however, some form of medical aid support is necessary to provide access to treatment in light of slow rollout of ARV's in public health sector. Review of feasibility of possible options to be undertaken. • Treatment of opportunistic infections and support to those who are HIV+ will be constrained by single BCM Occupational Health Clinic. Need to review Occupational Health Services in the light of increasing demand for services by staff.

5.3 Economic impact study

In order to obtain accurate local-level information, BCM invited the Centre for International Health and Development and Development (CIHD) at Boston University to undertake a study of the costs to BCM of HIV/AIDS in the workforce. The study was carried out during the second half of 2003 and the first half of 2004.

Key Findings

Costs which the Council incurs while an employee is ill, retires or dies from HIV/AIDS, as well as replacement costs (hiring and training) were estimated, then multiplied by the number of AIDS-related deaths and disability retirements BCM is expected to suffer in 2004 in the absence of an effective treatment programme. The HIV prevalence survey of Buffalo City employees provided reliable estimates of the proportion of employees who are currently HIV positive, stratified by job level, age, gender, and race. Based on the MRC's results and projections of infection levels by job band and gender, it is anticipated that in 2004 BCM will lose 35 employees to HIV/AIDS. Of these, 26 are likely to be semi-skilled[xxxii] employees.

Figure 9.1 *Total cost to BCM of AIDS-related terminations in 2004*[xxxiii]
(The percentages above the columns show the costs as a proportion of the total salary and wage cost for the job band.)

The overall cost of HIV/AIDS to BCM (0.9% of salaries and wages) represents a modest increase in labour costs due largely to the fact that the majority of AIDS cases will be among semi-skilled workers, for whom the cost per employee lost to AIDS is quite low. AIDS-related mortality is on an upward curve in South Africa, so BCM can expect its costs to rise steadily for at least the next five years, unless an effective treatment intervention is introduced or costs are contained in other ways.

Benefits of HIV/AIDS prevention and treatment

The net benefits of preventing an HIV infection at any level of the workforce are the "avoided costs" of that infection, minus the cost of the prevention programme itself. Among skilled workers, for example, Buffalo City Municipality will ultimately save between R150 000 and R200 000 for each employee who does not become HIV positive.[xxxiv]

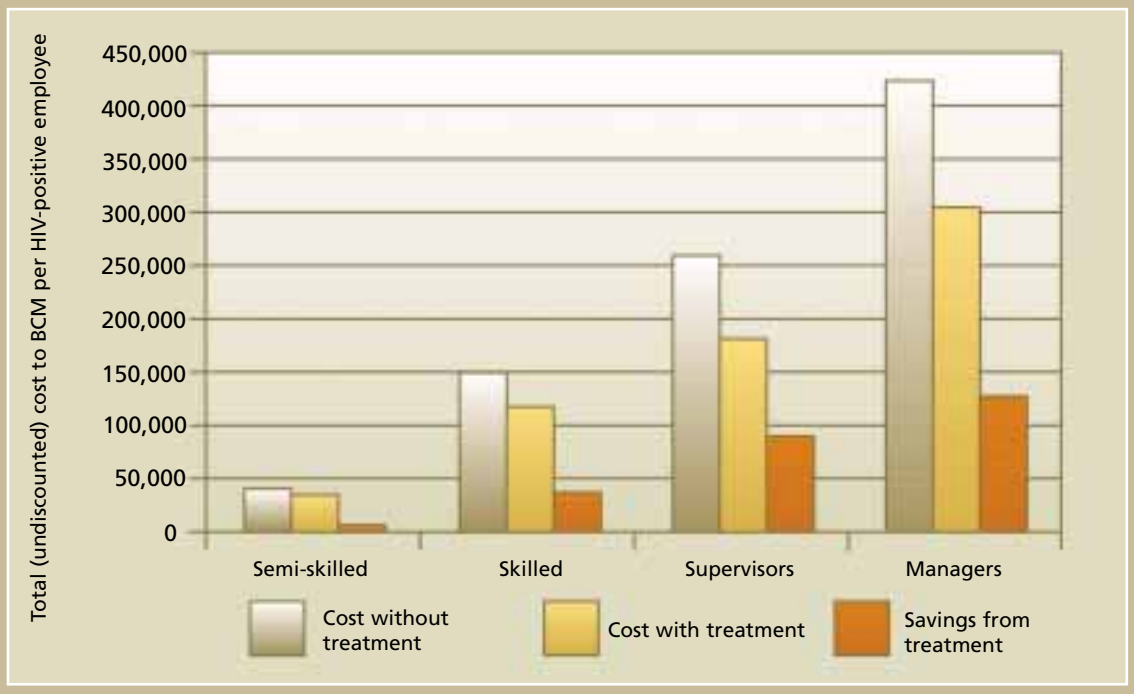

Figure 9.2 *Potential savings per employee treated (males 35-49)*[xxxv]

Recommendations for a BCM response strategy

A three-part strategy for the municipality is recommended[xxxvi].

1. To keep HIV negative employees negative through aggressive and sustained prevention activities is of paramount importance and should be among the organisation's highest priorities.
2. To implement a care and treatment program as soon as possible. The analysis shows that purchasing treatment services, either through a medical aid or a disease management programme, will make financial sense for BCM.
3. To look for operational solutions to AIDS-related productivity losses. Adaptive measures will lower the costs HIV/AIDS imposes on productivity and budgets.

5.4 Implications of findings from commissioned studies

An aggressive strategy for workplace and the community, combining education, VCT, improved care and treatment with ARV's is economically justifiable, although external resources will be needed in order to take this strategy forward.

5.5 Workshops to develop action plans

Following two workshops held on 2-3 August 2004 and 11-12 August 2004 participants drafted the action plans below. The central goal was to equip BCM Municipality to deal with the epidemic and reduce the personal, economic and social impact of HIV/AIDS. The clusters were internal, external and mainstreaming.

TASK TEAM GROUPING		
Internal	**Mainstreaming**	**External**
All HIV activities whose outputs lie within the municipality	Coordinating forum to align Inter-sectoral and Inter-departmental collaboration	All HIV activities whose outputs lie outside the municipality
HIV/AIDS workplace programme focusing on awareness, education and behaviour change	Mainstreaming (internal and external)	HIV/AIDS community-based program focussing on awareness, education and behaviour change
VCT programme (with a goal of 100% uptake)		VCT programme (with a goal of 100% uptake)
Employee and family wellness program – not just focusing on HIV/AIDS		Facilitation of community-based HIV/AIDS activities
Partnerships between departments and directorates		Partnerships with stakeholders

6 Challenges and opportunities

During its development, several key factors were identified as presenting challenges to the successful implementation of an HIV/AIDS Cross-cutting Strategy, as well as opportunities to overcome some of these challenges.

1. Strong political leadership and commitment has been shown to be crucial to success. Buffalo City Municipality can meet this opportunity through visible and ongoing support from senior managers, and line departments "walking the talk".
2. Administrative leadership and coordination is also a proven success factor. Current institutional fragmentation can be addressed through the revival and

active functioning of structures, forums and the Inter-departmental Forum previously in place.

3. Co-ordination with non-government service providers is critical, and cooperation with private business initiatives can contribute to raising the impact of the strategy.
4. The potential move of ATIC by the provincial Directorate of HIV/AIDS/STIs from BCM and placement with Amatole District Municipality poses a potential challenge to BCM's strategy implementation.

7 HIV/AIDS Cross-cutting strategy

BCM commits itself to developing and implementing a range of strategies in partnership with other agencies in order to prevent infections, promote treatment and mitigate the impact of HIV/AIDS on its workforce and the BCM community. In order to give focus to the development of the internal, external and mainstreaming strategies, specific goals are defined for each, and are as follows:

Goal 1: Provide access to a comprehensive HIV/AIDS workplace programme focusing on prevention, treatment, care and support for BCM employees

Goal 2: Improve social and health support services for HIV/AIDS to all BC communities

Goal 3: Improve prevention, treatment, care and support services in health facilities in BCM

Goal 4: Actively support the initiation and development of community interventions and programs

Goal 5: To embed all HIV/AIDS responses into BCM's operations as a service provider and an employer

Objectives listed in these goals encompass all priority areas highlighted in the National HIV/AIDS & STD Strategic Plan for South Africa 2000 – 2005 (Prevention, Treatment, Care & Support; Research, Monitoring & Evaluation; Human and Legal Rights). The strategic priorities are also aligned with the Provincial Strategy Framework for Growth and Development 2004 – 2014 approved in 2003. The framework explicitly seeks to mitigate HIV/AIDS in the Eastern Cape and includes the following targets:

- To halt and begin to reverse the spread of HIV/AIDS by 2014
- To halt and begin to reverse the spread of Tuberculosis by 2014[xxxvii]

BCM has identified the mitigation and mainstreaming of HIV/AIDS as strategic priorities for 2004 – 2006. BCM has also recognised that left unaddressed, the HIV/AIDS epidemic threatens not only the health and welfare of BCM's citizens but it will ultimately impede the ability of the municipality to reach national developmental goals and remain a sustainable entity.

While the strategy plans which follow indicate broadly what is to be done, details of how this will be achieved, targets and the detailed budget considerations will be developed in the next phase of planning. Action plans for 2004/2005 have however been developed in order to provide a framework for delivery for 2004 – 2005.

7.1 Implementation

The BCM Council needs to take the lead in supporting multi-sectoral initiatives, facilitating buy-in from all concerned and securing the resources needed to achieve the goals. To reach the strategic goals and to be implemented by the Integrated Development Plan (IDP), BCM needs an effective area-based delivery mechanism comprising of its councillors and directorates.

It is proposed that BCM will achieve mainstreaming through two committees that between them ensure that all departments and all external role-players respond fully to HIV/AIDS within and without the municipality. The committees are the Inter-departmental Forum (internal) and the Inter-sectoral Forum (external). These two committees monitor and evaluate HIV/AIDS programmes for their cost, speed, impact, effectiveness, and quality, plus the extent to which every department answers to the challenge of HIV/AIDS.

The mainstreaming of the strategic direction adopted by BCM will need to be implemented with the support and guidance of the Special Programs HIV/AIDS Unit in Corporate Services. The capacity of this unit will need to be increased so as to ensure that the necessary actions are taken, progress monitored and evaluated and funding sourced.

The table below shows the jurisdiction (internal or external) and mandate (roles and responsibilities) of the directorates, departments and forums.

	Implementation	Monitoring & evaluation
Internal	Political Leadership: Mayoral Committee Administrative Management Directorate of Corporate Services Strategic Support Service Human Resources • Employee Assistance Program • Succession Planning • Training/Development	Inter-departmental Forum The Inter-Departmental Forum comprises all departments in the municipality and is accountable for planning and executing the HIV/AIDS Program. • Carries out regular internal policy review including strategy document • Formulates policies on HIV/AIDS for the BCM as an employer • Compiles and presents quarterly reports to the Mayoral Committee • Ensures that each directorate plays its part in response to HIV/AIDS
External	Political Leadership Special Programmes Portfolio Holder Administrative Management Directorate of Social Services Health Services • Health Promotion • Primary Health Care	Inter-sectoral Forum The Inter-sectoral Forum is a politically-driven structure with representation from NGOs, CBOs, FBOs, business, tertiary education institutions, local politicians, and municipal officials. Two forums (one in EL and one in KWT) will coordinate HIV/AIDS programs within the municipal area, overseen by a joint committee. • Participates in external policy review • Advises on HIV/AIDS policy formulation for BCM as a service provider • Campaigns to build capacity for the relevant partner or service deliverer • Ensures that the public and private sectors play their part in response to HIV/AIDS • Facilitate development of sector plans • Lobby and advocate so as making resources available • Create an enabling environment to operationalise district based plans. Where delivery problems exist in the district, then this can be brought to the team via the sector representative • Assist with monitoring of delivery so as to ensure no duplication/wastage • A body for governance, not implementation

7.2 Internal strategy plan

Employee Wellness Program

Goal 1: Provide access to a comprehensive HIV/AIDS workplace programme focusing on prevention, treatment, care and support for BCM employees IDP alignment CC2 – Adequate access to a package of HIV/AIDS prevention, treatment, care & support

Objectives	Selected Strategies	Dir/Org	Time Frame
Develop and implement a comprehensive HIV/AIDS workplace package focusing on prevention, treatment, care and support	• Upgrade and expand existing Occupational Health Clinic facility • Research, identify and appoint service providers aimed at ensuring equitable health care packages for all staff • Appoint Employee Assistance Practitioners • Build staff and organisational capacity by linking with peer municipalities and colleagues in industry	CM DCS CFO DDP DES	Started July 2003 Dec 2004; ongoing
Implement projects focusing on the preventative activities of a HIV/AIDS workplace programme including a non discriminatory work environment	• Develop and implement HIV/AIDS /STI/TB education and healthy lifestyle education, awareness and training programme • Initiate programmes which explore and challenge stigma and discrimination in the workplace • Involve PLWHA's in workplace programmes • Involve high-profile BCM officials in programmes • Promote the uptake of VCT amongst staff • Promote voluntary disclosure of HIV status within a safe work environment • Establish a strong vibrant peer educator cadre in all departments • Advocate and improve access to male condoms in all departments • Provide female condoms at all Primary and Occupational Health Clinics	DCS DSS ATIC EAP AD[xxxviii]	Start Jan 2005; ongoing

Objectives	Selected Strategies	Dir/Org	Time Frame
Implement projects focusing on the treatment, care and support activities of a HIV/AIDS workplace programme	• Manage occupational exposure to body fluid contamination and the provision of post exposure prophylaxis • Provide treatment and prevention of opportunistic infections according to national guidelines • Create awareness on STIs in all departments • Develop links with organisations involved in wellness management including support groups for infected employees	ATIC DCS EAP DCS OHC DCS ISF	Current and ongoing Start Dec 2004; ongoing
Implement programmes focusing on mitigation activities of a HIV/AIDS workplace programmes	• Develop and review policies for employee wellness/benefits together with PLWHAs • Create support groups for PLWHAs • Research workplace best practices and develop/maintain a management information system • Provide ongoing review of internal strategy	DCS SPU EAP ISF ATIC	Start Jan 2005; ongoing

7.3 External strategy plan

Community One-Stop Centre

Goal 2: Improve social and health support services for HIV/AIDS to all BC communities
IDP alignment CC2 – Adequate access to a package of HIV/AIDS prevention, treatment, care & support

Objectives	Selected Strategies	Dir/Org	Time Frame
Establish partnerships to develop One-Stop Centres for the provision of social and health support services for HIV/AIDS to BCM communities	• Identify existing buildings for renovation or sites for new buildings (4 centres: 2 rural, 2 urban) • Identify and commission service provider for construction • Recruit and train staff for One-Stop Centres • Establish partnerships with local service organisations such as Lifeline, nutrition support groups etc. which will operate from the centre	CM ISF ATIC SPU LED AD	First centre id by end March 2005

Objectives	Selected Strategies	Dir/Org	Time Frame
Provide HIV/AIDS awareness, education and training to communities	• Identify HIV/AIDS programmes currently in place • Support existing community programmes • Facilitate establishment of programmes in identified areas/ communities, and clinics/ community centres • Distribute IEC material into communities	DCS SPU EAP ATIC ISF AD	Start Sept 2005; ongoing with centre development
Facilitate development of income generation programmes	• Identify current income generation programmes in BCM and areas of need • Facilitate implementation of and support existing initiatives and income generation projects by NGOs, CBOs, FBOs etc.	CM LED ISF	Start June 2005; ongoing
Challenge stigma and discrimination	• Initiate programs which explore and challenge stigma and discrimination in communities • Involve PLWHA's in community programmes • Involve high-profile BCM officials in programmes	SPU ISF ATIC AD	Start June 2005; ongoing
Establish wellness programmes	• Identify current wellness initiatives and identify areas where programmes are needed • Facilitate programmes in clinics and community centres	DCS DSS SPU ATIC EAP AD	Start June 2005; ongoing
Develop social support structures	• Identify existing social support structures in BCM communities • Conduct needs assessment to identify gaps in social support structures • Increase social support structures in identified communities/centres/ clinics • Facilitate development of support groups in clinics and community centres	DCS SPU ISF EAP ATIC AD	Start June 2005; ongoing

Primary health care HIV package

Goal 3: Improve prevention, treatment, care and support services in health facilities in BCM

IDP alignment CC2 – Adequate access to a package of HIV/AIDS prevention, treatment, care & support

Objectives	Selected Strategies	Dir/Org	Time Frame
Increase capacity (space and staff) of BCM-managed PHC clinics to allow for delivery of effective HIV/AIDS and PHC services	• Identify understaffed clinics • Identify clinics with insufficient space • Recruit and train staff • Expand identified clinics to meet space requirements (including dedicated VCT room in each clinic)	DSS DCS CFO DDP DES AD	July 2005
Ensure effective STI prevention and treatment	• Increase capacity of clinics to deal with STIs effectively • Outreach education sessions focusing on taverns and commercial sex industry in HTAs	DSS ATIC ISF	Current and ongoing
Provide treatment for opportunistic infections at all PHC clinics, including TB/STIs	• Train staff on treatment guidelines for opportunistic infections • Ensure clinics supplied with necessary medications for treatment • Explore home-based treatment interventions	DSS ATIC DOH ISF	Current and ongoing
Ensure effective infection control in clinics and communities	• Assess and monitor current use of infection control methods by clinic staff and volunteers • Increase knowledge, skills and resources needed for effective infection control	DSS ATIC	Current and ongoing
Increase condom promotion and distribution	• Assess current availability of male and female condoms at clinics and in communities, esp in HTAs • Increase condom availability in clinics and communities, especially identified HTAs	DSS ATIC ISF	Current and ongoing
Support smooth roll-out of ARVs	• Facilitate smooth roll-out of ARVs by national government	AD ATIC ISF DOH	August 2004; ongoing
Standardise MTCT programme for all pregnant mothers seen at BCM clinics	• Standardise a full roll-out plan for PMTCT • Train staff on VCT and follow-up of HIV positive mothers and babies	DSS ATIC ISF DOH	Current and ongoing

Partnerships

Goal 4: Actively support the initiation and development of community interventions and programmes

IDP alignment CC5: Active internal and external involvement in HIV/AIDS programmes

Objectives	Selected Strategies	Dir/Org	Time Frame
Increase home-based care (HBC) in BCM	• Identify HBC structures currently in place • Identify communities where HBC needs to be provided or extended • Facilitate development of HBC in identified communities by identifying limitations and trying to address these • Monitor and evaluate provision of HBC in BCM	DCS DSS ISF ATIC AD	Current and ongoing
Facilitate development of counselling services for those infected and affected by HIV/AIDS (including bereavement)	• Identify current counselling services available to BCM communities • Identify gaps in counselling services • Facilitate development of counselling services in identified communities through NGOs, FBOs and others • Initiate development of counselling services at community centres • Support existing counselling services and initiatives and facilitate their development	AD DCS SPU ISF ATIC	Start Sept 2005
Assist with development of programs and services which address care for orphans	• Identify current service provision for orphans • Identify gaps in service provision • Support and assist with development of services providing care for orphans • Research and prepare for increase in AIDS orphans as pandemic progresses	DCS SPU ISF ATIC AD	Start Sept 2005
Support the development of FACES program	• Identify areas in which existing FACES programme can be developedand play enabling/ supportive role in development • Encourage disclosure by supporting education and awareness programmes, and disclosure and acceptance campaigns	DCS SPU ATIC	Current and ongoing

7.4 Mainstreaming

Goal 5: To embed all HIV/AIDS responses into BCM's operations as a service provider and an employer

IDP alignment CC3: Buffalo City Council must be prepared to deal with HIV/AIDS internally and externally

IDP alignment CC5: Active internal and external involvement in HIV/AIDS programmes

Objectives	Selected Strategies	Dir/Org	Time Frame
Develop and implement appropriate HIV/AIDS policies in all BCM departments	• Review existing internal policies with the intention of mainstreaming • Develop new policies aligned to national and provincial frameworks • Uphold present non-discriminatory recruitment policy	DCS SPU IDF AD	March 2005
Capacitate and facilitate effective management of mainstreaming process	• Develop measurable indicators for mainstreaming for each directorate and committee • Include KPI's and KPA's for all departments relating to HIV/AIDS mainstreaming • Commit a standing budget and human resources to HIV/AIDS mainstreaming in each department • Include HIV/AIDS as a standing item on the agenda for senior management meetings • Include HIV/AIDS on the institutional scorecard • Present HIV/AIDS related objectives for inclusion in IDP review process	CM DCS SPU HR AD IDF	June 2005
Develop an information management system for HIV/AIDS planning and resource allocation, and ongoing monitoring and evaluation	• Research impact of HIV/AIDS on revenue base on BCM • Research impact of HIV/AIDS on service delivery • Develop and implement a system for effective information management • Ensure new council projects include HIV/AIDS impact analysis • Disseminate regular monitoring and evaluation reports	AD CFO DCS IDF	March 2005
Initiate and give visible support to HIV/AIDS programmes and initiatives	• Develop peer educator program • Develop non-discriminatory environment by managers leading through example • Actively encourage employees to participate in HIV/AIDS awareness and information activities • Develop recruitment and succession planning for employees and non-discriminatory incapacity policy	AD IDF	April 2005

8 HIV/AIDS action plan for 2004-2005

	Framework for Delivery	
Action	**Detail**	**Who and when**
1. Assess HIV/AIDS prevalence amongst BCM workforce	• Obtain Council approval for prevalence study • Obtain union and management support for study • Select service provider • Conduct information campaign • Provide testing • Report back to BCM Council and employees	SPU HR AD MRC August 2004
2. Draft BCM HIV/AIDS strategy	• Hold consultative workshop to draft two-year HIV/AIDS strategy for BCM based upon broad stakeholder input and locally relevant data. • Submit strategy and action plan for approval	SPU Stakeholders September 2004
3. Develop a framework for a comprehensive HIV/AIDS workplace package	• Research workplace best practices and develop and maintain a management information system • Research, identify and appoint service providers aimed at ensuring equitable health care packages for all staff • Develop and review policies for employee wellness and benefits together with PLWHAs • Develop HIV/AIDS/STI/TB education and healthy lifestyle education, awareness and training programme • Involve PLWHA's in development of workplace programmes • Develop new policies aligned to national and provincial frameworks • Uphold present non-discriminatory recruitment policy	CM DCS CFO DDP DES November 2004
4. Initiate the promotion of HIV/AIDS awareness and education in the workplace as part of employee wellness	• Involve high-profile BCM officials in programmes • Promote voluntary disclosure of HIV status within a safe work environment • Create awareness on STIs in all departments	CM DCS SPU HR AD IDF December 2004
5. Support the development of FACES programme	• Identify areas in which existing FACES programme can be developed and play enabling/supportive role in development • Encourage disclosure by supporting education and awareness programmes, and disclosure and acceptance campaigns	DCS SPU ATIC November 2004

Action	Detail	Who and When
6. Ensure effective STI and opportunistic infections prevention and treatment	• Advocate and improve access to male condoms in all departments • Provide female condoms at all Primary and Occupational Health Clinics • Outreach education sessions focusing on taverns and commercial sex industry in HTAs	DCS DSS ATIC EAP AD January 2005
7. Implement programmes focusing on mitigation activities of a HIV/AIDS workplace programmes	• Develop links with organisations involved in wellness management including support groups for infected employees • Create support groups for PLWHA'S	DCS SPU EAP ISF ATIC January 2005
8. Establish partnerships to develop One-Stop Centres for the provision of social and health support services for HIV/AIDS to BCM communities	• Identify existing buildings for renovation or sites for new buildings (4 centres: 2 rural, 2 urban) • Identify and commission service provider for construction • Recruit and train staff for One-Stop Centres • Establish partnerships with local service organisations such as Lifeline, nutrition support groups etc. which will operate from the centre	CM ISF ATIC SPU LED AD February 2005
9. Initiate capacity building activities for mainstreaming and facilitate adoption of mainstreaming in all BCM departments	• Identify existing internal policies with intention of mainstreaming. • Develop measurable indicators for mainstreaming for each directorate and committee • Include KPI's and KPA's for all departments relating to HIV/AIDS mainstreaming • Plan to commit a standing budget and human resources to HIV/AIDS mainstreaming in each department • Include HIV/AIDS as a standing item on the agenda for senior management meetings • Present HIV/AIDS related objectives for inclusion in IDP review process	CM DCS SPU HR AD IDF December 2004
10. Treat opportunistic infections and occupation exposures according to national guidelines	• Manage occupational exposure to body fluid contamination and the provision of post exposure prophylaxis • Provide treatment and prevention of opportunistic infections according to national guidelines	ATIC DCS EAP DCS OHC DCS ISF March 2005

Action	Detail	Who and When
11. Develop an information management system for HIV/AIDS planning and resource allocation, and ongoing monitoring and evaluation	• Research impact of HIV/AIDS on revenue base on BCM • Research impact of HIV/AIDS on service delivery	AD CFO DCS IDF March 2005
12. Initiate and give visible support to HIV/AIDS programmes and initiatives	• Develop peer educator program • Develop non-discriminatory environment by managers leading through example • Actively encourage employees to participate in HIV/AIDS awareness and information activities • Develop recruitment and succession planning for employees and non-discriminatory incapacity policy	AD IDF April 2005
13. Standardise MTCT programme for all pregnant mothers seen at BCM clinics	• Standardise a full roll-out plan for PMTCT • Train staff on VCT and follow-up of HIV positive mothers and babies	DSS ATIC ISF DOH March 2005
14. Monitor, evaluate and review BCM HIV strategy	• Develop and implement a system for effective information management • Ensure new council projects include HIV/AIDS impact analysis • Disseminate regular monitoring and evaluation reports	IDF ISF SPU April 2005

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