

The costs and benefits of HIV workplace programmes in Zambia

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A growing number of companies worldwide offer HIV workplace programmes, but there is still little quantitative research on the costs and financial benefits of running such programmes. A ground-breaking study conducted in Zambia among companies from the mining and agriculture sectors in 2007 has contributed to addressing this lack of data. The study found that the overall financial benefits of running an HIV workplace programme outweighed programme costs by three times on average. This paper presents the findings of the study, explores its immediate practical repercussions and its potential, and draws lessons for policy makers and programme implementers.

Although only a select group of companies was used as the basis for the research (seven companies ranging in size from 350 to 10,000 employees), the results showed clearly that in most cases workplace programmes save companies money over the medium and long term, help prevent infection, and provide physical and psychological benefits not only to employees but also dependents and host communities.

On average it cost the companies \$9,000 to replace a worker lost to HIV-related illness, but just US\$1 over a year to sensitise a worker on HIV prevention. The research team estimated that a typical company would have saved US\$200,000 over that year by preventing new infections. This shows that a successful prevention programme is the most effective way to reduce the financial burden of HIV on companies and should therefore form the cornerstone of a workplace programme.

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1. Introduction

The private sector contributes significantly to Zambia's gross domestic product and has a vital role to play in helping the country achieve the Millennium Development Goals. However, HIV and AIDS threaten progress towards these goals by putting pressure on human resources, and reducing company productivity and profitability.

In response, the private sector in Zambia has begun to embrace the concept of HIV workplace programmes. By offering employees a range of HIV services from sensitisation and counselling and testing (CT) to antiretroviral therapy (ART), private companies hope to reduce the impact of HIV on their businesses. Where access to health services is limited, for example in rural areas, some private companies have devised innovative ways to maintain employee health (one successful example in Zambia is the mobile health unit which offers a range of services to people in remote areas).

Despite the growing prevalence of workplace programmes, little quantitative research has been undertaken into the costs and financial benefits of running a programme – either in Zambia or globally. Companies can readily cite the social and ethical positives of programmes – maintaining employee health, boosting morale, doing 'the right thing' – but few can say whether their programme provides tangible financial benefits. At the same time, few keep regular records of programme related data as this is not one of their core functions.

Lack of empirical evidence prompted the *Cost-Benefit Analysis of HIV Workplace Programmes in Zambia (2007)*¹, a pioneering study that set out to answer the question: what are the costs and benefits of HIV workplace programmes in Zambia when viewed across several companies? Although only a select group of companies was used as the basis for the research, the results showed clearly that in most cases workplace programmes save companies money over the medium and long term, help prevent infection, and provide physical and psychological benefits to employees, dependents and host communities.

This paper presents a synthesis of the 2007 study, explores its immediate practical repercussions and its future potential, and draws some lessons for policy makers and programme implementers.

2. Scope of the study

The research team worked with seven companies from the mining and agriculture sectors as a basis for the study. Together, these companies form the Zambian HIV/AIDS Global Development Alliance (GDA), a tripartite public-private partnership between the private sector and the Zambian and US Governments that aims to reduce the impact of HIV in the mining and agribusiness sectors. The GDA companies, which range in size from 350 to 10,000 employees, were chosen primarily because they have all set up workplace programmes and therefore keep, in varying degrees, information on programme-related costs. Most have recruited and trained peer educators to sensitise employees about HIV and have extended HIV-related services to the surrounding communities. The companies also receive help from third-party institutions such as the Comprehensive HIV/AIDS Management Programme (CHAMP), a local not-for-profit private organisation that provides technical support to the GDA in the form of management and coordination, capacity building and assisting companies with capturing and monitoring programme statistics. The research team believed that involving the GDA members would give it the best chance of executing an accurate cost-benefit analysis as information would likely be more readily available than elsewhere.

Research for the study was organised around a conceptual model developed by the International Labour Organisation (ILO) that shows the theoretical costs of HIV to employers and the benefits of workplace programmes. Consequently, the research team concentrated on collecting data on HIV-related costs, such as medical and funeral costs, medical insurance and retirement payouts for both permanent and temporary employees, as well as the costs saved because of a company's workplace programme. Saved costs included better worker productivity due to reduced absenteeism and less staff training plus retention of skills and knowledge. The ILO cost-benefit model also takes into account employee morale and this element was explored in a separate qualitative section of the study that looked at the impact of programmes on employee morale, the surrounding community and temporary workers, which often

¹ Available at: www.hlspinstitute.org/projects/?mode=region&id=232487 The report was undertaken by CHAMP and co-financed by the STARZ programme. STARZ is a DFID funded programme managed by an HLSP-led team.

constitute a significant portion of the workforce in the mining and agricultural sectors in Zambia.

To accommodate these quantitative and qualitative aspects, the study was divided into three main sections:

1. A cost-benefit analysis of the workplace programmes run by the GDA companies.
2. Employee and community perceptions of the programme.
3. The programme's impact on temporary employees.

Box 1: Calculating costs and benefits

The study aimed to calculate the net benefit or cost to employers of running an HIV workplace programme. In order to do this, the costs avoided or reduced (the benefit) were calculated and subtracted from the costs of running the programme. Programme costs and benefits taken into account include:

Costs	Education and training Treatment and care Employee time given up to programme activities Salaries Programme administration Counselling and testing
Benefits	Costs reduced due to employees shifting from being sick to stable following testing and treatment, which results in greater productivity and lower staff turnover Costs saved due to less supervisor time spent recruiting and training new staff Reduced medical, insurance and funeral costs

3. Data collection and challenges encountered

Data was gathered by the research team in categories organised around company departments that would be expected to maintain the data. Categories included human resources, finance, management, HIV programme costs and medical costs. Information was gathered during May and June 2007 for the programme year 2006.

The research team faced a number of challenges when gathering data for the cost-benefit analysis; most stemmed from the lack of standardised documentation across the different companies. Information therefore had to be extracted from a variety of existing formats and, as a result, accessing the same type of information and the same level of detail from each company was difficult.

Among the main challenges encountered by the research team were:

Estimating non-routine data

Gathering figures for the costs of companies' workplace programmes was the most problematic data to collect. The researchers found that companies often overlooked less tangible expenditure such as time spent in training and at workshops as part of an HIV workplace programme, or hours devoted to training replacement staff. To address the problem, the research team made adjustments to reported costs when it was known that important costs, such as lost person hours, had been left out of the reporting. In these

Box 2: Data collection and analysis methods used in the study

- Structured schedules designed to extract specific cost, programme structure and labour structure information
- Cost, structural and HIV data obtained from the GDA's technical support partner CHAMP
- Internal company documentation
- Staff perceptions
- Informal discussions, focus group discussions with employees, structured interviews with community members and administrators
- Questionnaires

situations, the lead researcher estimated how much employee time and therefore company money was spent on programme activities, such as training and workshops. This was calculated by multiplying however many hours of employee time were spent on the programme by a company's average hourly salary.

Evaluating medical costs

While it was often easy for the team to access good data on medical costs (medical personnel at most company clinics or hospitals kept reasonable patient records), estimating the cost of care for HIV-positive patients who had not been diagnosed was much more difficult. Although doctors can identify HIV-positive individuals quite easily, their status cannot be verified without testing, which makes it hard to project official HIV counts. To overcome this, the team asked doctors at company hospitals and clinics to estimate the percentage of patients who were HIV-positive. Estimates ranged from 11% to 65%. When averaged, 34% of outpatients and 40% of hospital patients were estimated to be HIV-positive.

Using these figures, the total cost of treating HIV positive patients was determined by apportioning total medical care expenditures among HIV and non-HIV positive patients. The team used doctors' estimates of bed-nights, clinic visits and medicine costs to do this. Separately, the team also calculated major costs of treatment for each category of HIV patient – undiagnosed but ill, newly diagnosed, and diagnosed and stable – to get relative cost-per-patient estimates for each category. Using these relative costs and estimates of numbers of patients in each category, the team was able to apportion total HIV expenditures for each patient group. This amount, divided by the patients in each group, gave the per-patient expenditure estimates for each patient category.

Gathering accurate CT and ART counts

Obtaining CT and ART counts from companies proved problematic in some instances. Companies often held accurate figures for total CT and ART, but in some cases could not distinguish which of this total figure were employees, dependents, contract employees or from the community. The team overcame this by using known counts and percentages of employees accessing HIV-related healthcare services where possible, and applying known percentages where breakdowns of counts were not available. This enabled the team to estimate uptake of new and continuing ART, those diagnosed HIV-positive but not yet on antiretrovirals, the total number of people living with HIV, and those undiagnosed but HIV-positive.

Accommodating time lags

Another issue the research team faced was how to take into account the lag between setting up a programme and a company reaping financial benefits. Research shows that companies feel the benefits of a successful workplace programme over time. Existing literature on cost-benefit analyses of workplace programmes treats this lag by assuming that a cost saving in the future has less value than a cost saving today. In order to calculate current benefits, economists often use a discount rate, for example five years, to guess what companies are saving today as a result of their programme. However, the researchers in this study chose not to discount future benefits as they did not believe it would make the results more meaningful due to the variability of parameters such as the time lag, the value of the discount and so on.

Modelling new employees and turnover assumptions

Estimating the number of people that leave a company due to HIV and AIDS related sickness or death proved problematic as companies often do not know why an employee has left. Therefore, in order to model employee turnover due to HIV and AIDS and work out the cost of replacing employees lost to the virus, the team decided to compare the work life and turnover of untreated HIV-positive workers with those on antiretrovirals (ARVs). Medical professionals in Zambia consulted for the research estimated that a typical untreated HIV-positive adult will live for about after contracting HIV. The team therefore chose to model employee turnover using this five-and-a-half year time frame. In contrast, the doctors consulted said that HIV patients who took ARVs could expect to live a relatively normal working life resulting in less company expenditure on recruitment and training.

4. Findings

Box 3: Key findings

- Six of the seven companies examined showed net benefits for their workplace programme. On average, these benefits amounted to US\$47 per employee for the year 2006.
- The overall financial benefits of running an HIV workplace programme outweighed programme costs on average three times.
- It costs on average US\$9,000 for a company to replace an employee lost through HIV and AIDS, but just US\$1 on average to sensitise a worker on HIV prevention.
- The cost of treating an undiagnosed employee was estimated to be seven times more expensive than treating someone diagnosed with HIV.
- Extending workplace programmes to include non-permanent employees and the community reaps benefits. On average, the net benefits of including temporary workers in a scheme averaged US\$32 for each seasonal worker.
- Workplace programmes boost employee morale, reduce stigma and make workers feel more secure in their job.

Cost savings

One of the most striking study findings is that almost all the GDA companies saved money due to their workplace programme. Overall, benefits outweighed the total costs of the programme approximately three times; when averaged out across all seven companies, programme benefits equated to US\$47 per employee. The team observed that part of the reason most companies enjoyed net benefits was because the level of investment in their programme matched its costs. For example, smaller companies taking part in the study spent proportionally less than their larger counterparts; companies did not spend more on their programme than they could afford. This underlines the belief that a 'one size fits all' approach is not appropriate with regards to workplace programmes.

Only one company found that programme costs were greater than the benefits, while another had equal costs and benefits for the year. Both companies had only recently set up their workplace programmes, and the research team concluded that these companies would likely enjoy financial benefits over the longer term. This is because workplace programmes usually involve a high initial investment and therefore the benefits often accumulate over a period of time.

Employee turnover

The study showed that over a quarter of the financial benefits accrued by the GDA companies through their HIV programmes were due to a reduction in lost employee productivity. Workplace programmes can lower the costs associated with recruitment and training because they reduce absenteeism and staff turnover, and the subsequent high cost of supervising new employees. If infection rates are reduced through awareness and sensitisation programmes, less employee time is lost to sickness or, eventually, death. The research team discovered that it cost the GDA companies on average \$9,000 to replace a worker lost to HIV-related illness.

The importance of prevention

In sharp contrast to the cost of recruiting new staff, educating employees on the risks and causes of HIV and how to avoid contracting it cost the companies very little – on average around US\$1 per employee in 2006 – yet provided significant cost savings. The research team estimated that the typical company saved US\$200,000 that year by preventing new infections. This proves that a successful prevention programme is the most effective way to reduce the financial burden of HIV on companies and should therefore form the cornerstone of a workplace programme.

Reduced medical costs

Treating an undiagnosed HIV infected employee is substantially more expensive for companies than treating an HIV positive worker through ART and palliative care. Once on ART, employees are relatively healthy, incur few extra medical costs and are more productive. The study showed that it costs roughly seven times more to treat an undiagnosed employee than to treat an HIV positive worker with antiretroviral drugs (ARVs), which are currently free in Zambia. Companies spent on average US\$371 treating an undiagnosed worker in 2006 but only US\$55 administering medical treatment to an HIV-positive employee.

Temporary workers and workplace programmes

Temporary workers tend to be mobile and live away from their family often for long periods of time. Evidence shows they are more likely than other employees to have concurrent multiple sexual partners or participate in transactional sex and are therefore more susceptible to contracting HIV. The research found that it is important that companies include temporary workers in their workplace programmes as this can reduce the financial impact of HIV on a business. Of the three agricultural companies questioned for this section of the study, two saw a net financial benefit in extending their programme to non-permanent employees while for the third company the programme paid for itself. On average, the companies saved US\$32 per seasonal worker by including them in their programme mainly due to increased productivity.

Employee perspectives and the community

One of the key findings among employees was that programmes boosted morale and made workers feel more secure in their job. This was particularly true where schemes were extended to include dependents. Companies are increasingly choosing to include families and the wider community in their workplace programmes in the belief that it will benefit employees. Workplace programmes were also shown to have raised awareness among employees and the community on important issues like transmission and prevention as well as the HIV-related services available to them.

5. Lessons learned

The findings reveal a number of interesting lessons that can be used to guide policy makers and programme implementers running or setting up workplace programmes that are more effective:

- A comprehensive prevention programme should form the foundation of a workplace programme. The results show that it costs very little to teach employees about prevention but the potential long term personal, social and financial benefits of ensuring a worker does not contract HIV can be enormous.
- Companies should encourage more employees and their dependents to get tested. For those who test positive, putting them on ART when medically indicated can improve quality of life and save the company money.²
- Temporary workers, dependents and the wider community should be included in a workplace programme as their well-being can have a direct impact on employee morale and health.
- Companies should design ways to regularly record programme data such as medical costs and staff turnover. Not only will this help companies integrate programme costs and benefits into future business projections but it will also assist future research in this area.

² ARVs are provided free by the Government in Zambia. The finding that companies save money when HIV-positive employees are put on ART is based on these companies receiving free ARVs.

6. Study repercussions

The study has also had unique repercussions that could assist further work in this area and support programme advocacy:

- It has prompted the creation of a data management tool to help companies collect information that will enable them to monitor the costs and benefits of their workplace programme and assess the effectiveness of interventions on an ongoing basis. In contrast to the input-focused data collected by the Zambian Government, the tool collects information on mortality rates, the cost of staff time spent on the programme and other impact monitoring data. The tool should therefore complement and enhance Government efforts to improve the reporting, monitoring and evaluation of the national HIV response in Zambia as outlined in the National AIDS Strategic Framework 2006-2010 (NASF). This in turn will allow the government to identify and respond to trends in the effectiveness of HIV interventions. Furthermore, the resulting tool is not sector specific and, in theory, could be rolled out across the public sector and civil society as well as the private sector in Zambia and internationally.

The tool's potential to assist in the reporting, monitoring and evaluation of national HIV responses goes some way to address issues raised in a series of papers published last year in the British medical journal *The Lancet*.³ The papers call for better data collection and assessment of HIV interventions particularly in relation to prevention. In the papers, the authors note that prevention efforts are not reaching enough vulnerable people, and argue that better monitoring of programme data would allow supervisors to isolate where a programme is effective and make subsequent HIV responses more efficient. As one paper notes: 'Many programme managers and their planning colleagues working on strategic plans for HIV prevention need to improve their capacity to use evidence on effectiveness and costs, to use information about their current programme capacity and coverage, and to model future epidemiological scenarios under different potential prevention strategies'.⁴

- The study has encouraged the GDA group of companies to increase investment in their workplace programmes by providing confirmation of their cost-effectiveness. Funding figures show that GDA contributions rose visibly in 2008 following the report's publication in September 2007. In 2006 and 2007, contributions remained more or less static with GDA members collectively contributing \$4.125 million and \$4.127 million for those years respectively.⁵ In 2008, however, contributions rose to \$4.369 million. This is particularly encouraging in light of the global financial crisis, and demonstrates that the GDA companies remain committed to their workplace programmes and see them as an important business investment even in times of economic uncertainty.
- The study has inspired the production of an advocacy booklet designed to convey the key findings to a wider audience including middle management in private sector companies. The advocacy paper is written in an accessible style, and aims to promote the take-up of workplace programmes by highlighting important cost and psychological benefits identified by the study. It is too early to tell if the booklet is responsible for the recent increase in the up-take of workplace programmes in Zambia (it was distributed to companies in late 2008). However, it will provide useful support for future advocacy efforts.
- The study has been included in a new Government-endorsed HIV strategy paper for the private sector in Zambia. The paper, called: *The private sector strategy for HIV and AIDS in Zambia 2006-2010: learning from the past – planning for the future*, looks at the private sector's past and present approach to tackling HIV in order to inform future strategies, all within the NASF. The study is used as a case study to show how a piece of research can be used to disseminate strategic information to different audiences, support take-up by policy makers and other target audiences, and promote development of tools for practical application.

In conclusion, although based on a small number of companies, the study breaks new ground in terms of cost-benefit analyses of workplace programmes. Its unequivocal results have important implications for companies, policy makers and programme implementers alike.

³ HIV Prevention series, published online at <http://www.thelancet.com> on August 6 2008.

⁴ Bertozzi et al, *Making HIV prevention programmes work*, *Lancet* 372 (9641), 831–844, 6 September 2008.

⁵ USAID, Lusaka, 2009.

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