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The Impact on Employer Operating Costs of Low Cost Health Insurance Including an HIV/Treatment Benefit: Results of a Study of Five Employers in Namibia

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Abstract

Objective
The impact of low-cost health insurance on the costs incurred by Namibian employers was measured.

Background
Namibia has a relatively recent HIV epidemic and adult HIV prevalence estimated at 15.3%. AIDS-related mortality would be rising in the absence of antiretroviral treatment (ART). Medical schemes in Namibia now offer low-cost policies that include good coverage for treatment of AIDS, including ART. In 2006-2007, a number of large Namibian employers agreed to purchase such policies for their uninsured workers.

Methodology
We compared data on worker attrition and related costs for the period before and after purchase of the low cost health insurance policy.

Results
Worker attrition (death and medical retirement) reported by the companies declined from a range of 1.5% to 2.0% of the work force in 2005 and 2006 to 0.7% to 1.1% in 2008. When data was pooled, attrition fell from a peak of 1.7% of the combined work force in 2005 to 0.9% in 2008. Attrition-related costs at the companies were lower in 2008 than in the peak attrition years. The downward trend in attrition appears to have begun before the date when the firms purchased the new policies.

The 2008 value of the savings measured was less than the annual cost of the premiums for the new policies.

Discussion
Antiretroviral treatment appears to reduce workforce attrition and related costs for Namibian employers. However, we cannot say if this is a result of new low-cost insurance policies or the rapid expansion of ART in the public sector.
Sponsorship of the Study; Acknowledgments

This study was carried out by Boston University School of Public Health and Pharmaccess Namibia under a subcontract with the Amsterdam Institute of International Development (AIID). Funding was provided to AIID by the Dutch Ministry of Foreign Affairs for this and the related population surveys mentioned below.

The authors would like to thank the management, and particularly the Human Resources Departments, of the five participating companies and the staff at each firm who helped to gather the data.

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Keywords
HIV/AIDS, antiretroviral treatment, health insurance, cost, workforce, Namibia
Study Objective
We set out to identify and quantify the effects on employer costs of providing health insurance cover that includes antiretroviral therapy to workers not previously covered by health insurance.

Background
Namibia, like South Africa, has an active health insurance (medical scheme) industry that provides risk pooling for the expenses of private medical care. Combined with relatively generous public health care system funding, this system allows Namibia to have one of the lowest levels of out-of-pocket health spending (as a percentage of total health spending) in the developing world. One large scheme for government workers, the Public Service Employees Medical Aid Scheme (“PSEMAS”), covers private outpatient care and inpatient care in the private wing of Government hospitals. Four insurers offer medical scheme coverage in the market, while additional “closed” medical schemes are open only to the employees of a particular company or industry. In 2004, total membership in medical schemes was approximately 250,000 (118,000 in PSEMAS and 132,000 in private schemes). This covered approximately 12% of the Namibian population of two million.

As in South Africa, most health insurance policies are purchased through employers, who offer their employees the opportunity to join one or more medical schemes. Traditionally, insured health benefits have been extensive, and the premium for scheme membership relatively high. Employers make a contribution to the scheme premium as part of the employment package. The employer share of the premium is a business expense to the employer (the same as wages). This amount is taxable income to the employee (also treated the same as wages). Since the employer contribution is usually only a part of the premium, employees must contribute the remainder of the premium from their pay. As a result, few lower wage workers have joined the existing schemes. Instead, they pay out of pocket for private care or seek care in the public sector.

Like the rest of southern Africa, Namibia has been hard hit by the AIDS epidemic. Prevalence recorded in antenatal surveys peaked at 19.9% in 2006 and declined to 17.8% in 2008. The adult (age 15-49) prevalence of HIV in Namibia was estimated in the most recent UNAIDS country report as 15.3% (range 12.4%-18.1%).

Antiretroviral therapy (ART) for AIDS has been a covered benefit in most existing Namibian medical scheme policies for nearly a decade. However, roll out of ART in the public sector did not begin until 2004, with support by the President’s Emergency Fund for AIDS Relief (PEPFAR) and the Global Fund. By 2009, an estimated 80% of those Namibians in need of treatment were receiving ART, a rate matched by no other country in Africa except Botswana.

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2 PSEMAS is the exception, with Civil Servants paying only a nominal monthly membership fee. As a result, most of the public sector work force is covered by PSEMAS.
3 Press conference by Minister of Health, November 25, 2009
After recovering from financial difficulties early in this decade, the medical scheme industry in Namibia was ready to consider expansion to lower income markets. The competitors generally recognized that enrollment had plateaued, and with continued high medical inflation some traditional scheme members might begin to drop out due to escalating premiums. Therefore, there was interest among medical schemes in possible low-cost policies that would expand the market. In 2004, the Diamond Health scheme was introduced, offering a broad primary care benefit at low cost, paying participating providers on a capitation rather than a fee-for-service basis. Other low cost schemes followed using traditional fee-for-service payment methods.

All the low-cost plans offer coverage for first-line ART. The lowest cost option, Vitality, offers coverage for HIV/AIDS treatment only, including antiretroviral therapy and inpatient care for AIDS-related diseases. It was originally priced at $N 30 ($US 4.60) per employee per month. Participating employers were required to enroll all employees currently lacking medical scheme coverage in Vitality to avoid adverse selection of those who know their HIV status. A related policy, Vitality Day Care, added a limited general outpatient benefit to encourage patients to seek care for other diseases, and was priced higher. Because of its interest in promoting affordable private sector health care, Pharmaccess supported the low-cost policies with technical and financial assistance. In order to encourage enrollment, Pharmaccess paid a small subsidy of $N10 and $N30 per person month (US$ 1.50 to US$4.60) for the low cost policies in the period 2005-2008. Because the Vitality product was limited to AIDS alone and Pharmaccess wished to encourage general access to care, premiums for this “AIDS only” product were not subsidized.

Pharmaccess and the individual insurers worked with the Namibia Business Coalition on AIDS (NABCOA) and other business groups to encourage companies to enroll uninsured employees in the low cost plans. By 2009, total enrollment in all low-cost plans was 16,000, an increase of a little less than 1% over the 12% coverage level in 2004.

To evaluate the impact of the low-cost health insurance plans, and the health impact of insurance generally, Pharmaccess and the Amsterdam Institute of International Development (AIID)—in collaboration with the Survey Research Center at the University of Namibia—conducted a population-wide household survey in Windhoek from 2006 to 2009. The study follows a panel of households, obtaining information on health seeking behavior, health care costs and health outcomes as well as health insurance enrollment. The study also collected data on a series of biomedical indicators on the participants, including HIV infection status. The third and last round of these panel surveys completed in late 2009, and the results are reported elsewhere.

### Study Overview

By lowering economic barriers to treatment, health insurance for workers should have benefits for the employer, reducing the costs associated with absenteeism and employee attrition related to disease. To test this hypothesis, AIID commissioned Boston University to conduct a study of

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5 US$ = 6.5 rand/Namibian dollars at time of writing.
6 The current price is Nam$39 per month
costs related to worker illness in companies purchasing the low-cost health insurance plans. The basic design was a “pre/post” intervention analysis of employer costs linked to disease-related absenteeism and attrition, using a modification of the methodology developed by Rosen, Simon et al.\(^8\) to measure the costs to employers in Southern Africa of AIDS in the work force. As reported here, the study collected data on costs associated with employee attrition at cooperating employers for two or three years prior to purchase of low-cost insurance plans for previously uninsured workers, and one or two “intervention” years after enrollment in the plans. Because of the difficulties in obtaining employer cooperation, the study does NOT include a control group of similar firms whose lower wage employees remained uninsured throughout the study period.

**Selection of Participating Companies**

The first problem for the study was to obtain employer participation. Criteria for firm participation included the following:

- Purchased Vitality or Vitality Day Care product for uninsured workers shortly after the products were introduced in the second half of 2006
- Maintained good records in the Human Resource Department, with the ability to analyze these records and separate absenteeism for workers who died/retired from the work force as a whole
- Large enough (generally over 100 employees) that some employee deaths or medical retirements would be expected each year.
- Management agreed to participate in the study. The research team offered to defray the costs of data collection at the firms. One participating firm accepted this offer and was paid for the costs of programming special reports from its HR data system.

To maintain confidentiality, the study team never obtained individually identified data about employees. The data was collected by HR personnel at the firm who had routine access to such data in the normal course of business, and was reported for the study in aggregate form. As a result, the Institutional Review Board of Boston University Medical School determined that the study was exempt from the requirement for ethical review because no individually identified data was collected by the researchers.

A variety of Namibian firms of sufficient size were approached and asked to participate. A written request was followed with an in-person visit from a member of the research team if the initial response was positive. Firms meeting the inclusion criteria were then sent a letter (Appendix One) explaining the study and the data required, and requested to sign the letter indicating their willingness to participate. Six companies agreed. One of these companies had sponsored ART for its employees since approximately 2001, so “pre-intervention” data was not available, and that company is not included in the analysis reported here.

**Methods**

The study is a “pre-post” intervention study at the participating firms. Annual costs associated with worker attrition are compared before and after the point at which the firms enrolled their uninsured workers in the Vitality or Vitality Day Care Plan.

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Data reported by the participating firms included the following:

- Number of employees at the beginning and end of each year, and the number of new employees hired.
- Number of workers dying in service or taking medical retirement as a result of chronic disease in each year. The intent was to exclude workers dying of accidents or violence. Because we cannot identify the specific cause of death or retirement, there is an underlying level of chronic disease morbidity/mortality, exclusive of AIDS, included in these figures.
- Number of days of leave (sick, compassionate, regular annual leave) taken by employees who died or took medical retirement due to chronic disease in the subject year.
- Number of months on the payroll in the subject year for the employees who died or took medical retirement due to chronic illness. Some employees may retire early in a year, and data on the full twelve months ending on the date of death/retirement was not readily available. This data item was used to develop an “annualized” level of absenteeism for the workers lost.
- Number of days of sick and compassionate leave taken by all other employees in the subject year.
- Total compensation for all workers, including salary, overtime, payroll taxes and benefits. This was divided by the average number of workers in the year to obtain the average annual compensation per worker, and then divided by 220 to determine the compensation cost per working day.
- Amounts spent by the employer for health insurance coverage (by policy), including the amounts spent on Vitality or Vitality Day Care coverage.
- (If applicable) Productivity related payments made to workers who died/retired, and those who did not. No company paid an individual productivity bonus or piece rate.

Firms were asked to estimate the costs associated with replacing a worker, including advertising, selection and training. Firms were also asked to indicate the amount of any death benefits paid out of current year budgets. Amounts payable from insurance policies, payouts from pension plans derived from previous employer, and employee contributions and investment earnings were excluded.

A number of employer costs which may be driven by employee illness and death were NOT obtained because of the difficulty in collecting or estimating such amounts. Thus, we have no estimates for reductions in worker productivity when present but sick. We have no estimates for the loss of supervisor time “managing around” the illness and death of a worker. Nor do we estimate any reduction in the productivity of co-workers (such as funeral attendance) or the lower productivity of replacement workers while they being trained. Data on workers receiving antiretroviral treatment with higher rates of absenteeism were not examined because standard human resources data do not indicate which workers are receiving ART.

The data was processed and analyzed to provide the following key outcome measures for each year for each firm:

- Percentage of work force dying or taking medical retirement due to chronic illness: The number of employees lost was divided by the average annual work force (the midpoint between the total number of employees at the beginning and end of the year).
- Number of days of sick and compassionate leave taken by workers who died or took medical retirement, and for the remainder of the work force: The average number of days of sick/compassionate leave was calculated for lost and continuing workers.
- Costs of actual absenteeism during the year by workers who died or took medical retirement: The total number of days of sick and compassionate leave taken by these employees was multiplied by the average daily worker compensation for the firm.
- Annualized costs of absenteeism: The actual costs were increased by assuming that the average number of days lost per month for the months on the payroll would have occurred in each month for a full twelve month period.

Values were plotted for each year for each firm. In addition, where the data was available, we calculated a cost of attrition that includes the estimated costs of replacement and funeral benefits. The cost of purchasing the Vitality or Vitality Day Care product for uninsured workers is compared to the reduction in attrition-related costs in the last intervention year.

Because some of the participating firms are relatively small, available data on attrition for each firm was also pooled to obtain the average rate of disease-related attrition from the work force across all firms.

Results
**Participating Firms**
Five firms participated and provided work force data as requested. Firms were promised confidentiality although each is receiving a report of its own results. Firms were told that only the general size and industry segment would be indicated in this report. Firm characteristics in 2008 were as follows:

<table>
<thead>
<tr>
<th>Firm</th>
<th>Employee Range</th>
<th>Industry Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm A</td>
<td>&gt;1,000 employees</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>Firm B</td>
<td>100-499 employees</td>
<td>Retail/Wholesale trade</td>
</tr>
<tr>
<td>Firm C</td>
<td>500-999 employees</td>
<td>Retail/Wholesale trade</td>
</tr>
<tr>
<td>Firm D</td>
<td>100-499 employees</td>
<td>Tourism</td>
</tr>
<tr>
<td>Firm E</td>
<td>&lt;100 employees</td>
<td>Manufacturing</td>
</tr>
</tbody>
</table>

Firm D underwent a major corporate restructuring during this period, with the work force much smaller by 2008. The results for this firm are difficult to interpret for a number of reasons. Work force composition and human resource reporting policies clearly change, and some employees who would otherwise have died in service may have been laid off or taken severance packages.

Three firms purchased the Vitality product and one the Vitality Day Care product at the end of 2006. Thus we have two post-intervention years (2007, 2008) for each of these firms. The fifth company made a decision to purchase Vitality coverage at the same time, but the paperwork was not completed and employees were not informed of the new benefit until the end of 2007. Thus, we have only one intervention year (2008) for this firm.

**Disease-Related Attrition**
Figure 1 shows the trend in attrition related to chronic disease at each firm studied. Firm E is the smallest, with fewer than 100 employees. As a result, the percentage attrition resulting from a single death is large and there is much greater variability in the percentage from year to year. For this reason, we repeat the same data in Figure 2 without Firm E.

![Figure 1](image)

At Firms A-D, disease-related attrition in 2008 was below the peak levels reached in 2005 or 2006, before purchasing the low cost health insurance. Attrition was between 0.7 and 1.1% of the labor force in 2008, compared to highs of 1.5% to 2.0% in the pre-intervention years.
Of course, there is a great difference in the size of the firms, and in the HIV infection rate in different industries. By pooling the attrition data for all firms, we see the decline in attrition more clearly, as shown in Figure 3. Attrition in the pooled work force peaked at 1.7% in 2005, declining each year thereafter to a low of 0.9% in 2008. (Companies A and C did not report data for 2004.)

Figure 3
**Absenteeism**

The following graphs show the costs of absenteeism for the workers lost to chronic disease each year at each of the subject companies. The number of actual days of paid leave taken by the workers lost is shown by the line. The left hand bar in each pair shows the costs of these days, determined by multiplying the average daily wage for the firm times the reported number of days of sick/compassionate leave. The second (generally larger) bar for each year shows the “annualized” cost of the days absent. This was projected assuming that the average number of days of sick/compassionate leave taken each month (during the period of the study year before the workers died/retired) would have continued for a full twelve months.

**Figure 4**

**Company A**

**Absenteeism of Workers Lost**

At Company A (Figure 4), the cost of absenteeism for workers lost was highest in 2005 and 2006, approximately N$106,000 to N$108,000 (or N$185,000 to N$165,000 if annualized). The cost fell thereafter to N$74,000 in 2008 (N$101,000 annualized). This, despite an increase in average daily compensation of 12% over this period, from N$231 per day to N$258 per day. Workers who died or retired due to illness generally took five times as many compassionate/sick leave days as the other workers, and about 1.25 to two times the total leave (before annualization). The average recorded days of leave for a lost worker varied from 22 to 43 in each year, up to 67 days on an annualized basis. In contrast, the rest of the work force took 18.3 days in 2004, rising to 22.1 days in 2007 (when lost workers took 45 days) and falling to 16.2 in 2008. The data do not permit us to make a judgment, but some increase in absenteeism would be expected if workers were receiving ART at Government clinics and taking sick leave so they could be seen and receive medications during regular clinic hours.
In 2005, Company B showed a substantial drop in days of leave and associated costs. The directly reported levels were only slightly higher in 2006 and 2007 (the first full year of low cost insurance coverage for previously uninsured workers). However, the annualized levels were similar to the 2004 level. The costs of attrition in 2008 were extremely low.
At Company C, absenteeism and related costs rose from 2005 to 2006 and dropped back to 2005 levels in 2008. This Company grew substantially over this period, so on a per employee basis, the attrition costs are lower in 2008 than in both baseline years (2005, 2006).

The corresponding results for Companies D and E are not shown. At Company D, the corporate restructuring may have influenced the use of sick and compassionate leave. Results for Company E are not shown because of the larger annual fluctuations due to the company’s small size.

At Companies A, B and C, the amount of leave taken by workers who died or took medical retirement is lower in 2008 than it was in earlier years. So are the absenteeism-related labor costs. At Company C, absenteeism and related costs were similar in the last pre-intervention year (2006) and the first post intervention year (2007). By 2008, however, absenteeism is down. There is likely a lag between the time when a new benefit is in place, when workers begin using it, and when the newly covered benefit actually reduces attrition. So perhaps the encouraging 2008 result reflects this delayed response.

**Cost of Purchasing Low Cost Insurance**

Companies reported the cost incurred for purchasing the low cost insurance product in 2008 as shown below. The cost for Company A is estimated based on the company’s statement that approximately 2/3 of its workers were uninsured prior to the purchase of the low-cost product. Company B purchased the Vitality Day Care product and paid 80% of the premium, enrolled workers paid the other 20%. The other companies purchased the Vitality product and paid the entire premium:

- **Company A**  N$ 252,000 (estimate)
- **Company B**  N$ 293,000
- **Company C**  N$ 259,000
- **Company D**  N$ 28,000  (Company D downsized in 2007-2008)

**Other Costs**

In the companies studied, death benefits were generally payable from insurance policies or contributory pension plans. Although premiums and contribution rates may be increased in the long run by higher disease-related attrition, we are not in a position to measure this. In the study companies, benefit payments made at the time of death or retirement are generally not a charge to the company’s operating expenses in the year the worker is lost. However, Company C paid funeral benefits averaging N$23,000 per death. Since there were three times as many deaths as medical retirements, the cost for each worker lost was about N$17,250.

We asked companies to estimate the costs associated with replacing a lost worker. This would include the cost of advertising, selection and formal training for the new worker, but not on-the-job training. These estimates were as follows

- **Company A**  NA
- **Company B**  N$ 3,000 per worker
- **Company C**  N$7,500 for senior workers, N$1,800 for junior workers; estimated average for all positions $N2,750
- **Company D**  N$ 6,000-$8,000 per worker
Company A could not isolate the costs of hiring a replacement worker.

**Net Cost**

Although the comparison is imprecise, we have attempted to estimate the net benefit realized by the Companies that might be associated with the new insurance coverage. This is shown in Table 1. Only Companies A, B and C are shown. The downsizing of Company D would skew the results, with fewer workers at risk in 2008. As noted earlier, Company E has been excluded from the analysis because of the small number of employees and large variability in attrition rates.

In Columns Two (actual) and Three (annualized), we show the decline in attrition-related absenteeism costs from the peak year to 2008. To cancel inflation effects, the number of days of attrition-associated absenteeism is multiplied by the 2008 average daily wage at the firm. In Column 4, we multiply the estimated replacement and funeral benefit costs per worker times the decline in the number of workers lost to disease from the peak year to 2008. Company C was the only one of the three to experience substantial growth in the study period. For this company, the estimates have been increased to adjust for the larger size of the work force in 2008.

Column 5 shows the premium paid by the Company for low cost insurance in 2008. The final column shows the net cost to the company, deducting from the new insurance premiums the “costs avoided” in Columns 2 or 3 and Column 4. A range is shown depending on whether the costs of actual recorded or annualized absenteeism are used. All values are in Namibian dollars.

**Table 1 Annual Costs and Benefits to Participating Firms**

(all values in 2008 Namibian dollars)

<table>
<thead>
<tr>
<th>Company</th>
<th>Reduction in Absenteeism Costs --Actual</th>
<th>Reduction in Absenteeism Costs—Annualized</th>
<th>Other Costs</th>
<th>New Insurance Premium</th>
<th>Net Cost Reduction (Increase)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>49,000</td>
<td>86,000</td>
<td>NA</td>
<td>252,000</td>
<td>(203,000)- (166,000)</td>
</tr>
<tr>
<td>B</td>
<td>148,000</td>
<td>517,000</td>
<td>15,000</td>
<td>293,000</td>
<td>(130,000)- 239,000</td>
</tr>
<tr>
<td>C</td>
<td>28,000</td>
<td>72,000</td>
<td>60,000</td>
<td>259,000</td>
<td>(171,000)- (127,000)</td>
</tr>
</tbody>
</table>

At two of these three firms (A and C), the benefits which we were able to quantify, reduced absenteeism and employee replacement costs, were less than the company’s new outlays to purchase insurance for previously uninsured workers. Company B, with a relatively high average wage in 2008, also showed that the new insurance expenditures did not exceed the recorded savings. However, if we annualize the absenteeism benefits in this company, where losses dropped rapidly in the second year of insurance coverage, the firm would see a net benefit from the insurance purchase.
Limitations
The biggest limitation of this study is the relatively small size of the study population (less than 2,500 workers in the five companies combined in any year) and the short intervention period. Four companies had the low-cost (Vitality or Vitality Day Care) benefit in place for 2007 and 2008. The fifth company agreed to provide Vitality coverage but did not complete the administrative arrangements until the beginning of 2008. Even then, the promotion of the benefit to the company’s work force was limited. While the data from this company (A) suggest a decline in employee deaths related to chronic illness and attrition-related costs, this decline began in 2006 and is likely attributable to the relatively wide availability of ART in the public sector during this period. At the end of 2008, no employees of Company A were yet enrolled in the HIV disease management program run for Vitality policy holders.

Differences in human resources record keeping in the participating companies also make it difficult to compare the actual costs of disease-related attrition. Policies on sick leave and absenteeism vary across the firms, as do the rules regarding medical retirements. Some of the companies appear to have changed policies (such as the manner of recording routine leave) during the study period. Because we do not have full absenteeism data for the twelve months prior to death, we have used the “annualization” method described to estimate annual costs of leave taken by lost workers. This annualized “cost of attrition” calculations must be considered with caution.

We also recognize that there are attrition-related costs which we did not capture: reduced productivity during the time that the sick workers were present, the costs of “managing around” the illness and vacancy, and any reductions in productivity as a replacement worker is trained. Thus, the comparison of savings and insurance costs in Table 1 understates the net benefit to the Company.

Obviously, it would be desirable to study more firms and increase the total employee population analyzed. It would have been nice to disentangle the effect of insurance supported ART and the growth of public ART, but this would require a sample of firms (participating and not participating in the low cost insurance plans) beyond the budget of this study, and probably larger than could be recruited in the small Namibian economy, even if study budgets were not a constraint.

Discussion
The good news from our study is a general secular decline in illness-related attrition in the study companies from 2005 to 2008. This contrasts with the increase in attrition that would be expected over this period given rising HIV prevalence in Namibia in the fifteen years prior to 2007. The parent firm of some of the study companies reported deaths in service as 1.6% of the labor force in 2003, with a further 0.3% of the work force taking medical retirement that year. Using the model of the Actuarial Society of South Africa, disease-related attrition in this group was forecast to increase to 3.6% (2.6% deaths, 1% medical retirement) by 2010.9 Instead, observed annual attrition rates at the firms reported here varied between 0.7% and 1.1% of the

labor force in 2008. Workers who would otherwise be dead or disabled by AIDS-related illness are remaining at work in these Namibian companies.

This favorable development did not occur because workers at these firms are not infected with HIV. Seroprevalence studies have been conducted at these firms by Pharmacessa Namibia over the last three years. Employee uptake rates varied between 73% and 83%. Between 8% and 22% of those tested at the study firms were HIV positive. In the absence of antiretroviral therapy, these companies could expect to lose 1% to 2% of the work force to AIDS alone every year.

Although disease-related attrition and costs are generally falling in the study firms, we cannot specifically link this decline to the implementation of low cost insurance policies. In part, this is a limitation of the study design. We do not have data on similar “control” companies that did not purchase the coverage for uninsured workers. It is possible that attrition fell less in the companies which did not purchase the insurance.

Companies do not know which employees are being treated for AIDS, either publicly or privately. However, insurers in Namibia use HIV/AIDS disease management organizations, which keep track of the number of insured employees in each company that register with the disease manager. Inquiries of the disease managers provide interesting insight. At one company (B), management strongly promoted the new benefit to its employees. In addition, this company has a corporate policy that requires supervisors to discuss illness with employees, and the company requires a medical exam for chronically ill employees which is paid for by the company. The disease manager reports that a number of HIV+ employees insured under the new policy at this firm have enrolled for treatment. Active promotion of the ART benefit, plus the relatively high wage level at this company, probably explains why this firm had the most favorable ratio of costs (insurance premiums) to benefits (avoided attrition-related costs). In fact, if absenteeism costs are annualized, the benefits exceed the costs.

One of the other companies, which did little promotion of the new benefit, had no HIV positive employees enrolled with the disease manager at the end of 2008. Deaths in service have declined in this company as well, but probably because HIV positive employees are taking advantage of expanded public ART programs.

This experience echoes findings from other health insurance experiments. The mere availability of health insurance does not necessarily change care seeking behavior. For example, a USAID experiment with low-cost health insurance in the Philippines found that insureds used the benefit for serious illness at a designated private hospital as intended. But Filipinos tend to use these hospitals when they can find the funds to pay the bills. However, the family planning benefit was not used because it was not actively promoted, and insureds did not change their contraceptive patterns (or source of care) just because of coverage. In Namibia, low-income workers have traditionally gone to the public sector for treatment of serious illness. They

10 The fifth firm was so small (<100 workers) that a single death causes more than 1% annual attrition and the rates fluctuate widely between years.

apparently continue to do so despite being enrolled in the new low-cost plans. Some may have entered antiretroviral treatment at a public facility before the company purchased the low cost coverage. Even after obtaining coverage, workers with AIDS may have sought or continued care in the public sector for one of several reasons:

- public facilities were their traditional source of care in the event of serious illness;
- workers were unaware of the nature and scope of the new insurance benefit;
- workers (wrongly) feared that seeking care under the insurance plan would identify them to the employer as HIV positive;
- workers feared for the continuity of ART should they lose their job and the related health insurance.

Employers will reasonably ask if the purchase of the new low-cost insurance plans has an economic benefit to the firm. As shown, attrition, absenteeism and costs related to work-force attrition have generally been falling in the study companies, but the decline predates the purchase of the new insurance cover. Direct comparison of the premiums paid for the new insurance with the avoided costs we were able to measure does not show that the measured benefits exceed the costs. But we were unable to measure some of the costs resulting from disease-related attrition, which would bring costs and benefits to the firms closer into balance.

One unequivocal conclusion of this study is that Namibian employers are seeing a benefit to their labor costs from antiretroviral treatment. They are losing fewer workers than they did a few years ago, and the benefit is even greater if compared to the likely increase in AIDS related attrition that would have occurred over this period. Whether the benefit is coming from low-cost health insurance or public treatment we cannot say. But employers are seeing a benefit which should motivate them to share in the costs of antiretroviral treatment through purchase of low cost insurance or some mechanism for sharing the public treatment costs now being incurred by the Government and donors. To encourage support for voluntary or mandatory health insurance schemes, the Government of Namibia should consider revising the tax status of employer-paid premiums, at least for lower cost policies or mandatory health insurance coverage. At the moment, all employer contributions to health insurance premiums are taxable as income to the employee. The care available from low cost health insurance plans could substitute for the tax-funded public care now being used by many employees. With this insurance coverage, tax funded outlays for care in the public system could be reduced. To encourage substitution of risk pooled private medical care for public expenditure, the Government could consider exempting employer payments for basic health insurance benefits from income taxable to the worker.

12 Economists have rightly noted that in the US, where employer premium payments are not taxed as income to the worker, a tax “subsidy” goes to individuals with high marginal income tax rates and “high end” health insurance plans. But in creating a risk pooling scheme in Namibia to cover most workers with basic benefits, such a contribution should not be considered as “income” any more than the value of the publicly funded health care which many of these workers now receive.
Appendix One
Company Participation Letter

Dear Prof. Feeley;

I am pleased to inform you that XXX is prepared to participate in the proposed study of the employer impact of health insurance coverage for lower income formal sector workers in Namibia. We understand that XXX will be one of six Namibian employers participating in this study. The study will compare employer costs (for purchase of health insurance or health care) with the benefits received by employers (from reductions in illness related costs).

We are prepared to provide data from XXX for the items listed below over the period from 2002 through 2007, possibly extended through 2008 if your research grant is extended. This data will cover employees at all operating units in Namibia.

DATA ELEMENTS

In general, each element will be reported for each calendar year on the schedule indicated in the following section.

General Labor Force Data

- Total number of regular employees (those eligible for benefits). This will be reported for large subgroups of the work force in a manner convenient for XXX. All other data will be reported for the same units. Subject to discussion, some items may be reported for the company as a whole.
- Total compensation of workers in the unit (so that average annual compensation can be calculated).
- Number of employees dying in service and medically retired from the unit in the reporting period.
- Total number of employees leaving the unit for other reasons during the year.
- Number of employees with medical scheme coverage, by type of scheme.

Illness-Related costs

Absenteeism

- Policy on the number of sick leave, compassionate leave days available to workers. The intent is to identify any change in policy which would result in an increase/decrease in available leave.
- Total number of days of leave taken by employees in the work unit in the year, broken by sick leave, annual leave, compassionate leave and other subcategories normally defined in XXX labor policy

Death and Retirement Benefits
- Total amounts paid directly by the company for death or funeral benefits for workers in the unit. This should exclude any payments made from Social Security or company pension funds based on prior payments by the employer and worker. Also excluded are any amounts paid from death or disability insurance policies.
- Total premiums paid for life insurance policies for workers in the unit
- Total premiums paid for disability insurance policies for workers in the unit

**Training and Replacement Costs**
- Total cost (advertising, interviewing) for recruiting new/replacement workers for the unit.
- Average cost for recruitment of one replacement worker in the unit. Can be determined by dividing total recruitment costs for the unit by the number of new workers hired.
- Average cost of training for a newly recruited worker in the unit. This can be calculated by multiplying the average wage times the number of weeks of training time for each new worker, and adding any tuition or external training costs. We can work with you in refining the methodology for these calculations.

**Medical Insurance and Treatment Costs**
- Total employer outlays in the year for health insurance and/or medical reimbursement for workers in the unit.
- Policy on company/employee share of premiums for workers and dependents.

**DATA COLLECTION**
The above data items will be collected and reported by XXX. We expect that most such data can be obtained from existing computer systems or reports in Human Resources or Finance. To the extent any data must be abstracted from individual files or recovered from the discontinued personnel information system, this work will be done by XXX employees who have routine access to such files, and shall be reported to you without individually identifying information. We understand that you will work with us in order to accommodate the study’s data requirements to our data systems to the maximum extent feasible. If extraordinary costs would be incurred by XXX in assembling the data, we will so inform you, and you may modify the data requirements or compensate XXX for these additional costs.

**SCHEDULE**
We understand that no data collection will begin until the study has been approved by the Institutional Review Board (Ethical Review Board) of the Boston University Medical Center. Thereafter, data will be assembled by XXX for the period from 2002 through 2006 and reported to you some time in the first half of 2007. By March of 2008, we will report the comparable data for 2007. If the study is extended another year, we will report comparable data for 2008 near the end of the first quarter of 2009. Exact reporting dates will be mutually agreeable and reflect the work load in our data processing and human resource departments.

**CONDITIONS**
Our participation in this study is specifically conditioned upon the following:
1. XXX will not report any individually identified data to you. We will generally report aggregate values for various groups for each year over the period of the study. If it is specifically necessary to link employee data in different files (for example, deaths and productivity payments in a period prior to death), our staff will collect data from our files and report using a number that links to the individual employee only through a key which is controlled by XXX and is not released to Boston University.

2. XXX will not be specifically identified in any published report arising from this research. Results reported from the analysis of our company will be reported only as Company Z, with an indication of the industry sector and size.

3. XXX will receive a company specific report detailing the analysis of XXX data in mid 2007, with updates approximately three months after XXX provides subsequent annual reports to you. Copies of the summary report and findings from the full study will be made available to XXX at no cost as soon as such report is completed.

4. All efforts will be made to collect data in such a way as not to interfere with normal corporate activities, and on a schedule convenient to us.