AIDS UPDATE 2002

Information & CPD Subcommittee
of the
ASSA AIDS Committee

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Introduction

The HIV/AIDS epidemic and its potentially devastating effects is certainly one of the most important challenges facing South Africa. The South African epidemic has sparked controversy and debate, and there is, as yet, no sign of infection rates declining.

HIV/AIDS presents many challenges to actuaries. A few of these are the modelling of the epidemic and its impact on life expectancy, the pricing of medical aid and risk benefits, the affect of the epidemic on retirement funds, and the development of new products that suit our rapidly changing markets.

Actuaries are expected to provide advice in environments that are increasingly being affected by the epidemic. This paper aims to give a current overview of the epidemic, and give information as to the developments in a number of the areas in which actuaries work.

Background

(Rob Dorrington)

National

Figure 1 compares the observed prevalence from the national antenatal survey (with confidence intervals), with projections of the ASSA2000 models (Full, lite and aggregate of the provisional provincial models).

When considering this comparison the following should be borne in mind:

- The model has been deliberately fitted below the points prior to 1998 to allow for what appears to be bias in the earlier results, probably due to a concentration of clinics in the urban areas.
- The 1998 observation is incorrect. The Department of Health made a mistake with the weights used to do the calculation, and the correct value should be some 2% lower.
- The confidence intervals prior to 1998 ignored clustering and thus are too narrow.

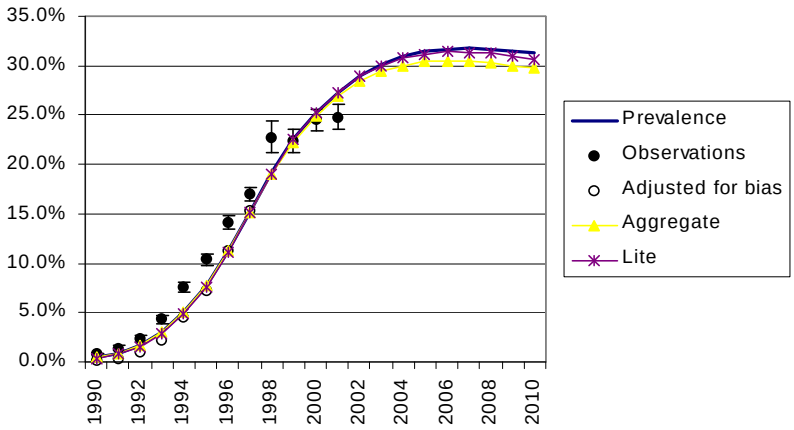


Figure 1. Comparison of ASSA2000 with antenatal prevalence rates

The fact that the model projected a prevalence rate above that observed in 2001 needs to be investigated.

As is shown by Figure 2 this is unlikely to be due to changes as allowed for in the illustrative "change scenario" released with the model.

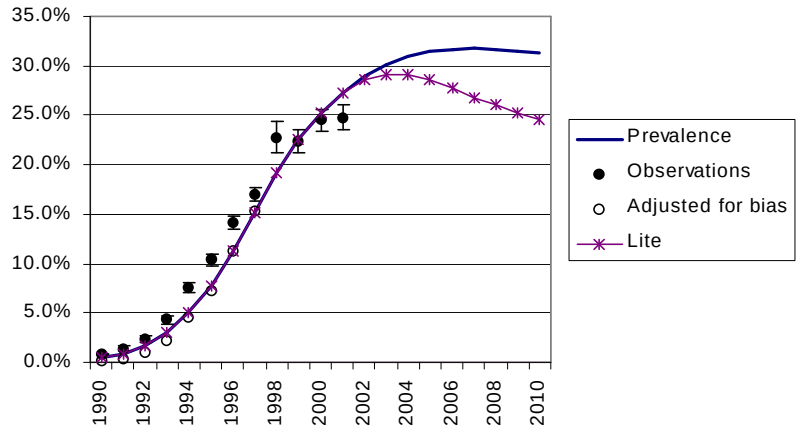


Figure 2. Comparison of the prevalence of women attending antenatal clinics under the no-change and change scenarios

Provinces

Figure 3 compares the antenatal clinic prevalence projected by the provisional provincial models.

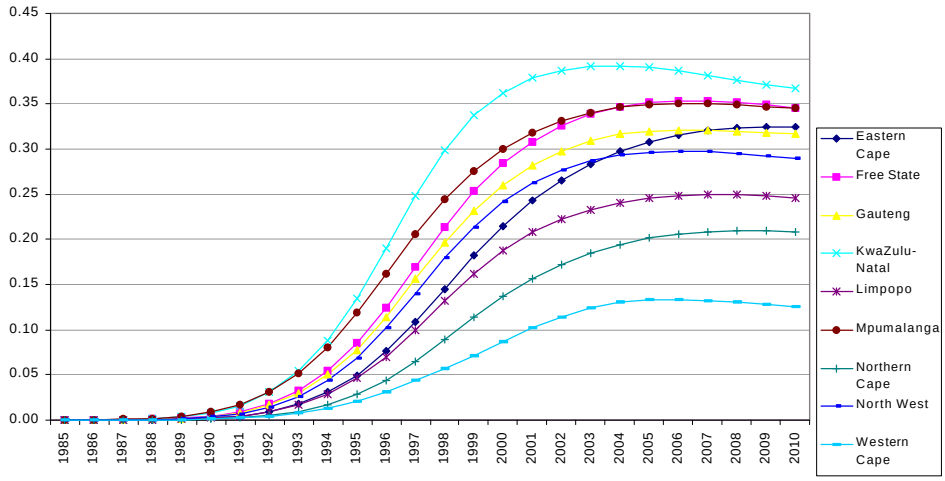


Figure 3. Comparison of the provincial antenatal prevalence projected by ASSA2000

The model fits within the confidence limits of the 2001 observation for all but three of the provinces, Eastern Cape, KwaZulu-Natal and Limpopo, as illustrated below.

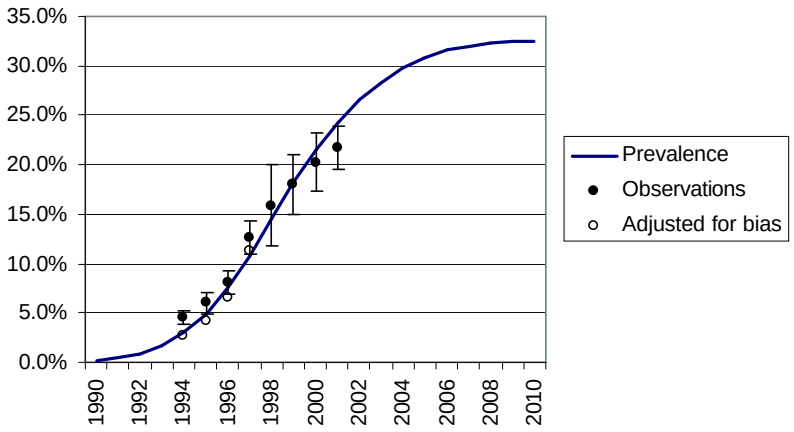


Figure 4. Model vs antenatal prevalence for the Eastern Cape

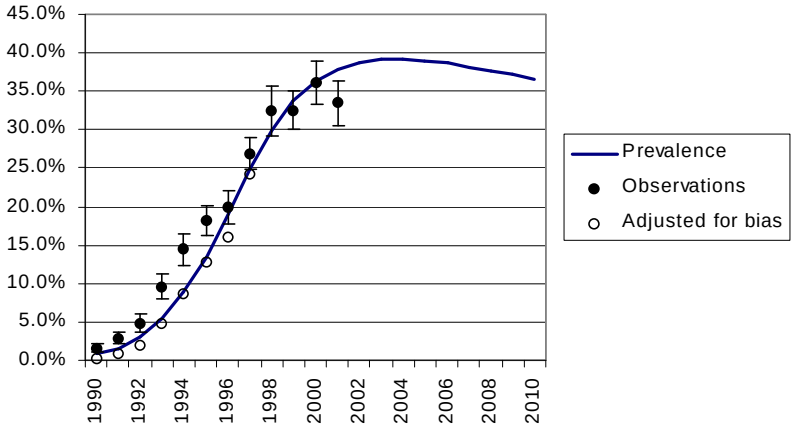


Figure 5. Model vs antenatal prevalence for KwaZulu-Natal

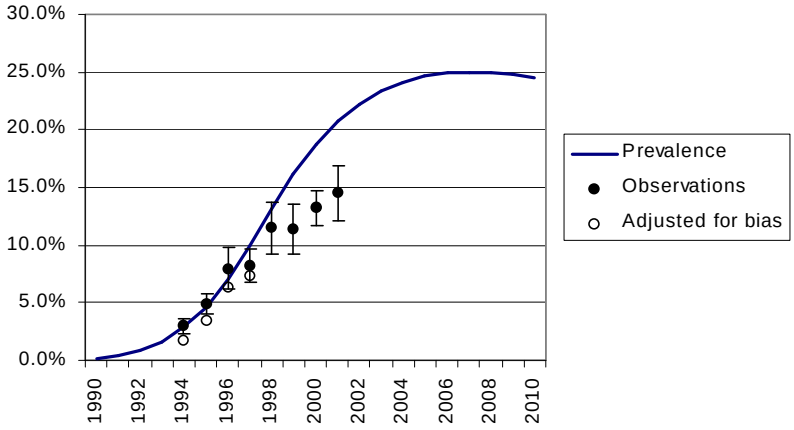


Figure 6. Model vs antenatal prevalence for Limpopo

Although it is clear, and we have known this for some time, that the model doesn't fit Limpopo, and that there is a need to try and allow for this in setting the parameters for this province, it is not clear what to do about the other two provinces. Although it is tempting to argue that the fit to KwaZulu-Natal in the early years is too low, it should be borne in mind that many of the sites in this province in the early years were deliberately chosen to be close to transport routes. This was so that bloods could be transported to the laboratories with less chance of contamination, etc!

Age

Figure 7 shows a comparison of the model with prevalence for three age ranges. While the model tracks the important 20-29 age range very well, it is clear that the model is no longer tracking the prevalence in particularly the 15-19 age range, and to a certain extent also for those over 30.

While it is clear that something has changed in the youngest age group, it is not clear exactly what this change is, and hence what impact it is likely to have on the epidemic. It could be the result of girls now either abstaining, or if not, then practicing safe sex and hence not getting infected to the same extent as assumed in the model. It could, alternatively, also be that they are not falling pregnant but still getting infected, through use, for example, of injectable contraceptive

In the 30+ age, most of the difference can be explained by a difference in the number of pregnant women in the model, compared to the number reporting to the antenatal clinics. Although it is not yet clear what this means, it could be the result of the impact of the virus on pregnancies, which is different from that assumed in the model.

Whether we will be able to unravel these mysteries depends very much on whether the Department of Health will give us the more detailed data we continue ask for. To date we have been singularly unsuccessful in getting this data from them (even when they have said we can have it!!!!)

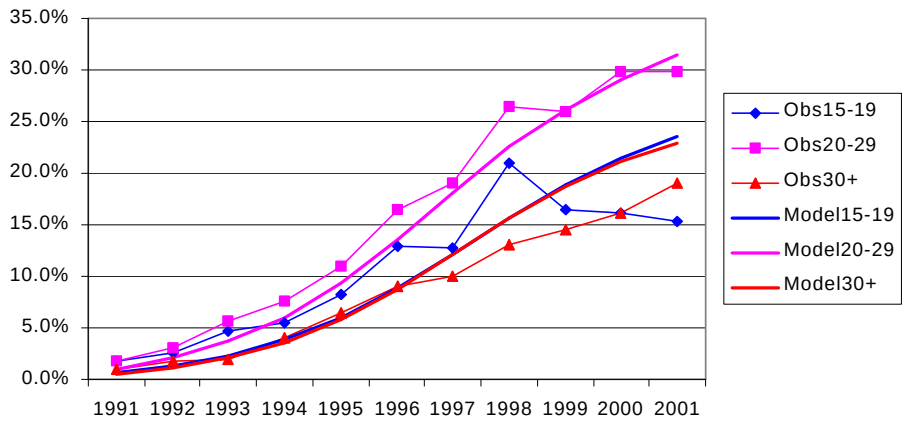


Figure 7. Model vs antenatal prevalence by age over time

Private sector prevalence

Work continues on trying to get a handle on prevalence in the private sector. Although CARE has produced initial results by race, sex, age, skill level and sector, and these have been used to argue that the prevalence of members of medical schemes is likely to be somewhat lower than earlier estimates have suggested, the results are considered too tentative to be published at this stage.

However, it is clear that prevalence differs by:

- sector.
- skill level (although once race is accounted for this difference may only be significant in the black African population group).
- by age and sex (in some sectors) with higher prevalence in men at older ages.

Warning about using/interpreting company prevalence testing data

These data are only useful if participation is high (unless there is good reason to assume that there is no bias in non-participation). Typically 80% participation is considered good. However, although this may be acceptable as a measure among those who are largely unaware of their status, it is no good for a group where a significant proportion may well have been tested before the survey (e.g. for insurance purposes). In such cases, nothing short of 100% will give an accurate picture, since it is reasonable to assume that those who know they are positive will not volunteer to be tested (unless there is peer pressure to do so or risk being assumed to be positive). Typically, it is exactly these groups where participation is below average! Thus all one can assume in such cases is that the prevalence is likely to be higher than measured.

Unless participants are convinced of the benefits of the survey for themselves individually and collectively, and of all the demographic data collected, one could quite easily encounter 'protest participation' (i.e. testing and supplying false information). For example, if the company asks for race and participants object to the question they could fill in the wrong race – similarly with salary and job grade.

The use of race

The use of race in modelling is an issue that needs much more consideration than we have given it to date. All the evidence is that no matter what other risk factors are considered race is still the most significant. The dilemma facing the profession is that, if one is trying to assess the likely future impact of the epidemic, one needs to take race into account. However, race cannot, and should not, form part of the management of the situation. Thus, if data are collected on race these should not be made available to managers (at all levels) of the company!

The ASSA AIDS Models

(Steven Rosenberg)

It has now been three years since Janina Slawski presented her paper, "AIDS: where are we?" to the profession. This paper showed the modelling progress that the ASSA AIDS committee had made to that date. Since then, a significant amount of progress has been made. The ASSA model has now been developed into a suite of models, each customised for a different purpose.

The ASSA2000 Suite of Models

The ASSA600 model, which was also presented at the 1998 ASSA Convention, has been improved and developed into the ASSA2000 model. The ASSA2000 suite of models is outlined below:

- ASSA2000 "Lite" Model – used for projections of a single race group
- ASSA2000 "Full" Model – used for projecting the epidemic for the country as a whole taking into account the different prevalences levels in the different population groups.
- ASSA2000 "Provincial" – which comprises a full model fitted to each of the provinces and the sum thereof.
- ASSA2000 "Urban-Rural" Model – used for projecting the epidemic in non-South African countries, where there are very different levels of prevalence in the urban and rural areas. It has been tentatively fitted to ten sub-Saharan countries, although it is still being developed.

These models have been calibrated to model various different populations:

- The South African population
- Each different South African province
- Certain sub-Saharan African Countries, including, Botswana, DR Congo, Kenya, Malawi, Mozambique, Namibia, Tanzania, Uganda, Zimbabwe and Zambia
- Countries outside of Africa, such as India

In addition to the above, significant enhancements have been made to the models themselves. More information is now being used to model the epidemic.

The models now contain the following variables:

- Probability of transmitting the virus from one person to the next

- Condom usage
- Number of sex partners
- Number of contacts per sex partner
- More correct allowance for the sexual activity between two individuals
- More appropriate allowance for HIV survival using a Weibull survival distribution

The model is also calibrated against more sources of data:

- Data covering the total number of deaths reported in the country from 1997 to 1999.
- Antenatal prevalence data for women attending antenatal clinics at sites distributed throughout the country. This data, for modelling purposes, has also been adjusted to allow for the fact that previous years' antenatal data was not well represented throughout the country i.e. there was a rural bias in the earlier years of the South African data
- Information from various sources and surveys to provide the information needed to populate the parameters for the above additions. For example, information on condom usage and sexual activity information was used from surveys undertaken by the Department of Health.

The model produces various items of output. After each item, a sample figure is given for the South African population:

- Population size by calendar year (in 2005 we estimate the population size will be around 47,4 million)
- HIV prevalence by age group and calendar year (the model projects prevalence percentage in 2005 for the 15 to 59 age group across the entire South African population to be 25.6%)
- HIV+ births (in 2005 the model projects, without interventions, some 71 thousand HIV+ births)
- New AIDS sick (in 2005 the model estimates 722 000 people will become AIDS sick)
- Non-AIDS deaths (in 2005 the model anticipates 410 000 deaths)
- AIDS deaths (in 2005 there are projected to be 566 000 AIDS deaths)
- Cumulative AIDS deaths (by the year 2005, there are expected to be 1,8 million AIDS deaths)

The model can be used to produce a host of other items of output, such as extra AIDS mortality rates, incidence rates by age and calendar year and various other items.

In conclusion, the ASSA2000 suite of models is more complete, using both more information, and information of a more appropriate nature, than the ASSA600 model to project the AIDS epidemic.

The ASSA Multistate Model

This is a completely new model, developed by the ASSA AIDS Committee, which allows the modelling of the impact of AIDS on a select –population, such as a company's workforce. This is done by projecting both the demographic and financial impacts.

The model allows for the wide range of possible movements that may take place in a workforce:

- New entrants (the model allow new entrants to have a different demographic and HIV/AIDS profile to the existing population)
- Withdrawals (retrenchment and voluntary)
- Deaths
- Disabilities
- Retirement (normal, early and ill-health)
- Promotions to higher grades
- Infection with HIV and progression through the different stages of HIV
- Initiating anti-retroviral therapy (ART) and progression through the HIV stages with ART treatment.

The model imports age- and sex-related rates of infection from the ASSA2000 model and then adjusts them according to the grade of the individual in the workforce.

The model also splits the progression from HIV infection to death into different stages. There are two HIV asymptomatic stages, as well as one HIV symptomatic stage and an AIDS sick stage.

In addition to this, the model allows the modelling of the impact of various interventions, for example, an antiretroviral treatment (ART) program. The model separately projects lives accessing ART treatment in four disease stages, similar to those for lives not accessing ART.

The model produces a wide range of demographic and financial output. Demographic output is produced by calendar year, and can be split by age, grade, gender and HIV and ART stage:

- Number of HIV+ (and prevalence)
- Number in and moving to the different HIV and ART stages, again by the above subdivisions
- Number and rates of various decrements (withdrawals, deaths, etc)
- Workforce profile

Financial projections by calendar year, which can also be split by age, grade, gender and HIV or ART stage:

- Employee benefit cost projections (group life, disability, etc)
- Medical expenses
- Productivity, sick leave, recruitment and retraining

In conclusion, the ASSA Multistate Model is an important tool for estimating the impact of HIV/AIDS of a select population. On the downside, setting the parameters for the model is a complex undertaking. Thus, it is recommended that members not use this model before having attended a training course. However, the demographic version will be made freely available.

HIV/AIDS and the South African Life Assurance Industry

(Dominic Liber Coral Smith)

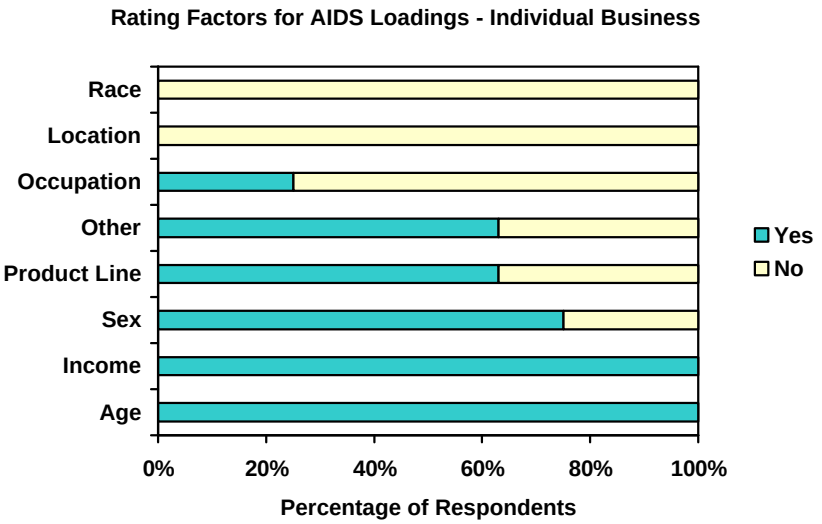
The following information is drawn primarily from the Swiss Re HIV/AIDS Insurance Practice Survey (SHIPS) 2001.

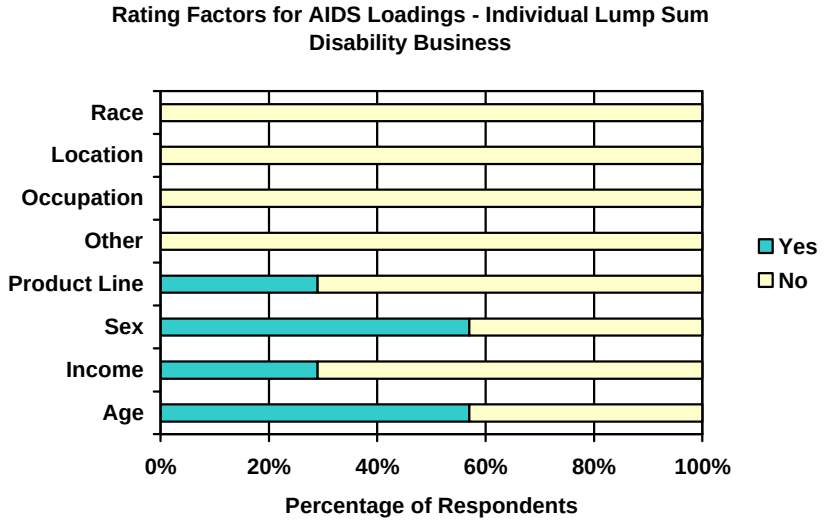
Individual Life and Disability Business

The individual life market seems to be relatively insulated from the impacts of HIV/AIDS. Only two of nine companies surveyed reported a noticeable deterioration in the mortality experience of individual life business. None of the companies writing individual lump sum or income continuation disability business has observed any deterioration in recent risk experience.

The most popular pricing models being used in the market are the ASSA600 model and the Doyle model, although the release of the ASSA2000 model may change this. Companies are generally less precise in pricing disability business than life business, possibly because of the more select nature of the product, or the stricter initial underwriting.

For individual life business, the primary rating factors for AIDS loadings are income and age. Sex and product line are also significant rating factors. No companies are differentiating loadings for individual life business by race or geographic location, nor is historic experience yet in use as a rating factor.



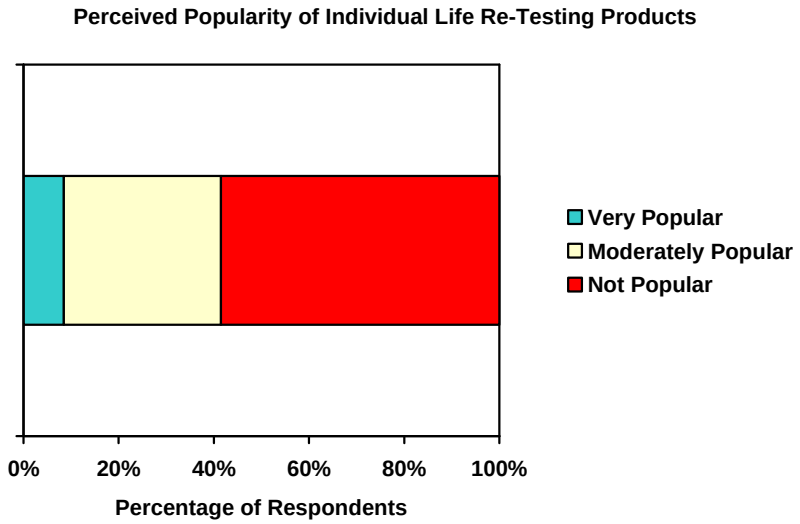


Some form of initial HIV testing is conducted by almost all companies on individual life business, and a significant proportion of the industry is testing all applicants, regardless of the sum assured. Individual disability business is even more strongly underwritten and tested than individual life business, for example 62% of survey respondents writing individual capital disability business are testing every applicant. Testing procedures are largely based on the LOA protocol, involving multiple ELISA tests, and this testing protocol is widely considered to provide a reliable indicator of HIV status.

Retesting or multi-testing products are life insurance products that require the life assured to undergo periodic HIV testing. A five-year retesting period is most common. In the event of a positive HIV test, the sum assured is reduced either immediately or over time, for example uniformly down to zero over the next five years.

Opinions in the market on the success of retesting products are mixed. At least one insurer has discontinued its retesting policy, while at least one other company has recently launched a retesting policy.

Logistically, the success with implementing the repeat testing has been mixed. Some companies reported low rates of successfully re-contacting the client and obtaining the retest, while others reported more satisfactory levels of success of retesting.



HIV/AIDS-exclusions have fallen mainly into disuse in the individual market, with only two of nine individual life insurers surveyed writing policies with AIDS-exclusions between mid-2000 and mid-2001. None considered them useful or viable. Exclusions are considered more useful for individual disability business. Nonetheless, three quarters of companies who did once write exclusions are still enforcing these exclusions on their existing business.

There are at least two individual life products for HIV positive people on the market, but the companies writing these policies described them as unpopular.

Very little is currently done in terms of disability claims management. Respondents were asked which of the following elements were contained in their HIV-disability management program:

- Provision of anti-retroviral therapy
- Treatment of opportunistic infections
- Prophylactic avoidance of opportunistic infections
- Nutrition management or supplementation
- Counselling, psychological intervention, family support
- Other

Only one respondent indicated that counselling is provided in-house. No other services are offered by any of the respondents.

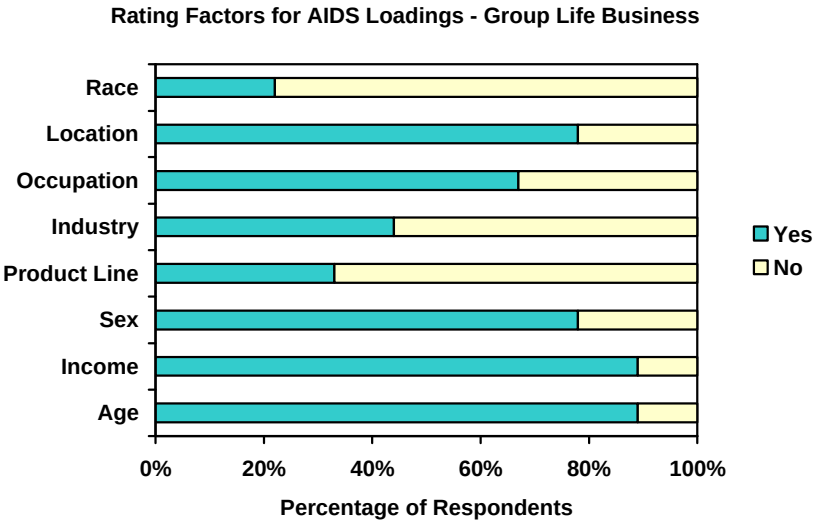
Group Life and Disability Business

In contrast with individual business, group business has seen a marked deterioration in experience over the past year, virtually across the board. The impact on group life has been more severe than that on group disability business.

Most group schemes use HIV testing as part of the initial underwriting process, but above an HIV testing limit. HIV testing limits are generally related to scheme free cover limits, but there are exceptions where the limit is set with reference to the sum assured and the age of the life concerned.

Pricing models and practices are more sophisticated in the group market, possibly as a consequence of the greater exposure. The Doyle and ASSA600 models are currently most widely used, although the ASSA2000 is already in use with several companies, and several are intending to adopt it in the near future.

Different rating factors are used for group life business, than for individual life business. There is far greater use of geographic location, occupation, and even race.



Disability claims management is very limited, and the impact of workplace HIV/AIDS risk management programs is still unknown, and not factored into pricing.

Insurers as Employers

As employers, insurers showed some variance in their policies regarding HIV/AIDS. Eight out of nine companies surveyed had an HIV/AIDS or life-limiting disease policy concerned with HIV/AIDS in the workplace. Three respondents did not have a committee or taskforce considering the management of or the response to the HIV/AIDS epidemic amongst employees. Only two respondents had provided voluntary testing and counselling programs for employees.

Areas for Further Development

At this stage, there are several key areas within the industry for further development. Actuaries within the industry are well positioned to begin addressing many of these areas in conjunction with underwriters and claims managers.

- HIV/AIDS-related risk and rating factors vary amongst the lines of business. It is not always clear what the best risk indicators are, and how these are changing over time. Examples of potential new rating factors include the existence and extent of a workplace intervention program (for group business), or the CD4 count, viral load or treatment regime for individual business. How do these influence risk?
- Success in identifying AIDS claims is generally low. Is it economically worthwhile to pursue more detailed investigation? How can “possible” AIDS claims be classified in a consistent manner within the industry? Are there different requirements for different lines of business?
- Different pricing models (ASSA600, ASSA2000, Doyle) generate different mortality levels and trends over time. Does this create arbitrage or anti-selection opportunities?
- What individual or group products can be developed to target benefits towards HIV+ individuals? Is there a market for such products?
- Why is the perception and experience of re-testing policies so mixed?
- How can the impact of HIV/AIDS on disability be modelled?
- Is it economically viable for a life office to fund some elements of disease management, out of the possible reductions in risk costs? How does this vary by line of business?

The Proposed Revision to PGN105

(Joubert Ferreira)

What is PGN105?

PGN105's purpose is to recommend to actuaries a basis for determining projected AIDS extra mortality rates for assured lives. It came into effect on 1 January 1995.

Why change?

Since 1995 we have learnt a lot more about the modelling of the epidemic and the experience of life offices - the previous recommended figures have become outdated, both with regard to the shape and level of extra mortality.

Current status

PGN105 has been revised by the AIDS Committee of ASSA and forwarded to the Retirement Matters and Life Assurance Committees for comment and approval. The Life Assurance Committee is the "owner" of PGN105. If they are satisfied, the revised PGN still requires Council's approval.

How did we go about revising the PGN?

The recommended extra mortality rates for the different risk groups were determined as follows:

- ASSA2000Lite with standard best-estimate parameter setting was used as point of departure.
- A separate model to project subgroups that are subject to an underlying epidemic as modelled by ASSA2000Lite was then used to produce rates for individual assured lives and group lives.
- The subgroups are select populations from the total South African population and are defined by a set of parameters. These parameters were set through calibration of the subgroup model taking into account data from a large life office for HIV testing statistics for individual assured lives and figures from a survey for group lives covering virtually the whole industry.
- The provisional results were tested in a survey of statutory actuaries of life offices and were generally accepted.

Some features of the proposed revised PGN

- Tables were introduced for female low risk lives – the previous rates for low risk were for males only and were based on the UK R6B rates.
- The shape and the level of the curves of extra mortality have changed. In general, the curves peak at later ages for males and earlier for females. The changes in

shape make comparisons difficult, but the level of extra mortality rates changed broadly as follows:

- Male low risk individual and group lives: Heavier
- Male high risk individual and group lives: Somewhat lighter
- Female high risk individual lives: Much lighter
- Female high risk group lives: Somewhat heavier

- Projected HIV prevalence rates are shown for each group. Where HIV prevalence rates for a specific group are known, this should assist in determining suitable extra mortality rates.

- Methods to determine approximate rates from ASSA2000Lite are provided. These are based on a percentage of ASSA 2000Lite with appropriate lags.

- An annexure has been added to PGN105,addressing issues relevant to retirement funding.

Still to do

The PGN105 working group is currently working on select rates and the provision of a full set of select and ultimate rates in electronic format.

Company Strategy

(Wilfred Moyo)

This section summarises the various strategies that companies in South Africa are employing in order to address the impact of HIV/AIDS on employees and employers. Several companies in various industry sectors have set up strategies aimed at reducing the impact of HIV/AIDS at the work place. We look at the strategies currently being employed by companies in the retail, manufacturing and mining industries as well as the public, health care and communication service sectors.

Company responses typically contain some or all of the elements detailed below. Often, the formation of company policy, establishment of an AIDS committee, the KAP study and an impact assessment will precede the other elements.

Element 1: Strategy, Policy and AIDS Committees

The usual starting point is for employers toset up a steering committee to be responsible for an HIV/AIDS project. While frequently headed by HR, for the committee to be effective, it is critical that finance and other areas are adequately represented. These committees have generally begun by setting up and implementing an HIV/AIDS policy across the company. Policies cover issues around discrimination, supportive working environment for HIV /AIDS infected employees, confidentiality and fair labour practice.

Element 2: Prevention, Peer Counsellor and Peer Educator Programs

Many companies have undertaken some form of elementary prevention program. These programs are generally intended to raise awareness around HIV/AIDS, and the ways of preventing infection. Condom distribution, poster campaigns and workshops may all be used. Condom usage amongst companies that do distribute condoms is generally reported to be high.

Some companies have gone on to peer education programmes. Here, a few employees are trained to educate other employees around HIV/AIDS – the facts, the treatment and responses to HIV+ people in the workplace. For most companies in these sectors, HIV/AIDS training modules have become part of the induction pack for new employees.

Under peer counsellor programmes, identified employees are trained in HIV counselling to provide counselling to fellow employees should an employee or his or her relative become infected or come into contact with HIV/AIDS in some other way.

It is a critical success factor of peer educator and counsellor programmes that the HIV/AIDS-related responsibilities be integrated into the employee's job description and performance criteria. If this is not done, managers may not support employees taking time from "real work" to undertake HIV/AIDS-related work.

Element 3: KAP Study

Some companies start their HIV/AIDS processes by carrying out a survey called Knowledge, Attitude and Practice (KAP survey). External consultants, who may design different

questionnaires for executives and managers, and for non-managers, normally run the survey.

The questionnaires for managers and executives would explore how managers might react if they should find out that an employee was infected. The questionnaire for non-managers would be designed to show how employees would treat infected colleagues. Both questionnaires will also try to determine the level of knowledge that managers and non-managers have regarding HIV/AIDS.

The results of the survey are used in developing training modules to address areas of ignorance. Condom dispensers and poster campaigns are one way in which awareness is raised.

Comment: This sentence makes it sound as if having condom dispensers is the only result of the programme. It also sounds as if having condom dispensers is a bad thing. Maybe have: "Awareness is created and prevention of spreading the disease encouraged by having condom dispensers within the building."

Element 4: Prevalence Survey

Some companies undertake prevalence studies based on voluntary saliva testing. The purpose of the survey is to estimate the HIV prevalence in the workforce, possibly disaggregated by key factors such as race, income, sex, and location or job grade. The results of the tests are not linked in any way to the employee, and confidentiality is crucial. The output from the prevalence survey is particularly useful in the actuarial impact analysis to calibrate the projection models, and reduce the reliance on very broad assumptions in the modelling and projection exercise.

Element 5: Actuarial Impact Analysis

Many companies are now undertaking assessments of the impact of HIV/AIDS which cover the following:

- Demographic projection of the HIV prevalence in the workforce, and the resulting mortality and morbidity. The ASSA AIDS Committee is considering putting together guidance for the profession on the methods and minimum content for employer HIV/AIDS impact assessments.
- Cost analysis of the direct impact of HIV/AIDS on employee benefits including retirement funds, insured risk benefits, medical schemes and other forms of healthcare
- Cost analysis of the indirect costs of HIV/AIDS such as absenteeism, recruitment and re-training costs

The actuarial impact assessment helps the employer to re-design employee benefits. The primary aim of many changes to date has been to reduce the company's financial exposure to the effects of HIV/AIDS. The analysis also brings awareness to the employer on benefits that might be available to employees living with HIV/AIDS. These benefits include possible HIV/AIDS benefits or disease management programmes in the medical scheme benefits.

Once the employer is aware of this kind of benefit, he can encourage infected employees to register with the programme via one of the mechanisms mentioned below. To date, registration onto HIV/AIDS disease management programmes in South Africa has been rather low. One reason for this is the fear that confidentiality will be compromised. As an example, one of the more established programmes in the country only has about 16 000 members country wide, out of a possible 3 million.

Element 6: Voluntary Testing and Counselling (VTC) Programme

As with the prevalence survey, HIV tests are conducted amongst employees on a voluntary basis. In this case, however, the test results are linked, and in conjunction with appropriate pre- and post-test counselling, are made known to the employee. No information whatsoever can be given to the employer. The more pro-active employers attempt to counsel all employees, rather than simply to offer the service to those who want it. Generally, if the company doesn't also assist people to get treatment, these programmes tend to be unsuccessful.

A VTC program aims to create awareness amongst employees of their own HIV statuses, and hence to facilitate appropriate healthcare, lifestyle and life planning responses. These programs have not yet been widely conducted in South African workforces. It is worth noting that, in the SHIPS survey discussed earlier,, only two out of ten insurers had themselves either undertaken or were about to undertake VTC programs.

Comments

So far, there are very few companies that point to successes and failures of intervention. Most companies are in the early stages of addressing HIV/AIDS in the workplace.

The majority of companies that have begun to address the impact have established steering committees that communicate and train employees.

In general these committees are in charge of:

- The awareness programme, i.e. communication and training.
- Preventative programme, i.e. promoting one partner relationship, condom dispensing and STD treatment.
- Living with AIDS programme, i.e. promoting healthy lifestyles, treating of opportunistic infections and benefit restructuring.

Workplace HIV/AIDS strategies have run into several problems, however. One difficulty is in persuading employees to ascertain their HIV statuses, and having done so, to take advantage of HIV disease management programmes.

The legacy of mistrust and the stigma associated with HIV/AIDS give rise to perceptions that:

- the employer will be notified and the employee will lose his/her job.
- colleagues will get to know of his/her HIV status and the employee will be victimised.

HIV/AIDS programmes can also be foiled through the lack of a cohesive strategy across all areas of business. Just as HIV/AIDS has historically been left with the health department at a government level, HIV/AIDS may be left with HR at a corporate level. For any policy or strategy developed to have weight, it seems that buy in and support from the persons or offices of the CEO and CFO or equivalent persons is essential.

Conclusion

The corporate world has begun taking action against the spread of the epidemic, albeit only slowly. While it is unreasonable to expect companies to take full responsibility for curtailing

the spread and for the treatment of HIV/AIDS in the employees and their communities, employers nevertheless can play a very powerful role in both of these areas.

The greatest challenge that actuaries face after having performed an actuarial assessment of HIV/AIDS in an organisation is to provide meaningful solutions that will assist both the employer and the employees. Actuaries need to think of ways of minimising exposure of employee benefits by re-designing benefits such that both the infected and uninfected are treated fairly. We have still to develop **affordable** HIV/AIDS products that are specifically designed for those who are living with HIV/AIDS.

One of the biggest unknowns that we have to investigate and model is the effect of antiretroviral drugs on mortality and morbidity rates. Medical schemes that provide antiretroviral drugs to HIV/AIDS patients are faced with uncertainties as to the costs associated with treating an HIV/AIDS patient, and the benefits that will be derived therefrom. The provision of antiretroviral drugs may be an unsustainable expense for medical schemes. Actuaries would need to consult clinicians to determine the link between CD4 count, viral load, antiretroviral drugs and survival.

HIV/AIDS and Medical Schemes

(Sarah Bennett and Louis Rossouw)

Medical schemes are short-term insurance vehicles illequipped to cope with the HIV/AIDS epidemic. Medical schemes are required by law to hold a minimum of only 25% of annual contributions as reserves. The cost of treating HIV/AIDS will have a dramatic impact, both on scheme solvency, and contribution rates in future years.

Medical schemes are concerned about the morbidity of members with HIV/AIDS, rather than their mortality. Further, the cost and frequency of treatment and the impact of this treatment on their longevity is critical.

The total expected cost of HIV/AIDS to a medical scheme is a function of HIV/AIDS prevalence, the progression of the HIV infection, the cost of treatment, the benefits provided, and the expected time to death.

HIV/AIDS Prevalence

Unless comprehensive prevalence testing has been done by the participating employer(s), it can be extremely difficult to estimate the level of HIV/AIDS prevalence in a medical scheme. Little reliable data exists to estimate the number of HIV positive members. In fact, the majority of HIV positive members are ignorant of their status. Prevalence is correlated with the age, gender, socio-economic class, industry and the regional distribution of a medical scheme's membership. Prevalence levels are also correlated with race, but although this is important for reserving and determining contribution levels, it cannot (and should not) be used to differentiate between individuals. For a closed scheme these factors are easier to assess than in an open scheme.

Old Mutual Healthcare estimates that 7.5% of the medical scheme population is HIV positive.[1] Assuming a total medical scheme population of 7.6 million beneficiaries, this would suggest that approximately 570,000 beneficiaries were infected. This is a relatively small proportion of the estimated five million HIV positive South Africans in 2000. The balance has relied on the State for treatment for HIV/AIDS.

Prevalence will vary considerably from scheme to scheme. For example, a scheme with members who are predominantly young, unmarried females with relatively low socio-economic status and based in Kwazulu-Natal, are likely to have a significantly higher prevalence than a scheme for executives who are predominantly male, married and based in the Western Cape.

Progression of the Infection

HIV/AIDS can be divided into stages, which are defined clinically and tend to be correlated with the CD4 count. HIV attacks a particular set of cells in the human immune system known as CD4 cells, which organise the body's overall response to foreign bodies and infections. In a healthy person there are about 1,200 CD4 cells per micro litre of blood. As the infection

[1] Other estimates have suggested that the prevalence may be even lower.

progresses, the number will fall to about 200 or less. At this point, new opportunistic infections begin to occur and a person is said to have AIDS[2].

Therefore, the cost of treating HIV/AIDS depends critically on the stage the member is in. Few costs will be incurred while the member is in the first two stages. As the CD4 count starts to drop, the member's health will deteriorate and medical costs will increase.

There are a number of alternative definitions of the stages of HIV and AIDS. An example of the various stages of HIV and AIDS is shown in the next section with their associated estimated costs of treatment.

Cost of Treatment

The costs of treating HIV/AIDS may be divided into:

- Visits to the GP or specialist
- Pathology tests
- Medicines for the treatment of opportunistic infections
- Medicines to decrease viral load/reduce the probability of transmission (antiretrovirals)
- Hospitalisation
- Home based or hospice care

One of the indirect results of the court case against the government introducing pricing legislation, made by a group of pharmaceutical companies is the reduction in prices of antiretroviral drugs and drugs to treat opportunistic infections by many of the large multinational drug producers. These reductions were not the result of the proposed legislation, but the result of the international publicity surrounding the court case.

The following table summarises the expected costs of antiretroviral treatment, doctor's consultations, pathology and prophylaxis in each stage of the disease, based on the clinical definitions suggested by the World Health Organisation. These benefits would typically be covered under medical scheme HIV benefits.

In this instance, the stages of HIV are defined as follows:

- Stage A: no opportunistic infections, typically with a CD4 count of 350 and above
- Stage B: opportunistic infections that are not AIDS defining, typically with a CD4 count of between 200 and 350
- Stage C: AIDS defining opportunistic infections, typically with a CD4 count of less than 200.

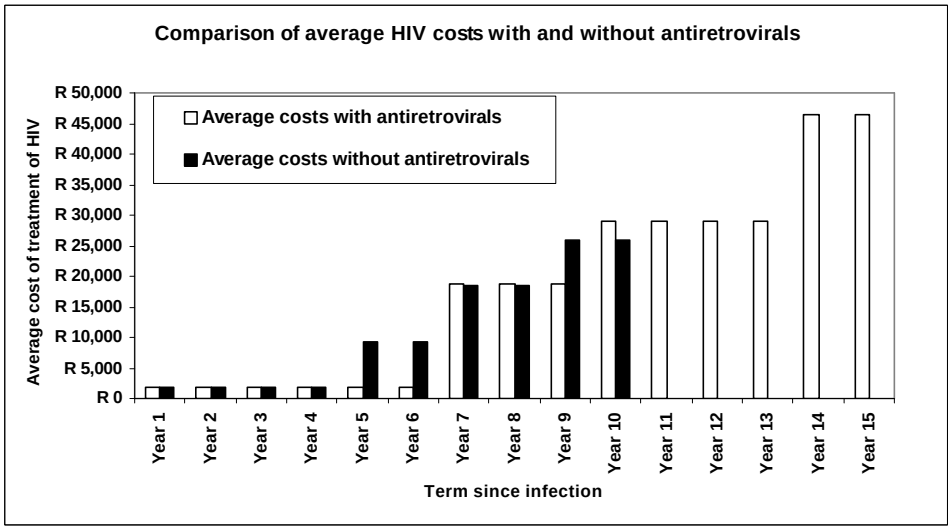
[2] Alan Whiteside and Clem Sunter – AIDS The Challenge for South Africa, Human & Rousseau Tafelberg, 2000

Estimated Annual HIV Programme Costs based on Clinical Staging (March 2002)

Stage	Doctor's Consultations	Pathology (Viral Load + CD4)	Triple Antiretroviral Therapy	Prophylaxis (Antibiotics)
A Too early to treat	2 consultations = R240	2 sets = R2,600		
A Treatment naive	4 consultations = R420	3 sets in the first 12 months = R3,900	R10,800 +	
A Previous antiretroviral resistance	4 consultations = R420	3 sets in the first 12 months = R3,900	R11,305 - R17,134	
B/C Stable	4 consultations = R420	2 sets in the first 12 months = R2,600	R11,305 - R17,134	R500 - R1,000
B/C Salvage	4 consultations = R420	3 sets if treatment changes necessitate = R3,900	R22,776	R500 - R1,000
Mother to child transmission		1 set for mother = R1,300 Polymerase Chain Reaction test for baby = R800	R 1,500	Milk formula = R1,000
Post-exposure prophylaxis		3 ELISA tests (one before treatment and two after treatment) = R300	R1,000	

Source: Metropolitan Health Group's Clinical Management Solutions

Based on the above and a number of assumptions as to the costs of hospitalisation and acute medication and the length of time in each stage, the following graph compares the estimated average costs of HIV benefits in each year following the date of infection.



Without antiretrovirals, the patient's condition will decline faster and medication and hospitalisation costs will be incurred sooner. With antiretrovirals, the patient is expected to live significantly longer. The cost of antiretroviral drugs is high and medication and hospitalisation costs will still be incurred in the last years of life. Therefore, it is widely accepted that providing benefits for antiretroviral therapy increases costs for a medical scheme.

This focuses only on costs directly linked to the disease. It ignores any other medical costs or benefits that might accrue due to the frequent monitoring of the patient, and related factors such as increased stress and change in life-style, which, at this stage have not been quantified.

Scheme Benefits

According to the Medical Schemes Act and the associated Regulations, all medical schemes must provide at least the Prescribed Minimum Benefits (in public hospitals only) to members with HIV/AIDS. Code 168S provides for HIV-Associated Disease and includes treatment for opportunistic infections.

Restricting benefits of those with the virus to the prescribed minimum benefits is not very effective in reducing cost of HIV/AIDS as, in most cases, the member's HIV status is not known to the Scheme and cover is provided in private hospitals for opportunistic infections.

However, even medical schemes that offer a comprehensive HIV benefit and a disease management programme are struggling to encourage HIV+ members to make use of these benefits. This is probably the most important challenge at the moment for medical schemes wishing to provide appropriate treatment of HIV/AIDS.

Average survival time

The period from HIV infection to illness and death is a crucial determinant of costs. It is generally believed that, in the West, people will live for at least 10 years before they begin to fall ill. Without treatment, the period from the onset of AIDS to death was a further 12 to 24 months without antiretroviral drugs. With the development of effective antiretroviral therapies, the time to death is now expected to be much longer.

The incubation period in Africa has been estimated to be between six and eight years, although there is a great deal of uncertainty around these estimates. The reason for the shorter incubation than in the West is that, given the number of diseases in Africa, people have more challenges to their immune systems and are more vulnerable to opportunistic infection. This, and the very limited access to adequate health care, means that the health of HIV positive people in Africa deteriorates more rapidly. This also results in a shorter period from the onset of AIDS to death – probably one year or less.

The cost of treatment and the impact of treatment on the average term to death are critical when estimating the impact of a particular treatment on the costs of a medical scheme.

A treatment that is expensive but that greatly improves a person's quality of life and expected term to death will have an enormous impact on a medical scheme.

Because the employer benefits significantly, in financial terms from the improved quality of life and longevity of its employees, employers are usually called upon to help medical schemes fund these benefits.

Risk Management Techniques

Medical schemes have limited methods available to control the threat of HIV/AIDS for the following reasons:

- Underwriting is limited to applying condition specific exclusions for of a maximum period of one year.
- Contributions can only be based on income and number of dependants.
- The compulsory prescribed minimum benefits include treatment for HIV/AIDS.
- Treatment for opportunistic infections is covered if HIV status is unknown.
- Informed consent is required prior to HIV testing.
- It is the member who decides whether or not to be tested for HIV/AIDS.

However, the following strategies can be used to control the risk of HIV/AIDS within medical schemes:

Prevention

Prevention can be very effective in closed schemes, where an employer can limit costs by providing education to a captive audience. This can be reinforced through programmes that involve the community around the workplace within such programmes. A good example of this type of approach is the programme run by several mining companies that, for example, involve the sex workers around their mines in their prevention strategies.

For open and closed schemes, another type of prevention lies in treating and educating individuals who are HIV positive to prevent further transmission. Typically this entails preventing mother-to-child transmission by providing medication, as well as preventing

transmission to a partner through education. Preventing these transmissions are in the interests of the medical scheme, as these people would typically be beneficiaries on the scheme. Further, post-exposure prophylaxis may prevent HIV infection after accidental exposure.

Early detection

Detecting the disease early reduces the risk facing medical schemes. Members who know their HIV status can save costs. Early on, treatment can be as simple as changing diet and taking vitamin supplements to strengthen the immune system. These basic treatments and measures may provide savings later on, by avoiding some of the opportunistic infections. Aid for AIDS, for example, has shown that under their disease management programme members register for the benefit typically after a significant crisis event, such as, after admission to hospital for an opportunistic infection, which may be fairly late in disease progression.

HIV positive members can be advised of their status and can thus take precautions to protect the rest of their families, who are likely to be on the scheme as well. The advantages of managed benefit provision can only be obtained when the member is recognised as being HIV positive when he or she registers for the benefit.

However, the member must have an incentive to go for an HIV test and disclose his/her status.

Disease management

The advantages of managing the HIV/AIDS benefit are already being realised by schemes. 48% of schemes surveyed in the Old Mutual Healthcare Survey stated that disease management is one of the actions taken to reduce the cost impact of HIV/AIDS. Treatment of the disease is quite complex with advances in treatment occurring at a rapid pace. A medical practitioner in a standard setting might have very little experience in handling HIV/AIDS. The HIV management programme can aid the practitioner and individual in providing advice and treatment options that are within the reach of the individual's scheme benefits and other financial limits.

The usual route taken with managed treatment is via a partnership between the benefit manager, patient and the patient's GP. Typically a confidential phone line is provided which provides advice to both patient and his/her GP on treatment and other issues such as adherence to drug treatments and potential side effects.

One of the most important benefits of HIV management programmes is to encourage compliance. The treatment regime may be extremely complex and the patient needs assistance to ensure that the correct drugs are taken at the correct time of day. Failure to comply results in drug resistance and increased costs to the medical scheme.

A further advantage of such management programmes is the arms length contact. Many individuals may feel that confidentiality may be compromised, especially in a closed scheme. The external benefit manager can provide better assurances of confidentiality increasing uptake of the benefit. Other advantages may be in monitoring effectiveness and procuring drugs and other services for treatment at lower costs due to expertise and economies of scale.

Reinsurance

Reinsurance involves passing on some of the risk to a third party by paying a premium. Reinsurance is unlikely to provide a long-term solution at lower cost. It is more useful in stabilising unknown or variable costs.

Limiting benefits

Limiting or reducing benefits for HIV/AIDS will discourage members from disclosing their status, and thereby benefiting from appropriate, managed treatment. The medical scheme has no choice but to cover the expensive hospitalisation associated with the treatment of the opportunistic infections that arise if the patient's HIV status is not known. Therefore, costs arising from the treatment of HIV/AIDS can never be completely eliminated.

The total cost, to the medical scheme, of treatment over the patient's lifetime, at current prices, will be lower if no antiretroviral therapy is administered because the antiretroviral drugs are expensive and the patient is expected to live longer while benefiting from the expensive treatment. Further, limited HIV benefits will discourage HIV positive members from joining the medical scheme. Therefore, limiting benefits can be effective in controlling the costs borne by the medical scheme.

However, the positive ramifications of providing antiretroviral therapy in terms of improving the patient's quality of life, longevity and productivity, in many situations, are likely to outweigh the additional costs.

Reserving

Instead of increasing contributions in future years, some medical schemes are building up reserves to meet the cost of treating HIV/AIDS. Such reserves can not be earmarked for this specific purpose and therefore the security offered to members is limited.

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NMG-LEVY Actuaries and Consultants – information on HIV management programmes

Trends in Managed Care

(Piet Maree)

Managed care started to emerge in the mid-nineties primarily in the form of benefit and utilisation management programmes. Still in its infancy, the managed care movement then looked beyond the “managed fee for service” and staff model clinic environment, and sought to form partnerships with service provider groups.

Initially these programmes were met with resistance from service providers and patients. They were especially seen as a threat to the autonomy of doctors over the healthcare and treatment decision-making processes.

Managed care at a practitioner level was non-existent and there were no peer review structures.

The main focus was on removing administrative inefficiencies and reducing risk. In time it was recognised, however, that the focus of managed care should shift towards total quality management and not only reduction of costs.

A major growth has been experienced since 1997, especially in disease management programmes. This expansion has included HIV/AIDS management programmes and the case management of HIV/AIDS patients.

Today the full range of managed care initiatives includes:

- Risk sharing agreements, e.g., capitated payments and medical savings accounts
- Pre-authorisation of hospitalisation, costly diagnostics and ambulatory services
- Treatment protocols
- Chronic medicine management
- Pharmacy benefit management
- Disease management (including HIV/AIDS)
- Hospital case management
- Bill review

For medical schemes the most popular method to attempt to reduce the risk of HIV/AIDS is currently the introduction of education and awareness programmes. The provision of antiretroviral drugs also plays a major roll and is seen (and proven in a number of studies) as the most cost effective method of controlling the disease within the term of the studies. Workplace absenteeism and periods of hospitalisation are reduced and lifespan increased. As noted in the previous section, the long term effects of antiretroviral drugs is not yet known, since the drugs have only been around for a relatively short time.

Managed care products can also be obtained from specialist managed care companies offering their services to medical aid schemes and employer groups alike.

Typical services and benefits provided by these companies are:

- Education, awareness and early detection programmes.
- Absentee monitoring.

- Advice on, and administration of, antiretroviral treatment.
- Monitoring the effectiveness of drugs.
- Treatment of AIDS related conditions.
- Clinical treatment protocols.
- Keeping track of data to assess risk and enable future planning.
- Providing assistance with dietary requirements and exercise programmes.
- Counselling, rehabilitation, reskilling and job placements.

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Acknowledgements:

- Dr Jack van Niftrik – Lifeworks
- Vaughan Zoutendyk - Qualsa

Drug prices – History

(Piet Maree)

With antiretroviral drug prices ranging between R9 000 and R25 000 per annum for dual therapy and between R20 000 and R42 000 per annum for triple therapy regimens, treatment has been out of reach for most of the HIV-positive people in South Africa.

After recent developments, however, this position has changed significantly.

In May 2000 five major research-based pharmaceutical companies[3] in collaboration with the UNAIDS secretariat, WHO and several other United Nations agencies[4] committed themselves to a new access coalition effort to offer price reductions on antiretroviral drugs to developing nations.

The initiative also involves working with governments and NGO's of certain countries to develop national programme capacity for delivering care, treatment and support, including the provision of antiretroviral therapy by the government concerned. In May 2001 some of the drug prices were reduced, however, most of the prices are still unchanged.

Until recently the South African government chose not to participate in this initiative and followed another route…

The Medicines and Related Substances Control Amendment Act 90 of 1997 was passed on 31 October 1997. This Act allows the government to import and manufacture generic versions of patented drugs, including antiretrovirals, but in doing so the government will have to close their eyes to the Agreement of Trade Related Aspects of Intellectual Property Rights (Trips).

On 18 February 1998 the Pharmaceutical Manufacturers' Association (PMA), acting on behalf of 39 foreign and local pharmaceutical companies, took the government to court to have certain sections of this Act declared unconstitutional.

In April 2001 and after various delays the PMA withdrew the application from the Pretoria High Court, recognising the need to accelerate care and access to drugs.

In May 2001, Bristol-Myers Squibb reacted to this development by offering to reduce the price of two of its antiretroviral drugs (Zerit and Videx). Merck reduced the price of Crixivan to $2 per day in March. This allowed certain drug-combinations to be offered much cheaper in the private sector as shown in the table below (prices per annual treatment per person).

[3] Boehringer Ingelheim, Bristol-Myers Squibb, Glaxo SmithKline, Merck & Co., Inc., and Hoffman-La Roche.
[4] Other agencies joining UNAIDS and WHO are the World Bank, UNICEF and UNFPA

Dual Therapy	**February 2001**	**May 2001**	**Discount**
Videx + Hydroxyurea	R8 928.00	R4 831.20	46%
AZT + Videx	R16 241.64	R12 158.76	25%
AZT + Hivid	R15 600.00	R14 777.16	5%
AZT + 3TC	R18 537.72	R18 537.72	0%
Zerit + Videx	R19 964.64	R2 901.00	85%
Zerit + 3TC	R24 426.96	R12 406.44	49%
Combivir	R14 158.80	R14 158.80	0%
Triple Therapy	**February 2001**	**May 2001**	**Discount**
AZT + Videx + Viramune	R19 479.00	R15 874.92	19%
AZT + 3TC + Viramune	R23 462.52	R23 941.32	-2%
Zerit +Videx + Viramune	R25 370.64	R9 743.64	62%
AZT + 3TC + Stocrin	R36 499.56	R23 442.72	36%
Zerit + 3TC + Viramune	R28 394.16	R17 810.04	37%
Zerit + 3TC + Stocrin	R41 790.00	R17 311.44	59%
Combivir + Viramune	R19 558.80	R19 562.40	0%
Combivir + Stocrin	R32 120.64	R19 063.80	41%
Protease Inhibitors	**February 2001**	**May 2001**	**Discount**
Norvir + Zerit + 3TC + Invirase	R58 326.24	R46 560.12	20%
Invirase + Norvir	R18 508.44	R18 508.44	0%
Crixivan + Stocrin		R12 158.00	
Crixivan + Stocrin + Norvir		R15 993.48	
Crixivan + Combivir		R19 935.96	
Crixivan + AZT + 3TC		R24 314.88	

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Some Additional Views

Joubert Ferreira - President of ASSA

AIDS is one of the biggest challenges that South Africa and its neighbours face. The management of the disease and its consequences should be a top priority for the country.

The people fighting in the frontline against the epidemic are unlikely to be actuaries, but rather experts in disciplines such as healthcare and the education of people about HIV/AIDS. Yet actuaries have a major rôle to play in the areas where their strengths lie:

- Modelling the epidemic and spelling out the implications for the country and its neighbours. We are continuing to do excellent work on modelling, but we should make a bigger effort to convey the results in a meaningful way to the right audiences.

- Alerting our clients, particularly retirement funds and their associated employers, about the expected impact of AIDS, which of course extends well beyond just higher charges for risk benefits. Actuaries wield significant influence with these clients and could make a real difference in how they tackle the epidemic.

- The financial soundness of the institutions we serve – mainly life offices, retirement funds and medical schemes. We have to bear in mind that AIDS will have an impact not only liabilities, but also assets.

Most of our members will in some or other way be affected by AIDS in their working environment. I therefore welcome this further effort to inform our membership about developments regarding HIV/AIDS. I would also like to use the opportunity to commend the AIDS Committee for the excellent work that they are doing.

Gillian Gresak - AIDS Director, Anglo American Platinum Division

The work done by ASSA and its individual members has been invaluable in (a) tracking epidemic trends, (b) analysing societal impact and (c) quantifying the impact of intervention and non-intervention. However, now that the realities of the epidemic are upon us, corporates require more specific and customised data and solutions. In turn, this requires actuaries to provide more accessible and realistic products for their customers. I use the following analogy: when you see your house is burning, you don't analyse how it happened, who started it or what caused the fire, you simply strive to put out the fire as quickly and as efficiently as possible. Many actuaries are still caught up in problem identification and description and too few are actively engaged in creating solutions or in marketing their services, ability or capacity. Enormous chunks of budget and time are spent on endless analyses i.e. how did the fire start, will the fire consume the whole building or just part of it, what will be the cost of putting out the fire and of rebuilding etc, etc. I think we can all safely agree that, some ten years after the creation of the first models, beginning with the Doyle model, we know almost everything there is to know about the current course of the epidemic. What we don't know is how to effectively change its trajectory. On this, we have a whole lot of theories and some small successes, but we do not know, for example, exactly how much it will cost to implement an antiretroviral programme in a company of 40 000 employees; and we do not know what the cost-benefit savings will be.

While I appreciate that most actuaries are employed by insurers and reinsurers and that the way I would like to see the creativity of actuaries utilised may not necessarily coincide with the directives of your employers, I would urge you to design accessible products and make these available at realistic prices. Many actuaries have probably designed great products but have been unable to get them into the market. If this is the case, I would urge ASSA to strengthen their marketing to assist their members and, in so doing, be part of the solution for the containment of the epidemic in South Africa.

Robyn Solomon – Senior Legal Officer, South African Human Rights Commission

The South African Human Rights Commission (SAHRC) was established in terms of the Constitution to:

> 184. (1) The Human Rights Commission must
>
> a. promote respect for human rights and a culture of human rights;
>
> b. promote the protection, development and attainment of human rights; and
>
> c. monitor and assess the observance of human rights in the Republic.
>
> (2) The Human Rights Commission has the powers, as regulated by national legislation, necessary to perform its functions, including the power
>
> a. to investigate and to report on the observance of human rights;
>
> b. to take steps to secure appropriate redress where human rights have been violated;
>
> c. to carry out research; and
>
> d. to educate.

The active involvement of the SAHRC in the issue of HIV/AIDS arises from the now well-accepted realisation that human rights are at the heart of sustainable approaches to dealing with HIV/AIDS. The majority of people susceptible to HIV infection are marginalised groups. Therefore, an approach to HIV/AIDS that fails to take human rights into consideration would not be useful. The Employment Equity Act 55 of 1998 outlaws discrimination on the basis of HIV/AIDS in the workplace. The same anti discrimination sentiment is carried through to the Promotion of Equality and Prevention of Unfair Discrimination Act 4 of 2000, which explicitly outlaws discrimination on the basis of HIV/AIDS in the insurance industry.

To this end, the SAHRC embraces the statements made by Ngcobo J in the Constitutional Court judgment of *Hoffman v South African Airways* CCT 17/00. In relying on the equality clause (s 9) and the right to dignity (s 10) in the Constitution, the learned Justice said at paragraph 28:

> In view of the prevailing prejudice against HIV positive people, any discrimination against them can, to my mind, be interpreted as a fresh instance of stigmatisation and I consider this to be an assault on their dignity. The impact of discrimination on HIV positive people is devastating.

The learned Justice stated further at paragraph 34:

> Legitimate commercial requirements are, of course, an important consideration in determining whether to employ an individual. However, we must guard against allowing stereotyping and prejudice to creep in under the guise of commercial interests. The greater interests of society require the recognition of the inherent dignity of every human being, and the elimination of all forms of discrimination. Our Constitution protects the weak, the marginalised, the socially outcast, and the victims of prejudice and stereotyping.

Given the alarming rate of the spread of the infection in this country, it is no longer acceptable to exclude people living with HIV/AIDS (PLWHA) from services such as insurance, and by extension, access to mortgage bonds. It is incumbent on these industries to follow the advice laid down by the Constitutional Court and begin to look creatively at including PLWHA under their umbrella. This is neither an actuarial impossibility, nor is it unfeasible. The insurance industry is encouraged to apply its mind to including PLWHA under the auspices of its benefits, in an affordable and viable way. Implicit in this is, of course, the acknowledgment that the insurance industry is a cornerstone of our economy. In its investigations into allegations of discrimination by the insurance industry against PLWHA, the SAHRC has had occasion to explore alternative options available to the insurance industry to include PLWHA without making policies unaffordable or threatening the viability of the industry. The Canadian courts have also acknowledged that there are options available to insurance industries, which do not discriminate against PLWHA, yet offer affordable cover. The SAHRC calls on the insurance industry to begin to explore these options with us.