ACTUARIAL SOCIETY OF SOUTH AFRICA

Professional Guidance Note

HIV/AIDS : Actuarial advice and reports

Classification

Best practice

Legislation or Authority

This guidance note sets out the key considerations that the actuary needs to address when advising in a professional capacity on impacts or aspects relating to HIV/AIDS.

Whilst there is currently no legislation specifically relating to any type of reporting on HIV/AIDS, this can reasonably be anticipated in the future.

Application

Any member (fellow as well as other members) of the profession offering advice and/or preparing a formal report covering actuarial work on aspects or impacts of HIV/AIDS.

Author

ASSA HIV/AIDS Committee.

Effective from

July 2008

1. Introduction

1.1 The purpose of this Guidance Note is to assist the actuary who makes a formal report covering actuarial work on aspects or impacts of HIV/AIDS; and does so in a professional capacity whether as an employee or as a consultant.

1.2 In considering whether a report is formal, and therefore within the scope of this Guidance Note, the actuary should consider the uses to which the report may be put. In particular, if significant decisions are likely to be taken based on the content of the report without the further involvement of the actuary, or the report is likely to be used by people other than those who directly commissioned it, there is a greater need for the report to be self-contained and complete, and therefore subject to this Guidance Note. However work which is incomplete, of an interim nature or intended only as a basis for further discussion, would not normally be considered formal for this purpose. Similarly written recommendations made by the actuary in the course of standard actuarial practice, such as the setting of pricing or valuation bases, would not be considered formal for this purpose as the actuary in these circumstances would be expected to remain involved in the decision-making process, notwithstanding that guidance also exists in these areas.

1.3 The actuary should state that the report has been prepared in accordance with this Guidance Note, if in fact this is the case. Where a formal report has been prepared which does not conform to this Guidance Note, the actuary should state the fact and indicate key areas where the report fails to conform and the reason for this failure. Members' are reminded of paragraph 3.1 of Professional Conduct Standards: "In formulating advice, a member must pay proper regard to any relevant professional guidance or other guidance and, subject to that guidance, is expected to exercise best judgement."

2. Definition of terms

2.1 Some words and expressions commonly used in the context of HIV/AIDS can be unclear, ambiguous or mean different things to different audiences. The actuary should consider whether some of the words and expressions used in the report may be open to misinterpretation and therefore need to be defined. A particular example would be to clearly define what is meant by a prevalence rate and an incidence rate so as to avoid the confusion between the two that commonly occurs.

3. Purpose and Scope

The report should :

- Include a statement of its purpose and scope;
- Make plain whom the actuary is advising;
- Make plain the time frame under consideration;
- Indicate the intended recipients;
- Point out that third parties reading the report may not have the background information necessary for a full understanding of the report, and that the report is not intended for use by any other parties without prior consent from the author;
- Address the key issues;
- Clearly state any qualifications, limitations, disclaimers or caveats.

As a general principle the report should be written in a way to provide sufficient information to allow another experienced actuary to form an opinion on the appropriateness of the actuary's key judgements and, together with the relevant input data, be sufficient to allow any other suitably experienced actuary to reproduce the results without access to the actuary.

4. Documentation of methodology and assumptions

4.1 The report should outline and discuss all assumptions (see addendum 1 for possible examples) that have a material effect on the results. These assumptions will include those relating to the HIV/AIDS related costs that have been measured and/or estimated. This can also include assumptions relating to disciplines outside of the traditional actuarial domain. In such instances the actuary should provide references to the assumptions that contain sufficient detail to enable readers, as far as possible, to access these references. The actuary will be guided as to what to disclose by considering section 3, the aim of which is to ensure that another actuary, with relevant input data, should be able to reproduce the results. The actuary is also reminded of the professional obligation not to present the work of others as his or her own.

4.2 The methods used by the actuary might be standard in the context of the scope of the task but in the majority of cases will not be well understood by the recipients of the report. The methodology adopted must be clearly explained along with suitable justification where appropriate.

Where a standard published demographic model has been used, such as one of those produced by the Actuarial Society of South Africa, the model should be disclosed together with the assumptions used. In particular, details should be provided where any adjustments have been made to the model.

Where an in-house model has been used a detailed description of the method used should be given. In some cases the model might be best described by referencing one of the standard models and drawing out any key differences in approach.

4.3 In view of the inherent uncertainty with actuarial modelling, it may be appropriate for the actuary to use more than one method or modelling approach. The key assumptions implicit in each approach should be stated in the report.

4.4 Where the results of different approaches differ significantly, the actuary should comment on the likely reasons for the differences and explain the basis for the choice of results.

4.5 The report should include commentary on any material difference in the assumptions or conclusions in the present work from those in earlier reports of a similar kind on the same issue by the same actuary. Where the actuary was provided with work of a similar kind previously done by another actuary for the same client, then differences in approach or assumptions should be commented on if these have a material effect on the results.

5. Uncertainty

5.1 The actuary should provide meaningful comments on the reasonability of the results presented. Where models have been used there should be discussion on the goodness of fits and how this was assessed.

5.2 To the extent that is feasible to do so, the actuary should indicate in the report the degree of uncertainty surrounding the estimates that have been made and sensitivities to changes in key assumptions. There is, however, no obligation to quantify the uncertainty or sensitivity if, in the actuary's judgement, this would not assist the report's audience. Furthermore, notwithstanding such uncertainty it is acceptable for the actuary to give, or comment upon, point estimates.

5.3 The actuary should also bring to the attention of the reader any changes in the relevant environment of which the actuary is aware and which would result in a change to the results or recommendations presented. This could include, for example, changes to legislation covering areas such as taxation, health and social issues.

6. Information and data used by the Actuary

6.1 The actuary may need to rely on or utilise the work of other professionals. If there is a risk of confusion as to the division of responsibilities between the actuary and the other persons or organisations, the respective responsibilities should be made clear in the report.

6.2 The report should indicate the sources of the data (see addendum 1 for possible examples) that the actuary has used and make clear what he or she is taking responsibility for. Many of the sources available for use, and consequently the data also, have some degree of imperfection. This does not prevent the use of data from such sources (with appropriate caveats in the report, if necessary), provided the actuary is satisfied that the results appear reasonable. Details and reasons should be provided where any adjustments have been made to the data.

6.2.1 The actuary should comment on the data used in the calibration process and the level of reliability of this data,

6.2.2 The report should include a high level summary and discussion of the data used.

6.3 The actuary should draw attention to any material shortcomings in the available data including the effect on the appropriateness of the data due to changes in the dynamics applicable to the situation (e.g. the widespread availability of antiretroviral therapy, changes to recruitment and dismissal practices, changes to the staff profile, etc). The actuary should make particular reference to circumstances in which the shortcomings have materially added to the uncertainty surrounding the estimates that he or she has made.

Addendum 1 – Impact of HIV/AIDS on a Retirement Fund or Workforce

The requirements of any other applicable Professional Guidance must be adhered to.

The following is a list of the areas that are likely to be considered by the actuary in projecting the impact of HIV/AIDS on a retirement fund or workforce. Each of these areas should be addressed in the report. The list and the points made under each item are not exhaustive, and the actuary should include any other material issues.

Incidence Assumptions

A.1 Source of HIV infection rates (e.g. ASSA2003 National model, with interventions), and rating factors used in the basis (some or all of age, sex, calendar year, race, region, interventions)

A.2 Adjustments and basis of adjustments to incidence rates to allow for other relevant rating factors e.g. income or occupation

A.3 Adjustments and basis of adjustments to incidence rates using time leads and lags to allow for regional distribution of the workforce.

Survival and Disability Assumptions

A.4 Disease stage model utilised: different stages, transition model (exponential or weibull), durations

A,5 Approach to allowing for treatment: any additional stages used, with their durations, setting of parameters, assumed take up or enrolment rates

A.6 Variation in treatment take up or efficacy with rating factors (e.g. income)

A.7 Approach adopted in modelling HIV/AIDS-related disability (incidence and duration, if relevant) and variation by disease stages or other key rating factors

Membership Movement Assumptions

A.8 Other decrements: non-AIDS mortality, withdrawals

A.9 New entrants: method of deriving HIV risk profile/staging of new entrants; rates of entry (e.g. to keep population stable by job grade)

A.10 Interaction between entrants or decrements and HIV status or other key rating factors

Other Membership Assumptions

A.11 Assumptions regarding numbers or profiles of dependants (spouses, children) or other beneficiaries

Financial Assumptions

A.12 Any simplifying assumptions made in modelling risk or retirement benefits

A.13 Assumptions made in modelling indirect costs (workforce impact assessment only) e.g. absenteeism, productivity, leave utilisation, costs of recruitment and retraining