EXAMINATION

27 April 2009 (pm)

Subject SA1RSA — Health and Care Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*

2. *You have 15 minutes at the start of the examination in which to read the questions.*
   You are strongly encouraged to use this time for reading only, but notes may be made.
   You then have three hours to complete the paper.

3. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*

4. *Mark allocations are shown in brackets.*

5. *Attempt both questions, beginning your answer to each question on a separate sheet.*

6. *Candidates should show calculations where this is appropriate.*

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator from the approved list.

QUESTION 1

You are an actuary in the product development department of a large life insurance company. You have been asked to develop a disability insurance product with the specific aim of providing benefits to employees who can no longer work as a result of HIV / AIDS. The intention is that the product would provide both a lump sum on disability and disability income until death. The product would be sold to large employer groups that have occupational health facilities which currently provide health services and anti-retroviral therapy to employees.

i. List the rating factors that you would use to price the product. [5]

ii. Explain how the product could be designed and managed in order to reduce potential risks. [6]

iii. Describe the demographic modeling that you would perform to price the product. [10]

After the launch of the HIV / AIDS disability product, you are approached by a large retailer with more than 60 branches countrywide. This company does not have occupational health facilities available. All employees earning more than R6 500 per month in the company belong to a medical scheme; those earning less do not, and instead they make use of public sector facilities to obtain treatment.

The retailer is now considering entering into an agreement with a company (OHN) offering occupational health services nationwide. OHN would enter into capitation agreements with general practitioners close to the retail stores. These GPs will implement an agreed HIV / AIDS treatment protocol. Employees registered on the HIV / AIDS treatment programme, who are not on the retailer's medical scheme, would be able to obtain primary care and anti-retroviral medication from these GPs at no cost to themselves.

The GPs would receive capitation fees per registered member per month, and would have to provide all consultations and medication to members out of the income they derive from the capitation fee. Pathology and private hospitalization would be priced separately and included in the fee charged by OHN to the retailer. The retailer would pay a fixed fee per employee registered on the programme to OHN, and OHN would in turn settle all claims relating to pathology, private hospitalization and the cost of the GP capitation on behalf of the employer.

PLEASE TURN OVER

You have been asked to develop a new product for the retailer, taking into account the OHN arrangement. Also, since OHN does not have access to actuarial advice, you have been asked to help OHN with pricing the capitation fee payable to GPs.

iv. Describe how you would set a capitation fee for the GPs involved in the programme, assuming that you have access to general historical treatment data for HIV / AIDS in a primary care environment. [5]

v. Describe briefly how you would determine a recommended fee charged by OHN to the retailer, given that OHN and the retailer have agreed an after-tax profit margin of 10% for OHN. This advice will be provided to OHN. [4]

vi. Discuss whether OHN would be "doing the business of a medical scheme", as defined in the Medical Schemes Act, under this arrangement. Briefly describe the HIV / AIDS treatment included in the Prescribed Minimum Benefit legislation as part of your answer. [4]

vii. Describe the risks that the employer would face in entering into this agreement. [7]

You are now approached by a second client, a large mining company with its head office in Johannesburg and gold mining operations in the Northern Free State. There are occupational health clinics and basic hospital facilities at each mine, at which employees may obtain anti-retroviral therapy (ART). All head office staff are on an open medical scheme. About 25% of the mine workers live in hostels.

viii. Discuss how HIV / AIDS is likely to affect the mining company and briefly mention the actions that the employer can take to mitigate this. [10]

Total [51]

QUESTION 2

You have recently been appointed as consulting actuary to HealthMed, a medium sized open medical scheme. The scheme has four benefit options:

– a traditional option with all benefits paid from the risk pool and out of hospital benefits limited in certain categories;

- a hospital option with no out of hospital benefits other than the chronic medicine cover prescribed by the Medical Schemes Act;

- a similar plan to the second option but with a medical savings account; and

- a more comprehensive option with extended chronic cover as well as a medical savings account and an above threshold benefit.

HealthMed has experienced growth in membership of at least 15% per annum over the last five years, but this year growth has slowed to 2%. The trustees are concerned by the slowdown and have investigated possible strategies to resume the previous levels of growth.

One of the areas they have identified that could assist them with increasing membership is the development of a new option that is cheaper than the existing ones.

i. Discuss the risks associated with launching such a new option, and possible mitigation strategies for these risks. You are not required to suggest the benefit design details of such an option. [13]

The Trustees are considering three alternative benefit designs for the new option:

1) A modified hospital and chronic cover plan with deductibles applied to certain elective procedures;
2) A modified hospital and chronic cover plan with only certain hospitals appointed as designated service providers and a restricted chronic medicine formulary;
3) A traditional option with a hospital limit of R300,000 per family, a GP network for which members must each appoint their own GP and a restrictive chronic medicine formulary.

ii. Discuss the advantages and disadvantages of each design. [12]

PLEASE TURN OVER

The Trustees have chosen the new traditional option (option 3 above) but with a designated hospital network. Other benefits will include up to 10 GP visits per beneficiary per annum, limited optometry, dentistry and specialist cover paid from the risk pool, all out of hospital medicines subject to a formulary, and limited out of hospital radiology and pathology benefits. They have asked you to price this new option.

iii. Outline the data you would use to price the new option. [7]

iv. Describe the methodology you would use to price the new option and the factors that you would consider when choosing the hospital network, and briefly mention the data checks that you would perform. [17]

Total [49]

Grand Total [100]

END OF PAPER

