

EXAMINATION

22 September 2008 (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.*

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Question 1

You have just been appointed as the new consulting actuary to a large employer operating in the retail sector. The company has 7 000 employees, of which 3 000 are on a restricted membership medical scheme called RetailHealth. An additional 1 000 retired ex-employees belong to RetailHealth, which has a total principal membership of 4 000. Membership is voluntary for all those earning less than R7 500 per month, and compulsory for all those earning more.

RetailHealth has two options, a low cost restricted network option, with an average contribution of R650 per family per month and with 1500 principal members, and a traditional comprehensive option with an average contribution of R1700 per family per month. The contribution tables of both options are income rated, with 10 income bands, the highest band commencing at R15 000 per month and above.

The employer has for many years subsidized the contributions of employees who retire with the company. Pensioners who are on the low cost option are subsidized at 100% of the contribution for them and their registered dependants, and the employer pays two thirds of the total contribution in respect of pensioners on the comprehensive option. A substantial proportion of the membership of the low cost option consists of pensioners. Active employees' contributions are not subsidized but rather included in their remuneration packages on a cost to company basis.

You have been asked to perform a valuation of the post-retirement medical assistance (PRMA) liability of the employer in respect of pensioner contribution subsidies.

- (i) Briefly describe the main sections that you would include in your report. [4]
- (ii) Discuss the demographic and financial assumptions that you would make, and suggest an assumption basis for the valuation. [13]
- (iii) Discuss the likely impact of the Risk Equalisation Fund on the PRMA liability of the employer. [6]

In discussion with the employer's auditors, you find out that on two occasions in the last five years, the employer injected funds into the medical scheme to assist the scheme with meeting the minimum regulatory solvency requirement and to keep contribution increases for members at a manageable level.

- (iv) Discuss how this information would influence your valuation and the likely impact on the PRMA liability. [6]

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The PRMA liability is a significant portion of the employer's total liabilities and the employer is thinking of various strategies to decrease the liability on its balance sheet.

- (v) Evaluate how effective each of the following strategies would be to reduce the liability on the balance sheet, stating any potential problems with each strategy and / or its implementation:
- (a) Setting aside additional funds in the medical scheme to cover the liability. [3]
 - (b) Take out an annuity with an independent insurer for each pensioner entitled to a subsidy which would commence at the same level as each pensioner's current monthly subsidy. [6]
 - (c) Close RetailHealth and subsidise the contributions of an open medical scheme at the same Rand values as current subsidies. [8]
 - (d) Recommend to the Trustees of RetailHealth that they should extend the provider network to the comprehensive option in an attempt to manage the high costs in the option. [4]
- [Total 50]

Question 2

You are the consulting actuary to Kosmo Medical Scheme, which is a large open medical scheme with several options. The Scheme has a stable membership profile, and over the last year, claims have generally been in line with expectations (around a 6% increase in average claims costs per member per month from 2007 to 2008, with 5% membership growth, and no significant change in the average age, gender profile or chronic profile of Kosmo). However, your latest high level experience statistics, as at July 2008, show that, for the year to date, the average hospital cost per member per month has increased by 19% over last year's average. The hospital cost measured in this way include only hospital costs, as paid to hospitals, and does not include specialist and doctor fees, pathology or radiology.

The Trustees have asked that you investigate the experience in respect of hospital costs in more detail.

- (i) Describe the analysis that you would perform to determine the reasons for the increase in average hospital costs. [12]

Your analysis shows that one of the major cost items that has increased significantly since last year is internal prosthesis (i.e. devices used in knee and hip replacements, stents and so on).

- (ii) Discuss the various measures that Kosmo could implement over the 12 months to control the costs of internal prosthesis to the Scheme, *excluding* any measures relating to alternative reimbursement models. [5]

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You also find that the average length of stay in hospital has increased from 2.7 days to 3.2 days (per hospital episode).

- (iii) Discuss the various measures that Kosmo could implement over the next 12 months to decrease the average length of stay, excluding any measures relating to alternative reimbursement models. [6]

The Trustees have asked you to assist them in developing an alternative reimbursement arrangement with a large hospital group.

- (iv) List the types of reimbursement used in managed care, and mention the risks transferred under each of these reimbursement arrangements. [5]

The Board has specifically asked for the development of a global fee arrangement. You have just presented your completed report on the suitability of such an arrangement to the Trustees. Based on your recommendations, the Trustees have decided to go ahead with the proposed alternative reimbursement strategy using global fees with the specific hospital group.

- (v) Outline the data that you will require from the Scheme's administrator to develop a set of fees and specify the checks you would perform on the data. [10]

The global fee arrangement has been in force for six months and the Principal Officer of Kosmo has requested a report to assess the impact of the new global fee structure.

- (vi) Describe the analysis that you would perform to determine the impact of global fees, as well as any issues that arise with these measurement methods. You have full access to underlying fee-for-service data. [8]

- (vii) The hospital group is only willing to accept global fees for cases under R10 000. Discuss possible reasons for this proposed restriction and what risks it would pose to the scheme. [4]

[Total 50]

END OF PAPER