

INSTITUTE AND FACULTY OF ACTUARIES



EXAMINATION

27 April 2018 (am)

Subject ST1 – Health and Care Specialist Technical

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 must not start writing your answers in the booklet until instructed to do so by the supervisor.*
3. *You have 15 minutes of planning and reading time before the start of this examination. You may make separate notes or write on the exam paper but not in your answer booklet. Calculators are not to be used during the reading time. You will then have three hours to complete the paper.*
4. *Mark allocations are shown in brackets.*
5. *Attempt all six questions, beginning your answer to each question on a new page.*
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.

- 1** A health and care insurer has an established block of critical illness business, which was written on a guaranteed premium basis. The existing block of business is covered by reinsurance treaties which have been set up on a quota share basis, and which only cover standard risks. The insurer is reviewing its quota share reinsurance arrangements for future new business.
- (i) Outline the factors that the insurer should consider when determining an appropriate level of retention for the new reinsurance arrangement. [4]
 - (ii) Describe how the insurer might determine an appropriate level of retention, suggesting two distinct approaches it could adopt. [4]
 - (iii) List other reinsurance arrangements that the health insurer may require. [2]
- [Total 10]
- 2** A health and care insurer specialising in critical illness insurance business is looking to use data analytics to optimise the claims process with the aim of reducing the time it takes to assess a claim. This insurer currently pays out 95% of all claims notified, but it takes more than four weeks on average from the notification date to validate and settle any claims.
- The insurer is considering the feasibility of optimising the claims process by classifying notified claims into different risk groups based on the individual characteristics of the claim. The idea is that policies classified in the lower risk groups will require a less strict criteria for claims validation and hence could be settled quicker than claims arising from the higher risk groups.
- Preliminary investigations carried out by the insurer indicate that one of the potential risk factors to classify claims is “duration in force” of the policy. The analysis showed that, based on past experience from its data, a greater proportion of claims relating to policies with a longer duration in force are valid. It is believed that fraudulent claims are more likely to be notified soon after the policy inception date.
- (i) List ten additional risk factors that could be included in this investigation. [5]
 - (ii) Explain, for each factor identified in part (i), how it may affect the likelihood of claims acceptance. [5]
- [Total 10]

- 3** A health and care insurer currently sells full cover policies. The marketing manager thinks the company should start selling budget policies.
- (i) Describe what is meant by budget policies. [3]
 - (ii) Explain why budget private medical insurance (PMI) policies can be attractive to customers. [3]
 - (iii) Describe the main features of a Health Cash Plan. [5]
 - (iv) Describe the main features of four other different types of low-cost PMI products which the insurer could consider selling. [10]
- [Total 21]

- 4** A health and care insurer which sells private medical insurance (PMI) and critical illness insurance (CI) policies in all regions of country A has noticed that some local doctors' surgeries have started to install self-service wellness centres. Patients are able to drop in to the wellness centre without an appointment whenever the surgery is open.

The wellness centres have a variety of self-service health monitoring devices the results of which are recorded by computer. The wellness centres also have at least one phone which patients can use to dial preselected numbers and at least one computer which allows patients to access preselected healthcare-related websites.

- (i) Suggest, with examples, the types of self-service features which could be made available to patients in the wellness centres. [9]
 - (ii) Discuss the advantages and disadvantages of these wellness centres from the viewpoint of the insurer, in respect of PMI and CI. [10]
- [Total 19]

5 A large health and care insurer is currently writing individual income protection (IP) policies.

- (i) Explain how the main product features of IP could impact the pricing of the product. [8]

The insurer has had to refuse a number of individual IP claims, which has led to significant negative publicity. The insurer has investigated these claims and determined that the customers did not sufficiently understand the definition of claim on the contract. It is considering amending the definition of claim on its IP business.

- (ii) Suggest possible claim definitions the insurer could use. [3]

The insurer is considering using a claim definition of ‘inability to perform own occupation’ for all its customers.

- (iii) Explain the potential issues of using this definition. [4]

The insurer has also been criticised for the premiums on its IP policies being high compared to the benefits payable. It performed an analysis which showed that a large proportion of its long-term claims relate to long-term mental illness.

The insurer is proposing to reduce the maximum claim duration on mental illness to two years.

- (iv) Describe the potential disadvantages of this proposal. [3]

- (v) Describe why the proposal may not result in a significant reduction in premiums. [2]

[Total 20]

- 6** A small, developed country (country A) has recently attracted many retirees from other countries (expatriate retirees) to relocate to country A when they reach retirement age (65) and spend the remainder of their lives there. Their retirement income is in the form of pensions from their home countries. These expatriate retirees are typically aged between 65 and 90.

- (i) Outline the likely health and care needs of this expatriate retiree population. [6]

Country A has a healthcare service run by the State. Expatriates are covered by the State benefits provided under this service. Private healthcare companies in the country offer additional facilities and services not provided by the State.

- (ii) (a) Explain how the state run healthcare service would be impacted by the expatriate retiree population
- (b) Explain how its operations could be funded [6]

A large health insurer in country A is designing products with the objective of meeting the needs of the expatriate population.

- (iii) Suggest with reasons the products and their features that the insurer could offer that would particularly meet the needs of the expatriate retirees. [8]
- [Total 20]

END OF PAPER