

Actuarial Society of South Africa

EXAMINATION

24 May 2022

Subject F201 – Health and Care

Fellowship Applications

Time allowed: Three hours and fifteen minutes, plus an additional five minutes to allow for uploading your file in the ASSA Exam Platform

Total marks: 100

INSTRUCTIONS TO THE CANDIDATE

1. Ensure that you are logged in and authenticated through Examity before you attempt the examination.
2. The question paper is only available in the ASSA Exam Platform as a PDF download and may not be printed. Copy/paste of questions or parts thereof is only allowed between the Exam Platform and the Word answer document.
3. You are required to submit your answers in Word format ONLY using the answer template provided. No uploads of answers (handwritten or otherwise) will be accepted.
4. Ensure that your Candidate Number appears in the “header” of your Word answer template. [Select “Insert”, then “Header”, input your candidate number on the blank header template and select “Close Header”]. **Do not use your name or member number on your answer script.**
5. You may not access any file from your PC, use any other computer program (e.g. Email or Excel), or open any other browser during the examination.
6. You may not use any other material (e.g. a Formulae and Tables book) during the examination. Any such information that may be required will be provided to you within the examination.
7. You are strongly encouraged to use the first 15 minutes as reading time only, however, you may start answering the paper whenever you are ready.
8. Mark allocations are shown in brackets.
9. Attempt all questions.
10. Show calculations where appropriate. You may use blank paper to carry out rough work calculations. You may use a calculator from the approved list only.
11. Upload your Word answer file only into the ASSA Exam Platform. Once you have uploaded your file, you must click on **Finish Attempt** to save your file. You will still be allowed to go back and make changes (**Review Attempt**) if you have time.
12. Once you are satisfied with your uploaded file, click **Finish attempt** and **Finish all and Submit**. Once you have submitted you will not be able to make more changes.
13. **You must submit your answer file BEFORE the end of the allotted examination time.** Take this into account when planning your review and submission. There will be no time announcements.
14. An option to opt out of the exam will become available 1 hour after the official examination start time. If you select the Opt-Out option, you agree and understand that your entire script/answers will be deleted and cannot be retrieved at a later stage and that your script or part thereof will not be put forward for marking.

Note: The Actuarial Society of South Africa will not be held responsible for loss of data where candidates have not followed instructions as set out above.

END OF INSTRUCTIONS

QUESTION 1

You are a healthcare actuary employed at a new South African insurance company, and you have been requested to design and price a new medical expense shortfall (or “gap”) cover product to launch at the beginning of the next calendar year. Your brief includes that the intention is to sell this gap cover product in both the retail and corporate markets.

As part of your responsibilities in designing this gap cover product, you have to recommend how many variations of this product should be launched based on your view of the marketable range of benefit richness levels.

- i. Discuss the market research you would perform to gauge the range of gap cover benefit richness levels that would offer a competitive value proposition. [5]

Before starting with the pricing exercise, you first want to determine the typical pricing structures for gap cover in the retail market.

- ii. Outline the rating factors and pricing structures typically used for gap cover products in the South African retail market. [5]

You have agreed upon a pricing structure for the retail business that does not deviate too far from competitors.

- iii. Describe how you would determine an adequate premium for this product in the retail market. [10]

You have been tasked to develop a pricing model to provide tailored premium quotes for employer groups.

- iv. Explain factors to take into account to price a gap cover premium for an employer group. [5]
- v. Describe how you would develop this pricing model for group quotations in the corporate market including the client data that would be required to calculate such premiums. [10]

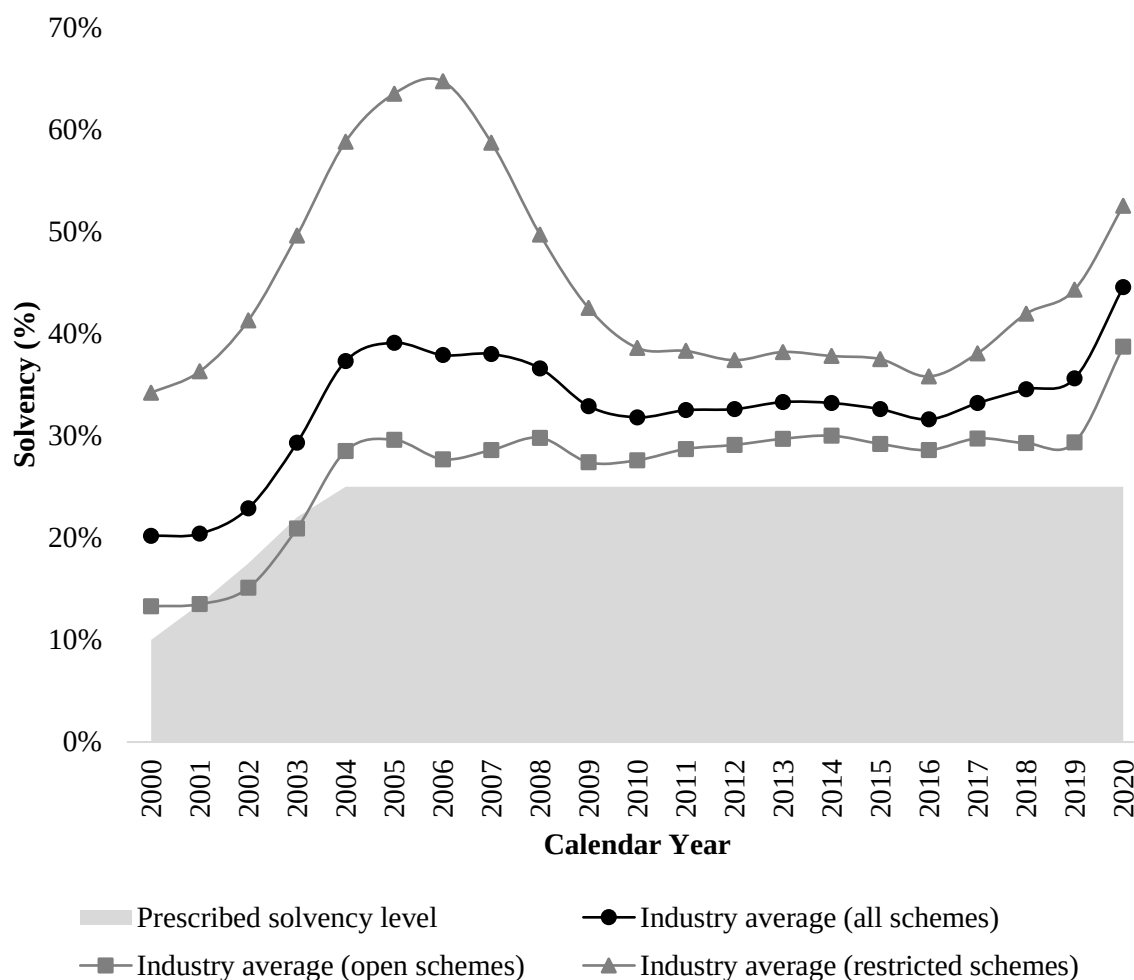
[Total 35]

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QUESTION 2

The following figure illustrates the average solvency level over time for all medical schemes, all the open and all the restricted medical schemes in the industry, respectively. The prescribed solvency level is included as a benchmark.



- i. Explain, with reference to the above graph, why the industry average solvency levels increased significantly in the 2020 calendar year. Define all terms in the figure above and used in your explanation. [8]
- ii. Discuss how a typical medical scheme (conforming to the trends in the graph above) can approach annual contribution increases for the 2022 benefit year given the industry-wide increase in solvency levels. You should consider the following scenarios separately:
 - a. Assume this medical scheme **is not** considering an amalgamation in the near future. [12]
 - b. Assume this medical scheme **is** considering an amalgamation in the near future. [10]

[Total 30]

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QUESTION 3

You are the consulting actuary to a small restricted medical scheme covering a few large employers operating in a particular industry and region. The employers concerned are industrial and manufacturing focused with different occupational health programmes and some having on site primary care clinics.

The scheme offers the following 3 benefit options with all options including wellness and preventative care benefits:

- **Basic plan** – Cover for PMBs in hospital and out of hospital at a network hospital
- **Middle plan** – Unlimited cover for in-hospital and hospital-related services at 100% scheme rate at any hospital, all day-to-day PMB related benefits including chronic benefits, with a 25% savings account for all other out of hospital benefits
- **Top plan** – Comprehensive family plan with unlimited in-hospital cover at any hospital at 150% scheme rate, 48 chronic conditions covered at a network pharmacy and unlimited GP benefits paid from risk benefits.

These employers consider the health and wellbeing of their staff to be a priority. They have offered a generous medical scheme contribution subsidy for current employees and for those retiring from service and remaining on this medical scheme.

Since the onset of the Covid-19 pandemic the employers have experienced higher than usual absenteeism levels due to Covid-19 infections, even after considering the impact of working from home arrangements, which has negatively affected business output. The employers have requested the scheme to partner with them to find solutions to address these issues. The reasons for absenteeism indicate that the primary cause is due to non-communicable diseases and mental health related conditions.

You have been tasked with understanding the nature of the problem and to present potential solutions to the scheme for implementation. The scheme has requested that you work closely with the employers to do so.

- i. Define the term “non communicable diseases” and explain the significance of these diseases in the South African medical scheme market. [3]
- ii. Define the terms “preventative care” and “wellness”, including examples, in the context of medical scheme benefits. [4]
- iii. Describe analyses you would do to determine the impact of mental health conditions and non-communicable diseases (NCDs) on the scheme and on the employers. Your analysis should include reference to the incidence, prevalence and costs of these conditions. [15]

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- iv. Suggest how you would approach the benefit review to assess benefits currently offered to members and any new benefits that might be offered to assist the scheme to address the employer's concerns. [7]

One of the trustees of the medical scheme who is also the HR director for one of the participating employers has suggested that the scheme should demonstrate a return on investment (ROI) from implementing additional benefits so that member's monies are spent appropriately.

- v. Outline a framework to determine the ROI (or cost benefit analysis) for each of the recommended additional benefits for the medical scheme and explain how the respective employers would measure ROI from their perspective. [6]

[Total 35]

[Grand Total 100]

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END OF EXAMINATION