

EXAMINATION

21 May 2025 (am)

Subject F201 — Health and Care Fellowship Applications

Examination time: Three hours and fifteen minutes (includes reading time)

Upload time: Five minutes

[Total time on examination countdown clock: Three hours and twenty minutes]

Total marks: 100

INSTRUCTIONS TO THE CANDIDATE

Failure to adhere to any of these instructions could incur examination sanctions including disqualification from the examination.

1. The question paper is only available on the ASSA Exam Platform as a PDF download and may not be printed. Copy/paste of questions or parts thereof is allowed from the question paper to your Word answer document only.
2. Download the Word answer document template from the ASSA Exam Platform. Save this Word answer document on your desktop using your **full Candidate Number**, which starts with “F201-exa-2025-...”, as filename. **Do not name your answer script with your name or member number.**
3. You are required to submit your answers in Word format ONLY using this document. No answers in any other format (e.g. handwritten) will be accepted. Save work regularly.
4. Ensure that your **full Candidate Number** appears in the “header” of your Word answer document. [Double-click on the header at the top of the Word document, input your Candidate Number only in the header, then press “Esc” to close the header.] **Do not use your name or member number anywhere in your Word answer document.**
5. You may not access any file from your computer, use any other computer software (e.g., Email or Excel), or open any other browser, collaboration tools or AI tools (e.g. Copilot, ChatGPT etc.) during the examination. Nor may you use Grammarly, Grammarly Premium or similar add-ins. Microsoft Word spellcheck is allowed.
6. You are not permitted to bring any other material into the examination (e.g. a Formulae and Tables book). Any such information/material that may be required will be provided to you in 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, starting each on a new page (as provided for in the Word answer document).*
10. *Show calculations where appropriate. You may not use other materials except blank paper for calculations. You may use a calculator from the ASSA-approved list only.*
11. *At the end of the three hours and 15 minutes examination time, you must stop writing and start uploading your Word answer document. **You may NOT continue to write during the five minutes upload time.***
12. *Upload your Word answer document only onto the ASSA Exam Platform. Once you have uploaded your document, you must click on **Finish Attempt** to save your document. You will still be allowed to go back and check that you have uploaded the correct version of your answer script (**Review Attempt**) if you have time. Remember that you may not type answers in the last 5 minutes of upload time.*
13. *Once you are satisfied with your uploaded document, click **Finish Attempt** and **Finish all and Submit**. Once you have submitted, you will not be able to make any changes.*
14. *You must submit your Word answer document **BEFORE** the time on your examination countdown clock runs out.*

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. The onus remains on you to read and implement all examination instructions.

END OF INSTRUCTIONS

QUESTION 1

You are the appointed healthcare actuary to a South African restricted medical scheme, *Leisure World Medical Scheme*. Membership eligibility of this scheme is restricted to current and former employees of Leisure World Group (Pty) Ltd. During the COVID-19 pandemic, the Leisure World Group retrenched staff due to reduced demand for its services and has not replaced them since. The scheme also had a 0% contribution increase in 2021 to ease affordability and based on having ‘excess’ reserves at the time. Membership of the medical scheme has almost halved from 8,000 in 2019 to 4,500 members in 2024.

The medical scheme has income rated contribution tables for two benefit options. The employer subsidises 30% of the contributions per member.

Leisure World Medical Scheme experienced the following in 2024:

- High year-on-year increases in the pensioner ratio (currently at 35%) and chronic ratio (45%).
- Claims costs per beneficiary per month increased by 25% in 2024 compared to 2023 and compared to an average tariff increase of 5.5%.
- Solvency has been reducing over time and is currently at 35%.

One of the trustees of the *Leisure World Medical Scheme* has asked if the high claims cost increase in 2024 is because of high-cost claimants and therefore might be unlikely to recur.

- i. Explain how you would do an analysis of high costing claimants as one of the potential drivers of the claims cost increases. [8]
- ii. Suggest, with reasons, other factors that could cause the high claims cost increase. [8]
- iii. Given the analysis in parts (i) and (ii), describe what you would consider and how you would project the claims experience forward for a 5-year period. Your answer should include projection scenarios. [7]

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The trustees reviewed the results of the claims projection and asked if the scheme is sustainable over the medium term, i.e. the next 3 to 5 years.

- iv. Describe the actuarial analysis you would perform to assess the sustainability of the scheme.

[5]

- v. Outline possible steps the employer (*Leisure World Group Pty Ltd*) or the scheme (*Leisure World Medical Scheme*) could take in the event that the scheme is unlikely to be sustainable, including implications for members.

[10]

[Total 38]

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QUESTION 2

You are an independent healthcare actuarial consultant and have been asked to develop a costing model for the National Health Insurance (NHI) fund in South Africa as gazetted (formally published in official government publication) in the NHI Act on 16 May 2024.

Various medical schemes have provided beneficiary-level demographic, contributions and claims data for this purpose.

- i. Describe in detail how you would use the medical schemes data to estimate the costs of delivering healthcare services to the population envisaged under the NHI framework. Your answer should include an explanation of the uses and limitations of the medical schemes data for this purpose.

[10]

A decision has been taken to request healthcare utilisation data from the public health sector. This would require public hospitals and clinics to submit their utilisation data.

- ii. Describe data collection methods, and potential uses and limitations of the public sector data for the purpose of using the data for the development of the costing model.

[10]

- iii. Describe the methodologies to incorporate both medical scheme and public sector data into the costing model to estimate the costs of healthcare provision for the population. Your answer should explain how the interpretability of the model results is impacted by the data used.

[5]

In developing the model, you have been requested to incorporate two scenarios: a single funder and a multiple funder structure based on the following definitions:

- *A single-funder healthcare model, often referred to as a single-payer system, is a healthcare financing structure where a single entity, typically the government, is responsible for funding and purchasing healthcare services for a defined population.*
- *In a multiple funder healthcare model, providers receive funding from various sources, such as government budgets, insurance or medical schemes, and out-of-pocket payments.*

- iv. Outline the advantages and disadvantages of a single funder and multiple funder model.

[10]

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- v. Describe ways in which income and risk cross-subsidies are achieved within current healthcare funding structures and how this might change within a single funder and a multiple funder structure, respectively.

[7]

[Total 42]

QUESTION 3

You are working as an actuary for a large international healthcare actuarial consulting firm and have been hired by an established private hospital group in the country of Actuaria. In Actuaria, medical specialists are reimbursed on a fee for service basis contracting directly with patients, medical schemes or other funders. The hospital group that you consult to has taken a decision to employ medical specialists on a full-time basis. To this end, you have been asked to design an appropriate remuneration framework to be used in the scenario where medical specialists are employed on a full-time basis.

Discuss the various considerations when designing a new remuneration framework for hospital groups to use for employing medical specialists on a full-time basis, detailing the following three aspects:

- a. The data you would gather and use in your analysis. [6]
- b. The analysis and modelling you would do to construct the remuneration framework. [7]
- c. The risks and implications of employing medical specialists on a full-time basis for the hospital group, medical specialists and other impacted stakeholders in terms of the remuneration framework. [7]

[Total 20]

[Grand Total 100]

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END OF EXAMINATION