



EXAMINATION

17 May 2024

Subject F201 – Health and Care

Fellowship Applications

Time allowed: Three hours and twenty minutes (which includes five minutes for downloading and uploading your answer document)

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 allowed from the question paper to your Word answer document only.
3. **Download** the Word **answer document template** from the ASSA Exam Platform. Save this Word answer document on your desktop using your **Candidate Number as filename**. 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 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 program (e.g., Email or Excel), or open any other browser during the examination. The use of Grammarly and Grammarly Premium or similar add-ins are also not permitted in examinations. Microsoft spellcheck is allowed.
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 ASSA-approved list only.
11. Upload your Word answer document only into 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 make changes (**Review Attempt**) if you have time.
12. 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.
13. **You must submit your Word answer document BEFORE the end of the allotted examination time.** You must stop writing and start uploading during the last five minutes. Take this into account when planning your review and submission. There will be no time announcements.

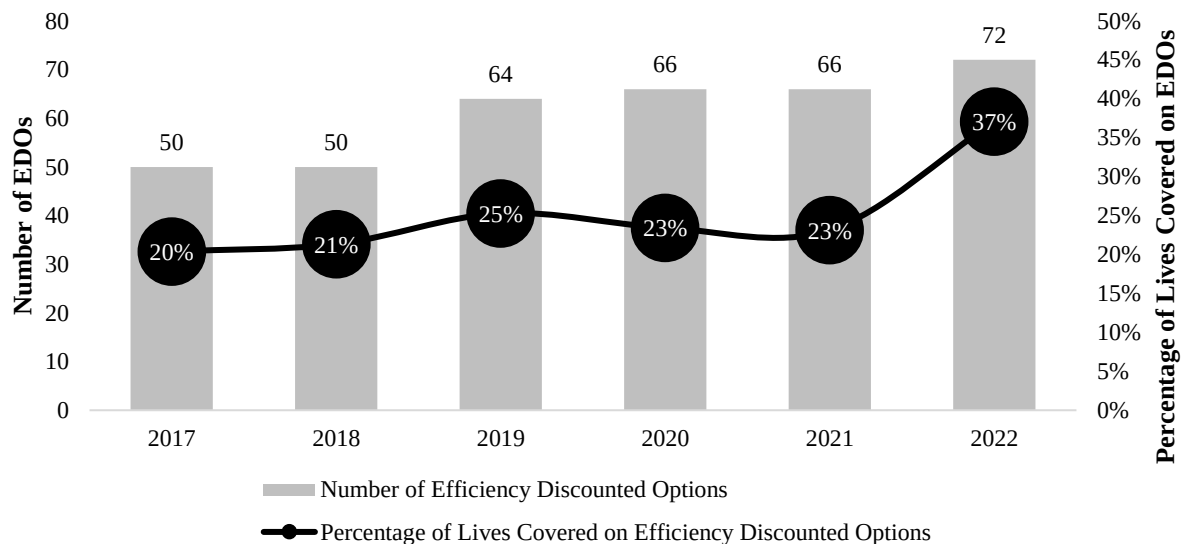
Note: The Actuarial Society of South Africa will not be held responsible for loss of data where candidates have not followed instructions as set out above.

END OF INSTRUCTIONS

QUESTION 1

You have been provided with the following figure showing the number and take up of efficiency discounted benefit options (EDOs) in the medical schemes industry since 2017. The percentage of lives covered by EDOs refers to all medical scheme lives.

Figure 1 – Number and Take-up of Efficiency Discounted Options



- i. Describe what an EDO is and outline EDO-related trends depicted in Figure 1, explaining the reasons behind these trends and discuss the various implications of the growth in EDOs. [25]
- ii. Compare and contrast an EDO with a conventional network-bound benefit option. [7]

You are a consulting actuary advising a medical scheme on introducing provider networks and are considering an EDO and / or a conventional network-bound benefit option. The scheme is seeking to achieve savings through efficiencies by means of a provider network for one or more healthcare disciplines.

- iii. Discuss the factors to consider when evaluating an efficient provider network specifically on cost, access and quality. [8]
- iv. Explain the various approaches to establishing a healthcare service provider network for an EDO benefit option. Include an outline of the factors to consider when managing the network and the interrelationships between providers. [10]

[Total 50]

REMEMBER TO SAVE

PLEASE TURN OVER

QUESTION 2

AnalytiCare Medical Scheme is an open medical scheme which has experienced an increase in the number of high-cost claimants from 5% of claimants in 2018 to 10% in 2023. High-costs claimants are defined as those incurring total risk claim costs above R500,000 during the 2023 benefit year. The high-cost claiming benchmark is adjusted for tariff inflation in each year.

The changes in the scheme's financial position over the same period is summarised below:

Table 1 – Summary of *AnalytiCare Medical Scheme's* Financial Position Changes

Metric	2018	2023	Contributing factors for change
Claims loss ratio (defined as risk claims costs relative to risk contributions less expenses)	90%	102%	Contribution increases have not kept pace with claim cost increases. Trustees approved lower contribution increases to support affordability and to reduce excess reserves built up during the Covid-19 period of 2020 and 2021.
Solvency level	64%	55%	Reduction in solvency as a result of membership growth and relatively low contribution increases during the Covid-19 pandemic.
Number of Members	100,000	105,000	Growth of individual membership portfolio, losses of group membership.
Proportion of lives with at least one condition from the Chronic Disease List	18%	23%	Ageing population, deteriorating quality of new lives entering the scheme and selective lapses by young and healthy lives.

A Trustee has proposed that the scheme develop a predictive model to identify which members of the scheme are at risk of becoming high-cost claimants during the next 12 months and their predicted claims costs. This trustee believes that those members identified by the model can be proactively contacted for more targeted healthcare interventions to manage their healthcare claims costs before they become high costing. The trustee also proposes a similar approach for those who are currently high costing to understand factors contributing to them being high-costing and predicting their future claims costs.

- i. Discuss the Trustee's proposal in detail in the context of *AnalytiCare Medical Scheme's* financial position, including the following:
 - a. The data that you would require, [7]
 - b. Modelling methodologies and considerations, [16]
 - c. How you would implement and subsequently test the functionality and accuracy of the model. [12]

You can assume that you have access to all the necessary data, technology and organisational information and resources to perform the work required to deliver on this proposal.

**REMEMBER TO SAVE
PLEASE TURN OVER**

The model has identified that older patients undergoing major surgeries are often high costing, with adverse outcomes including complications, readmissions and deaths contributing to their high costs.

The scheme has proposed that a fit-for-surgery benefit be introduced. This benefit would provide a pre-surgery medical evaluation of the patient's readiness for surgery and equip them with steps to take to improve their physical and mental health prior to surgery.

ii. Describe the design considerations and actuarial costing of this benefit. [9]

iii. Discuss how you might evaluate the impact of the fit-for-surgery benefit on the predicted high-cost claimants. [6]

[Total 50]

[Grand Total 100]

REMEMBER TO SAVE

END OF EXAMINATION