

EXAMINATION

1 November 2013 (am)

Subject F201 — Health and Care Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

- 1. Candidates will be issued with instructions to log-in using a password (which you will be provided with at the exam center).*
- 2. Candidates are required to submit their answers in Word format only using the template provided.*
- 3. Save your work continuously throughout the exam, on your computers' hard drive that you have been provided.*
- 4. 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.*
- 5. You must not start typing your answers until instructed to do so by the invigilator/supervisor.*
- 6. Mark allocations are shown in brackets on exam papers.*
- 7. Attempt all questions, beginning your answer to each question on a new page.*
- 8. Candidates should show calculations where this is appropriate.*

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.

AT THE END OF THE EXAMINATION

Save your answers on the hard drive.

<p><i>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.</i></p>
--

Question 1

You have been invited to participate, in your capacity as an independent actuarial expert, on a Task Team established by the Department of Health (DoH).

The Task Team aims to perform research to investigate the range of appropriate tariffs for the reimbursement of healthcare professionals in a fee-for-service environment. The DoH intends to use the research produced by this Task Team for the purposes of pricing regulation at some point in the future, once an enabling regulatory environment for price regulation has been established.

- i) Describe various methods of provider reimbursement. For each method, you should also indicate the risks transferred to the provider (based on the approach by Garofalo et al) as well as the incentives created for the provider. (14)
- ii) Discuss why this investigation could be deemed a priority within the current healthcare financing environment. (5)

The panel comprises mainly provider representatives and funder representatives. Provider groups are represented by various bodies divided according to discipline. You have been asked to serve on a sub-committee that will focus on the tariffs for specialist disciplines. Provider representatives on the sub-committee argue that tariffs should be established using the costs of running a practice as a point of departure for setting a reasonable tariff. They propose collection of the following data fields from various practices to start the process:

- Rent
- Cost of administrative staff
- Insurance costs
- Water and electricity costs
- Number of consultations performed per day

Funder representatives argue that tariffs should be established with reference to a “willing buyer willing seller” approach, using fees presently being charged in the marketplace as a point of departure for setting a reasonable tariff. They propose collection of the following data fields from various medical schemes and medical scheme administrators:

- Specialist discipline code
 - Tariff code
 - Amount billed by provider
 - Amount paid by medical scheme (either from risk or savings account)
- iii) Discuss the provider representatives’ proposal. Consider the advantages and disadvantages of this approach, as well as additional data you would ideally want to collect to enhance this methodology. (11)
 - iv) Discuss funder representatives’ proposal. Consider the advantages and disadvantages of this approach, as well as additional data you would ideally want to collect to enhance this methodology. (8)

PLEASE REMEMBER TO SAVE

©Actuarial Society of South Africa

One of the Task Team members argues that it is not the quantum of pricing, but rather the structure of reimbursement that needs to be changed to incentivise efficient provider behaviour. She proceeds to suggest that specialist practices could be required to assume full risk for specified surgical procedures. The idea is that the specialist should charge the medical scheme an all-inclusive global fee for a specified procedure. The specialist then becomes responsible for all healthcare costs related to the procedure including hospitalisation, medication and professional costs such as the anaesthetist, radiologist, pathologist, etc. The specialist practice would be entitled to keep any remaining portion of the fee as profit – or alternatively, if costs exceed the fee, the specialist practice would be required to meet the excess costs.

It is argued that this structure will create an incentive for the specialist to treat cases in a more cost-efficient manner, and also move the burden of tariff negotiation (including the hospital and anaesthetist tariffs) onto the specialist.

- v) Describe the factors that should be considered in the determination of an appropriate global fee and the implementation of such a reimbursement structure in practice. (12)

Question 2

You are an actuary employed by Phobos, a medical scheme administrator, to perform the annual pricing and budgeting work for its only client, an open medical scheme called MarsMed. All of MarsMed's options are new generation plans.

Two years ago the marketing director of MarsMed's distribution company requested that the scheme introduce preventative care benefits across its product range. He said that the scheme's competitors were all offering such benefits and that the absence of preventative care benefits on the scheme's brochure was a distinct disadvantage from a marketing perspective.

The benefits he wanted to be introduced included:

1. Annual flu vaccines;
2. Maternity benefits providing:
 - 12 ante-natal pregnancy consultations for each maternity case;
 - Two 3D scans for each maternity case;
3. A benefit for oral contraceptives;
4. A blood sugar and cholesterol tests for screening purposes; and
5. A Voluntary Counselling and Testing (VCT) benefit for HIV.

All preventative care benefits are paid from risk benefits without co-payment and regardless of a beneficiary's utilisation of their other medical scheme benefits. These benefits also do not accumulate to any other benefit limits.

- i) Explain how you would approach the estimation of the claims costs resulting from the introduction of each of these preventative care benefits for pricing purposes. List any further questions you would ask to obtain the information you will need to perform the exercise and explain how it will assist in the estimation. (12)

PLEASE REMEMBER TO SAVE

At the time these benefits had been considered, MarsMed's benefit design committee expressed scepticism as to the actual value of these benefits in terms of preventing future healthcare costs or generating any other benefits for the scheme. The Board of Trustees decided to approve the introduction of the preventative care benefits under the condition that the impact of these benefits be monitored over time. It was agreed that the scheme would wait until the benefits have been in place for at least one full year to ensure that sufficient experience data had been collected.

It is now November 2013 and you have been instructed to perform a review of the impact of the preventative benefits.

The scheme's latest management accounts and managed care reports reveal that:

- The number of new members joining the scheme, particularly in the 25 to 35 age range, has increased by 200 members per month compared to the previous year.
 - The frequency of maternity cases per life per annum has increased by 20%.
 - 40% of beneficiaries accessed the flu vaccine benefit during the past year. Most of the beneficiaries that utilised the benefit were over the age of 60.
- ii) Describe, for each of the five preventative benefits, the investigations you would perform and the factors you would need to consider in order to ascertain whether the direct costs of the preventative care benefits were met by a corresponding reduction in claims or any other benefit to the scheme. (20)

The marketing director hails the preventative benefits as an enormous success, especially considering the new member growth that materialised over the past year. He suggests that the scheme should consider expanding its preventative benefits by adding a benefit for a Prostate-specific antigen (PSA) test. The PSA test will be available to male beneficiaries aged 40 years or older.

The administrator's medical advisor mentions that there are concerns in the medical community regarding the sensitivity and specificity of the test (i.e. its ability to distinguish between those who do and do not have the disease). Positive results will usually be confirmed through further diagnosing testing and examination.

- iii) Briefly describe the three different methods that may be used to evaluate whether to cost of the PSA test is justified as a healthcare intervention. State, with reasons, which of the three methods would be the most suitable to use when deciding whether to add this benefit, based on the board's criteria. (8)
- iv) Discuss the factors you would need to consider, the research that you would have to source and the approach that you would take to perform the analysis in (iii) above. (10)