

Actuarial Society of South Africa

EXAMINERS' REPORT

MAY 2018

Subject F201- South African Health and Care

Specialist Applications

Introduction

The Examiners' report is written by the Principal Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions, the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should consider the possibility that circumstances may have changed if using these reports for revision.

General comments on the aims of this subject and how it is marked

1. The aim of the Health and Care Specialist Applications subject is to instil in the successful candidates the ability to apply knowledge of South African health and care environment and the principles of actuarial practice to the provision of health and care benefits in South Africa.
2. Candidates who approach the questions, especially the more substantial elements of each question, in a methodical and detailed manner are far more likely to pass the subject. Candidates will gain few marks if they do not address the question asked but merely write tangential points around the topic of the question. The mark allocation for each question part gives an indication of the relative length of answer or number of points to be made to gain full marks.
3. It is often helpful to use subheadings when answering long part questions.
4. Candidates who give well-reasoned points, not made in the marking schedule, are awarded marks for doing so and these marks were added to the marking schedule.

General comments on student performance in this session of the examination.

The difficulty of the paper was consistent with papers set for recent sessions. Well prepared candidates scored well across most of the paper. Questions that required an element of analysis or application of knowledge were less well answered than those that just involved reproducing bookwork. However, candidates did not score as well as they could have with bookwork questions. The comments on the questions below concentrate on areas where candidates could have improved their performance.

A general concern in this session was basic examination techniques of candidates: not answering the question directly, not following the instruction word (e.g. listing where the question asked for explanations), not numbering questions clearly and/or leaving answers blank.

QUESTION 1

Question 1(i)

This question expected candidates to cite a section directly from the Medical Schemes Act. Candidates were not expected to provide verbatim responses but a suitable summary or interpretation of the Act was acceptable.

A number of candidates provided lengthy explanations which was not required by the question.

Section 33 of the Act gives the Registrar the authority to approve applications for the registration of benefit options where more than one option is provided for members.

The clause stipulates that no benefit option shall be registered unless the Council is satisfied that these four conditions are met:

- The benefit option will include the prescribed minimum benefits;
- The benefit option will be self-supporting in terms of membership and financial performance;
- The benefit option is financially sound; and
- The benefit option will not jeopardise the financial soundness of any existing benefit option within the medical scheme.

Section 33(3) gives the Registrar the authority to demand such financial guarantees as will in the opinion of the Council ensure the financial soundness of benefit options.

In 2008 efficiency discounted options were introduced and allow the medical scheme contributions to be reduced based on the network of healthcare providers for the option. The registration of this option requires exemption from section 29(1)(n) of the Act.

[Total 3]

Question 1(ii)(a)

This was an easy question asking candidates to demonstrate knowledge about the South African medical scheme environment from a competitive point of view.

The question specifically asked candidates to describe investigations to be conducted. Marks were not given for generic lists provided without explanations to justify or explain the point being made within the context of the question.

A few candidates cited practically difficult analyses where the information is not publicly available. Marks were only given where these were well explained in the context of the question.

There was generally limited discussion of investigations which would lead to appropriate assumption setting and modelling – a few candidates tried to give ‘an answer’ which was often grossly over simplified rather than considered what to do as an investigation.

Investigations to understand and appreciate the competitive environment include:

Review the benefits of each option against similar options in the market to establish their competitiveness: are there benefits that are very generous relative to market, out of line with the scheme offering or considered to be unique differentiators.

Where benefits are out of line with the market, consider the impact of making benefit changes to bring the benefits more in line (or more generous or more differentiating) both in terms of costs (additional contributions required), potential selection and marketing.

Review the popularity of above-threshold benefits in other (open) medical schemes. How does this popularity compare with that of options with medical savings accounts?

Review scheme rates offered in the market. SuperMed offers up to 400% reimbursement of scheme tariff – is this too high or on a par relative to other medical schemes’ comprehensive benefit options?

Review the benefits offered by each benefit option for the Scheme relative to each other to establish the relative risk of anti-selective movements between options, and whether competing medical schemes experience similar membership movements.

Review the contribution levels of each option against similarly priced options in the market to establish if the contributions are reasonable and competitive.

Review the contribution increases implemented annually by similar benefit options and establish whether the contribution increases are aligned for benefit options with similar benefit richness.

Review the contribution structures offered by competing medical schemes, and note whether these are income-rated, structured with the Principal-Adult-Child format or family size...

...Assess which structure makes more sense for SuperMed and for each benefit option to correctly incentivise the ideal family types to join.

Review the membership growth experienced by other open medical schemes in the industry and assess whether SuperMed experience of net membership losses is aligned with other medical schemes and similar benefit options, or whether SuperMed is experiencing an opposite trend compared to that of the industry.

Compare the membership profile (in terms of average age, gender profile, chronic ratio, pensioner ratio, etc.) of SuperMed relative to the open medical scheme market, and establish whether SuperMed has better or worse membership profile overall and for each benefit option, e.g. is the industry average age for other open medical schemes below or above SuperMed's 37?

Analyse the competitiveness of other comparable self-administered schemes – is SuperMed strong enough to compete? How do the non-healthcare costs compare? Are there signs of efficiency or economies of scale that SuperMed has/lacks?

Research the statutory solvency of all the other medical schemes in the market – consideration in this investigation can include:

- Compare SuperMed's solvency levels to the average of the statutory solvency for both open and all medical schemes. Use both a straight and weighted average to understand the impact of any very large medical schemes on the average.
- Consider scheme solvency levels of competing open schemes, self-administered schemes and other schemes.
- Analyse the trend over time of the statutory solvency – not merely at one point in time. Have other schemes dropped below the 25% minimum requirement and how did they improve their solvency levels.

Review the market's use of designated service providers (DSPs) in their benefit designs – do other medical schemes also make use of DSPs in their lower-income options like SuperMed's Options 5 and 6?

...Analyse (if possible) the effectiveness or cost savings of DSPs – are the DSPs of other medical schemes more/less effective than that of SuperMed?

Study the financial positions of other comparable benefit options in the market: are these also incurring deficits to maintain competitiveness?

Review the use of brokers by other medical schemes: do other schemes rely more on direct business or broker business? It might be difficult to obtain this information from the public domain.

Establish whether other comparable and competing low cost options are also growing their membership like SuperMed's options 5 and 6.

Review how many other schemes' options have approximately 1,000 members like SuperMed's Option 6. Assess whether such benefit options have been removed.

Review the medical scheme market growth in terms of membership and assess whether SuperMed is experiencing membership losses at the same rate as that of the industry. Or assess whether SuperMed is shrinking while the rest of the market is growing.

[Total 5]

Question 1(ii)(b)

This question asked candidates to consider option level strategies, rather than overall scheme strategies. Marks were not given for points that considered expenses or investment income as the question specifically referred to the net healthcare result of each option.

This question was generally answered relatively poorly. Candidates lost marks as a result of a few common shortfalls including not answering the question per option, for explaining how the options operated which was not part of the question, for repeating generic comments across options, for going into detail on modelling methodologies, making assumptions rather than explaining investigations to be done to determine an appropriate assumption, repeating marketing comparison points from the previous question.

Candidates that scored well for this question gave option level explanations of how they would go about assessing the sustainability of each option with supporting investigations, giving specific responses for each option.

Option 1

Financial losses on this option have accelerated significantly to generate large losses on a small and old option, and this is the option with the highest average membership loss.

This option has a small percentage of group business and there is great potential for anti-selection from individual business.

The high average age and small membership size on the option means that contribution increases to re-align the deficit are likely to lead to further buy downs or withdrawals exacerbating the membership reduction and unsustainable position.

The Scheme should consider a contribution increase that is sufficiently high to make some corrective impact on the financial position of the option.

While at the same time balancing that against the increases on other options and the market to remain competitive and not trigger anti-selective movements that will harm the Scheme.

The Scheme could consider benefit additions to improve the competitiveness of the option and justify the higher costs and contribution increases. The risk is that the contributions become uncompetitive given the old age profile.

Alternatively, the scheme could consider benefit reductions. There is a risk that the option may then become too close in terms of benefits and contributions to Option 2 and result in anti-selective buy downs to that option or buy ups to Option 1.

The Scheme could consider merging Option 1 and Option 2 to increase the size of the option and limit anti-selection...

...although that would result in a relatively larger group of members paying more for cover with no increase in benefits.

If Option 2 is merged up into Option 1, this might lead to some Option 2 members downgrading to Option 3 for affordability reasons, and this could increase the average age.

If Option 1 is merged down into Option 2, it could lead to some Option 1 members terminating their membership with SuperMed for not seeing the value for their money anymore (assuming the reimbursement rate lowers from 400% to 300% for these members).

If the options are merged into each other based on a hybrid of the options (e.g. with a 350% reimbursement rate) a balance could be struck between anti-selective downgrades and membership terminations, with an improvement in average age.

Dissolving this option is unlikely to be a viable solution as this strategy may negatively impact the competitiveness of the Scheme as the range of comprehensive options is reduced, not to mention the loss of contributions.

Given the small proportion of corporate broker business it will be important to have a competitive range of options to cater to the entire workforce of a company.

Option 1 is the only option with an above threshold benefit therefore it is expected to attract those members who can afford savings and a potential self-payment gap.

The scope for contribution increases to improve the financial position of the option are therefore likely to be more than for other options on the scheme.

The Scheme could consider a larger savings contribution if it is not already at 25% to cater for some of the non-PMB benefit needs of members.

Consider a larger self payment gap on the option to reduce the number of claims above the threshold.

Consider keeping the option as is and recognising the risk of cross-subsidy in the scheme, bearing in mind the option is not self-sustaining.

Given the requirement of the BOT to maintain full compliance with the Medical Schemes Act the Trustees should consider a long term corrective strategy for the option that ensures that the option is sustainable.

Option 2

The financial position of Option 2 has worsened in 2015 and suddenly dropped to a heavily loss making level in 2017 indicating that corrective action is required to bring the option back to a reduced loss as it had in 2015 and 2016 and eventually a surplus as in 2013 and 2014.

Corrective action could be required from each of the following possible causes of the loss:

- Loss of surplus making corporate business on the option
- Buy-downs to lower cost options
- High claiming group of members joining the option

- Previous benefit changes costing more than predicted
- Unbalanced contribution tables creating an opportunity for anti-selection
- Anti-selective family movements based on contribution table structure
- A few large claims

Given that this option is also considered a comprehensive option, based on industry trends it can be expected to produce a loss as the cost of claims is higher than the contributions. However, this does not align with the requirements of the Medical Schemes Act.

The source of the unusually high claims experience for 2017 needs to be identified and corrective action taken based on the underlying reason.

For example, if there was an unusually higher increase in claims during 2017 and claims are anticipated to reduce then a contribution increase in line with expected claims inflation could be recommended as at 1 January 2018.

Review the structure and level of the contribution table to identify possible causes for anti-selective movements such as adult or child contributions being too low or the option only charges for a limited number of children.

It will be important to ensure that the contribution increases for Options 1 and 2 (which are both in the order of 19%-20% to break even) maintain sufficient gap in the contribution levels to limit anti-selective movements between the options.

The average age of the option is relatively old but younger than Option 1 indicating that the older lives are selecting the most comprehensive option to meet their healthcare needs.

The size of the option is larger than Option 1 indicating that it is a relatively more attractive option for members. The Scheme should manage and monitor any buy downs from Option 1 to Option 2 and similarly buy downs from Option 2 to other options. This may result in a review of the contribution tables for any differences in structure.

Making significant benefit changes to this option may be risky in the longer term as the membership might decline further, or the financial position might worsen.

Option 3

Option 3 is SuperMed's largest option in terms of membership and has also been the most significant contributor to the Scheme's financial result therefore maintaining the membership on the option and financial result at a sustainable level should have a significant impact on the overall position of the Scheme.

The Scheme could consider reasonable contribution increases on this option to make marginal allowance to improve the financial position of the option from a loss of 2% in 2017 back to the small surplus levels in 2015 and 2016 of 0.3%. This would have a significant impact on the overall financial position.

However, there is a risk that high contribution increases would trigger buy downs or withdrawals.

A review of the benefits against the market can identify areas where the option can be made more competitive. Small benefit changes could be considered to improve competitiveness at relatively low or no cost to assist with attracting and retaining members.

Option 4

Option 4 and Option 1 both have savings account facilities. Option 4 has historically been quite profitable, more so than Option 1 and experienced a faster decline in the financial result in 2015.

The option size is relatively large (compared to the other options) but the average age is relatively old (compared to the other options and the market) indicating that the benefit option may offer good in-hospital benefits and chronic cover at a price that older members can afford.

The attractiveness of the benefits may have led to anti-selective movements to this option either from other options or from new members who are older with generally higher claim costs.

The Scheme could consider which benefits are being utilised more than expected to identify where benefit changes could bring the option more in line with the pricing. This could, however, make the option uncompetitive.

The Scheme could consider reducing the savings account element of the contribution (thereby reducing the allocation to savings) and increase the risk contribution to recover some of the shortfall. It will be easy for members and brokers to compare annual savings balances before and after the change and rightly conclude that this is a significant cut to the day to day benefits.

There is a risk that the option would be less attractive to those specifically wanting a savings account option.

The Scheme could consider marketing the option to a younger target market to improve the demographic profile and hence reduce the average age and claims costs.

Option 5

Option 5 is the second largest option and historically the second most significant contributor to the overall financial result of the Scheme.

This option used to be the highest surplus-making option and experienced a very poor result for 2016, recovering slightly in 2017. The underlying cause of the deterioration from the 2014 result needs to be established and whether corrective action taken in 2017 needs to be continued. This option should be generating surplus for the Scheme.

Given that it is a growing option at lower cost there needs to be careful consideration of the contribution increase given. A high increase could make the option uncompetitive or drive buy-downs to Option 6.

Should this option start to shrink, the same would apply as one would want to minimise further exits. However, it would indicate that there are other issues that need to be attended to for example uncompetitive benefits, inappropriate network, etc.

Review the other chronic diseases list and the associated utilisation rates and average claim amounts. Determine whether the other chronic disease list should be shortened.

Review the effectiveness and efficiency of the DSP chronic providers by means of profiling techniques and determine whether some providers should be removed from the DSP list, or whether other efficient providers should be included.

Consider changes in the level of the co-payment applicable to non-DSP utilisation.

Option 6

Option 6 is the smallest option and has the lowest average age with the most positive net healthcare result, indicating a need to grow it further. This option also consists of the largest portion of group business.

Employer groups may have left before the introduction of Option 6 as the scheme's variety of benefit options may not have been sufficient to cater for the diverse needs of various workforces...

...contributing to an increase in the loss ratio and hence worsening of the operating result

Employer groups that required a PMB only option may have sought membership at other schemes who cater for these needs (either specifically or as part of their overall offering) therefore negatively impacting the ability of the Scheme to retain or attract members.

Option 6 was introduced in the same year that the Scheme experienced a negative operating result (as percentage of risk contributions).

Option 6 achieved a negative operating result in the first year of operation indicating that claims exceeded contribution income thus contributing to the overall deficit, all else being equal.

The introduction of the low cost option could have resulted in buy downs from other options thereby reducing the overall contribution income to the scheme as those buying down would have paid less in contributions. This needs to be monitored.

The claims experience of those buying down is unlikely to have reduced to the same extent as the reduction in contributions hence the impact of a worsening of the claims ratio of Option 6.

The buy downs may have increased over time leading to worsening claims profile on the Option 6 as well as the claims profiles on the benefit options that these members bought down from.

Option 6 showed improvement in the operating result in 2016 and 2017 indicating that the option could have benefited from high contribution increases (to offset claim increases) and / or improved demographic profile, or better claims experience in subsequent years.

At 1,000 members there is also the question of whether this option is sustainable from a membership point of view.

Is it appropriate for the scheme to be relying on the lowest cost option (targeted at low income individuals) to cross-subsidise the higher options?

The last mentioned is referred to as reverse income cross subsidy.

The risks associated with contributions that are too low are significant buy-downs from the more expensive options which would have a detrimental impact on each option and the overall scheme.

[Total 14]

Question 1(ii)(c)

Candidates were asked to consider factors relating to growing membership. No marks were given for calculating growth rates and concluding whether or not this was achievable.

Candidates generally did not generate sufficiently distinct points to score well in this question.

Investigations to set the membership growth assumption and to inform the membership growth strategy include:

Identify reasons why members are leaving:

- Is it due to contributions being too high, benefits inadequate or inappropriate, or is it other reasons such as poor marketing or servicing?
- If the previous BOT under-priced to attract more members to grow market share and the market share indeed grew (as with Option 5 and Option 6), then this could indicate the market's responsiveness to medical schemes' affordability.
- The market could also be as responsive to relaxed underwriting measures.
- However, if the contributions were deliberately under-priced, CMS would require SuperMed to achieve a positive net healthcare result by means of higher contribution increases in the future – and this might affect the affordability of the scheme.
- Loss of members seems to be anti-selective as the financial position of most of the options are deteriorating so it would be important to identify the characteristics of the members leaving across the benefit options...
...for example, family size, tenure, employer group / industry, claims experience, broker group.
- Establish if the losses are 'random' or are linked to the exit of specific employer groups which may have had a disproportionate impact.
- Establish if the Scheme amalgamated with another scheme and the impact of this transaction on the eventual combined membership.
- Establish if the employer groups participating in SuperMed were in a specific industry or region that experienced job losses such as mining. This may have resulted in job losses leading to membership cancellations.

Identify the buy ups and buy downs over the past 5 years to understand the direction of member movements and the extent to which these are anti-selective.

Identify the turnover of members and the claims experience to establish the impact of new joiners and lapses.

Engage (both retail and corporate) brokers to determine if there are other employer groups who are likely to leave or join the scheme. Or who else, apart from employer groups, could be approached to join.

Analyse individual brokers and broker houses to see who has been selling or lapsing the book.

Establish if there are other industry, union or geographical concentrations of members leading to membership losses.

Analyse the historic membership growth and loss on each option and the changing membership mix on each option to determine baseline assumptions for the membership growth (or losses) on each option going forward.

Establish expectations from the Scheme on new business numbers and mix that can be expected and factor into the assumption for members.

Based on the review of membership movements between options develop assumptions for expected future membership movements, taking account of benefit changes (below) and contribution increases (below).

Establish assumptions for changes in mix of new members for example family size, location, employer group or individual, income levels, etc.

Review the contribution levels of each option relative to each other to establish if there are anti-selective movements between options.

Analyse/establish the success or not of any marketing campaigns.

Analyse/establish the success or not of any affiliated products, e.g. wellness programmes, rewards programmes, gap cover.

[Total 6]

Question 1(ii)(d)

The question asked candidates to consider scenarios to achieve the 2020 strategy. Candidates who performed well in this question demonstrated an understanding of the construction of different scenarios that could assist Trustees to assess the impact of different underlying assumptions.

Based on the results of the investigations and the assumptions developed it would be important to demonstrate scenarios so that the Trustees can adopt a set of assumptions that best represent their expectation of the future.

The scenarios can assist the Trustees to identify risks and determine which elements of the scheme have the most impact on the financial result. An indication of the likelihood of each scenario should be presented.

The various scenarios, and the impact on the income statement, can include:

Including outliers versus excluding outliers to assess the significance of the outliers' impact on the income statement, which could inform further analyses of outliers (e.g. high cost hospital cases where members are still hospitalised/alive with the same disease)

Setting contribution increases to break even before investment returns versus break even after investment return:

- to assess the reliance on investment performance, and to demonstrate the impact on the income statement in the event of poor investment returns.
- This could also inform the investment strategy depending on the reliance of investment return, e.g. risk-averse vs risk-taking investment strategy;

Conservative assumption set versus Optimistic assumption set to gauge the margin required to sufficiently allow for adverse contingencies.

Various levels of membership growth rates (different levels of positive and negative growth rates, separately for each benefit option) to not be overly dependent on optimistic membership growth expectations and inform the urgency of brokers' performance and effective marketing.

Various levels of membership lapse rates (different levels of lapse rates for each benefit option and age bands) to demonstrate the potential adverse impact of brokers attracting bad risks, e.g. the inability to build reserves.

Various combinations of membership movements between benefit options to demonstrate the anti-selection effect on claims should members downgrade without changing their claiming behaviour.

Various (including extreme) changes in the membership profile for each benefit option (e.g. a large increase/decrease in the average beneficiary age in a certain benefit option) to demonstrate the need to attract young and healthy members to ensure effective cross-subsidisation.

[Total 5]

Question 1(ii)(e)

This question asked candidates to consider other factors not covered by the other sub-questions asked earlier. Candidates who scored well were able to discuss a variety of scheme level issues, applying this to the South African medical scheme environment, and include reference to performing an actuarial analysis.

Investigations can include:

Review the underwriting policies of the schemes as SuperMed may have chosen not to apply underwriting to new groups (and members) joining the scheme leading to the entry of poorer risks and higher claims.

Establish if there are brokers who are bringing poor risks to the scheme resulting in higher claims.

Review expenses incurred for administration and other non-healthcare costs to determine if these are appropriate for the size of the scheme.

Allow for per member costs and fixed costs as contracted and expected by the Scheme.

Review investment strategy and returns to identify if this is still appropriate and aligned with the needs of the scheme.

Establish an expected return on assets for the forthcoming period from the Scheme's investment consultants.

The scheme would need to monitor these on an annual basis to ensure corrective action is taken where appropriate to balance the interests of members and the scheme.

Review the existing financial projection model used to set the most recent budget and assess whether this model can serve as a good starting point for the 2020 strategy modelling exercise.

The assessment could include an investigation of the difference between the actual and expected experience – even if the model assumptions are 100% accurate, does the projected financial results equal the actual financial experience?

Read, understand and follow the guidance issued by the Council for Medical Schemes (usually in a circular) on benefit changes and contribution increases.

Read, understand and follow the guidance provided by the Actuarial Society of South Africa in APN 303: Advice to South African Medical Schemes on Adequacy of Contributions.

Review any recent changes in taxation, e.g. a change in VAT from 14% to 15%, or the change in the tax expenditure subsidy...

...and assess how this might affect certain membership groups (it might affect lower income earners more) and the resulting impact on membership growth.

Analyse historic movements in the consumer price index and single exit price, and project expected future inflation (consult sources such as Stats SA, South African Reserve Bank, and Bureau for Economic Research.)

Analyse historic movements in salary inflation.

Research the current economic and political climate to understand potential impacts, e.g. inflation impact due to South Africa losing its investment grade to sub-investment grade (or “junk status”), or zero economic growth.

Establish if there were any changes in managed care protocols, techniques, prices, etc.

The size of the reserves held by the Scheme – relative to the statutory requirement of 25% of gross contributions and relative to a risk based measure – is not known and this is critical to understand and investigate.

The corrective action taken by the scheme would need to include reserve building. This puts additional pressure on contribution increases as an element of the increase would need to go to reserves. If the scheme is looking for growth in members, this means growth in reserves would have to be funded through contributions – more growth means more surplus is required.

However, given the circular nature of the definition of the statutory solvency level the interaction between the numerator and denominator needs to be understood so that an appropriate allowance is made.

It is therefore difficult for the scheme to grow solvency and membership at the same time. This interaction needs to be analysed, modelled and documented.

Should the scheme hold excess reserves (based on an actuarially accepted investigation), which is not currently the case for this Scheme, further investigation could be done to understand the extent the scheme could draw on its reserves to provide a cushion for once off adverse experience.

Irrespective of the size of the reserves, given the declining trend in the operating result, it would not be feasible or sustainable for the reserves to subsidise contribution increases on an on-going basis.

Given the below statutory solvency level, a business case would need to be submitted to CMS demonstrating how solvency will be achieved.

It is likely that contribution increases would be the main mechanism to increase solvency...

...or appropriate benefit reductions (cheaper to do as they do not suffer the same circularity problem).

[Total 6]

Question 1(iii)

This question combined bookwork and application requiring candidates to cite elements of the underwriting legislation and discuss how these would impact the scheme if changed. Candidates who scored well were able to consider each underwriting measure and risks and benefits of changes.

This proposal entails the scheme relaxing the underwriting measures (in terms of waiting periods and late joiner penalties) from the legislated maximum to the minimum, i.e. no waiting periods and no late joiner penalties for group business (individual underwriting remains as is).

This proposal, if followed, could enable brokers to place more business with Supermed and therefore assist with the growth of the Scheme's membership if the relaxed underwriting measures are in place.

However, the profile of the new members (in terms of health and age) might not be the desired profile for the Scheme.

The Scheme could end up with a new membership pool that has a poor claiming experience and/or high level of churn.

However, this proposal could allow the scheme to grow with potential reserve-building members.

By relaxing the underwriting measures, the brokers could continue attracting young, group-based business as was done with Option 5 & 6...

...As it can be seen that Options 5 & 6 consist of a large proportion of group business, which has a young and growing profile (although Option 6 is a small and new benefit option).

Due to the reduced anti-selection risk associated with large groups, underwriting can be relaxed, thereby reducing the cost of underwriting for the scheme and making the scheme more attractive for larger reserve-building groups through a less burdensome joining process and providing cover for employees that would otherwise have been underwritten...

...This should be informed by an analysis of loss ratio by groups versus individuals, and group size to determine a cut-off for the new relaxed policy. Membership profiles should be closely monitored before claims emerge.

In addition, there is a potential saving in non-healthcare costs in terms of the release of the underwriting costs incurred with the current underwriting measures (if applicable).

The risks to the medical scheme, arising from each underwriting element, include:

General Waiting Period

Waiving the general waiting period of 3 months introduces the risk that members may hop from one scheme to another...

...and the risk that members join the environment when they need treatment.

This hardly poses a risk to the medical scheme when the group business is large and compulsory, but there is some degree of risk of churn (i.e. a high level of churn and/or churn occurring soon after joining the scheme) which deters the scheme from building much-needed reserves.

Condition-specific Waiting Period

Waiving the 12-month condition-specific waiting period introduces the risk that members only join when they are in need of benefits.

This will hardly be the case for group business; however, should this risk materialise, the Scheme would experience an increase in claim utilisation soon after these members join. This will prevent the Scheme from building reserves.

The scheme's solvency position will deteriorate the faster the membership grows (the extent of deterioration will depend on the option mix: if more members join Option 6 with low contribution rates, the solvency will drop less than it would have dropped if more members joined Option 1 with higher contribution rates).

If the claims experience continues to be poor and the benefit options continue to incur negative underwriting results, then the accumulated funds and consequently solvency position would continue to reduce.

Late Joiner Penalty

Waiving the late joiner penalty removes the disincentive to join the scheme when the member is older, i.e. the waiver would not encourage cross-subsidies.

The new demographic profile (in terms of health and age) may be worse than allowed for in the contributions. The new members (who would join Option 5 & 6) could also add and remove dependants anti-selectively as this is a typical trend in the low-income group.

There is a risk that a high-claiming group of members join the option. Total claims (due to either or both higher cost per claim and higher frequency of claims) may be higher than what was allowed for during contribution setting. However, this may be less of a significance the larger the group and if membership is compulsory for a particular employer.

General

Should the proposal fail or have unintended adverse consequences, the Council for Medical Schemes could challenge the scheme for being non-compliant with the requirements of the Medical Schemes Act for the registration of benefit options (as per question 1(i)), and/or the minimum solvency requirement of 25% (at the end of 2017 the solvency position was 24%, and this is expected to decline further).

Benefit cuts or very high contribution increases would be imminent if the above risks turn into reality, which poses a subsequent risk of membership losses due to affordability reasons or not meeting the needs of the target market.

The risks above are not independent, and often mitigating steps for one risk would exacerbate another risk. A balance needs to be struck between the different risks.

[Total 7]

Question 1(iv)

This question expected candidates to demonstrate an understanding of the health insurance products in the market impacted by the demarcation. Candidates who scored well were able to consider the key features of each of these products.

Many candidates listed products without noting the key features, other candidates listed products that were not impacted by demarcation and therefore no marks were given for these points.

Medical Expense Shortfall policies (Gap cover plans)

These policies cover the shortfall between medical scheme benefits and the rates that private medical service providers may charge.

These products may also cover payment of scheme shortfalls for deductibles, co-payments and specific benefit limits (for example oncology).

Gap cover cannot be sold in terms of the regulations without a medical scheme membership.

There is also a proposed cap of R3,000 per day.

Gap cover is aligned to the same underwriting requirements imposed by medical schemes, such as open enrolment and 3-month and 12-month waiting periods for various specified conditions.

The gap benefit is limited to a maximum of R150,000 per annum and per insured life, which is applicable to any co-payment and medical expense shortfall.

Non-medical expense cover as a result of hospitalisation policies (Hospital cash plans)

These policies pay out a stated benefit upon hospitalisation, usually per day spent in hospital.

The stated benefit is unrelated to the actual cost of any medical service as it is aimed at covering incidental costs, such as loss of income.

Pay-outs are limited to a daily limit of R3,000 and a maximum of R20,000 per insured life, per annum / per hospital stay.

Primary healthcare insurance policies

These policies provide limited medical service benefits (often to employee groups or bargaining councils) including services such as general practitioner visits, acute and chronic medication, emergency medical care, dentistry and optometry.

Low Cost Benefit Options are proposed by the Council for Medical Schemes to replace primary health care policies.

The Minister of Health has requested that the CMS grant a two year exemption, subject to certain conditions, for primary healthcare insurance.

These products are subject to strict underwriting and marketing conditions.

[Total 6]

Question 1(v)

This question was relatively poorly answered. It required candidates to apply their understanding of the product characteristics, as a bundled health insurance product, on the medical scheme in the question.

Candidates who scored well were able to consider both positive and negative implications of the product take up. Most candidates struggled to consider each of the specific features of the health insurance product and how this related to the medical scheme.

Although gap cover was not explicitly stated in the question, candidates were expected to recognise the product description as such with rider benefits – and not as a comprehensive stand-alone health insurance product. No credit was awarded for candidates failing to recognise the product as including gap cover and consequently stating that this health insurance product would encourage SuperMed members to terminate their membership with SuperMed.

For SuperMed, the risk is primarily based on how the health insurance premiums are risk rated and the availability of the product – SuperMed members only or other schemes as well.

These products can cause harm to the medical schemes environment as they can encourage younger/healthier members within medical schemes to select reduced cover options in their medical schemes with lower contributions.

However, these products could also perhaps help with the growth strategy, as they pay extra commission which could drive not only health insurance sales but also scheme sales. In which case the scheme should manage risks with coherent product design (i.e. design the health insurance with the medical scheme in mind).

The average cost per claim should not change, however increased utilisation due to the availability of the additional benefits could result in higher claims.

The level of cross subsidy generated by members who contribute more than they claim would reduce and become an issue.

The net effect is that costs of claims for medical schemes begin to rise for older/sicker individuals as the cross-subsidisation principle is undermined.

The availability of the product to members may encourage medical professionals to charge more for non-PMB services (as PMBs are payable in full) compared to what they would have charged had gap cover not been in place.

This may increase the amount claimed from the medical scheme compared to the current amount and depending on the ultimate rate charged to the member.

Could undermine the use of network arrangements (by covering co-payments for using such facilities) leading to deterioration of arranged discounts, possibly leading to higher costs for the scheme.

For options with savings accounts, the depletion of the savings balance would be faster with higher utilisation and / or costs, thereby reducing the amount of money available for other benefits.

Due to the hospital cash-plan element, there is further incentive to be hospitalised resulting in upward cost pressure if these are not medically necessary.

If the benefit only pays out from say day 3 then it will also impact on length of stay as members will be incentivised to stay longer in hospital to receive the cash payout...

...This is also an incentive to increase frivolous admissions and has been linked to increased fraud.

Contribution waiver could help retain the member if disabled, or the dependents in the event of death for a limited period, where in the absence of such benefit these members / dependents may lapse cover. But only for 6 months.

If a member joins the scheme and purchases the health insurance product, knowing that they have a higher risk of death/disability, then the scheme is also exposed to the risk of related costs, especially end-of-life costs which tend to be very high.

Some of the health insurance products are also designed to be less attractive for older members as they are deemed "bad risk" by applying an age rated contribution...

...for example, a differentiated premium for individuals older than 65 years...

...thereby retaining these members exclusively within the medical schemes environment and further undermining the cross-subsidisation principles.

The co-payment cover portion of the group health insurance product could counter the intention of SuperMed's co-payment design...

...which would be to act as a disincentive for members to claim unnecessarily (in terms of utilisation and amount).

The risk is therefore that members change their claiming behaviour adversely, increasing claims cost for SuperMed.

The product's penalty cover for out-of-network utilisation could override the design intent of these penalties: to disincentivise members to use inefficient (in terms of cost and clinical outcomes) healthcare providers.

This introduces the risk that the average claim amount increases (as out-of-network providers generally charge more than network providers)...

...but claim frequency as well (as out-of-network providers generally have poorer clinical outcomes, forcing the member to return for follow-ups).

The casualty cover could result in utilisation increases for hospital cases as members could deem this as additional cover even if the case is not considered as an emergency and increase utilisation of casualty and inappropriate hospital admissions through casualty.

The above factors could hinder the ability of SuperMed to meet the net surplus position by 2020 should the health insurance product reach high levels of uptake.

[Total 8]

[Question 1: Total 60]

QUESTION 2

Question 2(i)

This question required candidates to consider the specific healthcare framework and structure of the Isle of Luna.

The question was generally well answered. Candidates were able to note the various rationing methodologies and give some explanation of the appropriateness of the method in the context of the question.

Candidates who scored better explained the appropriateness of the method considering practical and reasonable considerations, rather than providing limited conclusive statements.

Budgetary constraints result in a fixed budget for public sector care. Hence if the government runs out of budget the provision of care would be exhausted (in theory, while in practice government may take alternative steps to make funding available for necessary or qualifying healthcare expenditure).

But this forces the facilities to then ensure that there is adequate management of the resources, equitably and efficiently allocating budget from primary (prevention) to tertiary (theatre events) i.e. it requires that non-essential and non-life-threatening events are to be lower priority treatments.

Reduced provision of healthcare facilities limiting ease of access allowing for care to be provided but only in certain facilities and locations. This is likely to be seen to deviate from the mandate to provide adequate access to care by government.

Reducing the number of procedures that can be done in a period of time so resulting in longer waiting times for operations, in clinics and for procedures could result in a reduction in the need for non-essential treatment indirectly rationing care and cost. This could be appropriate in ensuring that non-essential care is not a burden on the budget.

Co-payments could be considered for different treatments as a function of income.

Clinical protocols would allocate available resources based on clinical need and evidence-based medicine, with specific protocols catering for limited numbers of conditions and their treatments options.

These protocols should be based on a robust health economics framework considering efficacy and efficiency so that the budget is focused on appropriate treatments that improve healthy life expectancy.

The protocols could include medicine formularies to limit the use of non-generic medication, reduced access to costly medication such as biologics and ensure cost effective appliances and prosthesis are used.

Legislation could be used, for example, minimum benefits and maximum benefits dictating what can and cannot be accessed based on clinical criteria. This is appropriate and has been used in many countries.

For example, someone that has a kidney transplant and does not modify their lifestyle to protect that kidney does not then have the right to further treatment for the condition.

Controlling the number of health care providers introduces scarcity into the system and hence decisions who to treat and admit and when to treat the patient are required and controls costs. This may not be appropriate since this infringes on the duty to provide care.

Age limits can be set for certain treatments so that the treatment is appropriate for the group that requires it the most and encourages people not to delay treatment. This is common in practice so appropriate.

For example, paediatricians can only treat children under a certain age and beyond that a GP would be available.

Protocols for allowing for different levels of care can be considered so that the appropriate costs are incurred.

For example, initial access to healthcare would start with nurse that would refer to GP then GP can refer up to tertiary level. Similar the registration with approved family provider as a gatekeeper.

Tight management of other expenses such as salaries, infrastructural and variable costs would assist to expand the available budget for health-related costs.

[Total 7]

Question 2(ii)

Candidates were asked to apply their knowledge of HIV prevalence and incidence rates in the context of a changed treatment protocol. Candidates demonstrated very limited understanding of the difference between actual underlying prevalence and reported prevalence (and incidence).

Prevalence rate

The prevalence rate is the proportion of the population who are HIV positive at a point in time. The prevalence rate would not likely change in the short term because of the change in the policy of giving earlier access to treatment.

There could be an increase in the prevalence rate in the longer term should there be an overall improvement in longevity, particularly for HIV positive people. If the treatment is effective in increasing the longevity of HIV positive people, then the prevalence will increase over the longer term.

Incidence rate

The incidence rate is the rate of new occurrences of the condition. The incidence rate is likely to stay similar as the number of people infected is the same even though treatment is accessed earlier.

The reported incidence may increase as HIV positive people may have previously delayed disclosing their status until they were eligible for treatment.

However, since there is earlier access to treatment, and it is seen that the treatment is effective, there may be a moral hazard impact in that people may be less concerned (or aware) about the condition and do not take appropriate protection against the disease, resulting in an increased incidence rate.

There may be a converse to this since the change in policy could result in increased awareness and improved behaviour and protection of people against the disease.

The rate could be affected by those that now come forward should the disease be de-stigmatised.

It is likely that there would be a stepwise change in the rate but then stabilise.

The actual underlying incidence and prevalence rate may not change since the measurement of these rates is not dependent on people reporting and/or going for treatment.

Hence there may be change in the rates resulting from reporting and not the actual burden of disease. This could increase if there is an associated increase in the VCT programmes – more testing would identify more of those exposed.

Treatment rate

The treatment rate would likely increase if those already known to be HIV positive access care sooner than before.

There may be some reduction in the long term treatment rate if access to ART results in a reduced conversion to HIV - this is why there are PEP programmes.

Costs

There is an expected increase in the cost of the treatment programme as there is an increase in the number of people receiving treatment meaning more resources (medications, pathology, doctor consults) towards the programme.

However, some consideration of any longer term cost savings of earlier treatment resulting in improved morbidity, lower downstream hospital costs and lower mortality. For example, lower cost of pathology for those having more CD4 pathology tests to monitor the condition before they achieve the threshold for treatment.

Other costs need to be considered such as the cost of the change in demand on logistics and procurement of medication. Costs could be managed by obtaining bulk order deals with drug manufacturers.

Consider international research on protocols (e.g. NICE) to appraise the recommended treatment protocol and whether it would in fact be necessary to implement in this country – generally resource constrained countries are not ‘mandated’ to follow these guidelines.

[Total 8]

Question 2(iii)

The remaining questions in the paper expected candidates to consider pricing, regulation and capital as it would apply to a Health Maintenance Organisation (HMO). A relatively poor understanding of this structure was evident throughout the questions. Marks were available for candidates to gain for considering the administration, healthcare delivery and insurance element of the HMO which they generally failed to achieve. The inter-relationship of these structures was also poorly tackled with candidates mostly only considering the insurance element.

Part (iii) was well attempted, with candidates considering pricing of the proposals in a mining context. There were many marks available for candidates to discuss the availability of suitable data, and how the specific mining environment was to be taken into account. Given that the country does not operate a private sector, candidates who scored well were able to bring this into their solution and explain how to price in the absence of equivalent data.

The costing for both proposals should consider an estimation of the population that will be treated namely the employees and their dependents.

Information for this could come from national statistics and/or international studies/industry bodies, other academic research.

In particular, data from the mines could be obtained especially if they are monitoring HIV specifically and other health conditions already.

This could include the number of miners, level of severity of the condition for the miners, minimum work place standards.

In addition, the use of actuarial models on the decrement of the conditions can be used to supplement the current information and model the likely incidence and prevalence of health conditions and needs in the future.

Suitable adjustment for geographical location should be applied (since mines are generally geographically concentrated).

This would include considerations such as rural/semi-rural location which affects the cost of delivery as well as the risk of infection with HIV for example.

Similarly, there should be adjustments for demographic differences.

These can include a review of the concentration of males vs females – females are more likely to contract the condition but mines tend to employ a higher proportion of males

The prevalence of other health conditions may also differ between males and females

... and a review of the proportion of single people vs families, since there is potential for more risky behaviour by singles

Since these programmes are focussed on mines, consideration should be given to the impact of mining certification for fitness for work

... as someone with a chronic condition may not be allowed to work and hence would not be employed, directly impacting the prevalence of conditions.

To estimate the costs, we would need to assess the base level of treatment to be delivered.

This would include the number of GPs and nurses, the medication needed and other service costs.

Proposal B needs a further allowance for hospitalisation treatments accounting for the utilisation and severity of the conditions...

... and the level of referral outside these programmes

Then adjust for population differences to allow for the capitation arrangements, allowing for treatment protocols for each severity of the condition

Similarly, the direct cost of doctors that would be attracted to the programmes

Consideration should be given to any cost differentials e.g. are they employed at the same rate as the normal state GP or would a premium needed to be considered

In considering the performance-based remuneration model, one would need to consider the factors that would influence the rate, and so the attractiveness for the GP to join the HMO from the salaried State model

This could include, the number of patients each doctor is likely to see and the mix of level of severity of the conditions of the patients. This could include the non-HIV patients.

Other costs supporting the programme should be considered such as facility costs, supporting staff costs, education campaigns and administration services.

Combining these aspects and the population under consideration of the per person cost can be determined

Consideration as to any loading for capital requirements into the premium and the required returns thereon

[Total 10]

Question 2(iv)(a)

Part (iv)(a) expected candidates to demonstrate an understanding of regulatory measures and apply this to a Health Maintenance Organisation setting.

Because the context of this part of the question is another country, many of the regulatory stipulations that are accepted as given in the South African environment do not necessarily hold true, specifically where details are not provided. Where candidates were able to demonstrate an understanding of how similar applications could be relevant, marks were awarded.

For both proposals:

The HMO is a combination of an insurer, an administration company, a managed care organisation as well as a healthcare service provider (vertical integration); hence regulation would need to account for each of these functions separately and combined.

There should be clear and appropriate reporting and disclosure requirements ensuring that the programmes are meeting their mandate, the needs of the country and the needs of the sponsoring mines and their employees.

These could include monitoring of the claims procedures and any benefit mandate consistent with the State programme, including the rules for referral to State.

Since there is no existing framework for the provision of healthcare services from a private provider the regulations would need to consider how market dynamics are managed,

- ...such as how HMOs are registered and accredited
- how the doctors and nurses are employed,
- how tariffs are set and
- the level of non-health care expenditure.

The regulatory oversight should include monitoring of the financial stability of the providers (capital adequacy) delivering the service to ensure ongoing sustainability and avoiding provider failure.

Rules could include standards regarding accessibility and availability of providers and the level of quality in the delivery of the service.

For example, the facilities need to be appropriately accredited.

Similarly, the regulation should account for proposed health plan networks and providers for compliance with geographic accessibility standards and enforces enrollee-to-provider ratios.

Regulations on who is covered under these proposals (to avoid “dumping on State”).

This should include active miners & dependents, any support staff and how cover is transferred on loss of employment.

Proposal A includes a performance-based payment for providers; hence the performance metrics and the method for estimation of the payment need to be made clear.

This should include clear rules for managing under-servicing, appropriate waiting times and quality of service.

Since proposal A is based on State referral for specialist and hospitalisation needs, rules should consider how this is done. This needs to identify how the case-mix is determined and monitored to ensure the correct payments calculated.

[Total 6]

Question 2(iv)(b)

This part of the question was well attempted. Almost all candidates directed the response towards a risk based capital framework but few applied it to a HMO context and the requirements that would be needed to cater for the various elements of the model.

Given that the HMO structure would be new in the country, candidates failed to demonstrate sufficient consideration for the introduction of capital requirements as well as ongoing capital requirements once more mature and established.

The overarching need is that there should be sufficient capital to cover liabilities – irrespective of country or type of business since the HMOs are taking underwriting risk and operational risk.

Luna does not have these entities currently so reviews of trends and capital requirement regimes in other countries as well as any existing legislation can be considered.

International and academic papers could provide guidance on the methods to determine the level of capital required. Methods could include a straight percentage of contributions....

.... Or more complicated methods such as using a risk-based capital approach aligning to acceptable practices such as Solvency II.

In this case the HMO is not a medical scheme (as per the South African environment) and is rather providing cover under capitated environment therefore legislation such as the Medical Schemes Act is unlikely to apply...

hence other local insurance Acts (e.g. short or long term insurance Acts) are more likely to prevail. Hence the capital will be guided by relevant legislation. Reference to local or international environments can be reviewed.

In deciding which Act could apply one would need to consider the duration of the liability. This would be affected by the duration of the contracts...

If the contracts are over a number of years (3 years say which is typical in tenders) then long term insurance legislation may apply. If 1 year, renewable annually then short term legislation should be considered.

In general, the capital requirements need to include details on the assets classes that can be held and how these should match the liability.

Since this is generally on the shorter term, more liquid assets such as cash and bonds would likely be the desirable assets.

SAP104 or the local equivalent actuarial practice requirement, which requires a risk-based capital approach to assessing the capital requirement and the application through a suitable Financial Soundness Valuation, could be a guideline in this process.

This requires the HMO to account for the specific risks, here these would include...

- Asset risk relating to the infrastructure used to provide the services, the strength of the contracting with State and the GPs and the investments held.
- Underwriting risks of the utilisation of the benefits (such as medication and pathology), the GP cost and the ability to access the GP for services...
- Further underwriting risk would be present as a result of the case-mix and performance contracts in place. If the underlying assumptions are not borne out in practice losses could occur.
- Credit risk would be present as there is always the possibility that the State is not able to pay the HMO after services have been rendered.
- Similarly, there is the possibility that commodity prices drop to the point where the mining company is no longer viable and so the programmes are terminated.
- Business risk presents in the form of administration inefficiencies resulting in insufficient margins being generated thereby making it difficult to provide the service.
- Furthermore, there could be significant growth outside the business cases given the State's ability to change policies for example allowing treatment initiation on diagnosis.

Under proposal A additional consideration would need to be considered such as the model of capitating with GPs...

...the level and cost of care as provided by GPs employed by the State as well as access.

Furthermore, since proposal A contracts directly with State for some treatment (for example hospitalisation) there is a higher likelihood of one or more of the above risks to present and therefore one expects more capital to be required.

Monitoring of capital adequacy needs to be defined to ensure regular review and reporting to the Regulator. The level of assets over the capital requirements needs to be considered i.e. thresholds need to be set for the regulator to intervene.

Since this is a new concept in the system, consideration should be given to allowing the required capital levels to be phased in over a number of years.

One should note that the HMO could access reinsurance, which would result in a lower capital requirement.

An example of applicable reinsurance could be stop-loss coverage with rules specifically related to health insurance.

Furthermore, an actuarial certification of capital adequacy should be provided to the regulator on an annual basis.

[Total 9]

[Question 2: Total 40]