

Actuarial Society of South Africa

EXAMINATION

30 May 2011 (am)

Subject F201 — Health and Care
Specialist Applications

EXAMINERS' REPORT

Question 1

Questions 1(i) and 1(ii) are based on bookwork and were well answered by prepared candidates.

i)

Indemnification of medical expenses is the main trigger for demarcation between a medical scheme and health insurance.

Objective for providing health insurance cover should be for providing cover for contingencies other than medical expenses (i.e. rather provide cover for ability to earn an income or lifestyle impact).

Criteria

Benefits are payable on the diagnosis of a health condition or the occurrence of a health event .

Trigger cannot be linked to procedural coding (e.g. RPL).

Benefits payable must be determined prospectively.

Benefits must not be based on the actual expenditure incurred.

Benefit payments should be made directly to the policyholder.

Benefit payments may not be ceded to any medical service provider.

Intention of the product should be clear in both the policy document and the marketing materials.

Health insurance products need to carry a warning that such cover is not a replacement for medical scheme cover.

Health insurance is not considered creditable coverage for a medical scheme (iro late joiner penalties etc).

Health insurance products may not be marketed on a joint or conditional basis with medical scheme benefits.

ii)

This question was very well answered, although it was concerning to note that some candidates spent a significant amount of time going into a level of detail that was clearly not required given the nature of the question (“briefly describe”) and the mark allocation. Some candidates might have lost time that could be better spent on other questions.

Critical Illness / Dread Disease Cover

– provides a lump sum payable if the policyholder suffers from one of the defined conditions.

Major Health Event Cover

– provides a specified amount on the occurrence of a specified health event.

Hospital Cash Plans

– provides a stated sum for each day that the insured person is hospitalized.

Accident and Sickness Cover

– provides income usually for a specified period following a deferred period, payable for as long as the claimant remains disabled.

– additionally, a fixed sum will be paid if the policyholder suffer a loss of, for instance, a limb.

Disability Cover

- provides income replacement benefits on temporary or permanent, total or partial disability Long Term Care.
- provides cover for continuing personal, nursing or associated domestic care to people who are unable to look after themselves without some degree of support.

iii)

Most candidates did not perform well in this question, although stronger candidates were able to generate several valid points. Few candidates picked up on the point that hospital cash plans are typically not designed to cover hospital expenditure, and would therefore not speak to the marketing director’s stated aim. Some candidates also appeared to approach this product as if it would be marketed at individuals, whereas the question revolved around group business.

The occupational health facilities would be able to provide most primary care and medication to the employees.

Problems with the primary care facilities:

Facilities potentially only available for certain hours.

The rest of the employee’s family will not be covered (which may be intentional).

May not be able to handle certain medical situations or diagnoses.

No ability to refer to secondary care.

Not likely to have dental, optical, radiology and pathology benefits available (amongst others).

Facilities may not be available to all uncovered employees (e.g. if facilities are not available at all geographical locations).

The hospital cash plan is intended to cover hospitalization costs.

Hospital cash plans are not intended to offset hospital expenses.

Most cash plans only provide a nominal amount per day (e.g. R1000 per day) that is much lower than the actual cost in private facilities.

Which will result in an insufficient hospital benefit for the employees?

Benefit also does not vary by ward type, or by admission type.

But this product could fund shortfall iro use of public facilities.

Cover is provided through an insurance product rather than a medical scheme.

Therefore PMB’s and other elements of the Medical Scheme Act do not apply.

Insurer will need to decide on how to apply underwriting, if at all.

This option is probably more affordable than medical scheme cover for the employer.

Recommendation – not an appropriate solution.

iv)

It was disappointing to see that several candidates launched into a comprehensive discussion of pricing and reserving when the question clearly dealt with product design features. Performance varied significantly from one candidate to another, with stronger candidates having been able to clearly distinguish themselves through this question.

Need to consider the tradeoff between simplicity and complexity in the benefit design.

Simple product is easier to sell, but premium may not be indicative of risk faced for that specific individual.

Complex product is more appropriate to an individual’s risk, but may be too complex to sell and may also be more costly to administer (e.g. to underwrite and risk rate).

Given the likely size of the premium, simplicity is probably better.

Need to consider what level of underwriting to employ.

It is probable that it will be limited due to the need to maintain a simple product (e.g. only use age as a rating factor).

Need to decide whether to target the product at groups or individuals.

If you target groups, then need to consider whether the product should be compulsory or optional for all members of the group.

If targeting groups, then need to consider the possibility of providing appropriate discounts for groups of increasing size.

Need to consider whether to charge a premium for an individual, or for a family.

If charging a single premium for a family, then need to define a “family”.

For example, need to consider whether to cover non-spouse adult dependants, and how to handle the instances where an individual has more than one spouse.

Would also need to consider implementing a maximum limit for the family size.

Age would be an important rating factor, as both admission rate and severity are impacted by age.

One could vary the premium by age (or by using age bands).

Could limit exposure by having a maximum age for which cover is provided.

Or could provide a maximum entry age for an individual.

Alternatively, one could target a specific age band only e.g. 60 to 80 year olds.

Need to consider putting a maximum limit on the cover provided (i.e. as a percentage of the base tariff) for any claims.

Also need to define the point at which cover will start.

This could be either what scheme has paid (might have demarcation issues), or define it only in relation to the base tariff once more.

One could also sell different products with different base tariff levels – e.g. 100% of base tariff, or 200% of base tariff.

This allows for differences in the reimbursement rate paid by the medical scheme option that individual belongs to.

Need to consider whether to only cover doctor costs that have been incurred in hospital or whether to possibly cover some specific costs related to outpatient procedures.

Exclusions will be important to include, for example:

- Pre-existing conditions (often for first 12 months).
- Maternity/pregnancy related costs.
- Obesity related procedures.
- “Voluntary” cosmetic surgery.
- Infertility treatment.
- Routine physical examination or diagnostic costs.
- Attempted suicide related costs.
- Effects of taking non-prescribed medication or alcohol.
- Drug addiction.
- Hazardous pursuits.
- Mental disorders.
- Certain professions (e.g. pilots, police).
- Any other scheme exclusions.

One might also want to include a general waiting period, for example of three months, for non-accident related claims.

It is also possible to have a “partial” waiting period – i.e. to pay 50% of normal benefit for pre-existing conditions after 6 months of cover, and the full amount after 12 months.

Cover must only be for claims submitted by registered providers from registered hospitals (if appropriate).

Need to consider an overall limit (e.g. a maximum amount per event, per individual or per family).

Need to consider the frequency of premiums (e.g. annual or monthly).

v)

This question was adequately answered by most candidates. A small number of candidates assumed in their solutions that it would not be possible to obtain detailed data for purposes of the pricing and offered some useful points on how to deal with such a situation. Credit was awarded to valid suggestions.

As the insurer is new to the market, one would need to find appropriate data to use for pricing.

An ideal source would be from a medical scheme, if one can be found to share/sell data.

One would hopefully have access to a few years’ worth of data.

Ideally one would need both detailed claims and demographic data.

The required data would be in-hospital claims (and any specific outpatient claims if applicable), with details on the claim diagnoses (or admission categories), and related provider claims.

It would be important to have the amount actually claimed by the provider and the appropriate amount using the base tariffs.

If necessary, an adjustment for historic inflation would be required to bring all data into the same terms.

The insurer may be able to get assistance from a reinsurer.

Need to estimate both the likelihood of a payment being made and the expected size of that payment.

Need to determine the demographic profile (age and other relevant factors) of the target market, and use only the claims data for this particular sub-population (if possible).

With the data (and dependent on the product design), establish what the expected risk claim costs are likely to be (averaged over the targeted population).

One would need to make any necessary adjustments depending on the validity of the data for your product (e.g. different exclusions, different socio-economic group, potential impact of underwriting improving your experience).

One would also need to allow for possible claim experience trends in future:

PMB payment at cost issues – the majority of hospital related claims are PMBs and with the pressure from CMS, there may be fewer claims being paid short in future.

Expansion of doctor networks with negotiated reimbursement rates – with negotiated reimbursement arrangements, there are likely to be fewer claims being paid short.

Tariff levels not moving in line with doctor expectations – tariff increases from year to year have been lower than expected by doctors. Thus there has been a trend for a slightly higher %’s of base tariffs to be charged over the past couple of years which will increase the possible claims to be experienced by the insurer.

Accuracy of ICD10 coding – the claims adjudication process will depend on the details provided on the claim to make sure it is payable. As ICD10 coding becomes more accurate, it will impact on the number accepted/rejected claims. This impact could go either way.

New diseases/epidemics etc and/or better treatment for existing diseases/diagnoses – this again could go either way.

In addition to the expected risk claim amount, one needs to include an allowance for admin expenses, commission (depending on distribution channel), profit margins, the cost of capital & contingency margins.

One would also need to consider the value (and cost) of reinsurance.

This is especially appropriate as the insurer is new.

One would also need to consider competitor rates for similar products.

Assess competitiveness of calculated rates, make adjustments to the cover (and other factors) if necessary, and make a final decision on the rates to use.

vi)

This question was based on bookwork and most candidates performed well.

This is a short term insurance product.

Therefore is supervised by the Short Term Insurance Act 1998.

Registrar monitors their adherence to the Act.

And as they are companies, they also need to comply with the Companies Act 1973.

Assets must exceed liabilities plus an additional amount as prescribed by regulations

Uses a formula

Greater of:

R5 000 000

15% of the greater of the net premium income

During the 12 month period immediately preceding the financial year end.

During the 12 month period immediately preceding the day on which the calculation is done.

In addition, a contingency reserve equal to 10% of the net premiums of the insurer over the previous 12 months.

Question 2

(i)

There are several valid points that could be raised under this solution. The key issue being that the candidate should pick up on the main trends and ratios that would normally be analysed. Some candidates failed to offer views on whether the projection for 2011 could be considered to be realistic.

Average contribution increases of 11.5% and 11% respectively over the past two years.

Total claims inflation between 2009 and 2010 amounted to 10.5%. The projected claims for 2011 are 7% higher than in 2010.

The claims inflation assumption supporting this projection may be too low, as the membership is ageing.

Unless the scheme significantly reduced its benefit offering in the beginning of 2011.

Non-health expenditure increased by 6% and 4.5% respectively over the past two years.

From R240 pmpm in 2009 to R265 pmpm in 2011.

Non-health expenditure as a percentage of GCI reduced from 10.3% in 2009 to 9.2% in 2011.

Investment return (expressed as a percentage of accumulated funds) amounted to 10% in 2009 and 7.5% in 2010 and is projected to amount to 6% in 2011.

Which is not unrealistically high?

Solvency margin of 176% at the end of 2009. Decreased to 175% at the end of 2010 and increased to 178% at the end of 2011.

Reserve levels are high and significantly above the minimum statutory requirement of 25%

The recent increase in solvency margin is due to membership losses and not because the scheme has increased its reserve levels.

Beneficiary ratio has reduced from 2.23 in 2009 to 2.19 in 2011.

Which is probably attributable to the ageing of the scheme, as pensioners tend to have fewer dependants.

(ii)

This question asked for the factors that would be considered in assessing whether the scheme could be regarded a going concern. Some candidates tried to actually formulate an opinion on the status of the scheme (which was not asked), limiting themselves to the information in the preamble rather than pointing out additional pieces of information or analyses that would be required to perform the assessment.

Future membership and ability to attract new members

The scheme’s average age has been increasing due to the loss of active members.

It is important that the scheme continues to attract young and healthy new entrants to cross-subsidise its current population.

Need to know whether more corporate restructuring is planned in the future.

And what the recruitment policies and plans of the participating employers look like.

Also try to establish the expected demographic characteristics of a new recruit. Age, gender etc.

Employers’ attitude towards the scheme

Is there pressure to reconsider the condition of employment that employees should belong to the scheme?

Is there financial pressure on the employers to reduce the cost of subsidising premiums?

Is there resistance from the employers to continue providing for the PRMA liability on their balance sheets?

Financial results

Need to verify basis for projected results in 2011.

Does it adequately reflect the impact of the scheme’s deteriorating demographic profile?

Consider benefit changes on 1 January 2011.

Are these adequately provided for in the 2011 projection?

Need to consider projected results in the longer term.

What are future contribution increases likely to be?

Will require contribution increases over and above expense inflation if the membership is projected to continue to deteriorate?

Is the scheme significantly impacted by new technologies? (e.g. high exposure to oncology)

What is the proportion of fixed/variable expenses?

Fixed expenses will become proportionally more if the scheme continues to decline in membership.

Scheme has high accumulated funds which could be used to fund expenditure.

But only in the short term.

May want to perform a long-term valuation of the cross-subsidy liability in the scheme to assess the reserves necessary to fund future claims.

Under various membership scenarios.

Investment income forms a significant component of the scheme’s income statement.

So important to form a view of investment returns over the next few years.

Competitiveness of scheme

Need to assess how the contributions and benefits of RestoMed are positioned in comparison to open schemes in the industry.

Although the scheme is restricted, and protected through a condition of employment, its product offering has to remain competitive when compared to open schemes – otherwise employers may come under increased union pressure to open up membership to other medical schemes.

Size of scheme

Scheme is relatively small.

Moving closer to the guideline of the Council for Medical Schemes of a minimum of 2500 members.

Which means that claims volatility is likely to increase?

Need to consider whether the scheme’s reserve levels are sufficient to self-insure the risks associated with normal claims volatility in the short to medium term.

(iii)

Most candidates were able to offer a sufficient number of points on the implications for RestoMed. As for the impact on the employer, valid points were generated but few candidates pointed out the second-order issues such as the employer’s PRMA valuation basis and the possibility that pensioners might end up in a position where they cannot access another scheme (e.g. through an amalgamation) without being subjected to underwriting. Stronger candidates were able to distinguish themselves in this question.

Implications for RestoMed

No new members – existing membership will grow older and eventually die.

Resulting in smaller older membership base over time.

RestoMed may lose a significant portion of its membership if the condition of employment is removed.

This move is likely to accelerate the exodus of younger and healthier members from RestoMed.

This is because:

The lack of freedom of choice in RestoMed (which has only one option) is most likely not appealing to younger and healthier members.

Brokers from open schemes are likely to find that young and healthy members are keen to explore alternative, more cost-effective options in open medical schemes.

In addition, unhealthier or older members are typically more averse to change.

And may be subject to underwriting and waiting periods if they were to apply to open medical schemes.

And beneficiaries utilising chronic medication are unlikely to want to go through the process of registering for chronic medication in the new medical scheme.

Smaller scheme will lead to increased claims volatility.

And less efficient utilisation of fixed expenses.

And the ageing population will increase loss ratios, requiring higher contribution increases over time.

Which will reduce the competitiveness of the scheme?

And increase pressure on the employer to reconsider the benefits of having a restricted scheme.

Impact on solvency margin will be two-fold – will most likely increase initially, as members exit, and then decrease in the medium term as the scheme’s financial performance deteriorates.

In which case the Council for Medical Schemes will likely want to see a long-term business plan.

Which will most likely show that the scheme will be unable, in the long term, to recover its financial position unless the members trends are reversed?

In all probability, RestoMed cannot be regarded as sustainable in the longer term and should consider alternatives – especially if the employer removes the condition of employment.

Implications for associated employers

Complexity of drafting a subsidy policy for members that move to open medical schemes.

Will this subsidy policy be linked to RestoMed’s contributions, or the contributions in the open medical scheme?

Will the employer still subsidise 75% for employees that elect to move to very expensive options in open medical schemes, or will this be capped at some maximum rand-amount?

Uncertainty of how subsidy expenditure will change.

Members in RestoMed are likely to experience significant contribution increases, as explained above – this will lead to increases in employers’ subsidy expenditure for these members.

The PRMA liability for RestoMed members has to be valued on a claims basis rather than a contributions basis, because the scheme is effectively closed to new members.

And this will drastically increase the PRMA liability (reflecting the difference between the contribution liability and the cross-subsidy liability).

The older population in itself will also increase the PRMA liability on a per capita level.

RestoMed pensioners may soon find that they inhabit an unsustainable scheme, and that they are unable to join open medical schemes without being subject to underwriting.

In which case they are likely to blame their employers for not providing healthcare in line with their reasonable expectations.

And this may introduce a significant reputational risk to the employer.

Increased distance between employer and affairs of its medical scheme – not able to nominate employer-elected trustees for open schemes as is the case with RestoMed.

(iv)

Managed care

Few candidates afforded attention to the effectiveness of any existing managed care arrangements, or the fact that the projected savings of the managed care company should be verified.

Need to investigate the basis for the assertion of the quantum of funds that can be saved.

And compare this to the managed care practices already in place.

Ensure that the value of managed care is a true reflection, for example, non-approval of a hospital admission does not result in a direct saving if the same admission is reapplied for with a different (and successful) motivation.

Better managed care efficiencies may be able to improve the financial results of the scheme somewhat.

But are probably unlikely to provide savings to the quantum of what the scheme would require to become sustainable.

Recommendation: good initiative to review managed care, but unlikely to be sufficient to turn around the scheme’s financial position.

Reinsurance

Many candidates reverted to simple assertions on reinsurance (such as it presently being uncommon in South African healthcare financing, or that the regulatory processes are cumbersome) rather than considering the principles of reinsurance as it would apply to this scheme. Specifically, it was disappointing that few candidates attempted to refute the notion that reinsurance could sustainably turn the scheme’s loss-making position around.

Reinsurance can protect a scheme against adverse experience in the short term.

But will not improve a scheme’s financial results over the long term.

In fact, over the long term it will increase costs, as a reinsurer should price for its expenses and profit margin.

And RestoMed cannot expect a reinsurer to price for losses.

Reinsurance has to be motivated to and approved by CMS.

It may be difficult to motivate reinsurance for a scheme with reserves as high as RestoMed’s.

As RestoMed should be able to self-insure against normal claims volatility.

Not recommended.

REF

This sub-section was well-answered.

RestoMed likely to be a net recipient if REF were introduced, due to bad (and worsening) risk profile. But no certainty yet as to when the REF will commence, as several legislative processes still need to be completed.

And REF is likely to be phased in if it were to be introduced.

So it may take a while until RestoMed sees significant amounts of money being transferred into it via the REF.

REF will only equalise PMBs, so any benefits that RestoMed will provide over and above PMBs will still be unequalised.

Not recommended as a responsible course of action.

Scheme reserves

This sub-section was well-answered, with most candidates showing an appreciation for the longer term consequences of the proposed action.

It is true that the scheme could price for losses given its high reserve levels.

A long-term valuation should be performed (similar to a cross-subsidy liability valuation or PRMA valuation on a claims basis) to determine the difference between the present value of future income and future expenditure.

This valuation will require some assumptions as to future membership withdrawals from the scheme, which is difficult to project.

The resultant value can be compared to reserves to determine whether (and how long) the scheme should be able to fund future expenditure from reserves.

If the scheme is loss-making, CMS will require a long-term business plan to demonstrate whether the scheme will remain compliant with minimum statutory requirements in the future.

Although the scheme has high levels of reserves, the reserves are most likely not higher than the cross-subsidy liability for the existing membership.

Recommendation – this strategy is only likely to work if the scheme expects large volumes of resignations in the near future. Difficult to determine whether this will be the case (especially for older members who are unlikely to leave) so not recommended.

(v)

This questions was based on bookwork and well answered by prepared candidates.

Board of trustees must appoint a liquidator.

Preliminary accounts to be submitted to the Registrar.

Registrar may require an independent valuation.

Notice to be published in Gazette for inspection.

Objections to be given in writing within 14 days.

If no objections, Registrar may proceed with the liquidation.

Within 30 days, the liquidator will furnish the Registrar with a final account and final balance sheet.

Showing how assets have been realised and how liabilities have been discharged.

Once satisfied, the Registrar shall cancel the registration of the scheme and the scheme will be deemed dissolved.

END OF EXAMINERS’ REPORT