INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2021

SA1 – Health and Care
Specialist Advanced

Introduction

The Examiners' Report is written by the Chief 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 by Council 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 take into account the possibility that circumstances may have changed if using these reports for revision.

Sarah Hutchinson
Chair of the Board of Examiners
December 2021

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

The aim of the Health and Care Specialist Applications subject is to instil in the successful candidates the ability to apply knowledge of the health and care environment and the principles of actuarial practice to the provision of health and care.

Candidates who approach the questions, especially the more substantial elements of each question, in a methodical and detailed manner are far more likely to satisfy the Examiners and receive a pass in the subject. Candidates will gain few marks if they do not address the question asked or tailor their answer to the scenario detailed in the question but merely write around the topic of the question. When undertaking past papers for exam preparation, candidates should be providing answers which use the context 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. The Examiners' Report covers more points than would be expected to get full marks. This is so that alternative approaches to questions by different candidates can be accommodated.

It is often helpful to use subheadings when answering long part questions.

Candidates who give well-reasoned points, not in the marking schedule, are awarded marks for doing so.

B. Comments on *candidate performance in this diet of the examination.*

Well-prepared candidates scored well across most of the paper. Most of the questions required an element of analysis or application of knowledge to a particular situation. For these questions, candidates did not always provide a sufficiently broad range of points to score well or did not make points that related to the specific scenario set out in the question rather than just generic points to demonstrate that they could apply their knowledge.

It is encouraging to see many candidates using headings in their answers to the longer part questions and setting out their answers in a methodical manner which aids marking scripts.

The comments that follow the questions concentrate on areas where the candidates could have improved their performance.

C. Pass Mark

The Pass Mark for this exam was 58
56 presented themselves and 17 passed.

Solutions for Subject SA1 – September 2021

Q1
(i)
General
A micro-insurance product is characterised by low premiums and low coverage limits [½]

Low premiums
Premiums must be kept affordable given income is around $2 per day and most of that is likely to be dedicated to food/shelter [½]
If the benefit pays for home treatment cost would be $10 x 0.25 = $2-50 per head of population [½]
May need to provide cover for whole family so cost may be of the order of $10-$15 spread over 5 years, so $2-$3 per annum [½]
Hence, the cost of home treatment may be affordable to those on low incomes even after loading for expenses, profit margin etc. [½]
A product designed to have low premiums is suitable for a country with low income levels, such as country A [½]

Low benefits
Benefits on this product are low [½]
A product designed to have low benefits (and therefore low premiums) is appropriate [½]

Target Market
Micro-insurance is generally targeted at the low wealth segments of a population [½]
And provides a social benefit in providing access to insurance cover for such socio-economic groups [½]
Micro-insurance products are potentially suitable for country A due to the majority of the population being on low incomes [½]
Micro-insurance products should be simple and straightforward which is appropriate for an unsophisticated target market [½]

Customer Need
There will be a need for cash to access treatment and food/shelter, rather than indemnity [½]
The product could provide peace of mind for the community if the main earners get the disease [½]
Could also provide peace of mind for parents for their children to be covered as they may be a future income source [½]
The product may not meet needs if want/need hospital treatment [½]
The cost of hospital treatment is unlikely to be affordable unless subsidised by the state [½]

Volumes
Micro-insurance requires large volumes of business to work as it is very low margin [½]
There is a specific need as the risk to health is 1 in 4 [½]
So there is the potential for significant volumes of business [½]
Although following treatment the risk and therefore potential volumes are reduced [½]

Overall

Overall the proposed product does meet the criteria to be a micro-insurance product [½]
[Marks available 11, maximum 4]

(ii)
(a) Product design
The contract is effectively a limited critical illness product [½]
Will the sum assured be paid out on death (i.e. accelerated critical illness)? [½]
The product benefit and the purpose for which the benefit will be used will need to be finalised [½]
For example – lump sum to cover the cost of treatment and other costs associated with the illness [½]
The claim definition for the disease will need to be determined [½]
Premium payment frequency and whether the premium is level or increases (and, if so, at what rate) will need to be considered [½]
It will need to be determined whether benefits are fixed, or if they will increase (and, if so, at what rate) [½]
The term of the policy will need to be defined [½]
How will benefit be paid, e.g. via cash, mobile phone credit, bank account (not everyone may have access to a bank account) [½]
Additional features, e.g. options and guarantees or variations are not likely to be included for micro-insurance products [½]
[Marks available 5, maximum 3]

(b) Product pricing
Data to price
Need to consider possible data sources for pricing [½]
There may be population data publicly available [½]
There may be surveillance data on the disease [½]
There may be data from other countries where a similar disease has occurred [½]
Where external data has been used will need to consider if any adjustments will be needed to reflect different demographic profiles, location, business mix etc. [½]
There are starting numbers for the expected frequency of infection and duration given in the question which could be kept under regular review [½]

Pricing process
Need to understand the benefits that would be priced [½]
Identify the rating factors to use [½]
Split data by the rating factors [½]
Assumptions will be needed regarding take up rate [½]
May need to estimate possible duration of ongoing treatment and associated costs to derive suitable levels of lump sum benefit [½]
Will need to estimate frequency of claim [½]
Will need to account for anti-selection [½]
This is likely on new business as those who have recently had the disease are not likely to take out cover. Hence, whilst the population rate is 25%, it may be higher than this in the insured population [½]
Allow for other costs [½]
E.g. marketing costs such as producing literature [½]
Claim expenses [½]

Development costs [½]
Reinsurance costs [½]
Admin and other expenses [½]
Need to consider expense inflation, as this may be high in a rapidly developing country [½]
How will expenses be incorporated in the pricing e.g. loading by premium, policy, etc. [½]
New business volumes will need to be estimated [½]
And the mix of business will need to be estimated [½]
To calculate the expense loadings [½]
And to recoup development costs [½]
Need to consider the renewal rates expected [½]
Lapses – these may be selective since once an individual has had the disease they can cancel the cover for the next 4-5 year as they should have immunity [½]
The above steps provide a premium [½]
Margins will be needed [½]
E.g. to allow for the risk of misestimation [½]
Need to assess the competitiveness of the product [½]
Need to consider the sales strategy [½]
Need to produce a range of premium rates and likely volumes sold at each rate and the overall total profit estimated [½]
Need to consider how to assess the social benefit impact [½]
Need to consider how to value to the social benefit impact [½]

Profitability
Need to consider the profitability metrics such as [½]
Return on capital/payback period [½]
Other appropriate profit measure [½]
It is unlikely that the product will seek to make a profit as it creates a social benefit [½]
However, it will be important for sustaining the product that it does not make a loss [½]

Profit sensitivity
Consider profit sensitivity to: [½]
Changes in volume [½]
Changes in business mix [½]
A change in prevalence should be tested [½]
A change in treatment cost should be considered [½]

[Marks available 23, maximum 10]

(c)
Consider the factors affecting potential demand for the product
Is there sufficient consumer demand? [½]
Do the products meet the consumers' needs? [½]
Are the products affordable [½]
Micro-insurance products so premiums must be kept low [½]
Ability of the company to create consumer confidence in products offered [½]
Need to produce literature etc in local language [½]
Need to consider the country's culture [½]
E.g. the acceptance and trust in insurance as a concept given there is no insurance industry in Country A [½]
The level of literacy amongst the likely purchasers [½]

There is no insurance currently provided [½]

Consider factors in evaluating a launch
Availability and relevance of data [½]
Need for new staff and systems (practicalities) [½]

Risk management
Which methods of risk management are available and appropriate? [½]
Underwriting [½]
Product design [½]
Would waiting periods reduce the anti-selection risk? [½]
Process control for distribution [½]
Regular experience monitoring [½]
Data gathering and checks [½]
Would there be any reinsurers willing to back the risk? [½]
Financial reinsurance is unlikely given that the product is unlikely to make profit [½]
Staff competence – training and assessment [½]
Claims management processes [½]
Is there a greater risk of insurance fraud to be managed? [½]
Lapse risk – it may be that policies lapse after a claim is made [½]

Marketability/Saleability
Where and how will the product be sold? [½]
What will the commission rates be? [½]
Brand image [½]

Financial considerations
Business plan [½]
Expected business volumes [½]
When will the project break even? [½]
What are the key assumptions? [½]

New business strain
If no commission paid to the distributor this would be limited to expenses [½]
How to keep the expenses low so that the premiums remain low? [½]

Capital requirements
Where would they get capital for launching a new insurance company [½]
There are no insurance companies in country A so there may not be any insurance regulations [½]
However, in that case the actuaries would need to ensure the company has sufficient capital to cover potential losses [½]
If there are insurance regulations, what are the capital requirements for insurance companies on country A [½]
How much capital above the statutory capital requirements should the company hold [½]

Reserving requirements
What are the reserving requirements for insurance companies on country A? [½]
If there are no formal reserving requirements what liabilities should be held? [½]

Expenses
What are the set up costs to get the company up and running? [½]
What are the ongoing costs? [½]

Opportunity cost
What would potential backers to a new insurance company otherwise do with their money to gain a return on their investment? [½]

Practicalities
A company will need to be set up and registered [½]
Staff will need to be recruited [½]
Marketing and policy literature will be required [½]
Policy terms and conditions will need to be checked with a legal team [½]
Systems will need to be set up [½]
Will need to decide on the design of product [½]
Will need to consider the timescale for developing the product and setting up the company [½]
There is an immediate need for cover but that may reduce over time. If unable to launch quickly, the demand for the product may no longer be there [½]
Regulatory licences may be needed and there may be other constraints to consider [½]

Environment
Economic
Will income levels in the country be at similar levels to make the development of the product worthwhile [½]
Or if the economy is growing rapidly will there be continued demand from poorer lives even with economic growth [½]
Is there inflation which may erode the purchasing power of the cash benefit [½]

Business
Would the insurance company be able to operate effectively in Country A? [½]
Is there political instability making the ability to run a business difficult? [½]

Regulatory
Is there an insurance regulator? [½]
What is the process for seeking approval to operate in the country? [½]
Will product approval be required as well? [½]
What requirements are there for a new insurer? [½]

Tax
Would there be insurance premium tax? [½]
Would there be tax on the benefit paid? [½]

Competitors
Would more enter the market given the profit is low and it's for social benefit only? [½]

[Marks available 32½, maximum 7]

(iii)
Competence and care – Members must carry out work competently and with care [1]

(iv)
Understand the benefits that would be priced
Actuaries may need input on the attractiveness of the proposed benefits of the product for the target market [½]

Identify rating factors to use
The use of rating factors will not be a new concept to the actuaries [½]
However, the actuaries may need to seek local expert input on rating factors for disease incidence rates and outcomes within the population [½]
They may decide to do community rating which also will not be a new concept to the actuaries [½]

Estimate frequency of claim
Whilst there is information on the incidence of the disease the actuaries may need local insight from those who have experience in micro insurance to assess the likely frequency of claims [½]

Allow for other costs
The actuaries may converse or get peer review from those who have experience in micro insurance to understand potential pitfalls [½]

Expenses
The actuaries may need to understand from others who work in micro insurance how expenses are recouped given low premiums [½]

New business volumes estimates
Initial estimates could be made by the actuaries but this area may be very different to a well-established insurance market and non-micro insurance products – therefore a peer review and secondary input could be sought [½]
Local assistance may be needed to advise on any cultural issues that might affect demand for insurance (e.g. mistrust of insurance) [½]
Local assistance could also help in setting new business mix assumptions [½]

Renewal rates expected
This assumption is material to the long-term viability of the project and given the lack of experience, estimates could be based on poor understanding of micro-insurance markets. It is very likely the actuaries will need to get additional support here [½]

Resultant Premium
Advice required on what an affordable premium for the company's target market in country A would be [½]

Margins
For micro-insurance this area may be specifically related to risk. Given the product is for social benefit, it will need to keep premiums low so prudence may not be as generous. However, the long-term sustainability of the product is required. Asking for input from those with experience may be beneficial [½]
Micro insurance is for social benefit so may not be profit orientated [½]

Actuaries may need help in assessing the social benefit impact [½]

Capital requirements
Additional assistance may be needed when setting the capital requirements for the new company and product, given the lack of internal experience on both the product and the country [½]

Reinsurance
Additional assistance could be needed when considering available reinsurance options [½]
[Marks available 8½, maximum 4]

(v)
Income Protection
Micro insurance – suitable as a low benefit ($2/day) would support income lost while sick; can limit time period in payment to keep premiums small [1]
However, there may be issues around proof of income and proof of inability to work [½]

Disease - suitable as whilst the disease affects 25% of population, the resulting sick period is on average 2 weeks for most claims; may be debilitating so having to stop work [½]
May need to limit the average recovery period to keep premiums low as there could be a long tail on mobility claims [½]

Private Medical Insurance
Not suitable for micro insurance as product generally provides indemnity so premiums hard to be kept low [1]

For the disease, the cost of home treatment is low so may be suitable for this treatment e.g. if indemnify the cost of the treatment [1]
Cost of hospital treatment is high compared to income so not suitable as premiums would be too high [½]

Long Term Care
Not suitable to micro insurance as premiums unlikely to be kept low [1]

For the disease unlikely to be needed as most will either die within a short time frame or recover [1]
If all are treated around 5% of the population may have long-term mobility issues so there may be a need for long term care [½]
[Marks available 7½, maximum 6]
[Total 35]

Most candidates scored well on part (i) and part (ii)(a), (b) and (c) giving a wide range of relevant points in each case. On part (ii)(a) the better prepared candidates noted that the product was a form of critical illness. Few candidates discussed how benefits might be paid or noted that additional features such as options and variations were unlikely to be included in a micro insurance product.

On part (b) most candidates discussed data issues, rating factors and some of the pricing assumptions required. However, relatively few discussed anti-selection or that there may be selective lapsing (since once an individual has had the disease they can cancel the cover for the next 4-5 year as they should have immunity for that period).

Part (c) was very well answered with candidates giving a wide range of factors for consideration.

For part (ii) credit was generally given for answers which were applicable to one part of the question but were answered in another part of the question.

Nearly all candidates gave the correct answer to part (iii).

Part (iv) was less well answered. Relatively few candidates discussed topics such as expenses, given the relatively low amounts of premium that can be charged or how to estimate new business volumes and renewal.

Part (v) required candidates to discuss the suitability of income protection, private medical insurance and long-term care as micro-insurance products and also in relation to the disease. Not all candidates provided answers to both these aspects and hence scored less well. Some candidates looked for reasons why all the product types would be suitable without critically assessing whether or not the product was a good idea first. This led to repeated points about market need without consideration of affordability, characteristics of the disease etc.

Q2

(i)

Meeting specific needs [½]
The conditions covered should reflect those prevalent amongst university students [½]
E.g. meet need for income during an illness that prevents insured from studying/working [½]
Policy benefits might be chosen to match students' living costs [½]
Policies may be earmarked for particular expenditure (may need to pay education fees on an annual or quarterly basis) [½]
Could be used to match monthly loan-servicing costs (may have taken educational loan with immediate repayment) [½]
Or pay premiums on other insurance policies e.g. general insurance (gadgets, home, car), health (PMI, Dental, Optical, budget health plans) [½]
The product needs to meet the student's needs but depending on the need should they either get a lump sum or income? [½]
Hence income protection type benefits may not be suitable [½]
May offer students the choice of a lump sum or an income [½]
The insurer would need to consider what sort of conditions are covered [½]
Are they very serious conditions (e.g. cancer) [½]
Or are they less serious conditions (e.g. glandular fever etc.)? [½]
The insurer could offer support for the student following a claim e.g. offer rehabilitation services to encourage students back from illness [½]

Would a cash plan type product be better – where the insurer pays a cash payment in the event of certain things happening to the student? i.e. it is not trying to indemnify. [½]

To provide cash
Cash benefit may be used for any purpose (to meet immediate care needs, recuperation, rehabilitation) [½]
To fund a change in lifestyle (e.g. moving to a ground floor accommodation, adaptive technology to suit needs) [½]
Student will need to choose the amount of benefits [½]
(balanced with affordability of premiums) [½]

To provide peace of mind
Main concern will be the inability to provide for self (could have dependents) and finance outgoings [½]
State benefits may not provide for those not paying into the state system with student status [½]
Alleviate financial concerns arising from the diagnosis of condition [½]
May allow for quicker access to medical treatment than if not insured [½]

Simplicity and Clarity
Keep the product simple as students may not be financial sophisticated yet [½]
Benefit is simple as not linked to a salary [½]
Provides a fixed income that is equal to the cost of living for an average student [½]
Could simplify by not including inflation if maximum term is 3-4 years [½]
Underwriting could be kept simple, with an age limit for usual student ages, given most in the age range are in good health [½]
Definition of claim is simply a set schedule of conditions that require diagnosis by medical professional [½]

Sales and distribution
Ensure product literature is suitably clear and free from jargon and appropriate for students [½]
Could distribute through a body that students regard as being credible [½]

Guarantees and reviewability of premiums and benefits
Premiums could be paid upfront [½]
Premiums could be set for the term of the stay at university [½]
But there is likely to be selective lapsing toward the end of the final term [½]
Reviewable premiums unlikely to be offered due to complication of explaining these and undertaking reviews [½]
The limited term would mean a risk of writing guaranteed premiums is minimised [½]
Will the product always pay out a lump sum and a regular income regardless of the condition as long as the condition is one of the ones listed on the product terms and conditions? [½]
Would the benefit level be fixed for the whole duration of the degree or would it be increased to allow for inflation, tuition fees and other increases in living costs (such as moving from university provided accommodation to private rental accommodation)? [½]

Given students are unlikely to have much spare cash the product will need to be low cost, with no additional features or options [½]
Consider whether changes would be allowed once cover is taken out; e.g. students extending to a 4-year degree or doing a year in industry as part of their course [½]

Claims payments
Decisions on claims would need to be made quickly in order to ensure students can benefit from the product [½]
Payments would also need to be made quickly [½]
[Marks available 21, maximum 12]

(ii)
Face-to-face sales
Suitable for those with a low awareness of availability of insurance by brand name [½]
Allows the sale to be initiated by the distributor rather than relying on the student to approach the insurer [½]
The level of underwriting for this population may be low as generally healthy so suitable for face-to-face sales [½]
However, arriving at university is likely to be a busy time for students and their parents so distributors may struggle to make sales [½]

Student representatives
Knowledgeable of the student population [½]
May help overcome the low level of financial sophistication to explain the product [½]
Can explain the complexities of the product in terms that relate to the students [½]
This distributor can create an awareness of the need by explaining what might go wrong if the student falls ill [½]
The remuneration (type/level) may not be high as the staff are already present on the day and may already have the device to use [½]
Income levels for student representatives may not need to be high to make it an appealing job [½]
Student representatives could act more ethically than specialist salesman, if they are not looking to make huge profits [½]
However, student representatives may not be sufficiently knowledgeable to fully explain the benefits/risks of the product to the students [½]
Which could deter sales [½]
Or which could lead to claims of mis-selling from students [½]
Or those purchasing cover thinking it covers a wider range of costs/illnesses than it does [½]
Mis-selling could lead to significant reputational risk for the insurer [½]
Student representatives may not be particularly financially knowledgeable themselves [½]
So the insurer will need to ensure the student representatives are suitably trained [½]
And have processes in place to ensure sales from student representatives are appropriately policed to prevent mis-selling [½]

Making the sale when parents are present
May help improve lapse experience as parents see the value in the product [½]
Competitiveness of premiums may be less as may be only product offering [½]
The size of premium /contract must be kept low for this low-income group [½]
However, sensitivity to price may be dampened as parents may pay the premium [½]

Benefits to insurer
The insurer may still have adequate control if they set the online sales portal, questions and take payment directly [½]
The insurer may audit some sales to check there is not mis-selling. [½]
The insurer could make an adjustment to the final commission paid to distributors to reflect a quality audit of the sales process [½]
Being able to complete the application and take payment immediately should ensure the sales process is quick and easy (assuming the underwriting does not add any additional time) which should increase new business [½]
Being able to sell to a large number of lives with similar characteristics enables risk premium to be reduced because of greater homogeneity [½]
There are expense savings, especially if the union collect the premiums [½]
However, average premium size could be small and other admin costs need to be met, so there is a limit to potential expense savings) [½]
There does not appear to be any opportunity to sign up at a later date, potentially missing sales during the student year [½]
[Marks available 15½, maximum 5]

(iii)
Advantages from the perspective of Company X
Allows Company X to concentrate on the sales, distribution and establishing a customer base - important because of the niche target market [½]
Company X can gain access to the expertise it lacks in pricing this product [½]
Company X may have knowledge in medical underwriting and claims management but not for IP related products [½]
As good management is particularly important for IP claims Company X will benefit from the specialist insurer expertise through reduced margins and improved claims experience [½]
The insurer has no expertise to price these products, therefore likely does not have access to experience data. This arrangement enables Company X to benefit from the specialist insurer's data insights [½]
Improved certainty in pricing will reduce margins, increasing affordability and so sales [½]
The specialist insurer may have systems and processes that enable cheaper operations [½]
Hence, lowering the expense margin, making the product more affordable, increasing sales, and so potentially profits overall [½]
For example, an online underwriting platform that can be accessed on hand-held device [½]
The sales window is at the start of the academic year; therefore, a quicker launch is beneficial so as not to delay sales by a full academic year [½]
A profit-sharing arrangement may be possible [½]
The specialist insurer may not offer a wider range of products. Company X may have an opportunity to cross-sell other life products to the specialist insurers customer base [½]

Disadvantages from the perspective of Company X
Additional time and resources associated with any lack of synergies with Company X's internal operating procedures [½]
Administrative burden and expense caused by difficulties linking Company X's systems to the specialist insurer's systems [½]
IT and legal issues where the specialist insurer has different data controls and regulations to Company X [½]

Loss of control over policy process and claims administration, which may result in reputational risk that may affect Company X's performance in its focus on sales [½]
As Company X does not have sufficient control over pricing, the long-term return on capital may not meet its shareholders requirements [½]
Company X may not be able to spread the cost of its pricing, underwriting, claims teams over the new book of business resulting in a loss of economies of scale [½]
Legal costs may be high as carefully worded service level agreements will be required and there may be other contract issues [½]
Increased expense loading may reduce affordability and hence sales [½]
Company X will not gain expertise in pricing this product or experience data, making it hard to take more control in the future [½]
With sales staff and underwriting working in different companies with potentially different cultures and procedures, the feedback loop in the actuarial control cycle is less effective [½]
There may be mis-selling risk if there is a breakdown in communication between sales and claims management [½]
The capital requirements may be higher under the arrangement for counterparty risk e.g. the specialist insurer may default [½]
The specialist insurer will want to ensure it meets its own profit requirements so it is likely the company will be passing a material share of the profits on the business written to the specialist insurer [½]
Operationally, the arrangement may be cumbersome [½]
For example, it may be more difficult to resolve problems when they occur across two companies [½]

[Marks available 13½, maximum 6]

(iv)
Need to consider the potential implications on all the risk groups that the SCR has to cover:
Non-life underwriting risk
Life underwriting risk
Health underwriting risk
Market risk
Counterparty default risk
Operational risk

[½ mark awarded for any two relevant risks, 1 mark for any four relevant risk]
[Marks available 1½, maximum 1]

This product is likely to be categorised as a health product with a similar technical basis to that of life insurance [½]
As such, all the sub-modules under "SLT Health" will need to be considered [½]
Non-life underwriting risk module is therefore irrelevant [½]
Life underwriting risk module is also irrelevant [½]

For the "SLT Health" risk module, need to consider the potential implications on each of its risk sub-modules:
Disability/Morbidity
Mortality
Longevity
Lapse

Expenses
Revision

[½ mark awarded for any two relevant risks, 1 mark for any four relevant risk]
[Marks available 1½, maximum 1]

As the specialist health and care insurer will underwrite the insurance risk, SCR for Disability/Morbidity is expected to be zero [1]
Mortality SCR is irrelevant for this product [½]
Longevity SCR is also irrelevant to the extent that the regular benefit payment is captured within the Disability/Morbidity SCR [½]
Lapse risk could increase if there is a concern that business could be mis-sold by the student representatives [½]
Revision risk relates to the risk of adverse variation of the amount of a reviewable annuity and hence is not relevant for this product [½]
To the extent that there are any fee arrangements between Company X and the specialist health and care insurer which are linked to the persistency of the policies, these should be reflected in the SCR for Lapses [1]
Under the "Badging" arrangement, Company X is responsible for distributing the new product, so any expenses incurred in relation to distributing the product will be subject to the Expenses SCR [1]
On the other hand, administration and claims expenses should not affect Company X's SCR as these fall to the specialist health and care insurer [½]
Although a lot of expense risk is passed to the specialist as they are taking on a lot of the operational work there is still the possibility of some expense risk if the overall operation between the two organisations is cumbersome [½]
Market risk is unlikely to be significant [½]
As the specialist health and care insurer bears all the insurance risk the insurance liability / technical provisions for Company ABC is expected to be minimal, if any [½]
Intangible assets risk will increase – as goodwill / brand name could potentially be damaged if the deal with specialist insurer in the badging arrangement does not work [½]
Given the "Badging" arrangement, Company X is exposed to significant counterparty default risk [½]
In particular, if the fee arrangement for distribution is substantial [½]

Under the Counterparty risk module
Insurer must differentiate between exposure type
Type 1 – may not be diversified and counterparty likely to be related [½]
Type 2 – usually diversified and counterparty unlikely to be related [½]
There could be an increased risk of default from student representative body, if premiums are collected by them [½]
Under the Operational risk module, the standard formula approach is a relatively simple approach based on percentages of earned premium and technical provisions [1]
The standard formula SCR for operational risk is unlikely to be an accurate measure of the true underlying risk associated with this "Badging" arrangement [½]
Given that any customer complaints are likely to cause reputational damage to Company X even though it is not the company that underwrites the risk [½]
Allowance for loss absorbing capacity of technical provisions and deferred taxes is expected to be minimal given the insignificant size of insurance liability / technical provisions [½]

Consideration will need to be given to diversification between risk modules which might dampen the effects of increases in undiversified SCR for specific risks [½]

General
Company X may feel it needs to hold capital in excess of the Standard Formula SCR to reflect additional risks of the badging arrangement which are not adequately reflected in the Standard Formula [½]

[Marks available 18½ maximum 9]

[Total 32]

Few candidates scored well on part (i). This question required candidates to provide points tailored to the specifics of the product described in the question.

The better prepared candidates discussed how the product might best provide the types of costs that the product might need (e.g. education fees, accommodation costs) and the types of medical conditions that might be covered and that the product should be simple and the marketing/policy literature easy to understand by students.

Few candidates discussed that underwriting could be kept simple, with an age limit for usual student ages, as most students in the age range would likely be in good health or whether any state benefits would be available for students or whether changes might be made once the policy was taken out. (e.g. if the course were extended). Similarly, few candidates discussed the premiums in any detail; for example, that given the relatively short term premiums could be guaranteed with little risk (and reviewable premiums would be unlikely to be offered due to complication of explaining these and undertaking reviews).

There was generally little discussion on claim payments; in particular, that decisions and payments would need to be made quickly.

For part (ii) many candidates made relevant points on the suitability of student representatives to be the distributors; they would understand students' needs and be able to explain the product in terms students could understand, they would need less remuneration than other distributors but that there was a risk that they would not be sufficiently knowledgeable about the product and would need training otherwise there was a risk of mis-selling.

Few candidates discussed the advantages and disadvantages of making sales when parents are likely to be present or that there appeared to be no opportunity to make sales later in the academic year.

Part (iii) was generally well answered with candidates providing a wide range of relevant points.

Part (iv) was less well answered. Whilst many candidates could list the risks that might be affected, relatively few gave well-reasoned discussions as to how these might be affected e.g. mortality and revision risk are irrelevant for the product. Many candidates did not consider the extent to which risks would be transferred to the specialist company and hence that those risks would be reduced or eliminated for the insurer. For example, as the specialist health and care insurer would underwrite the insurance risk, the SCR for

Disability/Morbidity is expected to be zero. Under the "Badging" arrangement, Company X is responsible for distributing the new product, so any expenses incurred in relation to distributing the product will be subject to the expenses SCR. On the other hand, administration and claims expenses should not affect Company X's SCR as these would fall to the specialist health and care insurer.

Most candidates mentioned counterparty risk and operational risk but only the better candidates discussed these in detail. Few candidates mentioned that Company X may feel it needs to hold capital in excess of the Standard Formula SCR to reflect additional risks of the badging arrangement which are not adequately reflected in the Standard Formula.

Q3

(i)

Coverage in society

It is not clear that children are covered in society [½]

Or other unemployed e.g. spouses who are not poor adult qualified [½]

Or the retired population [½]

Are there any employers that are non-private and non-government? [½]

At an affordable cost

Those employed by private companies may be better able to afford the provision [½]

The unemployed may still end up in poverty if they face large medical bills for treatment if the cash payments do not fully cover the cost of treatment [½]

The poor only have some costs covered, not all. Co-insurance may drive this group into poverty [½]

Government staff may have the same level of benefits as private staff but are required to pay more; this may be in combination with lower salaries [½]

Private employer staff need to pay for premiums after tax which in affect makes them more expensive than pre-tax (as seen for government staff) [½]

The cost of cover for lower paid employees may be a much higher proportion of income than would be the case for higher paid [½]

The lowest paid employees may not be able to afford the premiums for the voluntary group cover and could be forced to opt out [½]

Access to services

Those employed have greater access than the poor unemployed adults [½]

There is no access to cancer services for private employees [½]

So they could face large bills if they have cancer which would not be the case for the government staff. [½]

[Marks available 7, maximum 3]

(ii)

Protect the nation's health

Following a shock to mortality and morbidity with the outbreak [½]

A healthy population are more productive [½]

This may help increase GDP and tax revenues after the outbreak [½]

Social, political and cultural promises
Given the election there may be a push to retain voters, after the economic impact of a global outbreak [½]
The government may be trying to fulfil an election promise made at the last election [½]
It may be a norm in other countries to provide cover so the country is aiming to attain global standards [½]
To be aligned to the international organisation's objectives, for favourable terms if funding is available [½]

Redistribution of wealth
Seeking to reduce health inequalities [½]
The government may be seeking to reduce poverty in the population [½]
And to protect/subsidise the poor [½]

[Marks available 5, maximum 3]

(iii)
Establish degree of state subsidy
Will the state fund the scheme for all in the population or all paying tax (i.e. will the unemployed, children and the elderly be covered) [½]
Does general taxation include corporate and individual income tax [½]
The cost will depend on what services will be subsidised [½]
E.g. will it be the same as the current provision for government employees [½]

Estimate coming years' outgo
Use previous years' utilisation to estimate the coming years' outgo [½]
With adjustments for more recent changes [½]
If there has been an outbreak the morbidity rates may be higher leading to increased demand [½]
If the increased mortality of the outbreak may have biased the survivor profile of the population to healthier [½]

Estimate coming year's tax revenue
Use previous years' tax revenues to estimate the coming years' tax revenue [½]
Alter for the worsening economic conditions which may be reducing employment levels [½]
There may be a nationwide reduction in pay, which will reduce income levels and so taxation [½]
Adjust the tax structure to cover the expected outgo to the extent desired
Not all people in society will be paying tax, so the tax rates charged to some will need to be sufficient to cover the health costs for all [½]
The government may decide to charge wealthier individuals a greater rate of tax to redistribute wealth [½]
And reduce health inequalities [½]
The government will need to look at the affordability of the scheme to the government and the individual [½]
If scheme is not affordable for the government it may require additional contributions from some/all individuals in the scheme [½]
But could offer tax incentives on contributions [½]
If the cost of the scheme is unaffordable to the individual then the government could consider reducing some of the benefits [½]

The government may need to go through a number of iterations to get the right overall level of cost/benefits for the scheme [½]

[Marks available 9½, maximum 6]

(iv)

Claims

Different type of claim [½]
Different type of fraud risk [½]
No longer dealing with providers as income is paid direct to the policyholder [½]
However still medical based triggers [½]
But now triggers of claim are such as ADLs rather than medical service provision [½]
There will no longer be an excess to minimise claims payments [½]

Marketing

Need to retrain to understand the different risk from the customer's point of view [½]
More effort to sell the product as need to establish a need compared to PMI [½]
Still marketing to employers [½]
There may be demand from government employers on group IP; previously these were not interested in group PMI [½]

Sales

May require more work to establish 'the need' for insurance in the customers' mind [½]
Still selling direct to employers [½]
Have relationship with the employers in the country [½]
There is no other provision in the market so employers are likely to be interested [½]
Could still have sales as part of a flexi-benefit package [½]

IT

Need to set up new systems, e.g. to allow for repeated payments to policyholders [½]
Leverage infrastructure to share data from employers [½]

Product design/pricing

There will a lot of work to set up the product design [½]
The pricing team will be accustomed to setting group premiums [½]
Need to gather new data on employment levels [½]
And also on duration of sicknesses [½]
Will need to set the product claim definitions such as ADLs, FATs [½]
Will need to set the benefit terms (as no longer indemnity) e.g. fixed or increasing [½]
If increasing, with which index [½]
Claims will be long-term, leading to additional considerations such as regular checks on claims eligibility [½]
Understand the product variants, not previously experienced, including: [½]
Replacement ratio [½]
Deferred period [½]
Linked-claims period [½]
Partial/proportional benefits [½]
Understand the product variants, altered or no longer applicable to PMI, including: [½]
Claim notification period – similar concept to PMI but PMI might have been pre-approval which will not apply to IP [½]

Excesses and NCD are no longer an appropriate feature [½]
The pricing team may be familiar with continuation of cover pricing as a similar benefit can be provided on group PMI [½]
Just as there are some basic variation of PMI, they may want to consider creating a basic IP that covers accidents only [½]

Reserving
Different claims payment profile over the year [½]
Still short-term liabilities (non-episodic, now continuous) [½]
There are more options on IP, such as waiver of premium, which may increase the reserves [½]

Customer services
Need to retrain for the new product [½]
Still related to health [½]
Need to know more about pre/post tax benefit payments as no longer indemnity product [½]
More ongoing customer interaction for those in claim as no longer indemnity [½]
No longer provide list of approved providers [½]
May provide rehabilitation benefit [½]

Accounting/finance
The nature of the claims may be longer term so accounting disclosures may vary [½]

Underwriting
Need to learn how to undertake financial underwriting on IP [½]
Still interested on pre-existing conditions [½]
Still apply knowledge of medical based underwriting for pre-existing conditions [½]
More underwriting at claims stage [½]
Less underwriting at points of sales [½]

Actuarial
Still set premiums on annual basis at group level [½]
May need to seek technical expertise from the reinsurer [½]
Need to negotiate reinsurance for group IP [½]
Need to unwind reinsurance treaties for group PMI [½]
Need to set all assumptions for the product [½]
Need to calculate the claims reserves for those in claim, likely to be more material than PMI [½]
The capital model will need to be adjusted to determine the new capital requirements [½]
These may be different e.g. as more similar to a life insurance product than PMI so different techniques may be required to be used [½]

Compliance
Seek approval from the regulator to sell a different product [½]
Ensure that TCF is considered [½]

Legal
Draft changes to policy terms and conditions [½]
Assess new reinsurance treaties [½]

Review the application to the regulator for a new product [½]

Internal audit
Need to review proposals for pricing, claims, underwriting etc to ensure they are satisfactory and appropriate [½]

Risk management
Operation risks will be high given the level of changes [½]
Need to set up new reinsurance treaty [½]

Investment
May not experience much difference as both are group policies so short-term liabilities [½]
However, if a claim starts, it could be long-term so there will be a need for longer-term assets [½]
The development costs may require a disinvestment from longer term assets [½]
A review of the investment policy will be required [½]

Board/senior management
May need to find new Non-executive directors with experience in IP [½]
There may be a change to the risk appetite given the change to the risks held and that these are new [½]
Set a new business strategy and profitability criteria [½]

[Marks available 36½, maximum 21]

[Total 33]

Most candidates scored well on part (i).

Part (ii) was generally well answered. This question required candidates to describe the objectives the government might have beyond the standard bookwork answers of protecting the nation's health, redistribution of wealth etc by applying these to the particular situation in the question.

Part (iii) also required applying bookwork knowledge to the particular situation but this was not well answered, with many candidates not providing sufficient points to score well. Only the better candidates provided a discussion of how the future years' outgo and tax revenue income might be estimated or how the tax structure might be adjusted to meet the expected outgo to the extent desired.

For part (iv) candidates needed to generate a wide range of points outlining why/how each department of the insurer would be impacted to score well. The better candidates discussed areas such as the differences in product design between group private medical insurance and group income protection, both in terms of different claim triggers and new features required, such as replacement ratios and other features no longer required, such as excesses, and the differences and similarities in claims and how they are paid.

Whilst most candidates mentioned the need to negotiate new reinsurance treaties for group income protection, fewer mentioned the need to unwind the existing reinsurance treaties for group private medical insurance.

Few candidates mentioned points such as the need to review the capital model, potential changes in accounting disclosures, seeking approval from the regulator to sell a new product, ensuring that treating customers fairly is considered, internal audit and the possible requirement to find new non-executive directors for the Board experienced in income protection.

[Paper Total 100]

END OF EXAMINERS' REPORT

