EXAMINATION

April 2007

Subject ST1 — Health and Care
Specialist Technical

EXAMINERS' REPORT

Introduction

The attached subject report has been written by the Principal Examiner with the aim of helping candidates. The questions and comments are based around Core Reading as the interpretation of the syllabus to which the examiners are working. They have however given credit for any alternative approach or interpretation which they consider to be reasonable.

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Chairman of the Board of Examiners

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Comments

Candidates who approached the questions, especially the more substantial elements of each question, in a methodical and detailed manner were far more likely to satisfy the examiners and receive a pass in the subject. There was often a lack of sufficient detail in the answers with candidates failing to realise that each valid point in the answer would normally attract ½ marks whilst the more basic elements e.g. details in a pricing basis such as age and sex, would attract ¼ marks.

Candidates should also recognise that whilst reinsurance can play a valuable role in the UK health insurance market, reinsurance is not a panacea for all evils.

Further comments are also found in the solutions that follow.

1 Relevant points regarding potential losses if a policy lapses include the following:

The customer must understand what's been bought

There is the wastage of the investment in client development

Loss of expenses in customer processing
Possible loss of commission before premiums have been received to cover this

The potential for reputational damage

The loss of future sales from an existing client.
There will be a loss if surrender value>asset share or asset share<0

Loss of embedded value
Regulators could enforce the insurer to meet the policyholder's expectations (against the insurer's own intentions) where the product was missold or other literature was misleading.

Ways of limiting the risk of policies lapsing include:

Proper sales training is paramount
Appropriate commission levels such that sales personnel are encouraged to recommend "the right policy"
A survey of client understanding can serve the purpose of ensuring policyholder satisfaction with both the sales process and the product itself.
Results of this survey, performed as part of an after-sales service, will be fed back into the literature provided and into the routines by which products are explained and sold.
Provide a product which meets the needs which the person has identified as providing grounds for insurance protection.
The more artificial the needs creation through the sales process, the less likely the policyholder is to maintain the product itself, let alone purchase further covers from the insurer.

The aim should be to meet needs at an affordable price.
The customer should receive information on a regular basis as promised
A business retention team may be formed to communicate with lapsing policyholders and recommend suitable alternatives.

Don't pay surrender values

Monitor lapse rates

Provide no claims discounts or loyalty programme
Ensure income meets outflow of expenses or structure premiums to reduce negative asset shares

2 Two claim inception rates, type (a) and type (b):

$ia(x,d) = ca(x,d)/Lx$

and

$ib(x,d) = cb(x,d)/Lx$

where $ca(x,d)$ = the expected number of periods of sickness which pass through duration d between attained ages x and $x + 1$ (sickness commencing between ages $x - d$ and $x + 1 - d$)

$cb(x,d)$ = the expected number of periods of sickness which pass through duration d between attained ages $x + d$ and $x + d + 1$ (sickness commencing between ages x and $x + 1$)

Lx = the average number living (healthy and sick) between ages x and $x + 1$

These are central rates

Type (a) is claim inception
Type (b) is sickness inception

3 Product designs which may serve to lower cost include:
Outpatient cover only — restrict availability to out-patient treatment.

Preferred provider — restrict the range of hospitals

MME — lump sum payable on a number of defined events
Waiting list plans — cover only available if waiting time for State treatment exceeds a defined period
Excess plans — plan only meets cost of cover in excess of a defined limit
Cash plans — plan pays a defined cash sum rather than indemnifying policyholder cost

Dental plans — cover restricted to dental costs

Optical plans — cover restricted to optical costs
Personal accident — cover limited to accidental causes and fixed amount rather than indemnity
Inpatient cover only — restrict availability to in-patient treatment only

Introduce maximum cap paid per procedure, claim or period
Restrict policy to cover non-medical treatment (e.g. accommodation, food)

Coinsurance — plan pays percentage of claims

4 *In answering this question the examiners were expecting candidates to comment on matters specifically relating to underwriting income protection products. However, credit was also given where candidates described a more general approach to underwriting.*

Important considerations when underwriting incomee protection products include:

Personal factors

Industry
Age and sex
Income
Location
Employment status
Socio-economic class
Occupation
Smoking status

Plan Design

Replacement ratio (net and gross of tax)
Size of benefit
Definition of disability
Deferred period
Benefit duration

Individual Underwriting

Medical

Office requirements when considering new proposals
Proposal form
GP report
Medical examination
Special questionnaire
Other tests
Leisure pursuits
Legal restrictions —e.g. use of genetic tests

Financial
Employment insecurity can add to UW risk therefore financial condition must be underwritten

Size of benefit

5(i) Net replacement ratio = income after tax when sick/ income after tax before sick
0.9 = (X + .7*5000)/(25000*.7) implies
X = 25000*.7*.9 - .7*5000
= £12,250

5(ii) (Months of sickness – deferred period) * monthly benefit
(6 - 3)*10000/12 = £2,500

5(iii) (a) Date of notification is not important provided notification occurs within a reasonable time of first sick. One month delay is reasonable. In this case there would be no change in the benefit.

(b) Policyholder is notifying sickness 5 months after date first sick which may not be seen as within reasonable time. The insurer has lost the opportunity to manage the claim. It would therefore be reasonable to reduce the benefit. A possible approach is to only pay from date of notification i.e. pay 1 months benefit.

5(iv) Proportionate benefit = 60% IP benefit + 40% salary
IP benefit = 10,000*0.6/12 = 500 per month
Salary = 25,000*0.4*(1 – 30% tax)/12 = 583.33 per month
Total benefit = 1,083.33 per month

6(i) IP Claims Analysis

Morbidity
Check the data
Perform an analysis of own company experience over a suitable recent period
3–5 years may be suitable depending on volume of data — credible but homogeneous

Split analysis into major different risk groups e.g. male/female, smoker/non-smoker, location.
Adjust data for other possible influences which will affect its immediate usage e.g. past changes in underwriting standards or claims management.
Compare own data with that from other sources over the same time period, in both the home market and in the overseas territory such as:

- Industry data e.g. from insurers' associations
- Data from reinsurers
- Published tables based on insurance experience
- Population figures and government health statistics

Assess the adjustment needed to relate any published data, which may not be underwritten, to the particular circumstances of the company, its products and target market.

Analyse trends in experience by age, sex, by smoker status.
Analyse claim inception and claim termination rates. If data permits, investigate by occupational classes and deferred period.

Analyse data separately by group and individual

Measure actual v expected

- adjusting actual or expected for IBNR

Analyse by policy duration

Mortality

Similar analysis to that for morbidity.

Data needs to be interpreted with care

Need to split pre-claim and in-claim mortality

Consider suicide experience and whether relevant

Psychiatric claims

If sufficient data, separate these out separately

Also cover other main causes of claims — back claims etc.

Note issue regarding how good recording of claims is.

Note may extend further back in time.

Discuss with claims team
Look at other sources of data on psychiatric claims (e.g. reinsurers, health statistics)

6(ii) Possible reasons why there was not a similar increase in critical illness claims include:

Definition of claim event

Critical illness claims relate to specific critical illnesses
May however be increase in PTD element due to this depending on definition used.
IP — if psychiatric issues result in inability to work then claim will be paid.

Different target markets

7(i) Implications of the proposed scheme from the point of view of the State, employers, employers and non-working members of the population include:

State

May improve productivity of workforce

Will need to ensure treatments available

Will need to administer the fund and claims

Will need to ensure employers contribute

Will need to meet any shortfall
Unrestricted cover will encourage maximum spend by the employee or provision of unnecessary treatment by providers
Restricting the scheme to those in formal employment and their families may well make the scheme easier to manage

Employers

May improve staff productivity and minimise time off work

Need to be satisfied about availability of care
Have to pay premiums to fund and may otherwise have to participate in aspects of administration of the scheme

Increases production costs
Premiums paid may exceed value of benefits - employer may be subsiding other employees

Employees

Free healthcare

No limit on care - full insurance
If an employee loses his/her job, then cover ceases under this scheme design

Non-working
No cover so must rely on state aid; their children and dependents are also not covered

May create an underclass

More pressure to get work

7(ii) Possible methods for containing the costs of the scheme include:

Co-insurance
An excess or a fixed percentage of the claim is paid by the claimant on each claim.

Claim needs to be defined

Preferred provider

Use of specified medical provider

who has agreed fee schedule with the government

Overall cap
A limit can be placed on each treatment or a course of treatment

Limiting scope

Exclusions ensure that the scheme covers essential care only

Reduce maximum age of cover

Increase minimum age of cover

No coverage for travel outside of Actuaria

No coverage for hazardous sports

No pre-existing conditions

Use family doctor as gatekeeper

Give hospitals and other medical providers a fixed annual cash budget

Exclude or limit availability to dependents

Encourage healthier lifestyles

Employees asked to contribute

Encourage opting out of the scheme

Introduce some form of means testing

8(i) Different types of reserve include the following:

Unearned premium reserve (UPR)
Reserve in respect of premiums received for periods of insurance not yet expired

Unexpired risk reserve
Reserve in respect of periods of insurance not yet expired in excess of UPR where it is felt that the premium basis is inadequate

Outstanding claims reserve
Reserve in respect of claims notified to the insurer but not fully settled

Incurred but not reported (IBNR)
Reserve in respect of claims that have arisen but have not yet been reported to the insurer

Incurred but not enough reported
In respect of claims that have been reported to the insurer but it is felt that not all detail has yet been submitted and a provision needs to be established for the remainder

Equalisation / catastrophe reserves
Amounts held back for abnormal events

Claims in transit
Reserve in respect of claims reported but not assessed, or not recorded

Mismatching reserve
Reserve for extent to which assets do not match liabilities e.g. by term, currency

8(ii) **Statistical approach used where**

Claims are homogeneous

If portfolio sufficiently large

And claims are stable

To calculate IBNR
Used if no experienced claims assessors, or insufficient data to carry out case estimates

Case estimate approach used

If the claim is large

Or unusual

If portfolio insufficiently large

Claims are unstable

8(iii) Factors to take into account in determining a case estimate include:

Procedure type

Procedure cost

In-patient duration and associated costs

Hospital to be used

Surgeon, consultant, other principal — to understand procedure costs and approach

Policy coverage

Age, sex and medical history

Medical outlook / prognosis

Repatriation costs

Current and anticipated levels of medical inflation

9(i) The key issues are profitability, volumes, market profile, office strategy

Customer need

Is there a need for this product?

Pension provider

Size of existing opportunity — pension scheme size

How is it distributed?

Existing relationship with provider / broader opportunities

Is there a broader market? — Other pension providers

Potential growth

Product

Compulsory or not

If not compulsory expected take up

Any underwriting — declaration of health

Do you offer a similar product?
Premium structure — risk premium or flat
Premium structure — guaranteed or yearly reviewable

Claims
Low amount — Claims process simple
Claimants may not claim
Administration in-house or outsourced to pensions insurer

Existing providers?
If so, is it profitable?

Systems development required

Commission requirements

Is it badged?
Is there a reputational risk?
Reinsurance available

Legal issues
Who holds the policy?
Who pays the premiums?
Any regulatory issues

Other
Fit with overall business plan, company culture and strategy.
How would you price this business — any similar experience?

How are contributions defined?
Company expertise and experience — Is this relevant?

9(ii) If offers product currently then would utilise that experience
If not then look for experience of similar product
Group income protection closest — may also consider Group Personal Accident
Other markets data — suitably adjusted for market and product

Generally be priced using unit rates as too complex for more detailed rates.

The unit rate calculated based upon the expected experience using the insurers previous experience of similar products / schemes.

and allowing for the profile of the pension scheme member e.g. age, sex, occupation profile.

For particular large pension schemes, might possibly use single premium costed where rates are calculated for each individual covered.

The experience analysis will be similar to that for individual. Specific differences are highlighted below:

Morbidity

Lack of detailed exposure data, detailed claims analysis being more difficult.

Would analyse their own claims experience of similar schemes.

Potentially use loss ratio analysis.

Adjust data for other possible influences which will affect its immediate usage e.g. past changes in underwriting standards or claims management.

Compare own data with that from other sources over the same time period, such as

Industry data e.g. from insurers' associations

Data from reinsurers

Published tables based on insurance experience

Population figures and government health statistics

Assess the adjustment needed to relate any published data, which may not be underwritten, to the particular circumstances of the company, its products and target market.

Analyse trends in experience by age, sex, by smoker status.

Analyse claim inception and claim termination rates. If data permits, investigate by occupational classes and deferred period.

Investigate the availability and cost of reinsurance arrangement of various sorts e.g. risk premium, original terms.

May base premium terms on reinsurance rates, subject to the above analysis.

Further adjustment needed to align different target market with that underpinning the base data.

Investment

Note this is a short term contract — this limits the potential for investment of premiums

Expenses

Start with company's most recent in house expense analysis.

Allow for trends if this is an annual exercise
Allow separately for acquisition (sales, marketing and underwriting), servicing and claims costs
Claims costs will be split between initial claim validation and ongoing claim maintenance
Split policy costs into those that are premium related and those that are per-policy.
Need to understand the extent to which specific one-off costs (e.g. establishment overheads) and expected additional costs (e.g. regulation) are to be costed against individual policies.
Related to potential volumes of business for spreading fixed costs
Degree of detail will depend on size of company and volume of expense information
Inflation may need to be split between manpower costs, future equipment costs and others.
Projected inflation may possibly be measured as difference between government fixed-interest and index-linked securities.
Adopt consistency of assumptions between investment returns and expense inflation.

Commission

Commission as paid — load directly into premium basis.

Lapses

Analyse experience for Pensions lapse experience

Ensure appropriate to the distribution channel.
Adjust data if target market is different from those underlying the above researches.

Generally 2 yearly renewable contract.

Tax

Make suitable assumptions as to the insurer's current and future tax position.

Profit

Include company profit criteria, commensurate with underlying risk of venture — risk discount rate, PVFP, pay back period.

Competitors rates if any

Carry out sensitivity analyses

9(iii) Additional considerations if the waiver of premium were offered on a voluntary basis include

Anti-selection

Expected participation rates
Possibly influenced heavily by how the sales process will work?

Lower volumes so less economies of scale

Underwriting or exclusion of pre-existing conditions

END OF EXAMINERS' REPORT