

EXAMINERS' REPORT

November 2023 examinations

Subject F101 — *Health and Care* Fellowship Principles

INTRODUCTION

The attached report has been prepared by the subject's Principal Examiner. General comments are provided on the performance of candidates on each question. The solutions provided are an indication of the points sought by the examiners, and should not be taken as model solutions.

QUESTION 1

Most candidates were able to identify the risks associated with this product. A few of the candidates did not correctly state the nature of the investment risk, some did not seem to understand the nature of the morbidity and mortality risk. Some lost marks by not mentioning some of the other risks such as regulatory risk, state benefits etc.

- i) The key risks facing the LTCI book:
- Lower volumes of new policies than expected leading to being unable to cover overhead expenses.
 - Economic environment may impact the attractiveness of LTCI products – new business and in-force policies
 - If pre-funded policies carry a surrender value, risk of larger number than expected surrendering
 - especially in times of economic downturn
 - These surrenders may be selective, leaving insurer with worsening risk pool.
 - Risk of loss on early withdrawals (even if surrender value zero).
 - Different mix of policies (e.g. large vs small) than expected possibly leading to expense losses, mortality and claims losses.
 - Claims inception rates higher than expected – rates of morbidity underestimated – especially emerging causes of disability, e.g. mental health, diabetes-related
 - Policyholders living longer than expected after claims inception
 - with increasing life expectancy, and medical advances, policyholders may be living for longer in poor health, worsening claims experience
 - Investment returns lower than expected –
 - pre-funded, large reserves, so investment risk is significant
 - Claims inflation higher than expected – if the benefits are linked to some index or to the cost of care
 - Fraud – policyholders, or policyholders' doctors exacerbating disability resulting in more claims being paid for than priced for; or being paid for sooner
 - Underwriting risk – incorrectly assessing risks and charging inappropriate premiums for the risks accepted
 - – exacerbated given long-term nature of products.
 - Exacerbated if premiums/benefits guaranteed
 - Claims trigger definitions may result in more claims than expected – loose policy wording
 - Regulatory risks – changes to regulation/taxation impacting benefits, premiums, surrender terms, etc.
 - Reputational risk if cash benefits not sufficient for providing adequate care

QUESTION 2

This question was reasonably well answered. Surprisingly many candidates failed to refer to underwriting and data collection as risk management tools and a number of candidates referred to applying exclusions on Covid-related claims or even cardiac cases which would be impractical.

- Critical illness pays a sum assured on diagnosis of a covered event. The risks will affect both new business and existing business
- Reduction in screening:
 - o This will reduce the rate of early diagnosis
 - o Which will mean conditions are picked up at a later stage when they are more serious (and eligible for a CI claim)
 - o And/or not treated early enough which could have prevented progression to a CI claim
 - o It may require X to strengthen underwriting so that cases are picked up at the new business stage (rather than relying on disclosure)
 - o Company X could promote screening to its existing policyholders as early detection may mean treatment to prevent claims
 - o But could also increase the number of claims if conditions are picked up that are eligible for a claim
 - o Greater risk for tiered benefit with lower benefit trigger level, but prevent/reduce more severe levels of benefit being triggered
- Elevated risk of cardiac conditions and diabetes
 - o Impact will depend on how CI benefits linked to these conditions
 - o Cardiac cases likely to be more of an impact – although there could be complications from diabetes e.g. renal failure
 - o Could include prior Covid infection as an underwriting question to rate new business appropriately – challenge is that not all Covid infections were known/tested
 - o Would need to have data to determine appropriate loading
 - o For existing policyholders may not have data on how many suffered from Covid
 - o Encourage healthy habits/lifestyles and/or regular check-ups to manage the elevated risk
 - o Would need to estimate risk in existing population to enhance reserve requirements
- Vaccination effects
 - o Need to gauge if risk is significant enough to increase CI claims
 - o May include vaccination question in underwriting
 - o Would need to have adequate data to justify a loading for TCF purposes
 - o Also needs to be competitive
 - o May not have vaccination status of all policyholders
 - o But could use modelling approach to estimate reserve loadings if significant enough
 - o Gov / manufacturers may be liable for vaccine related events

QUESTION 3

(i) Candidates performed relatively well in this question, with very few candidates scoring full marks. Idea generation seemed to be limited, demonstrating that candidates struggled to think broadly enough around this topic, including perspectives of:

- *Healthcare providers (and their need to charge sufficient tariffs for treating accident victims)*
- *The State (and their need to balance the budget)*
- *The State's insurance fund (and the need to keep the fund sustainable and as simple as possible)*
- *Accident victims (and their need to have access to care when a motor vehicle accident occurs and being charged at reasonable rates with limited need for negotiations)*
- *Road users (and their need to keep fuel levies low)*
- *Citizens (and their need to have trust and confidence in the state and their insurance fund)*

(ii) Candidates performed very well in this question, recognising that the state's reduced tariffs would result in higher claims cost for the insurance company, which would reduce profitability if the product remains as is – necessitating further action which is dealt with in Question 3(iii).

(iii) Many candidates attempted this question with poor exam technique: limited range of points and a lack of a structured approach resulted in insufficient number of points. Those who performed well in this question presented more than 3 distinct and clearly articulated courses of actions, each supplemented with a detailed explanation of second-order impacts of following the particular course of action.

- (i) The state insurance fund would require regulated tariffs:
 - To contain the cost of cover since claim costs will be based on the regulated tariffs
 - This will keep the amount that needs to be levied on fuel low – which is essentially a tax
 - Reduce complexity since the tariffs will be transparent to all stakeholders
 - Remove the need for negotiation of fees with healthcare providers – although the healthcare providers would need to be consulted to ensure that they are willing to treat patients
 - Providers may charge differentiated prices for medical treatments
 - This aims to ensure that there is access to care for the victims of motor vehicle accidents
 - It also ensures that the victims are not charged high fees when they are not able to negotiate these due to being accident victims
- (ii) Company A provides full indemnity for motor vehicle accident claims which means that it carries the full risk of the difference between the cost of the accident and the regulated tariffs (1)
 - The reduction in the tariffs will therefore increase the claims cost of Company A's PMI policies

- Company A will experience a reduction in the profitability of its PMI cover
- Or this will require Company A to increase the premiums
- Or Alternatively Company A may need to reduce benefits elsewhere to contain this cost – i.e. non-accident cover.
- The latter actions may reduce the marketability and competitiveness of Company A's policies

(iii) Company A could:

- Increase premiums
 - o Policies more expensive; potentially less marketable/competitive
 - o Which could result in lower volumes of business – further requiring increases to cover overheads
 - o Depending on the number/cost of accidents compared to other healthcare benefits offered – illness, cancer, Day2Day, may not be a significant overall impact with limited policyholder impact
- Reduce other benefits
 - o The extent to which reduced will impact marketability and competitive, and may see policyholders lapse to join competitors
 - o Required reduction depends on scale of tariff reductions (significant) and the number and severity of accidents relative to other benefit categories
 - o Reducing other benefits may leave policyholders out-of-pocket for more treatments
- Reduce the amount of cover for accidents
 - o Policyholders may be out-of-pocket on accident care
 - o May not be able to afford the cost of care – where previously indemnity
 - o negative publicity; triggering lapses
- Accept a lower the profit margin on the business
 - o No direct impact on policyholders, but risk of future additional premiums/benefit reductions
- Negotiate better fees for accident claims with healthcare providers directly
 - o This may then result in cost of the benefits remaining the same, and thus no overall impact on policyholders.

QUESTION 4:

This question tested candidates' knowledge of product development as well as positioning benefits in the market when an insurer already has an existing offering.

Overall disappointingly answered. Many candidates scored well in some parts and poorly in others resulting in an average mark overall. Only the stronger candidates managed to score well overall by keeping to the question, answering with appropriate length points for a 12-mark question and use the information given to make their points.

A disappointing number of candidates did not generate enough points for a 12-mark question, or alternatively went into too much detail on one point sometimes making the same point many times over.

(i)

- Candidates generally did well in this question with the stronger ones scoring full marks
- A surprising number of candidates defined a Terminal Illness but didn't tie it back to an insurance benefit
- Poorer attempts defined it as a separate benefit paying on 'chronic' type conditions that would ultimately lead to the death of the policyholder, without emphasising the much shortened life expectancy. Terminal Illnesses is an end-stage condition/disease and the life is expected to die very shortly (often within 12 months)

Question 4(ii)

- Generally candidates fared OK in this question with many noting that terminal illness was an accelerated death benefit that would be paid any way under the main death benefit. The timing cost was thus the only real cost to the company and the 4 core illness/condition coverage of the critical illness benefit meant that the additional incidence of this benefit was low
- Some poorer attempts argued that the cost would be significant – this wasn't what the question was hinting at and scored no marks

Question 4(iii)

- This question resulted in a mix of responses from candidates
- Many correctly argued that it should be added to both existing and new business to keep equity and reduce lapse and re-entry risk
- Poorer attempts suggested it should be added to new business only due to the underwriting available. Although there is a risk of current policyholders selecting against the company, the current death and critical illness benefits would have had comprehensive underwriting upfront already, and for reasons indicated in 4(ii) the ultimate cost would be the timing cost for these lives since the benefit would be paid any way
- Some candidates suggested it should be added to existing only due to the selection risk from new entrants but again the underwriting would be expected to manage this risk

Question 4(iv)

- Many candidates scored well here, identifying the marketability of a child benefit as well as the possibly excessive charge for the 10% benefit
- Stronger attempts correctly identified that the main life benefit includes incidences for 4 core illnesses/conditions as well as the death benefit and so taking a % of this would probably be excessive for a child cancer only benefit
- Many candidates went into detail on the modelling side of how to arrive at a price for the child CI – treating it like a pricing question. The question instead had many facets to it and the price was one aspect (not the sole focus)

- *Some candidates suggested the 10% might be too little due to the novelty of the benefit (this is unlikely for reasons listed above)*
- *Some candidates suggested the benefit should not be offered due to some policyholders not having children, forgetting that the benefit is optional – this shows candidates were not reading the question properly*

(i)

- A terminal illness benefit (TI) is a type of benefit that pays out a portion of the life insurance policy's sum assured if the policyholder is diagnosed with a terminal illness that is expected to result in their death within a specified time frame.
- TI often added as an accelerator to the main sum insured...
- ...to complete overall cover...
- ...does not pay on specific condition but instead the claim definition involves the severity of a condition and its effect on life expectancy...
- E.g. any condition that is expected to result in person's death within 12 months...

(ii)

- The four core conditions already offered cover a significant proportion of the claims incidences seen on CI...
- ...therefore adding a TI extension won't extend the cover to many more illnesses/conditions...
- TI accelerates the death sum insured and so is not an additional payment...
- i.e. not significant cost other than timing...
- The Pricing Actuary will need to assess the potential risks associated with adding the benefit, such as adverse selection and moral hazard, and how this may impact cost of the benefit.

(iii)

- Cover should be made to all policies to avoid lapse and re-entry risk...
- ...made worse by not increasing premium...
- ...although going through the underwriting journey again would mitigate this risk somewhat, i.e. act as a deterrent...
- But there would be increased admin/onboarding costs to company without recouping from a resulting increase in premium
- The insurer would also want to avoid marketing risk and bad publicity of current policyholders not getting as much value as new entrants

(iv)

- High perceived value, in general, in children's benefit so likely to achieve some marketing benefit...
- ...and could lead to additional sales volumes...
- ...which could fund part of the additional claims cost by lowering the per policy fixed expense cost
- However, it may be worth exploring whether there is demand for a children's benefit

among policyholders and/or in the target market, and if so, how much they are willing to pay for it. This could help determine whether the proposed 10% premium increase is appropriate.

- Likely that 10% additional premium is too high for a children's benefit...
- ...given most childhood cancers are rare...
- ...and if covering only cancer then makes it even more of a subset and lowers cost...
- ...and cover us usually capped at age 18 for the children...
- ...so limited coverage compared to whole of life for main member...
- ...and making the premium proportional to main member CI incidence (which includes not only cancer) would be inappropriate
- While childhood cancers may be relatively rare, it may be important to consider the potential severity and cost of such illnesses, as well as the emotional impact on families. This could affect the perceived value of the benefit and the willingness of some policyholders to pay for it.
- But cancer incidences in children should be investigated to calculate the expected cost...
- This will depend on the stringency of the definitions used – level of severity/terminal requirement?
- There will be some anti-selection however, given cover is optional...
- ...with only those concerned about child getting cancer (perhaps previous family history) taking up the offering...
- ...this will increase the cost of the benefit...
- As would the number of children covered by the 10% premium increase, for example up to maximum 4 children, or is it 10% per child?
- Unlikely to have underwriting put in place for children's benefit...
- ...but could put measures in place to manage risk, for example pre-existing conditions clause
- 10% of main life's benefit, and 10% of premiums are easy to understand and may be attractive to policyholders.
- Costs of admin system change and policy wording etc.

QUESTION 5

The bookwork components were generally answered well, showcasing candidates' comprehension of both stochastic and deterministic classes of models. However, it was observed that a considerable number of candidates lacked knowledge regarding a risk equalisation fund (REF); as well as understanding of its mechanics and its intended purpose.

i.

Deterministic models are mathematical models that produce the same output for a given set of inputs every time. In other words, they are predictable and do not account for randomness or uncertainty. These models are usually based on a set of assumptions and use mathematical equations to predict outcomes. Examples of deterministic models in healthcare include cost-effectiveness analysis, decision trees, and Markov models.

Stochastic models are mathematical models that incorporate randomness and uncertainty into their calculations. They are based on probability distributions and generate multiple outcomes

for a given set of inputs. Examples of stochastic models in healthcare include Monte Carlo simulations and discrete event simulations.

Advantages - deterministic models include their simplicity, speed, and ease of interpretation. They are also useful when dealing with situations that do not involve significant uncertainty or variation.

Advantages – stochastic models include their ability to account for uncertainty and variation and provide a range of possible outcomes. They are also useful for modeling complex systems and interactions.

ii.

The regulator's concern emanates from unhealthy competition in the market, possibly resulting in unsustainability for some insurers – worsening risk pool; higher community rate; fewer covered lives over time; eventual closure.

The fund collects contributions from all insurers and uses risk adjustment to compensate those who cover a disproportionate number of high-risk individuals. This will ensure that the community rate between insurers are the same and promote healthier competition, allaying the regulator's concerns. Insurers will not be disadvantaged by having a poorer risk pool for the minimum benefits.

Insurers are incentivized to compete on the basis of efficiency rather than risk selection.

Risk adjustment is a mechanism used to adjust insurance premiums based on the risk of the insured population. This is done by taking into account various demographic and health status factors that are predictive of health care costs, such as age, gender, and health conditions.

Insurers with a higher proportion of high-risk individuals will receive more funds from the risk equalisation pool, while those with a lower proportion of high-risk individuals will contribute to the pool.

iii.

- It may not fully account for all factors that contribute to health care costs. For example, it may not capture differences in provider reimbursement rates or regional variations in health care utilisation. This can lead to inaccuracies in risk adjustment calculations, which could result in underfunding or overfunding of the risk equalisation pool. As a result, it is important to regularly review and update risk adjustment formulas to ensure they are accurate and effective.
- Risk adjustment may create administrative burdens for insurers, as they may need to collect and report additional data to calculate risk scores. This can be particularly challenging for smaller insurers or those with limited resources.
- Risk adjustment may also lead to increased regulatory scrutiny and oversight, as regulators may need to monitor and enforce compliance with risk adjustment rules and formulas. This can add to the compliance costs for insurers and may create a barrier to entry for new market entrants.

- In some cases, risk adjustment may not fully align with consumer preferences or needs. For example, risk adjustment formulas may not adequately account for differences in benefit design or service quality, which can affect member satisfaction and retention.
- Risk adjustment may also create moral hazard problems, as insurers may have less of an incentive to invest in preventative care or disease management programs if they are compensated for higher-risk individuals. This can result in higher costs and lower quality of care over the long term
- Risk equilisation does not allow for all risks e.g. stiochastic risk of individual large claims or accumulation of higher than ave claims.

iv.

- In the initial modelling of the operation of the REF projections will be required
- This will be a very complex undertaking
 - o There will be a significant challenge in collecting sufficiently detailed data in a consistent way across multiple insurers.
 - o Need to determine average risk pool between all insurers and all options
 - o As well as the cost for the basic benefit package to determine payments to and from the fund
 - o These are dynamic and will shift over time
 - o Also need to incorporate relevant risk-adjustment methodology within the models
- Likely to require multiple models, and test many scenarios and simulations to fine-tune models
- This calls for a need for some elements to be stochastically modelled
- At least in the development of the REF methodology phase and testing various iterations
- Once established and fully tested, operational, deterministic approaches may be suitable for aspects thereof if payments are determined retrospectively

[This is a tricky question, and multiple approaches possible – importance is to appreciate the complexity of the modelling]

QUESTION 6

Overall, this question was fairly well-answered. For Pt i, most candidates failed to make a sufficient number of distinct points around the operation of the MSA, what it covers, the risk transfer element, etc.. Some also misinterpreted the PMI offering as being hospital cash products. Pt ii is bookwork, and was well-handled by most. Pt iii is a simple application and was handled well. Some candidates did not make a sufficient number of points, or went into significant detail on one point, e.g. trends. Pt iv was less-well answered. Most candidates managed to identify the reputation risk and the risk of non-renewals, and losing market share, but few could articulate the effect of transfers between options and the impact on claims on the remaining options – anti-selection.

- i) MSA
 - Self-funds D2D benefits;
 - e.g. MSA can be used to cover : GP visits, medication, etc

- proportion of premium allocated to MSA;
- limits the use of D2D benefits to the value of annual MSA
- risk of utilisation transferred to PH.
- Any unused balance will carry forward to the following year.
- These benefits are not funded by option's risk benefits;
- MSA contributions may be tax-deductible;
 - o Differences
 - D2D funded from MSA for savings, and from risk benefits for Comprehensive
 - Comprehensive likely more expensive – assuming D2D benefit cover is richer than corresponding MSA limit

ii)

- Update claims assumptions for future experience
- Monitor adverse claim trends and take corrective action if needed
- Provide management information to aid business decisions,
 - o e.g. review reinsurance or managed care strategies
- To assist with service provider contracting/negotiation.
- Make better informed decisions regarding pricing and adequacy of reserves
- Provide info for publishing in accounts/returns to regulators, etc.
- Monitor actual vs expected experience

iii)

- He is correct in that annually renewable and reviewable means that most recent experience is most relevant for setting the following year's contribution,
- However, this will then give no information about trends – especially adverse ones,
 - o E.g. anti-selection – buy-down's and visa versa,
 - o Provider behaviour affecting claims/utilisation over time
 - o Membership profile shifts over time
- Benefit reviews/changes likely need more years of information to fully appreciate impacts of changes/price per benefit
- One year's info can easily be distorted by random fluctuations/one off events
 - o Exacerbated given that not a large insurer, and risk pool fragmented across 3 options
 - o A particularly poor year may indicate excessive contribution increases, resulting in poor renewal rates/low new business volumes
 - Especially if competitors have better offering
 - And visa versa, if a very good year – future year's contributions may be insufficient and result in losses
- Given that the insurer is medium-sized, any one year's experience may not be sufficiently credible for reliable pricing.
- The past year's experience may not be fully run-off, resulting in significant pricing risk, especially where seasonality is present

iv) .

- Given that they are a medium-sized insurer, the fragmentation across 3 risk pools, plus the 3 systems and administration thereof may be excessively expensive,
 - o i.e. not achieving scale; or the same level of scale only 2 options would
- So, closing down the option may well result in greater operational efficiencies for the insurer; lower expenses; and greater profits, all else being equal.
- However,
- The Savings option may have been a valuable selling proposition to the insurer
 - o May have been a differentiated product to that of competitors
 - o May have been attractive at drawing members to the insurer; who may then later move to other options as their needs change
 - o May thus lose out on future new business as a result
 - o And possible renewals of existing members
- Depending on the relative size of the Savings option compared to the other options, the overall impact of the decision to close the option may vary
 - o If a very large option, the impact will be greater and more careful consideration needs to be given to the decision
 - o Member movement likely to be selective:
 - Healthier members on Savings likely to move to the basic option
 - Expected that their health is worse (on average) than those on Basic.
 - This will increase the risk profile on basic and eventually result in higher premiums being required (as Savings will have higher contributions to Basic).
 - This may over time erode the attractiveness/value of the Basic option and members may not renew and move to competitors
 - Sicker members may find it worthwhile to move to the Comprehensive option
 - They are expected, on average, to be in better health than the members currently on Comprehensive
 - Which could improve the experience, and in future result in lower increases/prices on Comprehensive
 - Making this option more attractive
 - Some members may not renew their policies given the closure, which may have detrimental effect on the insurer's business volumes, ability to cover overheads.
 - o The combined effects of these movements and shifts need to be estimated before the decision is made.
 - o Scenario analyses is recommended, looking at different rates of renewal, new business, and shifts to Basic and Comprehensive options, respectively.
- With a greater emphasis on the more negative scenarios – lower new business; increase in non-renewals; greater shift to Basic than to Comprehensive

QUESTION 7

This question was well answered by candidates. Parts (i) and (ii) required candidates to do a claims ratio calculation and then discuss the experience trends emerging. Candidates then needed to use parts (i) and (ii) to apply their bookwork knowledge on reinsurance and risk/claims management to parts (iii) and (iv).

For part (i) candidates need to show all their workings/steps to score full credit. Some candidates struggled with calculating the premium before expenses. Candidates missed that the premium given included the expense loading.

For part (ii) candidates who struggled were unable to generate sufficient distinct points. Candidates needed to discuss both trends and risks to score well.

Part (iii) many candidates listed out generic points about reinsurance rather than identifying which of those points were relevant to the specific situation given in the question and then applying this in their justification. This was similarly the case with part (iv). Candidates who scored well for part (iv) were able to link the intervention to how it would impact the current claim ratio/claim cost situation.

(i)

Month	Total Net Premium	Net claims Ratio
January 2023	$Z\$221,040 \times 0.77 = Z\$170,200.8$	$Z\$255,000 / Z\$17,200.8 = 149.8\%$
February 2023	$Z\$234,000 \times 0.77 = Z\$180,180$	$Z\$300,000 / Z\$187,590 = 166.5\%$
March 2023	$Z\$234,450 \times 0.77 = Z\$180,526$	$Z\$290,000 / Z\$187,951 = 160.6\%$

(ii)

- Claims ratio in excess of 100% means the claims are higher than (more than) the premium income received.
- ...thus a loss is being made on the product.
- Claims ratio initially below 100% for the first two months...
- ... been in excess of a 100% since December 2022
- the lives increased in February 2023...
- ...there was simultaneously a large jump in the claims ratio
- the product appears to have a worsening claims ratios which is an unsustainable trend...
- ...means business needs additional capital to sustain its operation
- Increase in number of lives and loss ratios
 - o Increase in lives seems slow for start-up
 - o Product is loss-making – Not sure if intentional to attract business? Risk of this not working as intended
 - And risk exists of attracting too much unprofitable business

- Also, given low numbers, risk of not attracting sufficient business volumes to be sustainable in longer term – overheads, development costs
- At this stage, neither claims nor expenses are being recovered by premiums
 - need to attract more profitable business – risk of being unable to do so.
 - High liquidity risk as need cash to fund claims and expenses exceeding premium income
- Underwriting risk if underwriting standards/practices not robust – may be accepting a poorer profile of lives than anticipated
- Risk of anti-selection possibly demonstrated by poor claims ratios.
- Capital risk if solvency not adequate to sustain new business
- Operational risk impacts
 - new start-up, ineffective systems, underwriting, pricing, staffing issues, lack of expertise
- Do they have sufficient capital, and will they be able to raise premiums?
 - If so, may risk losing business, or attract worse profile only.
- Competitive risk if needs to increase premiums to allow for deteriorating trend
- Risk of regulatory intervention if can't meet solvency requirements and experience keeps deteriorating

(iv)

- Access to the reinsurer's expertise
 - Help with the design of the product
 - Limits, co-payments, exclusions, benefits to include
 - Assistance with pricing the product
 - Reinsurer likely to have rich data to assist with more accurate pricing
 - Developing underwriting manuals/systems/tools
 - In addition to accurate pricing, accurate assessment of risks is vital – reinsurer can assist in developing the underwriting tools, proposal forms, etc.
 - Assist with developing risk management framework
 - Implementing managed care; monitoring of experience,
 - Assist with negotiations with providers; establishing networks, etc.
 - Assist with liquidity problems/solvency requirements through financial reinsurance arrangements, e.g. contingent loans, deposits-back, etc.
 - Also may assist with systems development and maintenance, compliance, etc.

(v) credit for 3 only

- Pre-authorisation of admissions – ensure it is clinically appropriate for care to be delivered in hospital setting
- Case management – manage hospital stays to ensure there are no unnecessary expenses and that discharge is planned
- Hospital contracting – contract with hospitals for better rates
- Underwriting – improve underwriting to ensure that products are sold to good risks and claims paid in accordance with benefits/eligibility
- Marketing – market product to better risk profile who will have lower claims experience

QUESTION 8

The basic technical principles of risk adjustment/pricing were frequently applied poorly when assessing the financial impacts of the capitation arrangement. Candidates should bear in mind that alternate reimbursement methods, like capitation arrangements, involve negotiations between funders and providers, with policyholders and beneficiaries not directly influencing these agreements, except in terms of accessing services from these providers.

i. Capitation refers to the payment of a fixed fee for certain healthcare services for each covered life, regardless of utilisation.

ii.

Need to make assumptions on the utilisation and costs for each risk group. Therefore we need to make assumptions on the following:

- Demographics
 - o Distribution of population by age category, sex, chronic status
- Utilisation
 - o For each risk group, we need to understand the frequency of use of each of the benefits, preferably at as granular a level as possible
 - o Need to make assumptions on how utilization is likely to change in the coming period
 - General trends in utilization over time
 - Changes in technology
 - Changes in benefits
- Costs
 - o For each type of benefit being utilized, we need to make an assumption on the costs of use. Need to consider
 - Cost differences by risk group and benefit type
 - Impact of medical inflation on historic costs to get to estimated coming costs
 - How are costs limited by benefits and changes in benefits
 - How costs may differ between different providers
 - Changes in technology
 - Legislative changes, such as price ceilings, and taxes

iii.

$$PLPM = \frac{\sum_{\text{Risk cells}} (\text{Expected Population} \times \text{Expected PLPy})}{12 \times \sum_{\text{Risk cells}} (\text{Expected Population})} = R304.29$$

*Deduct 1 for leaving as annual (R3651,50)

iv.

Total amount paid under contract = $304.29 \times 12 \times \text{Sum}(\text{actual life years}) = \text{R}12\,184\,988.76$

Total cost of providing primary care to insured lives = $\text{Sum}(\text{Actual life years} \times \text{Actual cost per annum per life})$

= 12 724 450

⇒ Profit to LWE = R539 461.24

v.

Risk transfer

– Utilisation risk passed to PCC

Changes to risk profile of covered lives in contract period also passed to PCC (however, short-term contract, so likely to update assumptions for following year's costing if profile change)

Quality of care – one network

One contract for all GP visits and meds – no need to contract individually; nor need to measure quality across providers/networks

- Certainty in experience for period – known cost PLPM vs uncertain utilisation experience or movement between risk groups
- Focus on other aspects of insurance provision/quality, etc. rather than costs
- Improved outcomes; reduced downstream costs and fewer expensive hospitalisations, etc.

Simplify administration – all claims processing related to benefits outsourced.

Save time, money, systems and staffing requirements

However, risk of agreement costing significantly more if risk profile improves and utilisation low,

Risk that members under-serviced by PCC to keep costs down – exacerbating risk of downstream costs for other, more expensive benefit categories