

Subject SP1

CMP Upgrade 2023/24

CMP Upgrade

This CMP Upgrade lists the changes to the Syllabus, Core Reading and the ActEd material since last year that might realistically affect your chance of success in the exam. It is produced so that you can manually amend your 2023 CMP to make it suitable for study for the 2024 exams. It includes replacement pages and additional pages where appropriate.

Alternatively, you can buy a full set of up-to-date Course Notes / CMP at a significantly reduced price if you have previously bought the full-price Course Notes / CMP in this subject. Please see our 2024 *Student Brochure* for more details.

We only accept the current version of assignments for marking, *ie* those published for the sessions leading to the 2024 exams. If you wish to submit your script for marking but only have an old version, then you can order the current assignments free of charge if you have purchased the same assignments in the same subject in a previous year, and have purchased marking for the 2024 session.

This CMP Upgrade contains:

- all significant changes to the Syllabus objectives and Core Reading
- additional changes to the ActEd Course Notes and Assignments that will make them suitable for study for the 2024 exams.

0 Changes to the Syllabus

There have been a large number of changes to the Syllabus Objectives. These changes have been made to the syllabus boxes in the relevant chapters. In particular, objectives 0 and 6 have been deleted. The Syllabus Objectives are now as follows:

1. **Health and care products and general business environment**

Understand the health and care products which are commonly available and the environment in which they are sold.

1.1 Describe the main types of health and care contract and their purpose for the customer:

- critical illness insurance
- income protection insurance
- long-term care insurance
- health cash plans
- major medical expenses
- private medical insurance
- group and individual covers.

1.2 Understand the operating environments in which health and care insurance products and services are traded:

- distribution channels
- regulatory and taxation regimes
- professional guidance
- economic and political influences.

1.3 Explain the role of the State in the provision of alternative or complementary health and care protection:

- objectives of State healthcare provision
- methods of State healthcare provision
- funding approaches.

2. **Product design and specific features**

Have a knowledge of the considerations taken in the design of health and care products.

2.1 Demonstrate an understanding of and apply actuarial principles to the design of health and care products:

2.1.1 Principles of health and care insurance contracts design and the interest of the various stakeholders in the process.

2.1.2 Create a suitable design for a product in a given situation.

2.1.3 Relative merits of different product designs.

3. **Risks and risk management**

Understanding potential risks faced by a health and care insurance company and how these risks can be managed.

- 3.1 Assess how the following can be a source of risk to a health and care insurance company: (Chapters 23 to 25)
- data
 - claim rates
 - claim amounts
 - investment performance
 - expenses and inflation
 - persistency
 - mix of new business
 - volume of new business
 - guarantees and options
 - competition
 - actions of management
 - actions of distributors
 - counterparties
 - legal, regulatory and tax developments
 - reputation
 - internal audit failures/fraud
 - physical risks
 - aggregation and concentration of risk
 - catastrophes
 - non-disclosure and anti-selection
 - climate risks.
- 3.2 Demonstrate the application of reinsurance as a risk management technique:
- 3.2.1 Purposes of reinsurance.
 - 3.2.2 Different types and structures of reinsurance.
 - 3.2.3 Factors that should be considered in determining the level of retention.
- 3.3 Demonstrate the application of underwriting as a risk management technique:
- 3.3.1 Purposes of underwriting.
 - 3.3.2 Different approaches by which underwriting is applied.
 - 3.3.3 Factors that should be considered when determining the level of underwriting to use.

- 3.4 Propose further ways of managing the risks in 3.1, including:
- claims management
 - data checks
 - product design
 - managing the distribution process and customer relationship
 - managing other counterparties
 - other internal processes.
- 3.5 Demonstrate the application of asset-liability matching as a risk management technique:
- 3.5.1 Principles of investment and how they apply to health and care insurance.
- 3.5.2 Analyse health and care insurance liabilities into different types for asset-liability matching purposes.
- 3.5.3 Propose an appropriate asset-liability matching strategy for different types of liability.

4. **Models and valuation**

Explore how health and care insurance companies use models within their business.

- 4.1 Describe the main features of a health and care insurance model:
- 4.1.1 Objectives and basic features of a health insurance model.
- 4.1.2 Stochastic and deterministic approaches.
- 4.1.3 Formula and cashflow approach.
- 4.1.4 Basic features of multi-state models.
- 4.1.5 Use of sensitivity analysis.
- 4.2 Understand and apply the techniques used in pricing health and care insurance products in terms of:
- data availability
 - assumptions used
 - equation of value / formula approach
 - cashflow techniques
 - group risk assessments
 - options and guarantees
 - external influences.

- 4.3 Demonstrate the different uses of actuarial models for decision-making purposes in health and care insurance, including:
- pricing products
 - developing investment strategy
 - projecting solvency
 - calculating embedded value.
- 4.4 Discuss the determination of supervisory reserves and solvency capital requirements for a health and care insurance company.
- 4.4.1 Describe the purposes of reserves, solvency capital requirements and embedded values and the methodologies by which they are calculated for a health and care insurer, including:
- role of statistical and individual case estimates
 - setting assumptions, including a comparison with those used in pricing
 - market-consistent valuation
 - Value at Risk (VaR) capital assessment.
- 4.4.2 Discuss the interplay between the strength of the supervisory reserves and the level of solvency capital required.
- 4.4.3 Compare passive and active valuation approaches.

5. **Monitoring experience and setting assumptions**

Consider the issues for health and care insurance companies in setting assumptions and monitoring experience for health and care insurance business.

- 5.1 Apply the principles of setting assumptions for health and care insurance business:
- 5.1.1 For pricing health and care insurance contracts.
- 5.1.2 For determining liabilities.
- 5.1.3 Explain why the assumptions used for supervisory reserves may be different from those used in pricing.
- 5.1.4 For determining a company's embedded value.

- 5.2 Undertake experience monitoring in a health insurance company:
 - 5.2.1 Why it is important for a health insurance company to monitor its experience.
 - 5.2.2 How to monitor the actual mortality, morbidity, claims amounts, persistency, expense, new business and investment experience of a health insurance company, including the data required.
- 5.3 Demonstrate the relevance of analysis of surplus or profit:
 - 5.3.1 How to undertake an analysis of surplus and an analysis of embedded value profit.
 - 5.3.2 Suggest ways in which the results of such analyses can be used.

1 Changes to the Core Reading and ActEd text

This section contains all the *non-trivial* changes to the Core Reading and ActEd text.

Chapter 7

Section 3

The penultimate paragraph of Core Reading on page 17 has been amended as follows:

There will be many overlaps between related illnesses that will make pricing more complex and the picture for the policyholder more confusing. The cross-correlation between diseases will give rise to greater potential for disallowed claims and customer dissatisfaction at various levels of proportionate benefit. In some jurisdictions, comorbidities are becoming more common.

Section 6

The last paragraph of Core Reading on page 22 has been amended as follows:

In some jurisdictions, the regulator may require premium increases on health contracts to have regulatory approval prior to implementation.

Chapter 9

Section 1

The last paragraph of Core Reading on page 4 has been amended as follows:

Long-term care insurance depends directly on the perceived attitude of governments to the provision of care and individuals' priorities on long-term funding for this purpose. There are elements of legal compulsion in some jurisdictions.

Section 2

The penultimate paragraph of Core Reading on page 10 has been amended as follows:

Other types of organisation may be permitted to offer arrangements that can be regarded as competing with health and care insurance products. In some jurisdictions, networks of hospitals or clinics can offer 'access packages' that are regarded as competition to PMI, and old age care homes may offer payment structures that can meet similar needs to LTCI.

Chapter 11

Section 6

The fourth paragraph of Core Reading on page 20 has been amended as follows:

Whichever type of model is used, each significant item of cashflow is projected allowing for its interactions with other cashflow items.

Chapter 13

Section 3

The penultimate paragraph of Core Reading on page 12 has been amended as follows:

In some jurisdictions (including those in the European Union), there has been movement towards a supervisory regime under which the base reserves are calculated on a best estimate or market-consistent basis, with additional risk margins held (see Chapter 22).

The first two paragraphs of Core Reading in Section 3.4 on page 14 have been amended as follows:

In some jurisdictions, it is standard practice to calculate premium rates using prudent assumptions and then to use the same assumptions to calculate the reserves for supervisory purposes.

In other jurisdictions, it is standard practice to calculate premiums using assumptions that broadly reflect expected future experience, with the risks to the company being allowed for mainly through the risk discount rate. If the supervisory regime in that country requires prudence in reserving assumptions, then it would not be appropriate for the same assumptions to be used both for pricing and for reserving.

Chapter 14

Section 2

The first two paragraphs of Core Reading below the bullet points on page 7 have been amended as follows:

In some jurisdictions, differential pricing according to one or more of these factors may be prohibited. However, internal company analysis may continue to monitor the experience with regard to that factor.

For PMI, market practice (or equality legislation) in some jurisdictions has ruled gender out as a rating factor. The company may continue to analyse its experience by gender and arguably the claims differential between the sexes can be very significant.

Chapter 22

Section 2

The second paragraph of Core Reading on page 11 has been amended as follows:

Market-consistent valuation methods have been increasing in importance in some jurisdictions.

Chapter 29

Section 3

The paragraph of Core Reading below points (a) and (b) on page 15 has been amended as follows:

(b) divided by (a) provides the first-year persistency rate. The first-year lapse rate is determined by $(1 - \text{first-year persistency rate})$.

Chapter 30

Syllabus objectives

The syllabus objectives for this chapter have been deleted.

Section 0

The first two paragraphs on page 2 have been replaced by the following:

There is no explicit syllabus objective for this chapter.

However, as part of their preparation for the assessment, candidates must demonstrate knowledge and understanding of the subject as a whole, in order to apply and produce solutions to problems relating to health and care as follows:

- **Combine ideas across the chapters in the Subject SP1 Core Reading, and apply them to the scenarios proposed by the examiners.**
- **Analyse hypothetical examples and scenarios in relation to the application of health and care insurance principles.**
- **Propose solutions and actions that are appropriate to the given context and balance benefit against inherent cost, with justification where required.**
- **Suggest possible reasons why certain actions have been chosen.**
- **Assess the implications of actions within a given scenario.**
- **Discuss the advantages and disadvantages of suggested actions, taking into account the perspectives of different stakeholders.**

Examiners will expect candidates to be able to apply the knowledge and understanding they have developed through the study of the Core Reading for this subject to produce coherent solutions and actions in relation to the financial management of a health and care insurance company.

Chapter 31

Syllabus objectives

The syllabus objectives for this chapter have been deleted.

Section 0

The following paragraph has been added at the start of the section:

This chapter provides the definitions mainly used in practice. Examiners will expect candidates to understand and be able to use all of the terms, but will not require candidates to reproduce definitions exactly.

Section 1

The following paragraph has been added after the Core Reading for comorbidity on page 9:

Other terms can also be found in the medical literature for comorbidity, such as multimorbidity or polymorbidity.

2 Changes to the X Assignments

Overall

There have been minor changes throughout the assignments, including changes to mark allocations.

More significant changes are listed below.

Assignment X1

Solution X1.10

The following comment has been added at the start of the solution:

Note to markers: Please cross-mark between all parts of this question so that students gain credit for an idea even if it appears in a different part of the solution.

The following point has been added to the solution for part (ii):

A referral from the policyholder's GP (doctor) may be required. [½]

The penultimate point to part (iv) has been deleted.

The following point has been added to the solution for part (v):

The insurer could allow any moratorium on claims for pre-existing conditions to end after, say, two years if there has been no further recurrence of the condition. [½]

The third point in the solution to part (v) has been replaced by the following two points:

It could offer a small discount on renewal (reflecting the lower expenses of renewal). [½]

It could offer non-pecuniary incentives (eg discount vouchers for sports equipment or free subscriptions to health magazines). [½]

Assignment X2

Solution X2.4

The following point has been added to the solution for part (i):

Method (a) might encourage more mis-selling or inappropriate sales, leading to lapses later on. [½]

Assignment X3

Solution X3.1

The second point in the solution to part (d) has been updated as follows:

Alternatively, an explicit loading could be included (eg a risk-based solvency capital requirement calculated using a 99% confidence interval). [½]

Question X3.2

The first two paragraphs after part (ii) have been updated as follows:

It has been suggested that, rather than analysing its own experience, a health and care insurer should use industry statistics to estimate persistency and sickness rates appropriately for pricing future product launches.

A particular health and care insurer is considering using industry-average persistency and sickness rates for pricing a new IP insurance contract.

The number of marks for part (iii) has been increased to 6 so that the question now has 13 marks in total.

Question X3.3

The number of marks has been increased to 11.

Question X3.4

This question has been rewritten as follows:

A proprietary health and care insurance company currently specialises in conventional income protection insurance and is about to launch a pre-funded long-term care insurance product. The income protection product has reviewable premiums, level benefits (*ie* they do not increase with inflation) and there is an option to extend cover at the end of the term. The proposed new long-term care product has a single premium, indemnity benefits which vary depending on the level of care required and no policyholder options to vary the contract.

- (i) Explain what is meant by risk discount rate. [2]
- (ii) Describe how the company could use a risk discount rate in its modelling. [3]

The company is setting the risk discount rate for its new long-term care insurance product. It is using a starting point of the risk discount rate used for the income protection insurance business last year.

- (iii) Explain why the risk discount rate used for the long-term care insurance product this year might differ to the risk discount rate used for the income protection product last year. [4]
- [Total 9]

Solution X3.4

The solution to part (i) is unchanged.

The solution to part (ii) has been deleted.

The 2023 solution to part (iii) is now the 2024 solution to part (ii).

The third point in the 2023 solution to part (iii) has been deleted.

The following two points have been added (immediately after the first point) to the 2024 solution to part (ii):

This could be used as part of a profit test when pricing a product ... [1]

... or could be used to calculate the present value of future shareholder profits component of an embedded value. [1]

The 2024 solution to part (iii) is as follows:

Differences in the risk discount rate over time

The risk discount rate is the risk-free rate plus a risk premium for the risk inherent in the insurance business. [½]

So the risk discount rate may have changed because the risk-free rate has changed ... [½]

... for example, the central bank may have increased interest rates to reduce a currently high rate of inflation. [½]

Note to markers: Please give credit for any reasonable alternative example which explains the change (increase or decrease) in risk-free rate.

Or the risk discount rate may have increased (decreased) because the insurance business is now considered to be more (less) risky ... [½]

... or equivalently, the beta (in the Capital Asset Pricing Model) of the insurer may have increased (decreased), ... [½]

... for example the overheads of the company might have increased exposing the company to the risk of insufficient sales volumes ... [½]

... or there may have been changes in marketing, such as selling to a new target market. [½]

Note to markers: Please give credit for any reasonable alternative example which illustrates that a change in the business changes the risk.

Differences in the risk discount rate between the two products

The risk discount rate will allow for product-specific risks. [½]

The risk discount rate will be increased for the long-term care product as it is new and so there is a lack of historical data compared to the existing income protection product. [½]

The risk discount rate will be increased for the long-term care product as it has large guarantees due to its indemnity nature compared to the fixed benefits of the income protection product. [½]

The risk discount rate will be increased for the long-term care product as it is a more complex product than the income protection product, *eg* the benefit amounts vary depending on the level of care required. [½]

The risk discount rate will be increased for the long-term care product as it is a new contract and so operates in an untested market compared to the familiar market of the income protection product. [½]

However, the risk discount rate will be reduced for the long-term care product as it contains no policyholder options in contrast to the renewal option on the income protection product. [½]

Overall, the risk discount rate will be higher for the long-term care product. [½]
[Maximum 4]

Solution X3.5

The following point has been added (immediately after the fourth point) to the solution to part (i)(a):

Similarly, the claims incidence rate should ideally be calculated separately for each of the main critical illnesses *eg* cancer, heart attack, stroke. [½]

The marks for the bullet point list in part (i)(a) has been update to:

[½ for each two factors, maximum 1]

The point three up from the bottom in part (i)(a) has been updated as follows:

Overall it will be difficult to get a good fix on the critical illness incidence rates, however, this will not be too problematic if the contract permits reviewable charges. [½]

Question X3.6

The third part of the question and the paragraph immediately before it have been deleted. The total marks for this question are now 13.

Assignment X4

Question X4.3

The question has been updated as follows:

An insurance company sells a stand-alone critical illness insurance product which includes an option to extend the term without further medical evidence. The company calculates its reserves using a deterministic model.

Describe the factors that this company would consider when allowing for this option in the calculation of its reserves. [11]

Question X4.8

The years in the question have all been rolled forwards by one year.

Solution X4.5

The following comment has been added at the start of the solution:

Please cross-mark between parts (i) and (ii).

Solution X4.8

The penultimate point in the solution to part (i) has changed as follows:

Under both types of product, a waiting period (maybe six months) might apply before benefit eligibility.

[½]

3 Other tuition services

In addition to the CMP you might find the following services helpful with your study.

3.1 Study material

We also offer the following study material in Subject SP1:

- Flashcards
- Revision Notes
- ASET (ActEd Solutions with Exam Technique) and Mini-ASET
- Mock Exam and AMP (Additional Mock Pack).

For further details on ActEd's study materials, please refer to the *2024 Student Brochure*, which is available from the ActEd website at **ActEd.co.uk**.

3.2 Tutorials

We offer the following (face-to-face and/or online) tutorials in Subject SP1:

- a set of Regular Tutorials (lasting a total of three days)
- a Block (or Split Block) Tutorial (lasting three full days)
- an Online Classroom.

For further details on ActEd's tutorials, please refer to our latest *Tuition Bulletin*, which is available from the ActEd website at **ActEd.co.uk**.

3.3 Marking

You can have your attempts at any of our assignments or mock exams marked by ActEd. When marking your scripts, we aim to provide specific advice to improve your chances of success in the exam and to return your scripts as quickly as possible.

For further details on ActEd's marking services, please refer to the *2024 Student Brochure*, which is available from the ActEd website at **ActEd.co.uk**.

3.4 Feedback on the study material

ActEd is always pleased to get feedback from students about any aspect of our study programmes. Please let us know if you have any specific comments (*eg* about certain sections of the notes or particular questions) or general suggestions about how we can improve the study material. We will incorporate as many of your suggestions as we can when we update the course material each year.

If you have any comments on this course, please send them by email to **SP1@bpp.com**.