



Institute
and Faculty
of Actuaries

Fellowship Qualification

Health and Care (SP1) Specialist Principles

Syllabus for the 2024 Examinations

April 2023

Health and Care (SP1)

Syllabus for 2024 Examinations

This syllabus includes information to support the study of this subject. It will guide you through what you need to learn, application of learning as well as the skills that you need to develop. Information regarding the assessment of this subject is also included.

This syllabus includes:

- Aim of the subject
- How this subject links across the Qualifications
- Subject topics and topic weightings
- Subject objectives
- Assessment information

Aim

Understand in detail the main principles that are relevant to the provision of health and care benefits, including the main products that are sold, the methods of valuation, and the main methods of actuarial management and control that are relevant to health and care business.

Links to other subjects

Fellowship Qualification

There are two subjects covering health and care, Health and Care Specialist Principles (SP1) and health and Care Specialist Advanced (SA1). Each subject develops a specific set of skills and knowledge needed by actuaries working in, or who wish to work in health and care.

Health and Care Specialist Principles (SP1) provides an introduction to the main principles and knowledge required in health and care insurance, and how these principles can be applied in simple scenarios.

Health and Care Specialist Advanced (SA1) builds upon the skills and knowledge covered in SP1, applied to more complex scenarios. In particular, it considers in much more detail the environment in which a health and care insurance company operates which will include health and care markets, regulation, legislation, taxation, financial management, monitoring and strategies, and state health and care benefit provision.

Topics and topic weighting

This subject covers the following topics:

1. Health and care products and general business environment [15%]
2. Product design and specific features [25%]
3. Risks and risk management [30%]
4. Models and valuation [15%]
5. Monitoring experience and setting assumptions [15%]

Objectives

1 Health and care products and general business environment [15%]

Understand the Health and Products which are commonly available and the environment in which they are sold.

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

- 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 [25%]

Have a knowledge of the considerations taken in the design of Health and 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 [30%]

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

- 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 [15%]

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 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 different uses of actuarial models for decision-making purposes in health and care insurance

- 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 [15%]

Considers 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 the analyses can be used

Assessment

The assessment of this subject will consist of one examination.

Candidates can expect to answer a number of questions of varying marks, using Microsoft Word to construct and type their answers. The duration of this examination is three hours and twenty minutes and is timed and online. This time includes reading time.

Candidates will be expected to be able to apply knowledge and skills from across the syllabus topics to scenarios and questions proposed by the examiners and produce coherent solutions and actions, including:

- Analysis of complex problems in terms of actuarial, economic and financial factors to a level where appropriate analytical techniques may be used.
- Assess the implications and relevance of such factors, integrating the results into a coherent whole.
- Evaluate the results critically in a wider context, drawing appropriate conclusions.
- Propose solutions and actions, or a range of possible solutions and actions, based on this evaluation.

Topic weighting

The topic weighting percentage noted alongside the topics is indicative of the volume of content of a topic within the subject and therefore broadly aligned to the volume of marks allocated to this topic in the examination. For example if a topic is 20% of the subject then you can expect that approximately 20% of the total marks available in the examination paper will be available on that topic.

Candidates for assessment should ensure that they are well prepared across the entire syllabus and have an understanding of the principal terms used in health and care. The examination can be composed of questions drawing from any part of the syllabus within any examination sitting and using any command verb. This includes knowledge, techniques, principles, theories, and concepts as specified. Candidates should not rely on past papers alone and should ensure they have covered the entire syllabus as part of their learning and development of this subject. A list of command verbs used in the examinations is included on the IFoA website.

In each examination, candidates will be expected to demonstrate, through their answers, that they have knowledge of, can apply and use higher order skills in this subject:

- Knowledge will be demonstrated through answering questions that assess your understanding of that knowledge as well as through questions that ask you to apply relevant knowledge to scenarios.
- Application will be demonstrated through answering questions which assess that you can identify and apply relevant concepts and skills to solve problems (both numerical and non-numerical).
- Higher order skills will be demonstrated through questions that will assess that you can use relevant knowledge, concepts and skills to solve problems, draw appropriate conclusions, and make meaningful and appropriate comments on those conclusions.

As a guide, in the examination of this subject, you can expect that approximately 25% of the total number of marks for this examination be allocated to the demonstration of knowledge, 50% to application and 25% to higher order.

Qualifications Handbook, Examinations Handbook and Assessment Regulations

Please ensure you read and have understood the Examinations Handbook and Assessment Regulations ahead of your exam as well as the Qualifications Handbook. These are all available on the IFoA website.

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